

MAINVIEW[®] for WebSphere Application Server User Guide

Version 2.1.00

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- order or download product documentation
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 - operating system type, version, and service pack or other maintenance level such as PUT or PTF
 - system hardware configuration
 - serial numbers
 - related software (database, application, and communication) including type, version, and service pack or maintenance level
- sequence of events leading to the problem
- commands and options that you used
- messages received (and the time and date that you received them)
 - product error messages
 - messages from the operating system, such as `file system full`
 - messages from related software

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About This Book

The MAINVIEW for WebSphere Application Server product provides full-featured monitoring of the environment in which IBM WebSphere for Application Server for z/OS and OS/390 operates.

This book explains how to start, exit, and use MAINVIEW for WebSphere Application Server.

How This Book Is Organized

This book is organized as follows. In addition, a glossary and an index appear at the end of the book.

Chapter/Appendix	Description
Chapter 1, "Feature and Functionality Overview"	provides an overview of the features and functions that are available with MAINVIEW for WebSphere Application Server, along with references to where more information about a topic can be found
Chapter 2, "Starting and Exiting MAINVIEW for WebSphere Application Server"	explains how to start the product, implement global features, and exit the product
Chapter 3, "Navigating and Managing with Easy Menus"	explains the menu system for the product (including the main menu and the three major submenus) and explains how to set single server context
Chapter 4, "HTTP Server Information Group"	explains the views available through the Easy HTTP Server Menu, including monitored information about HTTP server availability and health, and information that is collected from HTTP server access and error logs
Chapter 5, "WAS Plug-in Information Group"	explains the information that is available from monitoring of WebSphere Application Server (WAS) plug-ins, including WAS information, JVM profiling information, and WAS diagnostic information

Chapter/Appendix	Description
Chapter 6, "J2EE/CORBA Container Information Group"	explains information that is available from monitored WAS 4.x address spaces, including J2EE/CORBA enclave information, JVM profiling information (this section also includes deployed EJBs), and JVM environment variables and properties
Chapter 7, "STM Analysis"	explains views that are available for STM analysis
Chapter 8, "Viewing Historical Data"	explains information in views associated with the historical interval recorder
Chapter 9, "Setting Alarms"	explains briefly about setting alarms
Chapter 10, "MMA and Integration with PATROL"	explains how to integrate MAINVIEW for WebSphere Application Server with PATROL for WebSphere Application Server through MMA technology
Appendix A, "Troubleshooting tips"	provides tips to help resolve problems that you might encounter with MAINVIEW for WebSphere Application Server
Appendix B, "Environment Variable Definitions"	provides definitions of the JVM environment variables

Related documentation

BMC Software products are supported by several types of documentation:

- online and printed books
- online Help
- release notes and other notices

In addition to this book and the online Help, you can find useful information in the publications that are listed in the following table. As “Online and Printed Books” on page xvi explains, these publications are available on request from BMC Software.

Category	Document	Description
installation documents	<i>Implementing Security for MAINVIEW Products</i>	describes how to implement MAINVIEW security with your external security manager to protect MAINVIEW product resources from user access
	<i>MAINVIEW Common Customization Guide</i>	provides instructions for manually customizing the MAINVIEW environment for your products
	<i>MAINVIEW Installation Requirements Guide</i>	provides product-specific information such as software and storage requirements, product libraries, and FMIDs
	<i>OS/390 and z/OS Installer Guide</i>	provides instructions for using the installation system, and describes the Product Authorization utility and AutoCustomization

Category	Document	Description
core documents	<i>MAINVIEW Administration Guide</i>	provides information about MAINVIEW operations, targets, single-system image contexts, MAINVIEW Alarm Manager, data sets, view customization, and diagnostic facilities
	<i>MAINVIEW Alarm Manager User Guide</i>	describes how to create and install alarm definitions that indicate when exceptions occur in a sysplex
	<i>MAINVIEW Alternate Access Implementation and User Guide</i>	explains how to configure, start, and stop VTAM and EXCP AutoLogon sessions to access MAINVIEW products without an active TSO subsystem
	<i>MAINVIEW for WebSphere Application Server Customziation Guide</i>	provides information about how to install and customize MAINVIEW for WebSphere Application Server
	<i>MAINVIEW Quick Reference</i>	provides a quick reference for MAINVIEW terminal sessions, logs, data sets, targets, contexts, windows mode, and full-screen mode and describes the functions, syntax, and parameters of the commands that are used to manage the MAINVIEW window environment
	<i>Using MAINVIEW</i>	provides information about working with MAINVIEW products in windows mode and full-screen mode
supplemental documents	release notes, flashes, technical bulletins	provide current information about MAINVIEW for WebSphere Application Server

Online and Printed Books

The books that accompany BMC Software products are available in online format and printed format. If you are a Windows or Unix user, you can view online books with Acrobat Reader from Adobe Systems. The reader is provided at no cost, as explained in “To Access Online Books.” You can also obtain additional printed books from BMC Software, as explained in “To Request Additional Printed Books.”

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In some cases, installation of Acrobat Reader and downloading the online books is an optional part of the product-installation process. For information about downloading the free reader from the Web, go to the Adobe Systems site at <http://www.adobe.com>.

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To Request Additional Printed Books

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Online help

MAINVIEW for WebSphere Application Server includes online Help. In the MAINVIEW for WebSphere Application Server ISPF interface, you can access Help by pressing **F1** from any ISPF panel.

Release Notes and Other Notices

Printed release notes accompany each BMC Software product. Release notes provide current information such as

- updates to the installation instructions
- last-minute product information

In addition, BMC Software sometimes provides updated product information between releases (in the form of a flash or a technical bulletin, for example). The latest versions of the release notes and other notices are available on the Web at http://www.bmc.com/support_home.

Conventions

This section provides examples of the conventions that are used in this book.

General Conventions

This book uses the following general conventions:

Item	Example
information that you are instructed to type	Type SEARCH DB in the designated field.
specific (standard) keyboard key names	Press Enter .
field names, text on a panel	Type the appropriate entry in the Command field.
directories, file names, Web addresses	The BMC Software home page is at www.bmc.com .
nonspecific key names, option names	Use the HELP function key.
MVS calls, commands, control statements, keywords, parameters, reserved words	Use the SEARCH command to find a particular object.
code examples, syntax statements, system messages, screen text	//STEPLIB DD The table <i>table_name</i> is not available.
emphasized words, new terms, variables	The instructions that you give to the software are called <i>commands</i> . In this message, the variable <i>file_name</i> represents the file that caused the error.

This book uses the following types of special text:

Note: Notes contain important information that you should consider.

Tip: Tips contain useful information that may improve product performance or that may make procedures easier to follow.

Warning! Warnings alert you to situations that could cause problems, such as loss of data, if you do not follow instructions carefully.

Summary of Changes

This summary of changes includes changes to the functionality of the product, enhancements to the product, and any major changes to the documentation. The summary of changes is listed by release date.

Revision bars are used in the manual to note changes that clarify or correct existing information or that provide new information related to product changes. Revision bars are not used to note editorial and formatting changes or typographical errors that have been corrected unless these updates significantly affect the use of the information.

To allow for review of product changes or documentation changes, the chapter comprises the following sections:

“Product History” on page xx

“Document History” on page xxv

Product History

The following sections are summaries of increases and improvements in product functionality from one release to the next release.

MAINVIEW for WebSphere Version 1.1.00—July 2000

This initial version of the product included basic HTTP Server monitoring, with the following categories of information:

- Basic server information including name, IP address, type, uptime, version, status
- Bytes received, bytes sent
- Cache information including RAM in use, hits, bytes read, cached files
- Requests received, requests discarded, request errors by level, requests rejected
- Responses sent, responses discarded, number of responses by category

MAINVIEW for WebSphere Version 1.2.00—June 2001

Version 1.2.00 added the following functionality:

- Use of the OS/390 and z/OS Installer
- Use of the Installation Checklist Generator
- The addition of information specific to WebSphere Application Server (WAS):
 - System and application classpaths
 - Web applications and servlets registered with the WAS
 - Virtual host and servlets associated with each web application
 - Servlet statistics including hit counts, elapsed times, classpath associations, and request activity by cookie

MAINVIEW for WebSphere Application Server Version 2.0.00—March 2002

In version 2.0.00 the product name was changed to MAINVIEW for WebSphere Application Server, and the following functionality was added:

“Increased access to WAS and DB2 information:” on page xxi

“Interval (historical) recording” on page xxi
“Integration with PATROL for WebSphere Application Server” on
page xxii

Increased access to WAS and DB2 information:

- WAS heap storage analysis
 - Summary view of all WAS address spaces and the heap storage that has been allocated to each
- WAS 4.0 J2EE availability
 - Summary view of all available address spaces that comprise the WAS 4.0 J2EE/CORBA server region
- WAS 4.0 J2EE enclave analysis
 - Summary view of enclaves that have been created in the WAS 4.0 J2EE/CORBA server region
 - Provides views into currently active enclaves as well as enclaves that have completed execution
 - Within enclave views, provides a hyperlink into MAINVIEW for OS/390 (if that product is installed and running on the same system)
- DB2 connection information
 - Summary view of all discovered WAS address spaces and the DB2 regions with which they have connectivity. Includes a hyperlink to MAINVIEW for DB2 if that product is installed and running on the same system

Interval (historical) recording

- Provides long-term (greater than the 24 hours in the current calendar day)
 - Records information about WAS and the Web-based application performance
 - Supports synchronization with SMF recording interval
 - Stores information in an SMF style rollover to a new data set as the current history file is filled (xxx01 to xxx02 to xxx03 and so forth)

Integration with PATROL for WebSphere Application Server

- With separate purchase of PATROL for WebSphere Application Server version 1.2.00 or higher, this functionality allows you to use a PATROL Console to view key WAS information collected by MAINVIEW for WebSphere Application Server:
 - List of discovered HTTP servers
 - Identification of HTTP servers with a running instance of WAS
 - Identification of virtual hosts
 - Identification of applications being run on each virtual host
 - Information about servlets associated with such applications:
 - Servlet name
 - Average response time
 - Average hits per minute
 - Total number of hits

MAINVIEW for WebSphere Application Server Version 2.1.00—January 2003

Version 2.1.00 provided some major breakthroughs in the product's ability to deliver information needed for intelligent management of the IBM WebSphere Application Server environment:

- “Direct monitoring of WAS 4.x address spaces” on page xxii
- “JVM profiling” on page xxiii
- “Multiple HTTP server monitoring, SNMP not required” on page xxiii
- “Multiple/single server information” on page xxiii
- “New product menu structure” on page xxiv

Direct monitoring of WAS 4.x address spaces

- Provided enclave information is collected directly from the address spaces themselves, not from a WAS plug-in.
- JVM monitoring (mentioned below) includes information beyond what a plug-in can be aware of, that can be collected only directly from WAS 4.x address spaces.
- Views are provided into current values of all JVM environment variables and JVM properties.

JVM profiling

- Profiling capabilities are provided with some simple optional customization steps.
- Profiled categories can be dynamically enabled or disabled once the WAS is started and the profiler is up and running.
- Profiling information can be viewed from either the WAS plug-in information menu or the J2EE/CORBA information menu.
- The profiler can provide the following JVM information:
 - JVM threads
 - JVM methods
 - JVM garbage collection
 - JVM memory
 - Deployed EJBs (only through J2EE information menu)
 - JVM Class performance (only through J2EE information menu)
 - JVM threads summaries (only through J2EE information menu)
 - JVM methods summaries (only through J2EE information menu)

Multiple HTTP server monitoring, SNMP not required

- All running HTTP servers are discovered in the initial MAINVIEW for WebSphere Application Server discovery process, and any additional HTTP servers are discovered as they are started.
- HTTP server information is no longer collected through the SNMP agent, so SNMP need not be running. The SNMP directive in the httpd.conf file merely needs to be set to “ON.” Information is collectable for each HTTP server with this setting.
- Information is presented by default about the first eight HTTP servers discovered
- A list of all discovered HTTP servers can be presented, and information can be viewed about any discovered HTTP server specified from that list (see “Multiple/single server information” below).

Multiple/single server information

- The product discovers all servers in the IBM WebSphere Application Server environment.

-
- For each category of server (HTTP, WAS plug-in, J2EE/CORBA container), the product user can decide whether to view information about multiple servers or a single server.
 - The choice of viewing information about multiple servers or a specified single server is made from one of the three major submenus (explained below).

New product menu structure

- Because of the volume of information now provided, presentation of all categories of information on a single became unwieldy. A new main menu was designed, which offers the following submenus:
 - HTTP server information
 - WAS plug-in information
 - J2EE/CORBA container information

Document History

Version 2.1.00

January, 2003

The following changes were made to this release of the *MAINVIEW for WebSphere Application Server User Guide*:

- The product overview chapter was rewritten to reflect the vastly increased product functionality
- Instructions for starting SNMP were removed because the product can now monitor one or more HTTP servers without SNMP or an SNMP agent running. All places that noted the requirement for running SNMP were modified or removed.
- Extensive changes in the product menu system were documented.
- The organization of the book was changed to reflect the product reorganization
- All new views provided with the product were documented

Version 2.0.00

August, 2002

The following changes were made to this release of the *MAINVIEW for WebSphere Application Server User Guide*:

- The need for a system re-IPL on migration from a active installation of MAINVIEW for WebSphere Application Server version 1.x is highlighted.
- The fact that **HTTP Svr Interval Stats** views often have only one line is explained.
- A possible discrepancy between HTTP server time and current system time in **Log File Analysis** detail and **Most Recent** views is explained. Please see “Possible Time Discrepancies in Log File Analysis Views” on page 3-13.
- Sources of information for each major group of views is explained in the chapter describing those view (for example, Chapter 4 for Log File Analysis).

The MAINVIEW for WebSphere Application Server documentation library now includes the *MAINVIEW for WebSphere Application Server User Guide*. The user guide provides information about the features of MAINVIEW for WebSphere Application Server and explains the views available in the product's use.

Chapter 1 Feature and Functionality Overview

Built upon the MAINVIEW architecture from BMC Software, Inc., MAINVIEW for WebSphere Application Server provides full-featured monitoring in an IBM WebSphere Application Server for z/OS and OS/390 environment.

The MAINVIEW for WebSphere Application Server product offers a clear picture of the availability and health of your WebSphere Application Server (WAS) environment. This chapter summarizes the monitoring features and briefly explains their capabilities. Subsequent chapters describe this functionality in greater detail and explain how to start MAINVIEW for WebSphere Application Server and how to use its capabilities.

This chapter contains the following sections:

Continuous Monitoring of a WAS Environment	1-2
HTTP Server Information	1-2
WAS Plug-in Information.	1-3
J2EE/CORBA Container Information	1-5
Monitoring a Single Server or Multiple Servers.	1-6
JVM Profiling	1-7
Historical Recording	1-7
Links to Other MAINVIEW Products	1-8
Use of MAINVIEW Standard Features	1-9
Navigating Through MAINVIEW	1-14

Continuous Monitoring of a WAS Environment

MAINVIEW for WebSphere Application Server continuously provides information about the major elements of your IBM WebSphere Application Server environment, including HTTP information, information about WAS plug-ins, and information about WAS 4.x server instances.

HTTP Server Information

MAINVIEW for WebSphere Application Server provides two kinds of information having to do with HTTP servers:

- Information about the identity, health, and availability of the HTTP servers
- Information extracted from HTTP server access and error log files

Information about HTTP Servers Themselves

MAINVIEW for WebSphere Application Server can monitor one or more HTTP servers at any time. You can choose to view information about all monitored HTTP servers, or about a single HTTP server (see “Setting Single Server Context with Easy Menus” on page 3-9).

Note: For each HTTP that server you want to monitor, the SNMP directive in the `httpd.conf` file must be set to ON, although SNMP itself need not be running.

This product reports a wide range of information about monitored HTTP servers:

- HTTP server name, IP address, type, uptime, version, status (this information is displayed for only one HTTP server at a time—by default, the first discovered HTTP server)
- bytes received and bytes sent
- requests received, requests discarded, request errors by response code, requests rejected
- responses sent, responses discarded, and number of responses by category
- cache information, including RAM in use, hits, bytes read, and cached files

Information from HTTP Server Log Files

If log monitoring has been enabled, MAINVIEW for WebSphere Application Server provides information from the access and error logs files of the discovered HTTP servers. Whether you view the log information of a single HTTP server or of multiple HTTP servers depends on whether more than one HTTP server is running and whether you have specified the context for a single HTTP server.

The following log file information is reported:

- files accessed since the beginning of the current hour
- errors from clients since the beginning of the current hour
- authorization errors since the beginning of the current hour
- any of the above log file information during an hour you specify, back to midnight of the current calendar day

Summary Information about HTTP Server Log Files

The following summary information, extracted from HTTP server log files, can be displayed:

- traffic by client
- access by client
- access by file
- access and error statistics by hour
- server errors

WAS Plug-in Information

This section explains information that MAINVIEW for WebSphere Application Server provides about requests made through the WAS plug-in. In WAS 3.5 installations, such requests are carried out by the plug-in itself. In WAS 4.x installations that use the WAS plug-in, the requests are sent by the plug-in to the WAS 4.x address space for processing.

General WAS Information

The following general WAS information is obtained and reported from each WAS plug-in

- system and application classpaths
- web applications and servlets registered with the WAS
- virtual host and servlets associated with each web application

- servlet statistics including hit counts, elapsed times, classpath associations, and request activity by cookie
- heap analysis information
- DB2 connection information, including a hyperlink to MAINVIEW for DB2

JVM (Profiler) Information

Profiler information is available if you have installed and configured the profiler that is provided with the MAINVIEW for WebSphere Application Server product. The *MAINVIEW for WebSphere Application Server Customization Guide* explains how to create JCL to copy the profiler executable and properties file into each system on which you want to do JVM profiling. The customization guide also identifies modifications that must be made to the WAS configuration file of each server on which you want to use the profiling feature.

The following information is available through profiler views:

- a list of profiled servers
- profiled information about JVM threads
- profiled information about JVM methods
- profiled information about JVM garbage collection
- profiled information about JVM memory
- JVM thread summary
- JVM method summary

WAS Summary Views

Summary views provide the following kinds of information about activity in your WebSphere Application Server:

- servlet hits
- servlet by WebApp
- servlet by HTTP Server
- activity by cookie
- WebApp by virtual host
- WebApp by HTTP server
- WAS performance

WAS Diagnostic Views

WAS Diagnostic views provide summaries of exceptions that are thrown by threads in the WAS, and server errors that are encountered as requests are processed.

- Thread Exceptions
- Server Errors

J2EE/CORBA Container Information

J2EE/CORBA container information comes from activity that occurs inside the WAS 4.x address space itself. Much of the displayed information has to do with J2EE/CORBA enclaves and applications. Information is also available about requests that are made to the HTTP Handler (“HTTP catcher”). However, all enclave and application information is displayed, regardless of whether the requests were made directly through the HTTP Handler or were sent through a WAS 4.x plug-in.

J2EE/CORBA Information

In this menu section, you can display information about J2EE/CORBA server availability, J2EE/CORBA enclaves, executed applications, and DB2 connections. Information in this section is available through the following views:

- Server Availability
- Active Enclaves
- Executed Enclaves
- Executed Applications
- DB2 Connections

HTTP Handler Information

The HTTP Handler Information menu section contains the HTTP Handler Requests view, which provides a list of requests received through the HTTP Handler. Information about each request includes the ID of the enclave that was created to process the request, an encapsulation of the request itself (the method that was used and the URI of the requested resource), identifying information about the following:

- the requesting client
- the URL from which the request originated
- the identifier of the session cookie

The view also contains a hyperlink to the executed enclave that was created to process the request.

J2EE Configuration Information

The J2EE Configuration Information menu section contains two views that list the JVM environment variables and JVM properties that are being used in the discovered servers:

- Environment Variables
- JVM Properties

JVM (Profiler) Information

The JVM (Profiler) Information menu provides all of the information that the same section in the Easy WAS Plugin menu provides:

- Profiled Servers
- JVM Threads
- JVM Methods
- JVM Garbage Collection
- JVM Memory
- JVM Thread Summary
- JVM Method Summary

In addition, the Easy J2EE Menu provides the following two views that are specific to WAS 4.x server instances:

- Deployed EJBs (contains a link to associated enclave information)
- JVM Performance (contains method information associated with the address space)

Monitoring a Single Server or Multiple Servers

MAINVIEW for WebSphere Application Server 2.1.00 provides the ability to view information from multiple servers or to specify a particular server and view information from that server only.

This functionality is available whether you are viewing information about HTTP servers, WAS plug-ins, or J2EE/CORBA containers.

JVM Profiling

In the WAS plug-in and J2EE container environments, the MAINVIEW for WebSphere Application Server product includes the option of profiling JVM operations and monitoring those profiled operations.

Among the operations that can be tracked through this profiling capability are the following:

- JVM threads
- JVM methods
- JVM garbage collection
- JVM memory

Views are also available that summarize profiling information about JVM threads and JVM methods.

Note: Profiling can be extremely helpful as a diagnostic tool when a JVM problem needs to be understood and solved. However, it can also use lots of resources, especially the CPU. For this reason, MAINVIEW for WebSphere Application Server provides the ability to manage profiling dynamically. At any time, any category of profiling can be enabled or disabled on any monitored WAS server that is running the profiler.

Historical Recording

MAINVIEW for WebSphere Application Server takes advantage of the MAINVIEW interval recorder technology. You can use the TIME command to see data pertaining to certain views at a specified time in the past. This information can be valuable in the troubleshooting process.

For a list of all MAINVIEW for WebSphere Application Server views supported in the historical recorder, see “Information for Which Historical Data Is Recorded” on page 8-4.

For a full discussion about viewing historical data and using the TIME command, refer to *Using MAINVIEW*.

Recording and viewing historical information requires particular data sets that are specific to the MAINVIEW for WebSphere Application Server PAS. During AutoCustomization, when you complete the step that creates VSAM historical files (that is, generate JCL and submit the job successfully), the required data sets are created. For information about this step, refer to the *MAINVIEW for WebSphere Application Server Customization Guide*.

Note: The *MAINVIEW Common Customization Guide* also explains how to create a historical data set. Although the principles are the same, completing the step as explained in that guide (for common customization) enables historical reporting only for products that share the BBI PAS. Historical data sets that are specific to MAINVIEW for WebSphere Application Server are created as part of AutoCustomization.

Links to Other MAINVIEW Products

The MAINVIEW for WebSphere Application Server product makes use of information that is reported by the following other MAINVIEW products:

- MAINVIEW for DB2
- MAINVIEW for OS/390
- MAINVIEW for UNIX System Services
- MAINVIEW for IP

Where information from these products is used, a hyperlink is provided to the relevant MAINVIEW product. These links add a level of flexibility that can be very useful, but they depend on two factors:

- The other MAINVIEW product must be installed and running on the same system on which MAINVIEW for WebSphere Application Server is running.
- The CAS under which the other MAINVIEW product's PAS is running and the CAS under which the PAS for MAINVIEW for WebSphere Application Server is running must be compatible. For details about PAS and CAS compatibility, see *Using MAINVIEW* and the *MAINVIEW Administration Guide*.

Integration with PATROL

Beginning with version 2.0.00, MAINVIEW for WebSphere Application Server provides optional integration with PATROL for WebSphere Application Server. With this integration, you can use a PATROL Console to view a variety of information about an HTTP server running an IBM WebSphere Application Server on a z/OS or OS/390 system. This information includes the following categories:

- presence, status, availability, and statistics of HTTP servers
- presence and availability of a WAS plug-in on an HTTP server
- presence, availability, and performance statistics about servlets on a WebSphere Application Server

Use of MAINVIEW Standard Features

MAINVIEW for WebSphere Application Server uses the standard features that are part of the MAINVIEW architecture. Included in these features are the use of various address spaces and the presentation of information in tabular structures called views. This section presents brief highlights of address spaces and views. For more detailed explanations, refer to *Using MAINVIEW*.

MAINVIEW Address Spaces

All MAINVIEW products require three address spaces:

Coordinating address space (CAS): The CAS, which runs as a subsystem, provides many services to all MAINVIEW products. For example, the CAS is responsible for managing communication with other CASs on other local and remote systems, and for establishing direct communication between an individual user address space and a product address space. One CAS exists for each OS/390 system image.

Product address space (PAS): A PAS houses special routines, including data collectors, to service one or more MAINVIEW products. Multiple PASs can be running on an OS/390 system image. A single PAS can also house multiple products. The separation into multiple PASs depends on product organization, load, and RAS requirements.

Note: MAINVIEW for WebSphere Application Server runs in its own PAS.

User address space (UAS): A UAS is a TSO session. The CAS enables direct communication between the PAS and the UAS. When the PAS initializes and connects to the CAS, the CAS populates its directory with information about the services and data provided by the PAS. The UAS might also be the MAINVIEW Browser interface, which connects first to the Browser Server and then to the CAS.

The characteristics and use of each of these address spaces are discussed in detail in *Using MAINVIEW*.

Information Displayed in MAINVIEW

Each MAINVIEW product can use the BMC Software MAINVIEW window interface, an easy-to-use extension of the standard ISPF interface.

When a MAINVIEW product gathers information, it displays that information in a text presentation called a view. A view consists of rows and columns that present data in tabular form. When a view is selected for display, a query is executed against the data that collected to retrieve the relevant information. The data is formatted according to the associated set of instructions for the selected view.

To display MAINVIEW for WebSphere Application Server views and manage the panels in which the views are displayed you can use the same method that you use you use for any MAINVIEW product. On a single terminal, you can simultaneously display multiple panels of different sizes and direct actions from one panel to another panel.

With MAINVIEW for WebSphere Application Server, you can change a view's form without affecting its underlying query. The information that you have requested is the same, but it is presented in a different format. For information about how to change the form, type **HELP FORM** on any MAINVIEW **COMMAND** line.

Understanding the MAINVIEW Window Interface

All MAINVIEW products use either the MAINVIEW window interface or the MAINVIEW standard ISPF panel interface. MAINVIEW for WebSphere Application Server uses both interfaces.

In the MAINVIEW window environment, each view is displayed in its own window. The top three lines of the MAINVIEW window interface are called the window control area. The control area consists of the Information Display line, which contains the current date and time, as well as the **COMMAND** line, the **SCROLL** field, the **CURRENT WINDOW** field, and the **ALTERNATE WINDOW** field.

The row below the window control area is called the window information line and provides specific information about the view. This information includes the following:

- number and status of the window
- name of the view
- system, date, and time reflected by the view
- name of the MAINVIEW product currently in use

Every window information line has the same fields, although some fields might not have values, depending on the view.

The window information line should look similar to this:

```
>W1 =STMDATA=====SYSM=====*=====12FEB2001=====16:53:58=====MVWEB=====20
```

The following table describes each element in the window information line.

>	indicator that there is more data to the right of the screen < indicates data to the left. + indicates data to the right and the left. A blank indicates that all data fits in the current window.
W1	number and status of the window W1 means that window 1 is in Wait status. To see other possible statuses, place your cursor on W1 and press PF1 for help.
STMDATA	name of the view.
form_name (currently blank)	field next to the view name that appears when you use the FORM command to display the data in a different format
SYSM	current context This value can be the name of the current system or a predefined SSI context that can include certain targets.
*	current scope The scope allows you to narrow down a particular system within an SSI context. If you are not using an SSI context, this field contains an asterisk (*).
12FEB2001	date on which the data in the window was last updated
16:53:58	time at which the data in the window was last updated

<i>duration</i> (currently blank)	field next to the time field that appears when you use the duration parameter on the TIME command This field tells you how many minutes of historical data are displayed.
MVWEB	product identifier
20	number of rows available in the view Note: For detail views (views that end in INFO), this number is always 1.

Everything below the window information line is called the display area.

View Categories

The following kinds of views are available in MAINVIEW products:

- Menu views

Menu views allow you to link to other views. Some menus link to views that display information about your system; some menus link to more specific views or menus that allow you to focus on the information that you need.

- Tabular views

Tabular views are rows and columns of data. Each field in a given row addresses the same process, file system, or user ID. Most views are tabular.

- Detail views

Detail views provide detailed information about a particular process, file system, or resource. Although detail views might resemble tabular views, the fields in a detail view are actually completely independent from one another.

- Summary views

Summary views compress several rows of data into a single row based on certain criteria. All summary views are created from tabular views using a view customization option called GROUP BY. For more information, type **HELP CUSTOM** on the **COMMAND** line, then select the **GROUP BY** option.

- Detail summary views

Detail summary views provide detailed information for a single resource, similar to detail views. However, the information may be summarized for one or more subresources and, possibly, multiple intervals.

Customizing Views and Help Text to Meet Your Needs

One of the primary advantages of the MAINVIEW for WebSphere Application Server window interface is the ability to customize views and help text to meet the particular needs of your site.

Note: Easy Menus, such as EZWEB, cannot be customized.

View Customization

With the MAINVIEW view customization facility, you can organize your data in multiple ways. For example, you can

- sort on multiple columns
- rearrange columns
- graph the data
- modify the view so that certain columns are completely hidden, thus displaying only the data you need

To enter the view customization facility, type **CUSTom** on the **COMMAND** line.

Help Text Customization

You can create your own customized Help for one or more views. For information about creating your own Help text, see the *MAINVIEW Administration Guide*. You can store this Help text in your own private Help text library or make it accessible to all MAINVIEW for WebSphere Application Server users at your site.

Getting Help on Views

MAINVIEW views are virtually self-documenting, meaning that no matter how you customize a view by using the **CUSTom** command, the online Help always relies on the most current, accurate information.

Table 1-1 describes available types of online help:

Table 1-1 Online Help Available for MAINVIEW Products

Task	Action
Displaying Help on a view	Place the cursor on the view name on the window information line and press PF1 . Alternatively, on the COMMAND line, type HELP <viewName> (replace <veiwName> with the name of the view about which you want Help). View Help displays other topics that tell you which parameters are currently in effect; which fields are included and excluded within the view; which fields have hyperlinks and to where; and so on.
Displaying Help on a field that appears on a view	Place the cursor on the field and press PF1 .
Displaying Help on a field on the window information line	Place the cursor on the field and press PF1 .
Displaying Help on a command or topic pertaining to the MAINVIEW window interface itself	On the COMMAND line, type HELP topicID , where topicID is the ID of the topic as listed in the <i>MAINVIEW Quick Reference</i> document. (For example, typing HELP ASU gives you help on the ASU command.) Alternatively, place the cursor on the COMMAND line and press PF1 to display the MAINVIEW Help tutorial. Select either Beginning or Advanced topics, or type INDEX to display all of the available topics.

Navigating Through MAINVIEW

MAINVIEW for WebSphere Application Server displays collected information in the form of views—one view for each type of activity, area of interest, and time frame.

The following methods are available for displaying these views and the rest of the MAINVIEW for WebSphere Application Server services:

- hyperlinks
- menus
- commands

Using Hyperlinks

A hyperlink is a way of connecting a field in a view to a field in another view. When you place your cursor on a field for which a hyperlink exists and press **Enter**, the underlying command is executed, and its output is displayed.

Fields with hyperlink properties appear in a different color on your terminal. On monochrome terminals, hyperlinked fields appear in bold.

Every MAINVIEW window interface product also allows you to develop your own hyperlinks. This feature saves time and steps when you are going from one view to another view. For instructions on overriding the default hyperlinks and creating your own hyperlinks, type **HELP HYPERLINK** on the **COMMAND** line.

Using Easy Menus

An easy menu consists of a series of options that allow you to link to either data views or to other related easy menus. All Easy menu views begin with the letters EZ. These menus allow you to locate specific information without having to know the name of the view that contains the information. With the Easy menu for MAINVIEW for WebSphere Application Server you can also set server context (specify a single server whose information you want to view). For more information about MAINVIEW for WebSphere Application Server Easy menus, refer to Chapter 3, “Navigating and Managing with Easy Menus.”

Using Commands

To display a view using commands, type the view name or command on the **COMMAND** line. To see what MAINVIEW window interface commands are available, see the *MAINVIEW Quick Reference*.

Displaying Multiple Views Simultaneously

While using commands to display views, it is possible to display multiple views at the same time. This feature is helpful when you are trying to diagnose a problem by comparing two views.

To display multiple views:

Step 1 On the **COMMAND** line, type *viewName*.

For this command, *viewName* is the name of the view that you want to display.

Step 2 On the **COMMAND** line, type **HS** for horizontal split.

Note: Do not press **Enter** yet.

Step 3 Move the cursor about halfway down the current view to where you would like the top of the second view to appear.

Step 4 Press **Enter**.

MAINVIEW for WebSphere Application Server sets the **CURRENT WINDOW** field to 2.

Step 5 On the **COMMAND** line, type the name of another view.

Step 6 Press **Enter**.

The two views now appear simultaneously.

Chapter 2 Starting and Exiting MAINVIEW for WebSphere Application Server

This chapter contains a list of actions to get MAINVIEW for WebSphere Application Server up and running after it has been installed and customized. Then the chapter explains how to log on to MAINVIEW for WebSphere Application Server when the product has been started, and it also explains how to exit. The chapter contains the following sections:

Starting the MAINVIEW for WebSphere Application Server CAS.	2-2
Starting MAINVIEW for WebSphere Application Server.	2-4
Exiting MAINVIEW for WebSphere Application Server	2-7

Starting the MAINVIEW for WebSphere Application Server CAS

Summary: In this task you start the MAINVIEW for WebSphere Application Server product address space (PAS) in preparation for using the product's features and functions.

Before You Begin

Note: These four steps must be performed before the product address spaces is started, but they do not necessarily have to be completed in this order.

Step 7 If you are using the profiling features of MAINVIEW for WebSphere Application Server, make sure that the following customization tasks have been completed (see the *MAINVIEW for WebSphere Application Server Customization Guide* for details):

- The profiler executable and **profiler.properties** file are copied onto each system on which profiling will take place
- The necessary changes are made to the relevant application server configuration files:
 - **was.conf** for WAS 3.5 plug-in environments
 - **current.env** for WAS 4.x environments
- The classes in your applications that you want to have profiled have been added to the **profiler.properties** file

Step 8 If you are going to use Synthetic Transaction Monitor (STM), run the MVCPY job on each system through which you are going to monitor STM data using MAINVIEW for WebSphere Application Server.

Note: The SYSUT2 DD data set in MVCPY must be the same data set specified in the MAINVIEW for WebSphere Application Server PAS STMDATA DD card.

For further information refer to the *Synthetic Transaction Monitor Getting Started Guide*.

Step 9 Start each HTTP Server you are going to monitor.

Step 10 Start IBM WebSphere Application Server if you are running version 4.x (plug-ins for version 3.5 will have started with the HTTP Server)

Starting the PAS

Step 1 Start the MAINVIEW Coordinating Address Space (CAS)

If you need help starting the CAS, see the *MAINVIEW Administration Guide* for instructions.

The CAS is responsible for managing communication with other CASs on other local and remote systems, and for establishing direct communication between an individual user address space and a product address space.

Step 2 Start the MAINVIEW for WebSphere Application Server PAS.

A PAS houses special routines, including data collectors, to service MAINVIEW for WebSphere Application Server. There are multiple PASs on a z/OS or OS/390 system image.

Note: If any version of MAINVIEW for WebSphere Application Server lower than 2.0.00 has been active on the system since the most recent IPL, certain anchors and other system settings from the previous version will prevent MAINVIEW for WebSphere Application Server 2.1.00 from initializing.

To provide the correct settings, do *either* of the following before you attempt to start the MAINVIEW for WebSphere Application Server 2.1.00 PAS for the first time:

- Obtain and apply a zap that provides the correct settings—please contact BMC Software Support.
- Perform an IPL.

Step 3 If you are integrating with PATROL for WebSphere Application Server, start the MMA Communication Manager and the MMA Server.

3.A Start the MMA Server.

3.B Start the MMA Communication Manager. As explained in the *MAINVIEW for WebSphere Application Server Customization Guide*, the MMA Communication Manager must have OMVS segment authority, as was defined for the HTTP server.

Note: The MAINVIEW for WebSphere Application Server PAS must be running, or the MAINVIEW MMA components will ignore requests from PATROL for WebSphere Application Server.

Step 4 Before starting to open views in the MAINVIEW for WebSphere Application Server product, give the system up to 10 minutes to gather view data.

Starting MAINVIEW for WebSphere Application Server

Summary: This task explains how to start MAINVIEW for WebSphere Application Server in a TSO session.

Step 1 Ensure that the CAS and PAS are active.

(See the *MAINVIEW Administration Guide* for CAS and PAS startup instructions.)

Step 2 To display the MAINVIEW Selection Menu, execute the MAINVIEW CLIST by performing one of the following actions:

- Select the appropriate ISPF menu or panel option.
- On the **COMMAND** line, issue the following TSO command:

TSO EX 'hilevel.UBBSAMP(MAINVIEW)'

- (*Optional for MAINVIEW Alternate Access*) Start a VTAM or EXCP MAINVIEW Alternate Access terminal session that executes the MAINVIEW CLIST.

See the *MAINVIEW Alternate Access Implementation and User Guide* for more information.

When the CLIST is executed, the MAINVIEW Selection Menu appears:

Figure 2-1 MAINVIEW Selection Menu

```

----- MAINVIEW Selection Menu -----
OPTION  ==>>                                DATE   -- 2002/11/19
                                           TIME   -- 13:56:23
                                           USERID -- ROHTAL
                                           MODE   -- ISPF 5.0

    0  Parameters and Options
    E  Alerts and Alarms
    P  PLEX Management (PLEXMGR)
    U  Utilities, Tools, and Messages

Solutions for:
    A  Automated Operations
    C  CICS
    D  DB2
    I  IMS
    L  Linux
    N  Network Management
    S  Storage Management
    T  Application Management and Performance Tuning
    W  WebSphere and MQSeries
    Z  OS/390, z/OS, and USS

Enter X to Terminate

F1=HELP      F2=SPLIT      F3=END      F4=PRINT      F5=LOG      F6=GO
F7=UP        F8=DOWN      F9=SWAP     F10=LEFT     F11=RIGHT   F12=RETRIEVE

```

Step 3 Select the WebSphere and MQSeries product area by typing **W** in the **OPTION** field and pressing **Enter**.

The WebSphere and MQSeries Solutions menu appears, as shown:

Figure 2-2 WebSphere and MQSeries Solutions Menu

```

----- WebSphere and MQSeries Solutions -----
OPTION  ==>>                                DATE   -- 2002/11/19
                                           TIME   -- 14:44:53
                                           USERID -- ROHTAL
                                           MODE   -- ISPF 5.0

Management
    1  MVWEB      MAINVIEW for WebSphere
    2  MVMQ      MAINVIEW for MQSeries

Operations
    A  AUTOMATION  MAINVIEW AutoOPERATOR
    E  ALERTS      Alert Management

General Services
    M  MESSAGES    Messages and Codes
    J  JOURNAL     Journal Log
    P  PARMS       Parameters and Options

```

Step 4 Select MAINVIEW for WebSphere Application Server by typing **1** in the **OPTION** field and pressing **Enter**. If you are starting the session, the **SESSION CONTROL PARAMETERS** panel appears, as shown:

Figure 2-3 **SESSION CONTROL PARAMETERS Panel**

```
BMC SOFTWARE ----- SESSION CONTROL PARAMETERS -----  
COMMAND ==>>  
  
Subsystem ID   ==> BWEB   (CAS Subsystem ID, ? for list of active SSIDs)  
  
XDM mode      ==> NO     (Execute session in diagnostic mode, Yes/No)  
  
Press ENTER to confirm use of session parameters entered above.
```

Step 5 Perform one of the following actions:

- If the correct CAS is identified in the **Subsystem ID** field, simply press **Enter**.
- Tab down to the **Subsystem ID** field and type in the ID of the correct CAS, then press **Enter**.

Warning! Leave **XDM mode** set to **NO** unless you are specifically instructed otherwise by BMC Software Support. Setting this parameter to **YES** disables certain recovery mechanisms that could severely impact your CAS subsystem.

You will see a message saying `Connecting`, after which the Easy Menu for WebSphere will appear (Figure 3-1 on page 3-2 illustrates the the Easy Menu for WebSphere).

You are now ready to start using MAINVIEW for WebSphere Application Server.

Exiting MAINVIEW for WebSphere Application Server

Summary: This task explains a variety of ways for exiting MAINVIEW for WebSphere Application Server.

Step 1 Exit all active products using one of the following methods:

- On the **COMMAND** line, type =**X**.
- Press the **End** key until you reach the MAINVIEW Selection Menu.
- Use the **PF4** key to reach the MAINVIEW Selection Menu directly.
- From a Primary Option Menu (full-screen mode only), select option **X**.
- Use the **Quit** command.

Note: You might be returned to a product's initial menu when you issue the **Quit** command. From there, you can press the **End** key to reach the MAINVIEW Selection Menu.

Step 2 From the MAINVIEW Selection Menu, select option **X** or press the **End** key.

Chapter 3 Navigating and Managing with Easy Menus

After you have started the MAINVIEW for WebSphere Application Server product, a menu system allows you to navigate easily to any primary view, from which you can “drill down” to further information. (You can also look at any view in the product simply by typing the name of that view in the **COMMAND** line and pressing **Enter**.)

The following sections in this chapter explain how to use the menu system in MAINVIEW for WebSphere Application Server:

Main Menu—Easy Menu for WebSphere.	3-2
HTTP Servers—Easy HTTP Server Menu.	3-3
WAS Plug-ins—Easy WAS Plugin Menu.	3-5
J2EE/CORBA Containers—Easy J2EE Menu	3-7
Setting Single Server Context with Easy Menus	3-9
Log File Analysis Easy Menus	3-12
Summary Views	3-15

Main Menu—Easy Menu for WebSphere

The first menu that is displayed when you start the product is the Easy Menu for WebSphere, illustrated in Figure 3-1:

Figure 3-1 Easy Menu for WebSphere

```

20NOV2002 13:22:52 ----- MAINVIEW WINDOW INTERFACE(V4.1.03)-----
CURR WIN ==> 1          ALT WIN ==>
>W1 =EZWEB=====BJWSYSI==*=====20NOV2002==13:22:52===MVWEB===D===1
                    Easy Menu for WebSphere

WebSphere Components  +-----+ Tools and Menu
                       |         |
                       | Place cursor on |
                       | menu item and  | . Select View
                       | press ENTER   | . Return....
                       +-----+

. HTTP Server
. WAS Plugin
. J2EE Container

COMMAND ==>
F1=HELP      F2=SPLIT    F3=END       F4=RETURN    F5=RFIND     F6=RCHANGE
F7=UP        F8=DOWN      F9=SWAP     F10=LEFT    F11=RIGHT   F12=RETRIEVE

SCROLL ==> PAGE
    
```

Each option that is listed under WebSphere Components links to a secondary menu.

HTTP Servers—Easy HTTP Server Menu

The Easy HTTP Server Menu, shown in Figure 3-2, leads to views that display information about the availability and health of discovered HTTP servers and to information collected from HTTP server access and error log files.

Figure 3-2 Easy HTTP Server Menu

```

20NOV2002 13:31:13 ----- MAINVIEW WINDOW INTERFACE(V4.1.03)-----
CURR WIN ==> 1          ALT WIN ==>
>W1 =EZHTTP=====BJWSYSI==*=====20NOV2002==13:31:13====MVWEB====D====1
          Easy HTTP Server Menu

HTTP Svr Interval Stats +-----+ Log File Analysis
|           |           |
| Place cursor on |           |
| menu item and   |           |
| press ENTER     |           |
+-----+-----+
. Overview
. Web Processes in USS
. Connections
. Requests - HTTP/CGI
. Requests - Get/Post
. Bytes In/Out
. Response Codes
. Cache Stats

. Access Log Detail
> Select by Hour
. Error Log Detail
> Select by Hour
. Auth Error Detail
> Select by Hour
. Files Not Found
> Select by Hour

HTTP Svr Summary Views  Set HTTP Server Context

. Traffic by Client      . Servers
. Access by Client

COMMAND ==>
F1=HELP   F2=SPLIT   F3=END     F4=RETURN  F5=RFIND   F6=RCHANGE
F7=UP     F8=DOWN    F9=SWAP   F10=LEFT  F11=RIGHT  F12=RETRIEVE

SCROLL ==> PAGE

```

By default, views available through this menu generally display information about all discovered HTTP servers. You can set a server context—that is, specify that information about a single HTTP server be displayed. (See “Setting Single Server Context with Easy Menus” on page 3-9.)

The menu has four sections:

- **HTTP Svr Interval Stats**—This section contains links that lead to current information extracted from discovered HTTP servers. For this information to be displayed, the SNMP directive in the **httpd.conf** file must be set to ON. However, SNMP does not have to be running.

Note: The **Overview** option summarizes information about only one HTTP server. Unless a server context has been set, information will be shown about the first HTTP server that was discovered.

The HTTP Svr Interval Stats section also contains a link to MAINVIEW for UNIX System Services (Web Processes in USS), which displays information only if MAINVIEW for UNIX System Services is installed and running on the same system.

- **Log File Analysis**—This section contains information that is extracted from the access and error log files of discovered HTTP servers. The information is presented for the hour preceding the invocation from the menu or for any hour from midnight of the current calendar day.
- **HTTP Svr Summary Views**—This section contains summary information that is also taken from access and error log files, but the information is more specific in its scope.
- **Set HTTP Server Context**—Using this link you can set the server context if you wish to do so. (See “Setting Single Server Context with Easy Menus” on page 3-9.)
- **Tools and Menus**—This section provides a hyperlink that brings up a list of all views in the product. You can choose a view from the list and immediately display that view. The Tools and Menus section also provides link back to the Easy Menu for WebSphere.

WAS Plug-ins—Easy WAS Plugin Menu

The Easy WAS Plugin Menu, shown in Figure 3-3, links to views that display information about discovered WAS plug-in servers. These can be a plug-in that is itself the WebSphere Application Server in WAS 3.5 or a plug-in that acts as an agent to the WAS address space in WAS 4.x.

Figure 3-3 Easy WAS Plugin Menu

```

20NOV2002 13:52:46 ----- MAINVIEW WINDOW INTERFACE(V4.1.03)-----
CURR WIN ==> 1          ALT WIN ==>
>W1 =EZWAS=====BJWSYSI==*=====20NOV2002==13:52:46====MVWEB====D====1
          Easy WAS Plugin Menu

WAS Information          +-----+ WAS Summary Views
| Place cursor on      | |
| menu item and        | |
| press ENTER          | |
+-----+              +-----+
. Web Applications      | . Servlet Hits
. Servlets              | . Servlet by WebApp
. Threads               | . Servlet by HTTP Server
. Heap Analysis         | . Activity by Cookie
. DB2 Connections      | . WebApp by Virtual Host
                        | . WebApp by HTTP Server
                        | . WAS Performance

JVM Information

. Profiled Servers      WAS Diagnostic Views
. JVM Threads           | . Thread Exceptions
. JVM Methods           | . Server Errors
. JVM Garbage Collection Set Server Context
. JVM Memory            | . Plugin Servers
. JVM Thread Summary    |
COMMAND ==>            Tools and Menus
                        SCROLL ==> PAGE
F1=HELP      F2=SPLIT  F3=END    F4=RETURN  F5=RFIND  F6=RCHANGE
F7=UP        F8=DOWN   F9=SWAP  F10=LEFT  F11=RIGHT F12=RETRIEVE

```

The menu contains the following sections:

- **WAS Information**—This section contains links that lead to information extracted from one or more plug-ins about the availability and health of WebSphere Application Server. Among this information are details about discovered applications and about the servlets and threads that service requests that are made through the plug-ins. This section also provides information about heap memory and DB2 connections. (The DB2 connections information requires that MAINVIEW for DB2 be installed and running.)
- **WAS Summary Views**—This section leads to views that provide specific summaries of information that is extracted from views to which the WAS Information menu section links.

- **JVM Information**—Links in this section lead to JVM information, primarily generated through the MAINVIEW for WebSphere Application Server profiler if profiling has been installed and customized as explained in the *MAINVIEW for WebSphere Application Server Customization Guide*.
- **WAS Diagnostic Views**—Links in this section lead to views that detail thread exceptions and server errors. This section can be useful in troubleshooting the WebSphere Application Server environment.
- **Set Server Context**—Using this link you can set the server context if you wish to do so. (See “Setting Single Server Context with Easy Menu” on page 3-9.)
- **Tools and Menus**—This section provides a hyperlink that brings up a list of all views in the product. You can choose a view from the list and immediately display that view. The Tools and Menus section also provides link back to the Easy Menu for WebSphere.

J2EE/CORBA Containers—Easy J2EE Menu

The Easy J2EE Menu, shown in Figure 3-4, links to information that is extracted directly from the WAS 4.x address space.

Figure 3-4 Easy J2EE Menu

```

30DEC2002 16:00:46 ----- MAINVIEW WINDOW INTERFACE(V4.1.03)-----
CURR WIN ==> 1          ALT WIN ==>
>W1 =EZJ2EE=====BJWSYSI==*=====30DEC2002==16:00:46===MVWEB===D===1
                                Easy J2EE Menu

J2EE/CORBA Information +-----+ JVM Information
| Place cursor on |
. Server Availability | menu item and | . Profiled Servers
. Active Enclaves    | press ENTER  | . JVM Threads
. Executed Enclaves  +-----+ . JVM Methods
. Executed Applications . JVM Garbage Collection
. DB2 Connections    . JVM Memory
                    . JVM Thread Summary
                    . JVM Method Summary
                    . Deployed EJBs
                    . JVM Class Performance

HTTP Handler Info
. HTTP Handler Requests

J2EE Configuration      Set J2ee Server Context  Tools and Menus

. Environment Variables . J2ee Servers      . Select View
. JVM Properties        . Return...

COMMAND ==>
F1=HELP      F2=SPLIT      F3=END      F4=RETURN      F5=RFIND      F6=RCHANGE
F7=UP        F8=DOWN        F9=SWAP     F10=LEFT      F11=RIGHT     F12=RETRIEVE
                                SCROLL ==> DATA

```

With this menu, displayed views also contain information about all discovered J2EE/CORBA server instances. The menu contains the following sections:

- **J2EE/CORBA Information**—Links in this section lead to views about the J2EE/CORBA environment, such as
 - the availability of J2EE/CORBA servers
 - extensive information about enclaves that are currently active and about those that have already executed
 - information about applications that have executed in the WAS address space
 - information about connections between the WAS address space and DB2 (displaying the DB2 connections information requires that MAINVIEW for DB2 be installed and running)
- **HTTP Handler Info**—This section leads to a view that displays information about requests that have been made to the WAS 4.x address space through the HTTP Transport Handler (“HTTP catcher”).

- **J2EE Configuration**—Links in this section lead to views that display information about values of the WebSphere Application Server environment variables and about the JVM properties.
- **JVM Information**—Links in this section lead to JVM information that has been generated through the MAINVIEW for WebSphere Application Server profiler if profiling has been installed and customized as explained in the *MAINVIEW for WebSphere Application Server Customization Guide*.

The JVM Information menu section of the Easy J2EE Menu contains two links that are not available in the Easy WAS Plugin Menu:

- The **Deployed EJBs** link leads to a view that lists all discovered Enterprise Java Bean in the WAS 4.x environment. Included in this view is a link to information about the enclave in which the EJB request was processed.
 - The **JVM Class Performance** link leads to a view that displays JVM method information that can be very helpful in evaluating the effectiveness of applications that are running.
- **Set J2ee Server Context**—Using this link you can set the server context if you wish to do so. (See “Setting Single Server Context with Easy Menus” on page 3-9.)
 - **Tools and Menus**—This section provides a hyperlink that brings up a list of all views in the product. You can choose a view from the list and immediately display that view. The Tools and Menus section also provides link back to the Easy Menu for WebSphere.

Setting Single Server Context with Easy Menus

Summary: This task explains how to set a server context. This process resets the Easy menu so that displayed information is limited to the server that is specified in the context.

Step 1 On the relevant Easy menu, select the option that is situated directly below Set . . . Server Context.

For example, in Figure 3-5 select **J2ee Servers** beneath **Set J2ee Server Context**.

Figure 3-5 Setting Server Context

```

20NOV2002 11:19:33 ----- MAINVIEW WINDOW INTERFACE(V4.1.03)-----
CURR WIN ==> 1          ALT WIN ==>
>W1 =EZJ2EE=====BJWSYSI==*=====20NOV2002==11:19:33====MVWEB====D====1
                                Easy J2EE Menu

J2EE/CORBA Information +-----+ JVM Information
| Place cursor on      | |
| menu item and        | |
| press ENTER          | |
+-----+             +-----+
. Server Availability   | . Profiled Servers
. Active Enclaves      | . JVM Threads
. Executed Enclaves    | . JVM Methods
. Executed Applications| . JVM Garbage Collection
. DB2 Connections      | . JVM Memory
                        | . JVM Thread Summary
                        | . JVM Method Summary

HTTP Handler Info

. HTTP Handler Requests

J2EE Configuration      Set J2ee Server Context . Select View
                        . Return...

. Environment Variables . J2ee Servers
. JVM Properties

COMMAND ==>
F1=HELP      F2=SPLIT      F3=END      F4=RETURN      F5=RFIND      F6=RCHANGE
F7=UP        F8=DOWN        F9=SWAP     F10=LEFT      F11=RIGHT     F12=RETRIEVE
                                SCROLL ==> PAGE

```

A list of servers appears, similar to the list in Figure 3-6 on page 3-10.

Figure 3-6 Server List for Context Setting

```

20NOV2002 11:40:00 ----- MAINVIEW WINDOW INTERFACE(V4.1.03)-----
CURR WIN ==> 1          ALT WIN ==>
W1 =J2SERVC=====BJWSYSI==*=====20NOV2002==11:40:00====MVWEB====D====7
Server  Server  Server  Server  Start  Start
Jobname Name    Asid   UpTime  Time   Date
BBOASR2 BBOASR2A  B5  69:42:27 16:34:45 11/17/2002
BBOASR2S BBOASR2A  B8  69:42:14 16:34:59 11/17/2002
BBODMN  DAEMON01  AC  69:45:23 16:31:41 11/17/2002
BBOIR   INTFRP01  A9  69:44:16 16:32:50 11/17/2002
BBONM   NAMING01  A5  69:44:36 16:32:30 11/17/2002
BBOSMS  SYSMGT01  A1  69:44:52 16:32:12 11/17/2002
    
```

Step 2 Set the context for a specific server by selecting the job name for the server whose information you want to monitor.

The Easy menu for the chosen server type is displayed, showing the job name for the specific server whose context has been set, as illustrated in Figure 3-7.

Note: If a server context has been set, the menu no longer includes the option to set a server context.

Figure 3-7 Easy serverType Menu with Context Set

```

20NOV2002 11:48:10 ----- MAINVIEW WINDOW INTERFACE(V4.1.03)-----
CURR WIN ==> 1          ALT WIN ==>
>W1 =EZJ2EEJ=====BJWSYSI==*=====20NOV2002==11:48:10====MVWEB====D====1
                                     Easy J2EE Menu

Current Server -> BBOASR2S

J2EE/CORBA Information                                     JVM Information
+-----+
. Server Availability | Place cursor on | . Profiled Servers
. Active Enclaves    | menu item and   | . JVM Threads
. Executed Enclaves  | press ENTER     | . JVM Methods
. Executed Applications +-----+ . JVM Garbage Collection
. DB2 Connections    |                 | . JVM Memory
HTTP Handler Info    |                 | . JVM Thread Summary
. HTTP Handler Requests |                 | . JVM Method Summary

J2EE Configuration |                 |
COMMAND ==>        |                 |
F1=HELP            F2=SPLIT      F3=END          F4=RETURN      F5=RFIND       F6=RCHANGE
F7=UP              F8=DOWN        F9=SWAP         F10=LEFT       F11=RIGHT      F12=RETRIEVE
    
```

Step 3 Make a menu selection and proceed to view information about the selected server. Enclave information, DB2 connections, HTTP Handler Requests, and specific profiled JVM information (including summaries) will be specific to the server whose context is set (BBOASR2S in this illustration).

Log File Analysis Easy Menus

MAINVIEW for WebSphere Application Server provides information that is collected through Log File Analysis during the calendar day that is specified in the system date/time stamp. Some of these views are created based on a calculation relative to system time, and some views are created based only on time stamps that are collected from log file entries. All views, however, are limited to the current system date (23JUL2002 in Figure 3-8, “Select by Hour Menu” below).

To view hourly log file information, choose **Select by Hour** under any option in the Log File Analysis section of the Easy HTTP Server, as illustrated in Figure 3-2. An Easy menu will be generated, as shown in Figure 3-8 (generated from **Select by Hour** under **Access Log Detail**):

Figure 3-8 Select by Hour Menu

```

23JUL2002 15:54:45 ----- MAINVIEW WINDOW INTERFACE (R4.0.04)-----
CURR WIN ==> 1          ALT WIN ==>
>W1 =EZHACC=====SYSB=====*=====23JUL2002==15:54:45====MVWEB====D====1
                                EZHACC Menu

      Morning Hours              Evening Hours              Tools and Menus

. 00:00:00 - 00:59:59          . 12:00:00 - 12:59:59          . Select View
. 01:00:00 - 01:59:59          . 13:00:00 - 13:59:59          . Return....
. 02:00:00 - 02:59:59          . 14:00:00 - 14:59:59
. 03:00:00 - 03:59:59          . 15:00:00 - 15:59:59
. 04:00:00 - 04:59:59          . 16:00:00 - 16:59:59
. 05:00:00 - 05:59:59          . 17:00:00 - 17:59:59
. 06:00:00 - 06:59:59          . 18:00:00 - 18:59:59
. 07:00:00 - 07:59:59          . 19:00:00 - 19:59:59
. 08:00:00 - 08:59:59          . 20:00:00 - 20:59:59
. 09:00:00 - 09:59:59          . 21:00:00 - 21:59:59
. 10:00:00 - 10:59:59          . 22:00:00 - 22:59:59
. 11:00:00 - 11:59:59          . 23:00:00 - 23:59:59

. Most Recent
COMMAND ==>
F1=HELP      F2=SPLIT      F3=END      F4=RETURN      F5=RFIND      F6=RCHANGE
F7=UP        F8=DOWN       F9=SWAP     F10=LEFT      F11=RIGHT     F12=RETRIEVE
SCROLL ==> PAGE

```

Table 3-1 lists each of the Select by Hour Easy Menus:

Table 3-1 Log File Analysis Easy Menus

EZWEB Menu Item	Select by Hour Easy Menu
Access Log Detail	EZHACC
Error Log Detail	EZHERR
Auth Error Detail	EZAUTH
Files Not Found	EZHFILE

To view information for the current time frame (usually the most recent hour) select **Most Recent** at the bottom of any Select by Hour Easy Menu.

Note: The entries that are presented by the Most Recent option might have a significantly different time stamp from the system time (15:54:45 in Figure 3-8 on page 3-12). The following section explains how and why this can happen.

Possible Time Discrepancies in Log File Analysis Views

All Log File Analysis views present information that is collected from the specified log file, including the time stamp in the log file at the time of collection. However, the information is generated with two kinds of calculations:

- Primary views (**Access Log Detail**, **Error Log Detail**, and so forth) and Most Recent views present information based on the difference between collection time stamps and current *system* time.
- Views that are generated by selecting an hour listed under Morning Hours or Evening Hours present collected log file information with time stamps that fall within the time range of the selected hour—for example, 11:00:00 A.M. to 11:59:59 A.M. (These hourly views are connected to system time, but they are limited to log file information for the current date as specified by the system date/time stamp.)

Note: Log File Analysis views are limited to the first 15,000 records that fall within the collection range, regardless of the basis on which a view is generated.

The differences between these two calculation methods might result in an apparent reporting discrepancy if the system is set to one time zone and the HTTP server is set to another time zone.

Example

Suppose a corporation has its home office in Chicago, where it also has a system running the MAINVIEW for WebSphere Application Server product. In December, the system should be set to U.S. Central Standard Time (CST), five hours behind Greenwich Mean Time (GMT). However, in addition to its Chicago office, the company also has major branch offices in Los Angeles, New York City, London, and Frankfurt.

Also, suppose the monitored HTTP server is set to the time zone for the New York City branch, which uses U.S. Eastern Standard Time (EST) in December. At 12:30 P.M. in Chicago a system administrator selects the Most Recent option in the EZHACC menu. The information in the generated view contains all entries collected from the access log file with time stamps equal to or later than 11:30 A.M. (everything after current system time minus one hour). However, because the HTTP server is set to EST, entries with a time stamp of 11:30 A.M. occurred not just one hour prior to 12:30 system time, but two hours earlier. Thus, the generated view might contain as much as two hours worth of entries, and the most recent entries could contain a time stamp as late as 13:30 (current time in New York City) even though the system time is 12:30.

In contrast, if the HTTP server in this same corporation is set for the branch in Los Angeles, which uses U. S. Pacific Standard Time (PST), a primary or Most Recent view will not contain any information. At 12:30 P.M. in Chicago, it is only 10:30 A.M. in Los Angeles. Thus there can be no collected entries with a time stamp of 11:30 A.M. or later (one hour back from system time).

Crossing several time zones increases the challenge and adds another element to the behavior. If the corporation's HTTP server is set for Frankfurt time, selecting Most Recent or any of the primary Log File Analysis views could generate a view with entries collected from the previous seven hours.

If the HTTP server time reaches midnight and goes into a new day before the system does (as in the Frankfurt example), the information for log file views will be collected but will not be available for display until the system also reaches midnight of the new day.

Summary Views

MAINVIEW for WebSphere Application Server provides views on the EZWEB Menu that present categories of information from the log files about the HTTP server and the IBM WebSphere Application Server.

HTTP Svr Summary Views

The views that are listed in Table 3-2 display specific kinds of information collected from the log files of the HTTP server during the current calendar day (as defined by the system date/time stamp).

Table 3-2 HTTP Svr Summary Views

View Name	Easy Menu
Traffic by Client	UVOLSUM
Access by Client	UACCSUM
Access by File	FILESUM
Access Stats by Hour	ACCSTAT
Error Stats by Hour	ERRSTAT
Server Errors	ERRORSZ

WAS Information Summary Views

The views that are listed in and Table 3-3 provide specific information about the IBM WebSphere Application Server. These views summarize specific information that is collected for the WAS Information views:

Table 3-3 WAS Information Summary Views

View Name	Easy Menu
Servlet Hits	THREADZ
Servlet by WebApp	SERVLETZ
Servlet by HTTP Server	SERVBJOB
Activity by Cookie	SERVCOOK
WebApp by Virtual Host	VHOSTZ
WebApp by HTTP Server	WEBAPPZ

Table 3-3 WAS Information Summary Views

View Name	Easy Menu
WAS Performance	WASPERF

Chapter 4 HTTP Server Information Group

This chapter contains information about the following views:

HTTP Server Interval Statistics	4-2
HTTP Server Information (SERVOVER)	4-3
HTTP Server Connections (CONNECTS)	4-5
HTTP Server Requests - HTTP/CGI (REQCLASS)	4-7
HTTP Server Requests - Get/Post (REQTYPE)	4-9
Bytes In/Out (TRAFFIC)	4-11
Response Codes (RESPONSE)	4-13
Cache Stats (CACHE)	4-15
Log File Analysis	4-18
Access Log Detail (ACCESS)	4-19
Error Log Detail (ERRORS)	4-21
Auth Error Detail (AUTHZ)	4-24
Files Not Found (NOFILEZ)	4-26
Log File Analysis Easy Menu	4-28
HTTP Server Summary Views	4-29
Log File Analysis Easy Menu	4-28
Traffic by Client (UVOLSUM)	4-30
Access by Client (UACCSUM)	4-32
Access by File (FILESUM)	4-34
Access Stats by Hour (ACCSTAT)	4-36
Error Stats by Hour (ERRSTAT)	4-38
Server Errors (ERRORSZ)	4-40

HTTP Server Interval Statistics

This section provides information to help you interpret the view information that is provided with MAINVIEW for WebSphere Application Server.

Information in these views is collected by MAINVIEW for WebSphere Application Server through its discovery processes, and represents statistics for an HTTP server currently running in your environment. The views that report Svr Interval Stats information display data only if the SNMP directive is set to ON.

Note: The current line of all views except for the HTTP Server Information (SERVOVER) view is updated each time the interval counter for the HTTP server expires, and each time a user opens any view except the SERVOVER view. It is not unusual for a view to display only the current line.

HTTP Server Information (SERVOVER)

The HTTP Server Information (SERVOVER) view provides information about software version, host name, IP address, port number, uptime, and server statistics.

Note: By default, this view displays that pertains to the first HTTP server that was discovered. Use the “Set HTTP Server Context” option on the “Easy HTTP Server Menu” to specify which HTTP server’s information this view will display.

Figure 4-1 HTTP Server Information View

```

10JAN2002 12:22:06 ----- INFORMATION DISPLAY -----
CURR WIN ==> 1          ALT WIN ==>
W1 =SERVOVER=====ESAJ=====10JAN2002==12:21:43====MVWEB=====1

HTTP Server info..          Server Stats

Host Name..... esajosa.bmc.com  Threads.....
Current Status... UP              Max...      40
Systems Contact... bwhiting bmc.co  Curr...     0

IPaddress..... 172.17.4.158      Traffic.....
Server Port..... 23778           Curr - In...  0
                                   Out...       0
Total Time Up..... 02:47:19      Total- In...  3.0M
                                   Out...       5.0M

Version..... V5R3M0
Server Name..... IBM HTTP Server  Errors.....
                                   Not Auth...  56
                                   No File...  116
                                   Svr Errs...   0

COMMAND ==>
F1=HELP      F2=SPLIT    F3=END      F4=RETURN   F5=RFIND    F6=RCHANGE
F7=UP        F8=DOWN     F9=SWAP    F10=LEFT    F11=RIGHT   F12=RETRIEVE
SCROLL ==> PAGE

```

Table 4-1 HTTP Server Information View—Fields (Part 1 of 2)

Field	Description
Host Name	Indicates the TCP/IP hostname that this HTTP server uses. Typically the network administrator configures the hostname using either Domain Name Services (DNS) or host tables. The name that appears in this field is either the true hostname or an alias that the HTTP server administrator has configured in the httpd.conf file.
Current Status	Indicates the operational status of the HTTP server. Possible values include the following: <ul style="list-style-type: none"> • Up • Down • Halted • Congested • Restarting NOTE: Values other than Up will not be displayed, since the server is then unavailable.
Systems Contact	Indicates the e-mail address of the HTTP server administrator. Contact this person if problems arise in the HTTP server. The administrator configures the value of this field in the httpd.conf file.
IPAddress	Identifies the IP address of the host on which this HTTP server runs. The address appearing on this field is the IP address of the primary TCP/IP interface unless the HTTP server administrator has overwritten this field value. Devices use IP addresses to communicate with each other. Typically the network administrator assigns the hostname and associates the IP address with the hostname. It is possible for one system to have more than one IP address. The HTTP server is a kind of generic server—unless overwritten by the server administrator, the HTTP server listens for all available IP addresses configured on the system.
Server Port	Indicates the port number to which this HTTP server listens for incoming connections. Applications use port numbers to communicate with each other and to distinguish between or among applications running on the same TCP/IP host. By default, a browser looks for a web server at port 80. For instance, a web server starting on host mvsa.bmc.com and binding to port 10080 is accessed by a client using URL http://mvsa.bmc.com:10080. A second web server starting on the same host but binding to port 80 can be accessed simply with the URL http://mvsa.bmc.com.
Total Time Up	Indicates the amount of time that the server has been active (in HH:MM:SS format).
Version	Indicates the version of software that the HTTP server is running. Do not confuse this value with the version of the IBM WebSphere Application Server, which has its own distinct version number and runs as a .dll within the HTTP server.
Server Name	Indicates the name of the HTTP server. This internal name is determined by the software manufacturer and cannot be configured by the server administrator.
Threads—Max	Indicates the maximum number of threads a server can have in the thread pool. This number can be configured within the httpd.conf file, but should not exceed that MAXTHREADS setting in the system BPX parameters.

Table 4-1 HTTP Server Information View—Fields (Part 2 of 2)

Field	Description
Threads—Curr	Indicates the number of active threads that the server currently has. The total number of active threads is the sum of the following: <ul style="list-style-type: none"> • SNMP Management Information Block (MIB) values • inbound connections • outbound connections.
Traffic—Curr In	Indicates the number of bytes received by the HTTP server in the current interval. The interval is determined by the SNMPINT parameter in the MAINVIEW for WebSphere Application Server parameter dataset. The default value of the SNMPINT is five minutes.
Traffic—Curr Out	Indicates the number of bytes sent by the HTTP server in the current interval.
Traffic—Total - Inbound	Indicates the total number of bytes received by the HTTP server since it was initialized.
Traffic—Total - Outbound	Indicates the total number of bytes sent by the HTTP server since it was initialized.
Errors - Not Authorized	Indicates the number of number of RESP401E responses issued by the server. The 401 response is issued when the client has not provided the server proper authorization to view the requested page.
Errors - No File	Indicates the number of RESP404E responses issued by the server. The server issues a 404 response when the server determines that the page the client has requested cannot be found.
Errors - Server Errors	Indicates the number of RESP500E responses issued by the server. The HTTP server issues a 500 response when the server determines that it is unable to complete the client request due to an unexpected error in the server itself.
Requests - Gets	Indicates the number of GET requests received by the server. The HTTP GET method requests that the server simply return the data contained in the specified URL to the requesting client.
Requests - Posts	Indicates the number of POST requests received by the server. As opposed to the HTTP GET method, the HTTP POST method handles more complicated requests, such as form processing or news group posting.
Requests - Total	Indicates the total sum of GET and POST requests generated or received by the server.

HTTP Server Connections (CONNECTS)

The HTTP Server Connections (CONNECTS) view provides historical and real time information pertaining to active threads. It also displays the current number of inbound and outbound connections.

The top line entry displays real time information, and each subsequent line displays information based on activity for a specified time interval. The MAINVIEW for WebSphere Application Server parameter SNMPINT governs the interval at which the record is created.

Figure 4-2 HTTP Server Connections View

```

10JAN2002 12:26:48 ----- INFORMATION DISPLAY -----
CURR WIN ==> 1          ALT WIN ==>
W1 =CONNECTS=====ESAJ=====10JAN2002==12:26:47====MVWEB=====15
Server      Interval Active  Inbnd  Connections  Outbnd Connections
Name        Time    Threads ----- 0.....25.....50 ----- 0.....25.....50
esajosa.bmc.com 12:26:24      0      0          0          0
esajosa.bmc.com 12:26:23      0      0          0          0
esajosa.bmc.com 12:16:31      0      0          0          0
esajosa.bmc.com 12:11:29      0      0          0          0
esajosa.bmc.com 12:06:27      0      0          0          0
esajosa.bmc.com 12:00:51      0      0          0          0
esajosa.bmc.com 11:55:49      0      0          0          0
esajosa.bmc.com 11:50:47      0      0          0          0
esajosa.bmc.com 11:45:46      0      0          0          0
esajosa.bmc.com 11:40:44      0      0          0          0
esajosa.bmc.com 11:35:42      0      0          0          0
esajosa.bmc.com 11:30:40      0      0          0          0
esajosa.bmc.com 11:25:38      0      0          0          0
esajosa.bmc.com 11:20:36      0      0          0          0
esajosa.bmc.com 11:15:33      0      0          0          0

COMMAND ==>
F1=HELP      F2=SPLIT    F3=END      F4=RETURN   F5=RFIND    F6=RCHANGE
F7=UP        F8=DOWN     F9=SWAP     F10=LEFT    F11=RIGHT   F12=RETRIEVE

SCROLL ==> PAGE
    
```

Table 4-2 HTTP Server Connections View–Fields

Field	Description
Server Name	Indicates the TCP/IP hostname that this HTTP server uses. Typically the network administrator configures the hostname using either DNS or host tables. The name that appears in this field is either the true hostname or an alias that the HTTP server administrator has configured in the httpd.conf file.
Interval Time	Indicates the specific time that the statistics were reported. This interval is determined by the SNMPINT parameter in the MAINVIEW for WebSphere Application Server parameter dataset. The default value of the interval is five minutes. Format - HH:MM:SS.
Active Threads	Indicates the total number of active threads the server currently has. This number is the sum of SNMP Management Information Block (MIB) values, inbound connections, and outbound connections.
Inbnd Connections	Indicates the number of inbound connections currently running on the server. An inbound connection is a thread that is currently processing a request.
Outbnd Connections	Indicates the number of outbound connections currently running on the server. An outbound connection is a thread that is currently processing data to be sent. A nonzero value in this field indicates that the server is running as a proxy server.

HTTP Server Requests - HTTP/CGI (REQCLASS)

The HTTP Server Requests - HTTP/CGI (REQCLASS) view provides historical and real time data pertaining to the number and types of requests received on the server. The view reports the number of CGI requests and of HTTP requests.

The top line entry displays real time information, and each subsequent line displays information based on activity for a specified time interval. The MAINVIEW for WebSphere Application Server parameter SNMPINT governs the interval at which the record is created.

Figure 4-3 HTTP Server Requests - HTTP/CGI View

```

10JAN2002 12:28:37 ----- INFORMATION DISPLAY -----
CURR WIN ==> 1      ALT WIN ==>
W1 =REQCLASS=====SYSB=====10JAN2002==12:28:35===MVWEB=====15
Server      Interval Cgi      Htp
Name        Time      Requests Requests
mvssysb.bmc.com 10:23:13 1757    768
mvssysb.bmc.com 10:21:09 1754    768
mvssysb.bmc.com 10:16:07 1745    768
mvssysb.bmc.com 10:06:55 1730    768
mvssysb.bmc.com 10:01:53 1721    768
mvssysb.bmc.com 09:56:50 1713    768
mvssysb.bmc.com 09:51:46 1705    768
mvssysb.bmc.com 09:46:41 1697    768
mvssysb.bmc.com 09:41:38 1688    768
mvssysb.bmc.com 09:36:34 1681    768
mvssysb.bmc.com 09:31:32 1672    768
mvssysb.bmc.com 09:26:28 1664    768
mvssysb.bmc.com 09:21:24 1656    768
mvssysb.bmc.com 09:16:21 1648    768
mvssysb.bmc.com 09:11:17 1637    768
mvssysb.bmc.com 09:06:12 1629    768

COMMAND ==>
F1=HELP      F2=SPLIT    F3=END      F4=RETURN   F5=RFIND    F6=RCHANGE
F7=UP        F8=DOWN     F9=SWAP     F10=LEFT    F11=RIGHT   F12=RETRIEVE

SCROLL ==> PAGE
    
```

Table 4-3 HTTP Server Requests - HTTP/CGI View-Fields

Field	Description
Server Name	Indicates the TCP/IP hostname that this HTTP server uses. Typically the network administrator configures the hostname using either DNS or host tables. The name that appears in this field is either the true hostname or an alias that the HTTP server administrator has configured in the httpd.conf file.
Interval Time	Indicates the specific time that the statistics were reported. This interval is determined by the SNMPINT parameter in the MAINVIEW for WebSphere Application Server parameter dataset. The default value of the interval is five minutes. Format - HH:MM:SS.
Cgi Requests	Indicates the number of Common Gateway Interface (CGI) requests received by the server. CGI programs are written and maintained externally, and can be written in any language that the operating system supports. The server calls CGI programs on behalf of the client. Note that using CGI can cause significant performance issues on the server because each new CGI request generally causes the server to fork a new process, which can be expensive in resources.
Http Requests	Indicates the number of HTTP requests received by the server. Web servers use the HTTP protocol to move data from the client to the server.

HTTP Server Requests - Get/Post (REQTYPE)

The HTTP Server Requests - Get/Post (REQTYPE) view provides historical and real time data regarding the number and types of requests received on the server. The view reports on several of the HTTP method requests.

The top line entry displays real time information, and each subsequent line displays information based on activity for a specified time interval. The MAINVIEW for WebSphere Application Server parameter SNMPINT governs the interval at which the record is created.

Figure 4-4 HTTP Server Requests - Put/Post View

```

10JAN2002 12:29:47 ----- INFORMATION DISPLAY -----
CURR WIN ==> 1      ALT WIN ==>
W1 =REQTYPE=====SYSB=====10JAN2002==10:32:45===MVWEB=====15
Server          Interval Get      Post      Head      Total
Name            End Time Requests Requests Requests Requests
mvssysb.bmc.com 10:32:45      1171      1775      3         2853
mvssysb.bmc.com 10:28:17      1171      1767      3         2845
mvssysb.bmc.com 10:21:09      1171      1754      3         2832
mvssysb.bmc.com 10:16:07      1171      1745      3         2823
mvssysb.bmc.com 10:06:55      1171      1730      3         2808
mvssysb.bmc.com 10:01:53      1171      1721      3         2799
mvssysb.bmc.com 09:56:50      1171      1713      3         2791
mvssysb.bmc.com 09:51:46      1171      1705      3         2783
mvssysb.bmc.com 09:46:41      1171      1697      3         2775
mvssysb.bmc.com 09:41:38      1171      1688      3         2766
mvssysb.bmc.com 09:36:34      1171      1681      3         2759
mvssysb.bmc.com 09:31:32      1171      1672      3         2750
mvssysb.bmc.com 09:26:28      1171      1664      3         2742
mvssysb.bmc.com 09:21:24      1171      1656      3         2734
mvssysb.bmc.com 09:16:21      1171      1648      3         2725

COMMAND ==>
F1=HELP      F2=SPLIT      F3=END      F4=RETURN      F5=RFIND      F6=RCHANGE
F7=UP        F8=DOWN      F9=SWAP      F10=LEFT      F11=RIGHT      F12=RETRIEVE
SCROLL ==> PAGE
    
```

Table 4-4 HTTP Server Requests - Get/Post View-Fields

Field	Description
Server Name	Indicates the TCP/IP hostname that this HTTP server uses. Typically the network administrator configures the hostname using either DNS or host tables. The name that appears in this field is either the true hostname or an alias that the HTTP server administrator has configured in the httpd.conf file.
Interval End Time	Indicates the time that the statistics were reported. The interval is determined by the SNMPINT parameter in the MAINVIEW for WebSphere Application Server parameter dataset. The default value of the interval is five minutes. Format - HH:MM:SS.
Get Requests	Indicates the number of GET requests received by the server. The HTTP GET method simply asks the server to return the data contained in the specified URL to the client.
Post Requests	Indicates the number of POST requests received by the server. As opposed to the HTTP GET method, the HTTP POST method handles more complicated requests, such as form processing or news group posting.
Head Requests	Indicates the number of HEAD requests received by the server. HEAD requests represent client requests that the server return only the HTTP header of a document instead of returning the entire document. One application that might use HEAD requests is a search engine.
Total Requests	Indicates the total number of combined GET and POST requests processed by the server.

Bytes In/Out (TRAFFIC)

The Bytes In/Out (TRAFFIC) view provides historical and real time data regarding the number and types of requests received on the server. The view reports the amount of data (in bytes) that has run into and out of the server.

The top line entry displays real time information, and each subsequent line displays information based on activity for a specified time interval. The MAINVIEW for WebSphere Application Server parameter SNMPINT governs the interval at which the record is created.

Figure 4-5 Bytes In/Out View

```

10JAN2002 14:45:51 ----- INFORMATION DISPLAY -----
CURR WIN ==> 1          ALT WIN ==>
W1 =TRAFFIC=====SYSB=====10JAN2002==14:45:47===MVWEB=====3
Server          Interval Interval Interval      Summary  Summary
Name           Time      InBytes  OutBytes   In Bytes Out Bytes
mvssysb.bmc.com 10:44:36   37486   5724      3084061 4983845
mvssysb.bmc.com 10:42:51   12472   1908      3081231 4983421
mvssysb.bmc.com 10:37:48   22184   3392      3068759 4981513
mvssysb.bmc.com 10:28:17   15885   2734      3046575 4978121
mvssysb.bmc.com 10:21:09   12469   1908      3030690 4975387
mvssysb.bmc.com 10:16:07   20805   3180      3018221 4973479
mvssysb.bmc.com 10:06:55   12477   1908      2997416 4970299
mvssysb.bmc.com 10:01:53   11083   1696      2984939 4968391
mvssysb.bmc.com 09:56:50   11101   1696      2973856 4966695
mvssysb.bmc.com 09:51:46   11089   1696      2962755 4964999
mvssysb.bmc.com 09:46:41   12470   1908      2951666 4963303
mvssysb.bmc.com 09:41:38    9714   1484      2939196 4961395
mvssysb.bmc.com 09:36:34   12475   1908      2929482 4959911
mvssysb.bmc.com 09:31:32   11088   1696      2917007 4958003
mvssysb.bmc.com 09:26:28   11105   1696      2905919 4956307
COMMAND ==>
F1=HELP      F2=SPLIT    F3=END      F4=RETURN   F5=RFIND    F6=RCHANGE
F7=UP        F8=DOWN     F9=SWAP     F10=LEFT    F11=RIGHT   F12=RETRIEVE
SCROLL ==> PAGE
    
```

Table 4-5 Bytes In/Out View–Fields

Field	Description
Server Name	Indicates the TCP/IP hostname that this HTTP server uses. Typically the network administrator configures the hostname using either DNS or host tables. The name that appears in this field is either the true hostname or an alias that the HTTP server administrator has configured in the httpd.conf file.
Interval Time	Indicates the time that the statistics were reported. The interval is determined by the SNMPINT parameter of the MAINVIEW for WebSphere Application Server parameter dataset. The default value is five minutes. Format - HH:MM:SS.
Interval InBytes	Indicates the number of bytes received by the HTTP server in the current or specified interval.
Interval OutBytes	Indicates the number of bytes sent by the HTTP server in the current or specified interval.
Summary In Bytes	Indicates the total number of bytes received by the HTTP server since initialization.
Summary Out Bytes	Indicates the total number of bytes sent by the HTTP server since initialization.

Response Codes (RESPONSE)

The HTTP Server Response Codes (RESPONSE) view provides historical and real time data regarding the number and types of HTTP responses the server has sent. The view reports the number of requests based on the HTTP response codes.

The top line entry displays real time information, and each subsequent line displays information based on activity for a specified time interval. The MAINVIEW for WebSphere Application Server parameter SNMPINT governs the interval at which the record is created.

Figure 4-6 HTTP Server Response Codes View

```

10JAN2002 10:46:22 ----- INFORMATION DISPLAY -----
CURR WIN ==> 1          ALT WIN ==>
W1 =RESPONSE=====SYSB=====*=====10JAN2002==10:46:19====MVWEB=====11
Server      Interval   Req  Move   Not    Req   File  Proxy  Server
Name        Time       OK'd Temp  Auth  Forbid  N/F  N/Auth Errors
mvssysb.bmc.com 10:46:19 2567  0     96    1     114   0     0
mvssysb.bmc.com 10:42:51 2563  0     96    1     114   0     0
mvssysb.bmc.com 10:37:48 2554  0     96    1     114   0     0
mvssysb.bmc.com 10:28:17 2538  0     96    1     114   0     0
mvssysb.bmc.com 10:21:09 2525  0     96    1     114   0     0
mvssysb.bmc.com 10:16:07 2516  0     96    1     114   0     0
mvssysb.bmc.com 10:06:55 2501  0     96    1     114   0     0
mvssysb.bmc.com 10:01:53 2492  0     96    1     114   0     0
mvssysb.bmc.com 09:56:50 2484  0     96    1     114   0     0
mvssysb.bmc.com 09:51:46 2476  0     96    1     114   0     0
mvssysb.bmc.com 09:46:41 2468  0     96    1     114   0     0
mvssysb.bmc.com 09:41:38 2459  0     96    1     114   0     0
mvssysb.bmc.com 09:36:34 2452  0     96    1     114   0     0
mvssysb.bmc.com 09:31:32 2443  0     96    1     114   0     0
mvssysb.bmc.com 09:26:28 2435  0     96    1     114   0     0

COMMAND ==>
F1=HELP      F2=SPLIT    F3=END      F4=RETURN   F5=RFIND    F6=RCHANGE
F7=UP        F8=DOWN     F9=SWAP     F10=LEFT    F11=RIGHT   F12=RETRIEVE

SCROLL ==> PAGE
    
```

Table 4-6 HTTP Server Response Codes View View-Fields

Field	Description
Server Name	Indicates the TCP/IP hostname that this HTTP server uses. Typically the network administrator configures the hostname using either DNS or host tables. The name that appears in this field is either the true hostname or an alias that the HTTP server administrator has configured in the httpd.conf file.
Interval Time	Indicates the time that the statistics were reported. The interval is determined by the SNMPINT parameter of the MAINVIEW for WebSphere Application Server parameter dataset. The default value is five minutes. Format - HH:MM:SS.
Req OK'd	Indicates the number of RESP200E responses issued by the server. The HTTP server has successfully processed the client request.
Move Temp	Indicates the number of RESP302E responses issued by the server. The requested page has been moved temporarily to a new location. The HTTP server should automatically reroute the request to the new location.
Not Auth	Indicates the number of RESP401E responses issued by the server. The client has not provided the HTTP server with proper authorization for the client to view the requested page.
Req Forbid	Indicates the number of RESP403E responses issued by the server. The HTTP server has determined that the client is forbidden to view the requested page.
File N/F	Indicates the number of RESP404E responses issued by the server. The HTTP server has determined that the page requested by the client cannot be found.
Proxy N/Auth	Indicates the number of RESP407E responses issued by the server. The HTTP server has determined that the client has not been authorized by the proxy server. This code is similar to the 401 except that the client credentials are checked by a proxy server.
Server Errors	Indicates the number of RESP500E responses issued by the server. The HTTP server has determined that it is unable to complete a client request because of an unexpected error in the server itself.

Cache Stats (CACHE)

The Cache Stats View (CACHE) view provides historical and real time data regarding the internal file cache of the server. The view reports on the number of cached files, the amount of memory used, and the number of cache hits.

The top line entry displays real time information, and each subsequent line displays information based on activity for a specified time interval. The MAINVIEW for WebSphere Application Server parameter SNMPINT governs the interval at which the record is created.

Figure 4-7 Cache Stats View

```

10JAN2002 10:55:35----- INFORMATION DISPLAY -----
CURR WIN ==> 1          ALT WIN ==>
>W1 =CACHE=====SYSB=====10JAN2002==10:55:32===MVWEB===D==127
Server          Cached      Cached      Cached      Cached      Interval
Name            File Hits   Files       Bytes Read  RAM Bytes   Time
mvssysb.bmc.com      0           1           0           2654 10:55:32
mvssysb.bmc.com      0           1           0           2654 10:51:22
mvssysb.bmc.com      0           1           0           2654 10:42:51
mvssysb.bmc.com      0           1           0           2654 10:37:48
mvssysb.bmc.com      0           1           0           2654 10:28:17
mvssysb.bmc.com      0           1           0           2654 10:21:09
mvssysb.bmc.com      0           1           0           2654 10:16:07
mvssysb.bmc.com      0           1           0           2654 10:06:55
mvssysb.bmc.com      0           1           0           2654 10:01:53
mvssysb.bmc.com      0           1           0           2654 09:56:50
mvssysb.bmc.com      0           1           0           2654 09:51:46
mvssysb.bmc.com      0           1           0           2654 09:46:41
mvssysb.bmc.com      0           1           0           2654 09:41:38
mvssysb.bmc.com      0           1           0           2654 09:36:34
mvssysb.bmc.com      0           1           0           2654 09:31:32

COMMAND ==>
F1=HELP      F2=SPLIT    F3=END      F4=RETURN   F5=RFIND    F6=RCHANGE
F7=UP        F8=DOWN     F9=SWAP     F10=LEFT    F11=RIGHT   F12=RETRIEVE

SCROLL ==> PAGE
    
```

Table 4-7 Cache Stats View–Fields

Field	Description
Server Name	Indicates the TCP/IP hostname that this HTTP server uses. Typically the network administrator configures the hostname using either DNS or host tables. The name that appears in this field is either the true hostname or an alias that the HTTP server administrator has configured in the httpd.conf file.
Cached File Hits	Indicates the number of requests for files stored in the cache of this server. This value is cumulative, counted from when the server process was started.
Cached Files	Indicates the number of files in the cache of this server. This value is cumulative, counted from when the server process was started.
Cached Bytes Read	Indicates the number of bytes read from the cache of this server. This value is cumulative, counted from when the server process was started.
Cached RAM Bytes	Indicates the number of RAM bytes used by the cache of this server. The HTTP server administrator sets the caching configuration within the httpd.conf file.
Interval Time	Indicates the specific time at which the statistics were reported. The interval is determined by the SNMPINT parameter in the MAINVIEW for WebSphere Application Server parameter dataset. The default value of the interval is five minutes. Format - HH:MM:SS.
Interval Date	Indicates the specific date on which the statistics were reported. Format - MM/DD/YYYY.
Real Time	Indicates whether the time data is real time <ul style="list-style-type: none"> • Y - Yes • N - No

Log File Analysis

This section provides information to help you interpret the Log File Analysis view information that is provided with MAINVIEW for WebSphere Application Server.

The information in all Log File Analysis views is collected from the access and error log files of the HTTP server.

Information is retrieved for Log File Analysis detail views (and **Most Recent** views in any **Select by Hour** Easy menu) when either of the following events occurs:

- the process interval expires, as specified in the ACLOGINT or ERLOGINT variable (see Chapter 3, “Customization,” in the *MAINVIEW for WebSphere Application Server Customization Guide*),
- the historical recorder interval expires.

Primary Log File Analysis views (such as **Access Log Detail**) and **Most Recent** present collected log file information with a time stamp of one hour prior to current *system* time or later, since midnight of the current day (as defined in the system date/time stamp), to a maximum of 15,000 lines. If the system and the HTTP server are not set to the same time zone, the amount and time stamps of information presented might not be what you expect—please refer to “Possible Time Discrepancies in Log File Analysis Views” on page 3-13.

Access Log Detail (ACCESS)

The Access Log Detail (ACCESS) view displays information collected from the server access log. This log includes the contains a record of all access received by the server, and identifies the result of the access.

The process interval for this view is specified by the ACLOGINT variable.

Note: You can bring up this view in two ways:

- On the EZWEB Menu, select Access Log Detail. This brings up information collected in the most recent hour.
- On the EZWEB Menu, select Select by Hour immediately following Access Log Detail. In the EZHACC Menu that comes up, select one of the hours listed. This brings up information collected during the specified hour.

Figure 4-8 Access Log Detail View

```

10JAN2002 11:01:03 ----- INFORMATION DISPLAY -----
COMMAND ==>>
CURR WIN ==>> 1          ALT WIN ==>>
>W1 =ACCESS=====SYSM=====*=====10JAN2002==11:01:03====MVWEB=====182
Access  Access      Client      Userid  Bytes  File
Time    Date        IP_address  ----- Sent   Accessed
11:00:25 01/10/2002 172.019.132.003 UNKNOWN 212 mvstmcgi
11:00:10 01/10/2002 172.019.132.003 UNKNOWN 212 mvstmcgi
10:58:45 01/10/2002 172.019.132.003 UNKNOWN 212 mvstmcgi
10:58:27 01/10/2002 172.019.132.003 UNKNOWN 212 mvstmcgi
10:57:30 01/10/2002 192.168.130.209 UNKNOWN 212 mvstmcgi
10:57:26 01/10/2002 172.019.132.003 UNKNOWN 212 mvstmcgi
10:57:09 01/10/2002 172.019.132.003 UNKNOWN 212 mvstmcgi
10:56:25 01/10/2002 172.019.132.003 UNKNOWN 212 mvstmcgi
10:56:05 01/10/2002 172.019.132.003 UNKNOWN 212 mvstmcgi
10:54:24 01/10/2002 172.019.132.003 UNKNOWN 212 mvstmcgi
10:54:09 01/10/2002 172.019.132.003 UNKNOWN 212 mvstmcgi
10:53:45 01/10/2002 172.019.132.003 UNKNOWN 212 mvstmcgi
10:52:31 01/10/2002 192.168.130.209 UNKNOWN 212 mvstmcgi
10:52:25 01/10/2002 172.019.132.003 UNKNOWN 212 mvstmcgi
10:52:24 01/10/2002 172.019.132.003 UNKNOWN 212 mvstmcgi

F1=HELP      F2=SPLIT     F3=END       F4=RETURN    F5=RFIND     F6=RCHANGE
F7=UP        F8=DOWN      F9=SWAP      F10=LEFT     F11=RIGHT    F12=RETRIEVE

```

Table 4-8 Access Log Detail View–Fields

Field	Description
Access Time	Indicates the time of access Format - HH:MM:SS.
Access Date	Indicates the date of access by the client Format - MM/DD/YYYY.
Client IP_address	Indicates the IP address of the accessing client. NOTE: This field contains a link to MAINVIEW for IP if that product is installed and running on this system.
Userid	Indicates the userid of the client from which the request originated. If this field is set to "UNKNOWN" the userid of the requesting client has not been recorded on the server's access log.
Bytes Sent	Indicates the number of bytes sent.
File Accessed	Indicates the name of the file accessed by the client.
Access Method	Indicates type of access request. Access types: <ul style="list-style-type: none"> • GET • HEAD • POST • PUT
Host Name	Indicates the name of the host server accessed by the client.
File Path	Indicates the directory path of the file being accessed by the client.
Time Offset	Indicates the difference in hours between local time and Greenwich Mean Time for this request. The web administrator configures this value in the server's environment variables file.
Status Code	Indicates the response code sent to the client within the HTTP header in response to a client request. Some of the more common codes are 200 (Request OK), 301 (Page has moved), and 404 (Page not found).
Filesys Name	Identifies the type of file access executed to service of this request. Common values for this field include HFS and MVS. These values indicate where the requested file existed when the server processed it.
Access File_type	Identifies the type of access the server used to process this request. Possible values for this field include MSDS and PDSMEMBER. The value "UNKNOWN" indicates that no specific access type was written into the access log.
Member Name	Identifies the member name of the PDS accessed in this request. This field is empty if the file accessed is not a member of a partitioned dataset.
Access Type	Identifies the HTTP method the client requested for server side handling of this resource. Some common HTTP protocol methods are GET, POST, and HEAD.
Protocol Version	Indicates the protocol and version for this request. The protocol is the set of rules that the request follows to ensure proper receipt and delivery between client and server.

Error Log Detail (ERRORS)

The Error Log Detail (ERRORS) view displays information collected from the server error log. This log contains a record of errors encountered by the server's clients, such as timing out or being denied access.

The process interval for this view is specified by the ERLOGINT variable.

You can bring up this view in two ways:

- On the EZWEB Menu, select Error Log Detail. This brings up information collected in the most recent hour.
- On the EZWEB Menu, select Select by Hour immediately following Error Log Detail. In the EZHERR Menu that comes up, select one of the hours listed. This brings up information collected during the specified hour.

Figure 4-9 Error Log Detail View

```
10JAN2002 13:28:38 ----- INFORMATION DISPLAY -----
COMMAND ==>>>                                     SCROLL ==>> PAGE
CURR WIN ==>> 1           ALT WIN ==>>
>W1 =ERRORS=====SYSM=====*=====10JAN2002==13:28:38====MVWEB=====132
Error      Client      Error      File
Time      IP_address  Date      Name
13:25:01  172.024.136.231  01/10/2002  reports.html
13:25:01  172.024.136.231  01/10/2002  restart.gif
13:25:01  172.024.136.231  01/10/2002  Initial
13:25:00  172.024.136.231  01/10/2002  kinfoque.gif
13:25:00  172.024.136.231  01/10/2002  cfgclient.props
13:25:00  172.024.136.231  01/10/2002  ready.gif
13:25:00  172.024.136.231  01/10/2002  cfgclient.NLS
13:25:00  172.024.136.231  01/10/2002  cfg_intro
13:24:58  172.024.136.231  01/10/2002  webExec.cab
13:24:58  172.024.136.231  01/10/2002  cfg_top.html
13:24:58  172.024.136.231  01/10/2002  cfg_navarea.html
13:24:57  172.024.136.231  01/10/2002  cfginit.html
13:24:56  172.024.136.231  01/10/2002  webExec.cab
13:24:55  172.024.136.231  01/10/2002  loadingmessage.html
13:24:55  172.024.136.231  01/10/2002  cfgstart.html
13:24:55  172.024.136.231  01/10/2002  loadjava.html
F1=HELP      F2=SPLIT    F3=END      F4=RETURN   F5=RFIND    F6=RCHANGE
F7=UP        F8=DOWN     F9=SWAP     F10=LEFT    F11=RIGHT   F12=RETRIEVE
```

Table 4-9 Error Log Detail View–Fields

Field	Description
Error Time	Indicates the time at which the error occurred while the resource on the HTTP server was accessed by the client. Format - HH:MM:SS.
Client IP_address	Indicates the IP address of the accessing client. NOTE: This field contains a link to MAINVIEW for IP if that product is installed and running on this system.
Error Date	Indicates the date on which the error occurred as the client was accessing the resource on the HTTP server. Format - MM/DD/YYYY.
File Name	Indicates the name of the file (resource) that had an error while being accessed by the client.
ShortMSG Text	Indicates the short text of this error, typically the IBM message number.
Message Type	Indicates the type of message issued for this error. Common message types are ERROR and INFO.
Client Userid	Indicates the user userid of the client at which the error originated. A blank in this field indicates that the userid was not recorded in the server's error log.
Host Name	Indicates the name of the client from which the error originated. If the host names are not resolved, the value in this field might contain the IP address rather than the fully resolved host name. A blank in this field indicates that the host name was not recorded in the server's error log.
File Path	Indicates the client request for this unit of work. This field contains the universal resource indicator (URI) requested by the client. A blank in this field indicates that the error did not result from a client request.
File Extension	Indicates the extension of the file requested by the client. A field value of "UNKNOWN" indicates either that the file has no extension or that the error is not associated with a file.
Filesys Name	Identifies what type of file access was attempted to service this request. Common values for this field include HFS and MVS. A value of "UNKNOWN" in this field indicates that the type was not recorded in the server's error log.
LongMsg Text	Displays the long text of this error, typically the text of the relevant IBM message.

Auth Error Detail (AUTHZ)

The Authorization Error Detail (AUTHZ) view provides information about client access failures caused by authorization errors. This view provides the time, IP address, file, and response code that pertains to each authorization error. Information is selected from the access log.

The process interval for this view is specified by the ACLOGINT variable.

You can bring up this view in two ways:

- On the EZWEB Menu, select Auth Error Detail. This brings up information collected in the most recent hour.
- On the EZWEB Menu, select Select by Hour immediately following Auth Error Detail. In the EZAUTH Menu that comes up, select one of the hours listed. This brings up information collected during the specified hour.

Figure 4-10 Auth Error Detail View

```

10JAN2002 17:52:39 ----- MAINVIEW WINDOW INTERFACE -----
CURR WIN===>1      ALT WIN ===>
>W1 =AUTHZ=====SYSB=====10JAN2002==17:52:39====MVWEB====D====6
Access  Client          Access
Time    IP_address      Failure
17:50:16 172.019.132.003  cfgstart.html      GET
17:40:16 172.019.132.003  cfgstart.html      GET
17:30:16 172.019.132.003  cfgstart.html      GET
17:20:16 172.019.132.003  cfgstart.html      GET
17:10:16 172.019.132.003  cfgstart.html      GET
17:00:19 172.019.132.003  cfgstart.html      GET

COMMAND  ===>
F1=HELP      F2=SPLIT      F3=END      F4=RETURN      F5=RFIND      F6=RCHANGE
F7=UP        F8=DOWN       F9=SWAP     F10=LEFT       F11=RIGHT     F12=RETRIEVE

SCROLL  ===>CSR

```

Table 4-10 Auth Error Detail View–Fields

Field	Description
Access Time	Indicates the time when the resource on the HTTP server was accessed by the client.
Client IP_address	Indicates the IP address of the accessing client. NOTE: This field contains a link to MAINVIEW for IP if that product is installed and running on this system.
Access Failure	Identifies the name of the resource that was accessed by the client.
Access Method	Identifies the HTTP method the client requested for server side. Some common HTTP protocol methods include GET, POST, and HEAD.
Access Date	Indicates the date on which the resource on the HTTP server was accessed by the client.
Status Code	Indicates the response code sent to the client within the HTTP header in response to a client request.

Files Not Found (NOFILEZ)

The Files Not Found (NOFILEZ) view provides information about client access attempts that have resulted in the server's being unable to locate the requested file. The view provides the IP address of the requesting client, as well as the date and time of the request and the file that was requested. Information is selected from the server access log.

The process interval for this view is specified by the ACLOGINT variable.

You can bring up this view in two ways:

- On the EZWEB Menu, select Files Not Found. This brings up information collected in the most recent hour.
- On the EZWEB Menu, select Select by Hour immediately following Files Not Found. In the EZHFILE Menu that comes up, select one of the hours listed. This brings up information collected during the specified hour.

Figure 4-11 Files Not Found View

```

10JAN2002 09:53:25 ----- MAINVIEW WINDOW INTERFACE -----
CURR WIN===>1      ALT WIN ===>
>W1 =NOFILEZ=====SYSB=====*=====10JAN2002==09:53:25====MVWEB====D====6
Access  Client                Access                               A
Time    IP_address              Failure                             M
09:49:52 172.019.132.003  index.ht                           G
09:39:52 172.019.132.003  index.ht                           G
09:29:52 172.019.132.003  index.ht                           G
09:19:52 172.019.132.003  index.ht                           G
09:09:52 172.019.132.003  index.ht                           G
08:59:52 172.019.132.003  index.ht                           G

COMMAND  ===>
F1=HELP      F2=SPLIT      F3=END      F4=RETURN      F5=RFIND      F6=RCHANGE
F7=UP        F8=DOWN       F9=SWAP     F10=LEFT       F11=RIGHT     F12=RETRIEVE

SCROLL  ===>CSR

```

Table 4-11 Files Not Found View View-Fields

Field	Description
Access Time	Indicates the time when the resource on the HTTP server was accessed by the client.
IP Address	Identifies the IP address of the client.
Access Failure	Identifies the name of the resource that was accessed by the client.
Access Method	Identifies the HTTP method the client requested for server side. Some common HTTP protocol methods include GET, POST, and HEAD.
Access Date	Indicates the date on which the resource on the HTTP server was accessed by the client.
Status Code	Indicates the response code sent to the client within the HTTP header in response to a client request.

Log File Analysis Easy Menus

Each of the views for Log File Analysis is associated with an Easy menu that allows you to review information collected during 24 hours, from midnight of the current calendar day. To view this information, select the sub-menu on the Easy Menu for WebSphere (EZWEB).

The following lists the hourly views associated with main Log File Analysis views:

- Access Wall Clock (EZHACC)
- Error Wall Clock (EZHERR)
- Auth Errors Wall Clock (EZAUTH)
- File Access Wall Clock (EZHFILE)

On these sub-menus, morning and evening time frames display in one hour increments. To view specific log file analysis information, select the time frame on the applicable sub-menu. You can also view information for the current time frame (**Most Recent**).

Note: As noted at the top of this chapter, Most Recent might generate a view with entries that do not agree with the current time listed at the top of each view (server time). Please refer to “Possible Time Discrepancies in Log File Analysis Views” on page 3-13 for a full explanation of this possibility.

HTTP Server Summary Views

The following HTTP Server summary views contain HTTP information gathered from log files:

- Traffic by Client (UVOLSUM)
- Access by Client (UACCSUM)
- Access by File (FILESUM)
- Access Stats by Hour (ACCSTAT)
- Error Stats by Hour (ERRSTAT)
- Server Errors (ERRORSZ)

Each of these summary views contain information arranged by log information.

The HTTP Server summary views in MAINVIEW for WebSphere Application Server display information collected from log files. A brief explanation of each of these views follows:

Traffic by Client (UVOLSUM)

The Traffic by Client (UVOLSUM) view provides information summarized by the client IP address for a specific server ASID. Byte count and access count are the highlighted fields at this summary level.

Selecting an entry in the Client IP_address field presents a view with access log information for the client with that IP address.

Figure 4-12 Traffic by Client View

```

11NOV2002 14:15:37 ----- MAINVIEW WINDOW INTERFACE(R4.0.02)-----
CURR WIN ==> 1          ALT WIN ==>
W1 =UVOLSUM=====BJWSYSI==*=====11NOV2002==14:15:37====MVWEB====D====3
Client          Byte      Access Protocol  Access   Server   Server
IP_address      Count    Count- Version   Date     Jobname  Asid
172.019.133.115 242593   209 HTTP/1.1  11/11/2002  IMVWEBQA  8A
172.019.133.115 236140   125 HTTP/1.1  11/11/2002  IMVWEBQA  92
172.019.133.115          48 HTTP/1.1  11/11/2002  IMWEBSRV  23

COMMAND ==>
F1=HELP      F2=SPLIT    F3=END      F4=RETURN   F5=RFIND    F6=RCHANGE
F7=UP        F8=DOWN     F9=SWAP     F10=LEFT    F11=RIGHT   F12=RETRIEVE
    
```

Table 4-12 Traffic by Client View—Fields (Part 1 of 2)

Field	Description
Client IP_address	lists the IP address of the client. NOTE: This field contains a link to MAINVIEW for IP if that product is installed and running on this system.
Byte Count	lists the number of bytes sent to the client over all accesses on the date
Access Count	lists the number of times the client with that IP address accessed the HTTP server
Protocol Version	lists the version of the HTTP protocol with which the client accessed the HTTP server
Access Date	lists the date on which the access occurred

Table 4-12 Traffic by Client View—Fields (Part 2 of 2)

Field	Description
Server Jobname	Indicates the HTTP server address space to which the access log applies.
Server Asid	Indicates the address space identifier for this HTTP server. The system assigns a unique ASID to each job, started task, or TSO user currently active in the system. This is much like the process identifier (PID) in a Unix environment. The data in this field is represented by hexadecimal numbers.

Access by Client (UACCSUM)

The Access by Client (UACCSUM) view provides information summarized by the client IP address for a specific server ASID. Earliest access, latest access, byte count, and access count are the highlighted fields at this summary level.

Selecting an entry in the Client IP_address field presents a view with access log information for the client with that IP address.

Figure 4-13 Access by Client View

```

11NOV2002 14:17:59 ----- MAINVIEW WINDOW INTERFACE(R4.0.02)-----
CURR WIN ==> 1          ALT WIN ==>
>W1 =UACCSUM=====BJWSYSI==*=====11NOV2002==14:17:56====MVWEB====D====3
Client      Access Earliest Latest  Protocol  Access   Byte   Serve
IP_address  Count-  Access  Access  Version   Date    Count  Jobna
172.019.133.246  3388 00:00:03 00:59:55 HTTP/1.1 11/11/2002 10665424 IMVWE
172.019.133.115   239 00:01:17 00:59:59 HTTP/1.1 11/11/2002 242338 IMVWE
172.019.133.115   125 00:02:17 00:59:18 HTTP/1.1 11/11/2002 236140 IMVWE

COMMAND ==>
F1=HELP      F2=SPLIT    F3=END      F4=RETURN   F5=RFIND    F6=RCHANGE
F7=UP        F8=DOWN     F9=SWAP     F10=LEFT    F11=RIGHT   F12=RETRIEVE

SCROLL ==> PAGE
    
```

Table 4-13 Access by Client View–Fields (Part 1 of 2)

Field	Description
Client IP_address	Identifies the IP address of the client NOTE: This field contains a link to MAINVIEW for IP if that product is installed and running on this system.
Access Count	Displays the number of times the client accessed the HTTP server
Earliest Access	Displays the time on the specified date at which the client first accessed the HTTP server
Latest Access	Displays the time on the specified date at which the client most recently accessed the HTTP server

Table 4-13 Access by Client View—Fields (Part 2 of 2)

Field	Description
Protocol Version	Displays the version of the HTTP protocol with which the client accessed the HTTP server
Access Date	Displays the date on which the access occurred
Byte Count	Displays the number of bytes sent to the client over all accesses on the date
Server Jobname	Indicates the HTTP server address space to which the access log applies.
Server Asid	Indicates the address space identifier for this HTTP server. The system assigns a unique ASID to each job, started task, or TSO user currently active in the system. This is much like the process identifier (PID) in a Unix environment. The data in this field is represented by hexadecimal numbers.

Access by File (FILESUM)

The Access by File (FILESUM) view provides information summarized by files accessed for a specific server ASID. Bytes out and access count are the highlighted fields at this summary level.

Selecting an entry in the File Accessed field presents a view with access log information for the selected file.

Figure 4-14 Access by File View

```

11NOV2002 14:21:18 ----- MAINVIEW WINDOW INTERFACE(R4.0.02)-----
CURR WIN ==> 1          ALT WIN ==>
>W1 =FILESUM=====BJWSYSI==*=====11NOV2002==14:21:18====MVWEB====D====19
File                Access Bytes    Access   File    S
Accessed            Count  Out      Date    System  J
contents.html      12          11/11/2002 HFS    I
ROOT               12          11/11/2002 HFS    I
NavBar.jar         12          11/11/2002 HFS    I
gov                12        3060    11/11/2002 HFS    I
contentstab.html  12          11/11/2002 HFS    I
2tabcontents.html 12          11/11/2002 HFS    I
showCfgx           12        3408    11/11/2002 HFS    I
TestMenu.html     20       122220  11/11/2002 HFS    I
TopDog             20        2780    11/11/2002 HFS    I
UnderDog           20        2960    11/11/2002 HFS    I
TopDog1            20        7500    11/11/2002 HFS    I
showCfg            45       100665  11/11/2002 HFS    I
TopDog1            20        7500    11/11/2002 HFS    I
UnderDog           20        2960    11/11/2002 HFS    I
showCfg            45       100680  11/11/2002 HFS    I
TopDog             20        2780    11/11/2002 HFS    I
COMMAND ==>
                                SCROLL ==> PAGE
F1=HELP      F2=SPLIT    F3=END      F4=RETURN   F5=RFIND    F6=RCHANGE
F7=UP        F8=DOWN     F9=SWAP     F10=LEFT    F11=RIGHT   F12=RETRIEVE
    
```

Table 4-14 Access by File View–Fields (Part 1 of 2)

Field	Description
File Accessed	Identifies name of the resource accessed
Access Count	Displays the number of times during the date that the resource was accessed
Bytes Out	Displays sum of all bytes sent from that resource during that date
Access Date	Displays the date on which the access occurred

Table 4-14 Access by File View–Fields (Part 2 of 2)

Field	Description
Server Jobname	Indicates the HTTP server address space to which the access log applies.
Server Asid	Indicates the address space identifier for this HTTP server. The system assigns a unique ASID to each job, started task, or TSO user currently active in the system. This is much like the process identifier (PID) in a Unix environment. The data in this field is represented by hexadecimal numbers.

Access Stats by Hour (ACCSTAT)

The Access Stats by Hour (ACCSTAT) view provides information summarized by the access hour for a specific server ASID. Access count and bytes transmitted are the highlighted fields at this summary level.

Selecting an entry in the Wall Clock field presents a view with access log information expanded for the selected hour.

Figure 4-15 Access Stats by Hour View

```

11NOV2002 14:23:39 ----- MAINVIEW WINDOW INTERFACE(R4.0.02)-----
CURR WIN ==> 1          ALT WIN ==>
>W1 =ACCSTAT=====BJWSYSI==*=====11NOV2002==14:23:39====MVWEB====D===72
Access Wall      Access Access          Bytes  Bytes          S
Hour-- Clock      Count- 0.....1000 Xmitted 0.....9999999 J
  0 00:00:00    3627          10.9M          + I
  1 01:00:00    3637          10.9M          + I
  2 02:00:00    3609          10.8M          + I
  3 03:00:00     557          1556323        I
  4 04:00:00      0              0              I
  5 05:00:00      0              0              I
  6 06:00:00      0              0              I
  7 07:00:00      0              0              I
  8 08:00:00     443          1377560        I
  9 09:00:00    1236          3315805        I
 10 10:00:00     245          242607         I
 11 11:00:00     245          242593         I
 12 12:00:00     245          242593         I
 13 13:00:00     212          235882         I
 14 14:00:00      81           90372          I
 15 15:00:00      0              0              I
COMMAND ==>
F1=HELP      F2=SPLIT      F3=END        F4=RETURN     F5=RFIND      F6=RCHANGE
F7=UP        F8=DOWN       F9=SWAP       F10=LEFT      F11=RIGHT     F12=RETRIEVE
SCROLL ==> PAGE
    
```

Table 4-15 Access Stats by Hour View—Fields (Part 1 of 2)

Field	Description
Access Hour	Identifies the hour at which the client accessed the server
Wall Clock	Identifies the hour of access, based on a 24-hour clock (13:00 = 1:00 P.M., etc.)
Access Count	Displays the number of times the client accessed the HTTP server during the associated hour
Access 1....1000	Graphically displays the number of client accesses (hits) during the hour
Bytes Xmitted	Displays the total number of bytes transmitted to the client during the hour

Table 4-15 Access Stats by Hour View—Fields (Part 2 of 2)

Field	Description
Bytes 0.....999999	Graphically displays the total number of bytes transmitted to the client during the hour
Server Jobname	Indicates the HTTP server address space to which the access log applies.
Server Asid	Indicates the address space identifier for this HTTP server. The system assigns a unique ASID to each job, started task, or TSO user currently active in the system. This is much like the process identifier (PID) in a Unix environment. The data in this field is represented by hexadecimal numbers.

Error Stats by Hour (ERRSTAT)

The Error Stats by Hour (ERRSTAT) view provides information summarized by the error hour for a specific server ASID. Error count is the highlighted fields at this summary level.

Selecting an entry in the Wall Clock field presents a view with error log information expanded for the selected hour.

Figure 4-16 Error Stats by Hour

```

11NOV2002 14:24:50 ----- MAINVIEW WINDOW INTERFACE(R4.0.02)-----
CURR WIN ==> 1          ALT WIN ==>
>W1 =ERRSTAT=====BJWSYSI==*=====11NOV2002==14:24:49====MVWEB====D==72
Error Wall              Error Errors              Serve
Hour- Clock            Count 0.....150.....300 Jobna
 0 00:00:00              14                                  IMVWE
 1 01:00:00              15                                  IMVWE
 2 02:00:00              15                                  IMVWE
 3 03:00:00              49                                  IMVWE
 4 04:00:00               3                                  IMVWE
 5 05:00:00               3                                  IMVWE
 6 06:00:00               3                                  IMVWE
 7 07:00:00               3                                  IMVWE
 8 08:00:00              15                                  IMVWE
 9 09:00:00             113                                  IMVWE
10 10:00:00              15                                  IMVWE
11 11:00:00              15                                  IMVWE
12 12:00:00              15                                  IMVWE
13 13:00:00              15                                  IMVWE
14 14:00:00               6                                  IMVWE
15 15:00:00               0                                  IMVWE
COMMAND ==>
F1=HELP      F2=SPLIT    F3=END      F4=RETURN   F5=RFIND   F6=RCHANGE
F7=UP        F8=DOWN     F9=SWAP     F10=LEFT    F11=RIGHT  F12=RETRIEVE
SCROLL ==> PAGE
    
```

Table 4-16 Error Stats by Hour View–Fields (Part 1 of 2)

Field	Description
Error Hour	Identifies the hour at which the client accessed the server
Wall Clock	Identifies the hour of access, based on a 24-hour clock (13:00 = 1:00 P.M., etc.)
Error Count	Displays total the number of errors during the specified hour
Errors 0...150...300	Graphically displays total the number of errors during the specified hour

Table 4-16 Error Stats by Hour View–Fields (Part 2 of 2)

Field	Description
Server Jobname	Indicates the HTTP server address space to which the error log applies.
Server Asid	Indicates the address space identifier for this HTTP server. The system assigns a unique ASID to each job, started task, or TSO user currently active in the system. This is much like the process identifier (PID) in a Unix environment. The data in this field is represented by hexadecimal numbers.

Server Errors (ERRORSZ)

The Server Errors (ERRORSZ) view provides information summarized by the the short message text of errors for a specific server ASID.

Selecting an entry in the ShortMSG Text field presents a view with error log information expanded for the error whose short message text was selected.

Figure 4-17 Server Errors View

```

11NOV2002 14:25:39 ----- MAINVIEW WINDOW INTERFACE(R4.0.02)-----
CURR WIN ==> 1          ALT WIN ==>
>W1 =ERRORSZ=====BJWSYSI==*=====11NOV2002==14:25:39===MVWEB====D====3
ShortMSG                Count      LongMsg
Text                    Text
IMW0196I NOT AUTHENTICATED          12 host: 172.19.133.115 referer
IMW0301E                          3  SNMP open/registration faile
IMW0301E                          3  SNMP open/registration faile

COMMAND ==>
F1=HELP      F2=SPLIT    F3=END      F4=RETURN   F5=RFIND    F6=RCHANGE
F7=UP        F8=DOWN     F9=SWAP     F10=LEFT   F11=RIGHT   F12=RETRIEVE

SCROLL ==> PAGE
    
```

Table 4-17 Server Errors View–Fields (Part 1 of 2)

Field	Description
ShortMSG Text	Displays the short message of this error, typically including the IBM error message number
Count	Indicates the number of times this message occurred during the specified day while the client had access to the server
LongMsg Text	Displays the long text of this message (typically the text of the particular IBM message)
Message Type	Identifies the type of message issued for this error (common message types are ERROR and INFO).

Table 4-17 Server Errors View–Fields (Part 2 of 2)

Field	Description
Host Name	Identifies the client from which the request originated. If the name is not resolved, this may be the client IP address. If nothing is displayed, the originating client is not recorded in the log file.
Msg_component Name	Displays the component of the server that issued the message.
File Path	Indicates the client request for this unit of work. This field contains the universal resource indicator (URI) requested by the client. This field will be blank if the error was not due to a client request.
File Name	Identifies the name of the resource that had the error while accessed by the client
Server Jobname	Indicates the HTTP server address space to which the error log applies.
Server Asid	Indicates the address space identifier for this HTTP server. The system assigns a unique ASID to each job, started task, or TSO user currently active in the system. This is much like the process identifier (PID) in a Unix environment. The data in this field is represented by hexadecimal numbers.

Chapter 5 WAS Plug-in Information Group

The views discussed in this chapter can pertain to the WebSphere Application Server associated with any HTTP server currently running in your WebSphere Application Server environment.

This chapter provides information about the following views and summary Easy menus:

WebSphere Application Server Information	5-2
Application Servers (APPSERV)	5-3
Web Applications (WEBAPP)	5-5
Servlets (SERVLET)	5-7
Threads (THREAD)	5-9
Heap Analysis (HEAPINFO)	5-11
DB2 Connections (DB2INFO)	5-13
WAS Summary	5-15
Servlet Hits (THREADZ)	5-15
Servlet by WebApp (SERVLETZ)	5-16
Activity by Cookie (SERVCOOK)	5-19
WebApp by Virtual Host (VHOSTZ)	5-20
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WAS Performance (WASPERF)	5-22
WAS Diagnostic Views	5-24
Thread Exceptions (DIAGTCB)	5-24
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WebSphere Application Server Information

The WebSphere Application Server Information section in the WAS Plug-in Information group of views provides statistics that help you to evaluate the health and availability of the WebSphere Application Server plug-ins. This information is also presented in the WAS Summary views, which are also discussed in this chapter. WebSphere Application Server Information views consist of the following:

Application Servers (APPSERV)	5-3
Web Applications (WEBAPP)	5-5
Servlets (SERVLET).....	5-7
Threads (THREAD)	5-9
Heap Analysis (HEAPINFO)	5-11
DB2 Connections (DB2INFO)	5-13

Application Servers (APPSERV)

The Application Servers view (APPSERV) provides information about the currently active instances of the IBM WebSphere Application Server monitored by the MAINVIEW for WebSphere Application Server product. The IBM WebSphere Application Server plug-in is a .dll in the IBM HTTP server. (An IBM WebSphere Application Server plug-in to the HTTP server must be installed for MAINVIEW for WebSphere Application Server monitoring.) The application server enables the use of servlets and JSPs within the HTTP server.

An APPSERV view containing no data indicates that MAINVIEW for WebSphere Application Server has not detected any active IBM WebSphere Application Servers.

Figure 5-1 Application Servers View

```

10JAN2002 17:47:06 ----- INFORMATION DISPLAY -----
CURR WIN ==> 1          ALT WIN ==>
W1 =APPSERV=====ESAJ=====*=====10JAN2002==17:47:03====MVWEB=====3
Server                AppServe HttpServ HttpServ
Name                  Version Jobname Asid
defaultServletEngine 3.50    WRBWESV  A8
defaultServletEngine 3.50    IMWEBWLM CB
defaultServletEngine 3.50    IMWEBSRV 6C

COMMAND ==>
F1=HELP      F2=SPLIT    F3=END      F4=RETURN   F5=RFIND    F6=RCHANGE
F7=UP        F8=DOWN     F9=SWAP     F10=LEFT    F11=RIGHT   F12=RETRIEVE

SCROLL ==> PAGE

```

Table 5-1 Application Servers View–Fields

Field	Description
Server Name	Indicates the name of an active IBM WebSphere Application Server. The IBM WebSphere Application Server is (or includes) a .dll plug-in to the HTTP server that enables use of servlets and JSPs in the web environment. The WebSphere administrator configures this server name.
AppServ Version	Indicates the version of the active IBM WebSphere Application Server.
HttpServ Jobname	Indicates the HTTP server address space in which this application server is running.
HttpServ Asid	Indicates the address space identifier for the HTTP server that hosts this application server. The system assigns a unique ASID to each job, started task, or TSO user currently active in the system. This is much like the process identifier (PID) in a Unix environment. The data in this field is represented by hexadecimal numbers.

Web Applications (WEBAPP)

The Web Applications view (WEBAPP) provides information pertaining to defined WebSphere applications. A web application is a set of web files such as servlets, JSPs, and HTML documents that can be viewed and managed as a single unit.

A WEBAPP view containing no data indicates that MAINVIEW for WebSphere Application Server has not detected any active IBM Web Application Servers.

Figure 5-2 Web Applications View

```

10JAN2002 17:07:49 ----- INFORMATION DISPLAY -----
CURR WIN ==> 1          ALT WIN ==>
>W1 =WEBAPP=====ESAJ=====10JAN2002==17:07:48====MVWEB=====16
Webapp                Virtual                Root
Name                  Host                  URI
default_              default_host          /
default_              default_host          /
default_              default_host          /
default_              default_host          /
examples              default_host          /webapp/examples
examples              default_host          /webapp/examples
examples              default_host          /webapp/examples
examples              default_host          /webapp/examples
HelloWor              default_host          /servlet
HelloWor              default_host          /servlet
HelloWor              default_host          /servlet
HelloWor              default_host          /servlet
TestMenu              default_host          /
TestMenu              default_host          /TestMenu
TestMenu              default_host          /
TestMenu              default_host          /
COMMAND ==>
F1=HELP              F2=SPLIT              F3=END                F4=RETURN             F5=RFIND              F6=RCHANGE
F7=UP                F8=DOWN               F9=SWAP              F10=LEFT              F11=RIGHT             F12=RETRIEVE
SCROLL ==> PAGE

```

Table 5-2 Web Applications View—Fields

Field	Description
Webapp Name	Indicates the name of a web application defined within the IBM Web Application Server.
Virtual Host	Indicates the name of the virtual host into which the web application on the same line has been deployed. A virtual host allows the WebSphere administrator to segregate portions of workload, based on the client requested URL.
Root URI	Indicates the highest level Universal Resource Indicator for the web application. WebSphere uses the URI to map client requests to the physical resources required, such as servlet class files or HTML files.
Webapp Classpath	Indicates the classpath for the web application—a list of directories and Java .jar files that WebSphere searches in order to find the servlets requested by the client.
Document Root	Indicates the document root for the web application—the directory path that WebSphere searches to find web files such as HTML, JSPs, and image files like .gif and .jpg files.
AutoReload Interval	Indicates the autoreload interval for the web application—the time in milliseconds during which WebSphere waits before checking for changes in servlet code. If any change is detected, WebSphere reloads the servlet. A blank in this field indicates that reload of servlets is disabled. No reloading of servlets is the optimum performance setting.
Server Jobname	Indicates the HTTP server/IBM Web Application Server address space into which this web application has been defined.
Server Asid	Indicates the address space identifier for the HTTP server that hosts this application server. The system assigns a unique ASID to each job, started task, or TSO user currently active in the system. This is much like the process identifier (PID) in a Unix environment. The data in this field is represented by hexadecimal numbers.

Servlets (SERVLET)

The Servlets view (SERVLET) displays information pertaining to all defined servlets within all active instances of WebSphere Application Server. Servlets are Java programs that run on the server (as opposed to applets, which run on the client). Servlets can be used to access legacy data and present that data to web based clients.

Figure 5-3 Servlets View

```

10JAN2002 17:54:06 ----- INFORMATION DISPLAY -----
CURR WIN ==> 1          ALT WIN ==>
>W1 =SERVLET=====ESAJ=====10JAN2002==17:54:02====MVWEB=====24
Servlet                Web                Virtual                Cla
Name                   Application      Host                   Fil
file                   examples        default_host           com
file                   examples        default_host           com
file                   examples        default_host           com
jsp                    examples        default_host           com
jsp                    examples        default_host           com
jsp                    examples        default_host           com
poc                    TestMenu        default_host           com
poc                    TestMenu        default_host           POC
poc                    TestMenu        default_host           com
showCfg               examples        default_host           com
showCfg               TestMenu        default_host           Top
showCfg               examples        default_host           com
showCfg               TestMenu        default_host           com
showCfg               TestMenu        default_host           com
showCfg               examples        default_host           com
simpleJS               examples        default_host           Sim
COMMAND ==>
      F1=HELP      F2=SPLIT      F3=END      F4=RETURN      F5=RFIND      F6=RCHANGE
      F7=UP        F8=DOWN       F9=SWAP     F10=LEFT      F11=RIGHT     F12=RETRIEVE
SCROLL ==> PAGE

```

Table 5-3 Servlets View–Fields

Field	Description
Servlet Name	Indicates the name of a servlet that is defined within the IBM Web Application Server. The WebSphere administrator configures the servlet name.
Web Application	Indicates the name of the web application to which the servlet belongs. A web application is a logical grouping of servlets, HTML files, and other files that can be managed as a single entity.
Virtual Host	Indicates the name of the virtual host into which the web application has been deployed. A virtual host allows the WebSphere administrator to segregate portions of workload, based on the client requested URL.
Class File	Indicates the name of the physical Java class file for the servlet. A Java class file is compiled source that a Java Virtual Machine (JVM) executes. In the WebSphere environment, class files are servlets that the JVM processes within the WebSphere address space. Note that the servlet name and the servlet code are not required to match.
Init Args	Indicates the arguments to be passed to the servlet's init() method. Arguments are a group of parameter name/parameter value pairs to be passed to a servlet for use as it processes. The servlet programmer specifies whether or not a servlet accepts arguments. A blank in this column indicates that no arguments are to be passed.
Application Server	Indicates the name of the active IBM Web Application Server to which the servlet belongs. The application server is or includes a .dll plug-in and enables the use of Java code in the web environment for the HTTP server.
Root URI	Indicates the root Universal Resource Indicator for the web application to which the servlet belongs. WebSphere uses the URI to map client requests to the physical resources required, such as servlet class files or HTML files.
Servlet Mapping	Indicates the mapping that WebSphere uses to map a client request to the specific servlet code to be executed. The servlet mapping is relative to the root URI for the web application to which the servlet belongs. For instance, if the Web Application for servlet BigDog is named TestMenu, and if the servlet mapping for BigDog is named SmallDog, the following client request causes the IBM Web Application Server to run the Java class file for servlet BigDog: <code>http://hostname/TestMenu/SmallDog.</code>
HttpServ Jobname	Indicates the HTTP server/IBM Web Application Server address space into which the servlet has been defined.
HttpServ Asid	Indicates the address space identifier (ASID) for the HTTP server that hosts the application server into which the servlet has been defined. The system assigns a unique ASID to each job, started task, or TSO user currently active in the system. This is much like the process identifier (pid) in a Unix environment. The data in this field is represented by hexadecimal numbers.

Threads (THREAD)

The Threads view (THREAD) displays information having to do with units of work completed by the IBM Web Application Server. Work that threads typically process includes running servlet code or serving files.

Figure 5-4 Threads View

```

10JAN2002 17:14:49 ----- INFORMATION DISPLAY -----
CURR WIN ==> 1          ALT WIN ==>
>W1 =THREAD=====ESAJ=====*=====10JAN2002==17:14:49====MVWEB=====116
Thread          Process  Elapsed   Requested      IP              Sess
ID              ID          Seconds   File            Address         Cook
12CF70000000003  15    3.000056  simpleJSP      172.19.132.3   9dDu
12CF70000000003  15    0.000022  showCfg       172.19.132.3   9dDu
12CF70000000003  15    0.000004  showCfg       172.19.132.3   9dDu
12CF70000000003  15    0.000007                          172.19.132.3   9dDu
12CF70000000003  15    0.000001  simpleJSP     172.19.132.3   9ubX
12CF70000000003  15    0.000002  simple.jsp    172.19.132.3   9ubX
12CF70000000003  15    0.000001  showCfg       172.19.132.3   9ubX
12CF70000000003  15    0.000001  index.html    172.19.132.3
12CF70000000003  15    0.000002  banner.gif    172.19.132.3
12CF70000000003  15    0.000002  simple.jsp    172.19.132.3   93_s
12CF70000000003  15    0.000002  showCfg       172.19.132.3   93_s
12CF70000000003  15    0.000001  simpleJSP     172.19.132.3   9Syf
12CF70000000003  15    0.000003  simple.jsp    172.19.132.3   9Syf
12CF70000000003  15    0.000003  showCfg       172.19.132.3   9Syf
12CF70000000003  15    0.999772  index.html    172.19.132.3
12CF70000000003  15    0.000004  banner.gif    172.19.132.3
COMMAND ==>
                                SCROLL ==> PAGE
F1=HELP      F2=SPLIT    F3=END      F4=RETURN   F5=RFIND    F6=RCHANGE
F7=UP        F8=DOWN     F9=SWAP     F10=LEFT    F11=RIGHT   F12=RETRIEVE

```

Table 5-4 Threads View—Fields

Field	Description
Thread ID	Indicates the thread identifier—an HTTP server generated hex number that maps to a task control block (TCB)—that processed this unit of work. The data in this field is represented by hexadecimal numbers.
Process ID	Indicates the Unix System Services assigned process identified (PID) for the HTTP server that completed this unit of work. A PID is assigned to all address spaces that require Unix System Services.
Elapsed Seconds	Indicates the number of elapsed seconds that it took to complete this unit of work. This number represents wall clock time, not CPU time.
Requested File	Indicates the name of the file requested at the client machine. Because of WebSphere servlet mapping capabilities, the name in this field might not represent the name of the physical file that was executed.
IP Address	Indicates the IP address of the client that requested the unit of work.
Session Cookie	Indicates the cookie identifier used for this request. A cookie includes the set of data that a website server gives to the browser the first time the user visits the site and updates with each return visit (session). The HTTP protocol is stateless—that is, it provides no way to track a session from one web page to another. The server programmer can use cookies as mechanisms to track sessions.
HTTPServ Jobname	Indicates the jobname of the HTTP server that processed this request.
HTTPServ ASID	Indicates the address space identifier (ASID) for the HTTP server that processed this request. The system assigns a unique ASID to each job, started task, or TSO user currently active in the system. This is much like the process identifier (pid) in a Unix environment. The data in this field is represented by hexadecimal numbers.
Client Request	Indicates the client request for this unit of work. This field contains both the HTTP method used (GET, POST, etc.) and the universal resource indicator (URI) requested by the client.

Heap Analysis (HEAPINFO)

The Heap Analysis view (HEAPINFO) represents information about Language Environment (LE) heap allocated and either in use or free, as well as heap allocated for the system both above and below the 16 MB line

Figure 5-5 Heap Analysis View

```

13FEB2002 09:37:31 ----- MAINVIEW WINDOW INTERFACE -----
CURR WIN ==> 1          ALT WIN ==>
W1 =HEAPINFO=====BJWESAJ==*=====13FEB2002==09:37:31===MVWEB===D====4
WAS      WAS  UserHeap  UserHeap  AnyHeap  AnyHeap  BelowHeap BelowHeap
JOBNAME  ASID  InUse     Free      InUse    Free     InUse     Free
IMVWEBQA 34  220554432  82976    2411096  150368
IMVWEBQA 16E 40945544  46560    2239064  146480
IMVWEBQA F2   1645720  52208    2462968  142152
IMWEBSRV 91  286971672 40408    2353768  128912

COMMAND  ==>
F1=HELP      F2=SPLIT    F3=END      F4=RETURN   F5=RFIND    F6=RCHANGE
F7=UP        F8=DOWN     F9=SWAP     F10=LEFT    F11=RIGHT   F12=RETRIEVE
SCROLL ==> PAGE

```

Table 5-5 Heap Analysis View–Fields

Field	Description
WAS Jobname	Represents the WAS jobname of the application server
WAS ASID	Hexadecimal number representing the address space ID of the application server
UserHeap InUse	Specifies the amount of heap (in bytes) in use by the application
UserHeap Free	Specifies the amount of heap (in bytes) allocated for use by the application, but not currently in use
AnyHeap In Use	Specifies the amount of heap (in bytes) above the 16MB line allocated for and in use by the system
AnyHeap Free	Specifies the amount of heap (in bytes) above the 16MB line allocated for use by the system but not currently in use
BelowHeap InUse	Specifies the amount of heap (in bytes) below the 16MB line allocated for and in use by the system
BelowHeap Free	Specifies the amount of heap (in bytes) below the 16MB line allocated for use by the system but not currently in use

DB2 Connections (DB2INFO)

The DB2 Connections view (DB2INFO) identifies monitored WAS components that are connected to a local DB2 region and provides information about the connection. All monitored WAS components connected to a local DB2 region are displayed whether they are part of a WAS 4.x address space or a WAS plug-in. This view also hyperlinks to information about DB2 threads.

Figure 5-6 DB2 Connections View

```

13FEB2002 09:41:17 ----- MAINVIEW WINDOW INTERFACE -----
CURR WIN ==> 1          ALT WIN ==>
W1 =DB2INFO=====BJWESAJ==*=====13FEB2002==09:39:41====MVWEB====D====4
System  HTTPServ HTTP DB2  Location Connect  Correlation  Auth      Appl
Name    Jobname  Asid SSID  Name      Name        ID        ID        Plan
ESAJ    BBOLDAP  15E DEBJ DEBJ    RRSAF      BBOLDAP     CBLDAP    DSNACLI
ESAJ    IMVWEBQA 34  DB2L DB2L    DB2CALL    IMVWEBQA    WEBSRV    DSNJDBC
ESAJ    BBOSMSS  17B DEBJ DEBJ    RRSAF      CB390       CBSYMSR1  ?RRSAF
ESAJ    BBODMN   F4  DEBJ DEBJ    RRSAF      CB390       CBDMNCR1  ?RRSAF

COMMAND ==>
F1=HELP      F2=SPLIT    F3=END      F4=RETURN   F5=RFIN    F6=RCHANGE
F7=UP        F8=DOWN     F9=SWAP     F10=LEFT   F11=RIGHT  F12=RETRIEVE
SCROLL ==> PAGE

```

Table 5-6 DB2 Connections View—Fields (Part 1 of 2)

Field	Description
System Name	Indicates the system identifier of the system on which the connection to the DB2 region occurred.
HTTPServ Jobname	Indicates the Jobname that hosts this web application. The Jobname is the HTTP Server/WebSphere Application Server address space that has connected to the DB2 region.
HTTP Asid	Indicates the address space identifier for the jobname that hosts this Application Server. The ASID is a unique identifier given to each job, started task or TSO user currently active in the system. This is much the like process identifier (pid) in a Unix environment. The data in this field is represented by hexadecimal numbers.

Table 5-6 DB2 Connections View–Fields (Part 2 of 2)

Field	Description																						
DB2 SSID	Indicates the unique subsystem identifier that is assigned to the connected RDBMS. This field contains a hyperlink to additional information about DB2 threads.																						
Location Name	The name by which DB2 refers to a specific DB2 subsystem in a network of subsystems.																						
Connect Name	The connection name for this thread. This field can contain any of the following names: <table border="1" style="margin-left: 20px;"> <caption>Table 5-7 Thread Connection Names</caption> <thead> <tr> <th>Name</th> <th>Explanation</th> </tr> </thead> <tbody> <tr> <td>BATCH</td> <td>Batch jobs and connections executing under the TSO TMP when executed as a batch job</td> </tr> <tr> <td>TSO</td> <td>TSO users</td> </tr> <tr> <td>DB2CALL</td> <td>QMF and DB2 Call Attach connections</td> </tr> <tr> <td>UTILITY</td> <td>DB2 utilities</td> </tr> <tr> <td>DB2 Subsystem ID</td> <td>Internal DB2 connections</td> </tr> <tr> <td>IMS-ID</td> <td>IMS connections</td> </tr> <tr> <td>CICS-ID</td> <td>CICS connections. This is either the VTAM applid of CICS or the option specified in the SIGNID parameter of the DB2/CICS RCT</td> </tr> <tr> <td>RRSAF</td> <td>RRSAF connections</td> </tr> <tr> <td>Requesting Location Name</td> <td>Distributed Database Access Threads using the DB2 private protocol and for threads using the DRDA protocol from a DB2 3.1 or later requester, this field contains the connection name of the thread at the requesting location</td> </tr> <tr> <td>SERVER</td> <td>Distributed Database Access Threads using the DRDA protocol from a non-DB2 requester or from a DB2 2.3 requester</td> </tr> </tbody> </table>	Name	Explanation	BATCH	Batch jobs and connections executing under the TSO TMP when executed as a batch job	TSO	TSO users	DB2CALL	QMF and DB2 Call Attach connections	UTILITY	DB2 utilities	DB2 Subsystem ID	Internal DB2 connections	IMS-ID	IMS connections	CICS-ID	CICS connections. This is either the VTAM applid of CICS or the option specified in the SIGNID parameter of the DB2/CICS RCT	RRSAF	RRSAF connections	Requesting Location Name	Distributed Database Access Threads using the DB2 private protocol and for threads using the DRDA protocol from a DB2 3.1 or later requester, this field contains the connection name of the thread at the requesting location	SERVER	Distributed Database Access Threads using the DRDA protocol from a non-DB2 requester or from a DB2 2.3 requester
Name	Explanation																						
BATCH	Batch jobs and connections executing under the TSO TMP when executed as a batch job																						
TSO	TSO users																						
DB2CALL	QMF and DB2 Call Attach connections																						
UTILITY	DB2 utilities																						
DB2 Subsystem ID	Internal DB2 connections																						
IMS-ID	IMS connections																						
CICS-ID	CICS connections. This is either the VTAM applid of CICS or the option specified in the SIGNID parameter of the DB2/CICS RCT																						
RRSAF	RRSAF connections																						
Requesting Location Name	Distributed Database Access Threads using the DB2 private protocol and for threads using the DRDA protocol from a DB2 3.1 or later requester, this field contains the connection name of the thread at the requesting location																						
SERVER	Distributed Database Access Threads using the DRDA protocol from a non-DB2 requester or from a DB2 2.3 requester																						
Correlation ID	Designates a table, view or individual rows of a table or view within a single SQL statement. It is usually defined in any FROM clause or in the first clause of an UPDATE or DELETE statement.																						
Auth ID	A string that can be verified for connection to DB2 and to which a set of privileges are allowed.																						
Appl Plan	The control structure produced during the bind process and used by DB2 to process SQL statements encountered during statement execution.																						

WAS Summary

MAINVIEW for WebSphere Application Server provides the following summary views about WAS (IBM WebSphere Application Server) information:

Servlet Hits (THREADZ)

The THREADZ summary view displays information pertaining to units of work completed by the WebSphere Application Server. The data is summarized by the requested file.

Figure 5-7 Servlet Hits View

```

11NOV2002 15:27:16 ----- MAINVIEW WINDOW INTERFACE (R4.0.02)-----
CURR WIN ==> 1          ALT WIN ==>
W1 =THREADZ=====BJWSYSI==*=====11NOV2002==15:27:15====MVWEB====D===11
Requested          Access HTTPServ HTTPServ
File               Count  Jobname  ASID
showCfgx           2  IMVWEBQA  8A
TestMenu.html      3  IMVWEBQA  8A
TopDog1            3  IMVWEBQA  8A
UnderDog           3  IMVWEBQA  8A
TopDog             3  IMVWEBQA  8A
TopDog             4  IMVWEBQA  92
TestMenu.html      4  IMVWEBQA  92
UnderDog           4  IMVWEBQA  92
TopDog1            4  IMVWEBQA  92
showCfg            6  IMVWEBQA  8A
showCfg            9  IMVWEBQA  92

COMMAND ==>
F1=HELP           F2=SPLIT        F3=END          F4=RETURN       F5=RFIND        F6=RCHANGE
F7=UP             F8=DOWN         F9=SWAP         F10=LEFT        F11=RIGHT       F12=RETRIEVE

SCROLL ==> PAGE

```

Table 5-8 Servlet Hits View—Fields (Part 1 of 2)

Field	Description
Requested File	Indicates the name of the file requested at the client machine. Because of WebSphere servlet mapping capabilities, the name in this field might not represent the name of the physical file that was executed.
Access Count	Displays the number of times that a specific file has been requested.

Table 5-8 Servlet Hits View–Fields (Part 2 of 2)

Field	Description
HTTPServ Jobname	Indicates the jobname of the HTTP server that processed this request.
HTTPServ ASID	Indicates the address space identifier (ASID) for the HTTP server that hosts the application server into which the servlet has been defined. The system assigns a unique ASID to each job, started task, or TSO user currently active in the system. This is much like the process identifier (pid) in a Unix environment. The data in this field is represented by hexadecimal numbers.

Servlet by WebApp (SERVLETZ)

The SERVLETZ summary view displays information pertaining to all defined servlets within all active WebSphere Application servers. The view is summarized by web application name.

Figure 5-8 Servlet by WebApp View

```

11NOV2002 15:29:43 ----- MAINVIEW WINDOW INTERFACE(R4.0.02)-----
CURR WIN ==> 1          ALT WIN ==>
>W1 =SERVLETZ=====BJWSYSI==*=====11NOV2002==15:29:43===MVWEB====D====2
Web          Servlet Virtual          Application
Application  Count  Host          Server
examples      4  default_host  DEFAULTSERVLETEN
TestMenu      10 default_host  DEFAULTSERVLETEN

COMMAND ==>
F1=HELP      F2=SPLIT      F3=END        F4=RETURN     F5=RFIND      F6=RCHANGE
F7=UP        F8=DOWN       F9=SWAP       F10=LEFT      F11=RIGHT     F12=RETRIEVE

SCROLL ==> PAGE

```

Table 5-9 Servlet by WebApp View–Fields

Field	Description
Web Application	Indicates the name of the web application to which the servlet belongs. A web application is a logical grouping of servlets, HTML files, and other files that can be managed as a single entity.
Servlet Count	Displays the number of servlets in a specific web application.
Virtual Host	Indicates the name of the virtual host into which the web application has been deployed. A virtual host allows the WebSphere administrator to segregate portions of workload, based on the client requested URL.
Application Server	Indicates the name of the active IBM Web Application Server to which the servlet belongs. The application server is or includes a .dll plug-in and enables the use of Java code in the web environment for the HTTP server.
HTTPServ Jobname	Indicates the HTTP server/IBM Web Application Server address space into which the servlet has been defined.
HTTPServ ASID	Indicates the address space identifier (ASID) for the HTTP server that hosts the application server into which the servlet has been defined. The system assigns a unique ASID to each job, started task, or TSO user currently active in the system. This is much like the process identifier (pid) in a Unix environment. The data in this field is represented by hexadecimal numbers.

Servlet by HTTP Server (SERVBJOB)

The SERVBJOB summary view displays information pertaining to all defined servlets within all active WebSphere Application servers. The view is summarized by the HTTP server jobname.

Figure 5-9 Servlet by HTTP Server View

```

11NOV2002 15:33:26 ----- MAINVIEW WINDOW INTERFACE(R4.0.02)-----
CURR WIN ==> 1          ALT WIN ==>
  W1 =SERVBJOB=====BJWSYSI==*=====11NOV2002==15:33:25===MVWEB===D===2
HttpServ HttpServ Servlets
Jobname  Asid      Defined
IMVWEBQA      8A        7
IMVWEBQA      92        7

COMMAND ==>
F1=HELP      F2=SPLIT   F3=END      F4=RETURN   F5=RFIND    F6=RCHANGE
F7=UP        F8=DOWN    F9=SWAP     F10=LEFT    F11=RIGHT   F12=RETRIEVE

SCROLL ==> PAGE

```

Table 5-10 Servlet by HTTP Server View-Fields

Field	Description
HTTPServ Jobname	Indicates the HTTP server/IBM Web Application Server address space into which the servlet has been defined.
HTTP ASID	Indicates the address space identifier (ASID) for the HTTP server that hosts the application server into which the servlet has been defined. The system assigns a unique ASID to each job, started task, or TSO user currently active in the system. This is much like the process identifier (pid) in a Unix environment. The data in this field is represented by hexadecimal numbers.
Servlets Defined	Displays the number of defined servlets defined in the HTTP server.

Activity by Cookie (SERVCOOK)

The SERVCOOK summary view displays information pertaining to units of work completed by the WebSphere Application Server. The data is summarized by the session cookie.

Figure 5-10 Activity by Cookie View

```

16JAN2003 07:56:25 ----- MAINVIEW WINDOW INTERFACE (V4.1.03)-----
CURR WIN ==> 1          ALT WIN ==>
  W1 =SERVCOOK=====BJWESAJ==*=====16JAN2003==07:53:32====MVWEB====D====1
Session              Files      IP
Cookie               Accessed  Address
STMTRAN=3021609813:3      1 172.21.22.160

COMMAND ==>
F1=HELP      F2=SPLIT      F3=END      F4=RETURN      F5=RFIND      F6=RCHANGE
F7=UP        F8=DOWN       F9=SWAP     F10=LEFT      F11=RIGHT     F12=RETRIEVE

SCROLL ==> DATA

```

Table 5-11 Activity by Cookie View—Fields

Field	Description
Session Cookie	Displays the cookie ID associated with the thread. This field contains a hyperlink to a THREAD view containing only threads associated with the same cookie identifier.
Files Accessed	Displays the name of the file accessed in the request.
IP Address	Displays the IP address of the client that made the request. This field contains a hyperlink to MAINVIEW for IP. For this link to succeed, MAINVIEW for IP must be installed, customized, and running on this same system.

WebApp by Virtual Host (VHOSTZ)

The VHOSTZ summary view displays information pertaining to defined WebSphere applications. A web application is a set of web files such as servlets, JSPs and HTML documents that can be viewed and managed as a single unit. The data in this view is summarized by the virtual hosts to which the web applications belong.

Figure 5-11 WebApp by Virtual Host View

```

11NOV2002 15:37:04 ----- MAINVIEW WINDOW INTERFACE(R4.0.02)-----
CURR WIN ==> 1          ALT WIN ==>
 W1 =VHOSTZ=====BJWSYSI==*=====11NOV2002==15:37:04====MVWEB====D====1
Virtual                               WebApp
Host                                  Count
default_host                           4

COMMAND ==>
F1=HELP      F2=SPLIT    F3=END       F4=RETURN    F5=RFIND    F6=RCHANGE
F7=UP        F8=DOWN      F9=SWAP     F10=LEFT    F11=RIGHT   F12=RETRIEVE

SCROLL ==> PAGE
    
```

Table 5-12 WebApp by Virtual Host View–Fields

Field	Description
Virtual Host	Indicates the name of the virtual host into which the web application on the same line has been deployed. A virtual host allows the WebSphere administrator to segregate portions of workload, based on the client requested URL.
WebApp Count	Indicates the number of web applications hosted by this virtual host

WebApp by HTTP Server (WEBAPPZ)

The WEBAPPZ summary view displays information pertaining to defined WebSphere applications. A web application is a set of web files such as servlets, JSPs and HTML documents that can be viewed and managed as a single unit. The data in this view is summarized by the HTTP server jobname to which the web applications belong.

Figure 5-12 WebApp by HTTP Server View

```

11NOV2002 15:39:23 ----- MAINVIEW WINDOW INTERFACE(R4.0.02)-----
CURR WIN ==> 1          ALT WIN ==>
  W1 =WEBAPPZ=====BJWSYSI==*=====11NOV2002==15:39:23====MVWEB====D====2
Server  Webapp Server
Jobname Count  Asid
IMVWEBQA      2      8A
IMVWEBQA      2      92

COMMAND ==>
F1=HELP      F2=SPLIT      F3=END      F4=RETURN      F5=RFIND      F6=RCHANGE
F7=UP        F8=DOWN       F9=SWAP     F10=LEFT       F11=RIGHT     F12=RETRIEVE

SCROLL ==> PAGE

```

Table 5-13 WebApp by HTTP Server View–Fields

Field	Description
Server Jobname	Indicates the HTTP server/IBM Web Application Server address space into which this web application has be defined.
WebApp Count	Indicates the number of web applications hosted by this virtual host
Server ASID	Indicates the address space identifier for the HTTP server that hosts this application server. The system assigns a unique ASID to each job, started task, or TSO user currently active in the system. This is much like the process identifier (PID) in a Unix environment. The data in this field is represented by hexadecimal numbers.

WAS Performance (WASPERF)

The WASPERF summary view displays information pertaining to units of work completed by the WebSphere Application Server. The data is summarized by the requested file. The view also contains fields that display average and total elapsed times for the file.

Figure 5-13 WAS Performance View

```

16JAN2003 08:02:52 ----- MAINVIEW WINDOW INTERFACE(V4.1.03)-----
CURR WIN ==> 1          ALT WIN ==>
>W1 =WASPERF=====BJWESAJ==*=====16JAN2003==08:02:52===MVWEB===D===15
Requested          File Cumulative Average      HTTPServ HTTPServ Client
File              Hits  Seconds   Seconds   Jobname  ASID    Request
bmclogo.gif       33   0.000037  0.000001  IMVWEBQB 73 GET /TestMe
bmclogo.gif       80  28.998268  0.362478  IMVWEBQA 8C GET /TestMe
showCfg           34   0.000191  0.000006  IMVWEBQB 73 GET /webapp
showCfg           4    8.000295  2.000074  IMVWEBQA 8C GET /webapp
underconstruct.gif 52  25.000055  0.480770  IMVWEBQA 8C GET /TestMe
underconstruct.gif 34   0.000031  0.000001  IMVWEBQB 73 GET /TestMe
TestMenu.html     90  287.000433  3.188894  IMVWEBQA 8C GET /TestMe
TestMenu.html     34   1.999628  0.058813  IMVWEBQB 73 GET /TestMe
TestMenux.html    3  281.000112  93.666704  IMVWEBQA 8C GET /TestMe
TopDog            34   0.000056  0.000002  IMVWEBQB 73 GET /TestMe
TopDog            86  61.000818  0.709312  IMVWEBQA 8C GET /TestMe
TopDog1           79  19.999608  0.253160  IMVWEBQA 8C GET /TestMe
TopDog2           1    0.999872  0.999872  IMVWEBQA 8C GET /TestMe
UnderDog          57   4.000496  0.070184  IMVWEBQA 8C GET /TestMe
UnderDog          35   3.000099  0.085717  IMVWEBQB 73 GET /TestMe

COMMAND ==>
F1=HELP          F2=SPLIT        F3=END          F4=RETURN       F5=RFIND        F6=RCHANGE
F7=UP            F8=DOWN         F9=SWAP        F10=LEFT        F11=RIGHT       F12=RETRIEVE
SCROLL ==> DATA

```

Table 5-14 WAS Performance View—Fields (Part 1 of 2)

Field	Description
Requested File	Indicates the name of the resource (file, URL, etc.) requested at the client machine. Because of WebSphere servlet mapping capabilities, the name in this field might not represent the name of the physical file that was executed.
File Hits	Indicates the number of times that access to this resource was requested
Cumulative Seconds	Displays the total number of seconds it has taken to fill all requests to the resource identified in the Requested File field since the HTTP server was started most recently.
Average Seconds	Displays the average number of seconds it has taken to complete a request to the resource identified in the Requested File field since the HTTP server was started most recently.
HTTPServ Jobname	Indicates the jobname of the HTTP server that processed this request.

Table 5-14 WAS Performance View–Fields (Part 2 of 2)

Field	Description
HTTPServ ASID	Indicates the address space identifier (ASID) for the HTTP server that processed this request. The system assigns a unique ASID to each job, started task, or TSO user currently active in the system. This is much like the process identifier (pid) in a Unix environment. The data in this field is represented by hexadecimal numbers.
Client Request	Indicates the client request for this unit of work. This field contains both the HTTP method used (GET, POST, etc.) and the universal resource indicator (URI) requested by the client.

WAS Diagnostic Views

The WAS Diagnostic views provide information that can help in determining why a request failed, a program terminated before completing, or a system ABEND occurred. Both views in this group filter information from other views. This filtered information provides a tool to help you quickly identify the cause of a problem.

Thread Exceptions (DIAGTCB)

This view displays exceptions that were not trapped by the JVM and that resulted in a system ABEND. For example, a Java method might have invoked a C program in which an exception was thrown that the JVM could not have trapped.

Two of the fields in this view refer to a task control block (TCB), a repository for information associated with a task. Control elements of a program read from and write to TCBs, and a separate TCB is associated with each thread in a JVM.

Figure 5-14 Thread Exceptions View

```

16JAN2003 08:05:25 ----- MAINVIEW WINDOW INTERFACE(V4.1.03)-----
CURR WIN ==> 1          ALT WIN ==>
>W1 =DIAGTCB=====BJWESAJ==*=====16JAN2003==08:05:25====MVWEB====D====2
TCB      TCB      Thread      Process  HTTPServ HTTPServ
CompCode Address  ID          ID       Jobname  ASID
SOC4     00F34920 12CF70000000003  15      IMVWEBQB  73

COMMAND ==>
F1=HELP      F2=SPLIT    F3=END      F4=RETURN   F5=RFIND    F6=RCHANGE
F7=UP        F8=DOWN     F9=SWAP     F10=LEFT    F11=RIGHT   F12=RETRIEVE

SCROLL ==> DATA
    
```

Table 5-15 Thread Exceptions View–Fields

Field	Description
TCB CompCode	Displays the user or system code written to a TCB and associated with a premature completion of a program or with a system ABEND. This field contains a hyperlink that opens a THREAD view listing only threads that had the same TCB completion code.
TCB Address	Displays a pointer to the TCB.
Thread ID	Indicates the thread identifier that processed this unit of work. A thread identifier is an HTTP server generated hexadecimal number that maps to a task control block (TCB). This field contains a hyperlink that opens a THREAD view listing only threads with the same thread ID.
Process ID	Indicates the Unix Systems Services assigned process identifier (PID) of the HTTP server that completed this unit of work. A process identifier is assigned to all address spaces that require Unix Systems Services. This field contains a hyperlink MAINVIEW for USS. This hyperlink will succeed only if MAINVIEW for USS is installed, configured, and running on the same system.
HTTP Server Job Name	Indicates the jobname of the HTTP server that processed this request.
HTTP Server ASID	Indicates the address space identifier (ASID) for the HTTP server that processed this request. The system assigns a unique ASID to each job, started task, or TSO user currently active in the system. This is much like the process identifier (pid) in a Unix environment.

Server Errors (DIAGRSP)

This view helps you diagnose server errors quickly by displaying only server responses that are not in the 200 series (OK).

For each error, you can drill down and get more information about the thread that returned the code.

Figure 5-15 Server Errors View

```

16JAN2003 08:05:25 ----- MAINVIEW WINDOW INTERFACE(V4.1.03)-----
CURR WIN ==> 1          ALT WIN ==>
>W1 =DIAGRSP=====BJWESAJ==*=====16JAN2003==08:05:25====MVWEB====D====2
Server  ErrorCount   Requested           HTTPServ HTTPServ Client
RespCode 0.....50...100 File                Jobname  ASID    Request
      500             TopDog2            IMVWEBQA   8C GET  /TestMenu/T
      404             TestMenux.html    IMVWEBQA   8C GET  /TestMenu/T

COMMAND ==>
F1=HELP      F2=SPLIT      F3=END       F4=RETURN    F5=RFIND     F6=RCHANGE
F7=UP        F8=DOWN       F9=SWAP      F10=LEFT     F11=RIGHT    F12=RETRIEVE
    
```

Table 5-16 Server Errors View–Fields

Field	Description
Server RespCode	Indicates the server response to the request. These codes reflect standard W3C server response definitions
Error Count	This field presents a graphic representation of the count of all data with the same Server RespCode, Requested File, HTTPServer Jobname, HTTPServer ASID.
Requested File	Indicates the name of the file requested at the client machine. Because of WebSphere servlet mapping capabilities, the name in this field might not represent the name of the physical file that was executed.
HTTPServ Jobname	Indicates the jobname of the HTTP server that processed this request.

Table 5-16 Server Errors View–Fields

Field	Description
HTTPServ ASID	Indicates the address space identifier (ASID) for the HTTP server that processed this request. The system assigns a unique ASID to each job, started task, or TSO user currently active in the system. This is much like the process identifier (pid) in a Unix environment. The data in this field is represented by hexadecimal numbers.
Client Request	Indicates the client request for this unit of work. This field contains both the HTTP method used (GET, POST, etc.) and the universal resource indicator (URI) requested by the client.

JVM Information

The JVM Information section of the Easy WAS Plugin Menu provides access to the views of the MAINVIEW for WebSphere Application Server profiler. For this information to be available, the profiler must have been installed and customized as explained in the AutoCustomization step “Copy Profiler Executable and Properties File into HFS Directory” in Chapter 3 of the *MAINVIEW for WebSphere Application Server Customization Guide*.

Profiling, especially on the method level, can be quite resource expensive. MAINVIEW for WebSphere Application Server was designed with the intent that profiling be disabled unless a problem arises in which profiling would be a useful diagnostic tool.

Since the Easy J2EE Container Menu provides all of the same views that are available through the Easy WAS Plugin Menu, please refer to the following sections in Chapter 6, “J2EE/CORBA Container Information Group” for further information:

- “Profiled Servers (PROFJOBS)” on page 6-21 explains how to enable or disable one or more profiling categories.
- The following sections suggest when various categories of profiling might be helpful, and explain the associated information available from MAINVIEW for WebSphere Application Server about each category:
 - “JVM Threads (JTHREAD)” on page 6-24
 - “JVM Methods (JMETHOD)” on page 6-26
 - “JVM Garbage Collection (JVMGC)” on page 6-28
 - “JVM Memory (JVMMEM)” on page 6-30
- You can also observe trends with the summary views:
 - “JVM Thread Summary (JTHREADZ)” on page 6-32
 - “JVM Method Summary (JMETHODZ)” on page 6-33

Note: The Easy J2EE Container Menu also provides views about deployed EJBs and about WAS performance that relate only to the WAS 4.x address space, and are therefore not included with the Easy WAS Plugin Menu.

Chapter 6 J2EE/CORBA Container Information Group

The views discussed in this chapter can pertain to any J2EE/CORBA server in your WebSphere Application Server environment.

This chapter provides information about the following views:

J2EE/CORBA Information	6-2
Server Availability (J2SERV)	6-2
J2EE/CORBA Active Enclaves (J2CENCLV)	6-4
J2EE/CORBA Executed Enclaves (J2EENCLV)	6-6
J2EE/CORBA Executed Applications (J2EEAPPZ)	6-9
DB2 Connections (DB2INFO)	6-10
HTTP Handler Info	6-13
HTTP Handler Requests (J2EEHTTP)	6-13
J2EE Configuration	6-15
Environment Variables (JVMENVVR)	6-15
JVM Properties (JVMPROPT)	6-19
JVM Information	6-21
Profiled Servers (PROFJOBS)	6-22
JVM Threads (JTHREAD)	6-24
JVM Methods (JMETHOD)	6-26
JVM Garbage Collection (JVMGC)	6-28
JVM Memory (JVMMEM)	6-30
JVM Thread Summary (JTHREADZ)	6-32
JVM Method Summary (JMETHODZ)	6-33
Deployed EJBs (JEJBS)	6-35
JVM Performance (JVMPERF)	6-37

J2EE/CORBA Information

This section of the Easy J2EE Menu leads to views that contain information about the WAS 4.x address space itself, including the following major areas:

- availability of J2EE/CORBA servers
- enclaves—both those in which requests are currently being executed and those that have finished executing
- executed applications
- DB2 connections.

Server Availability (J2SERV)

The Server Availability view (J2SERV) provides identification and running time information about currently available J2EE/CORBA servers.

Figure 6-1 Server Availability View

```

06MAR2002 15:59:32 ----- MAINVIEW WINDOW INTERFACE -----
CURR WIN ==> 1          ALT WIN ==>
W1 =J2SERV=====BJWSYSI==*=====06MAR2002==15:59:32====MVWEB====D====7
Server  Server  Server  Server  Start  Start
Jobname Name    Asid   UpTime  Time   Date
BBOASR2 BBOASR2A  11A   02:11:52 19:41:39 03/06/2002
BBOASR2S BBOASR2A  11B   02:11:33 19:41:59 03/06/2002
BBODMN  DAEMON01  F7    23:14:32 21:37:38 03/05/2002
BBOIR   INTFRP01  FA    23:13:04 21:39:11 03/05/2002
BBOLDAP          F4    23:16:57 21:35:06 03/05/2002
BBONM   NAMING01  F9    23:13:21 21:38:53 03/05/2002
BBOSMS  SYSMGT01  F8    23:13:38 21:38:35 03/05/2002

COMMAND ==>
F1=HELP      F2=SPLIT    F3=END      F4=RETURN   F5=RFIND    F6=RCHANGE
F7=UP        F8=DOWN     F9=SWAP     F10=LEFT    F11=RIGHT   F12=RETRIEVE

SCROLL ==> DATA

```

Table 6-1 Server Availability View–Fields

Field	Description
J2ee Jobname	Indicates the jobname that hosts this J2EE/CORBA Server instance.
J2ee ServName	Indicates the name of the J2EE/CORBA Server instance as defined on the -ORBsrvmname parm in the startup JCL.
J2ee Asid	Indicates the address space identifier for the jobname that hosts this J2EE/CORBA Server Instance. The ASID is a unique identifier given to each job, started task or TSO user currently active in the system. This is much the like process identifier (pid) in a Unix environment. The data in this field is represented by hexadecimal numbers.
Server UpTime	Indicates the length of time this server has been up since it was most recently started.
Start Time	Indicates the time (GMT) at which this server instance was started.
Start Date	Indicates the date (GMT) on which this server instance was started.

J2EE/CORBA Active Enclaves (J2CENCLV)

The Active Enclaves view (J2ENCLV) is designed to provide realtime statistics for enclaves that are currently active in the J2EE/CORBA WebSphere Application Server environment. The information is current as of the time the view was generated.

Figure 6-2 J2EE/CORBA Active Enclaves View

```

06MAR2002 16:00:29 ----- MAINVIEW WINDOW INTERFACE -----
CURR WIN ==> 1          ALT WIN ==>
>W1 =J2CENCLV=====BJWSYSI==*=====06MAR2002==16:00:29====MVWEB====D===28
J2ee          J2ee      J2ee      J2ee Service CPU          Total CrossMem Cr
Enclave       Jobname   ServName Asid Class   Time          Delays Wait1  Wa
0000004C000006FD BBOLDAP          F4 SYSOTHER 00:00:00.8      1      0
0000004C000006FD BBOIR      INTFRP01   FA SYSOTHER 00:00:00.8      1      0
0000004C000006FD BBONM      NAMING01   F9 SYSOTHER 00:00:00.8      1      0
0000004C000006FD BBODMN      DAEMON01   F7 SYSOTHER 00:00:00.8      1      0
0000004C000006FD BBOASR2    BBOASR2A  11A SYSOTHER 00:00:00.8      1      0
0000004C000006FD BBOASR2S  BBOASR2A  11B SYSOTHER 00:00:00.8      1      0
0000004C000006FD BBOSMS      SYSMGT01   F8 SYSOTHER 00:00:00.8      1      0
00000044000006FF BBONM      NAMING01   F9 SYSOTHER 00:00:00.0      1      0
00000044000006FF BBODMN      DAEMON01   F7 SYSOTHER 00:00:00.0      1      0
00000044000006FF BBOLDAP          F4 SYSOTHER 00:00:00.0      1      0
00000044000006FF BBOSMS      SYSMGT01   F8 SYSOTHER 00:00:00.0      1      0
00000044000006FF BBOASR2S  BBOASR2A  11B SYSOTHER 00:00:00.0      1      0
00000044000006FF BBOIR      INTFRP01   FA SYSOTHER 00:00:00.0      1      0
00000044000006FF BBOASR2    BBOASR2A  11A SYSOTHER 00:00:00.0      1      0
00000030000006FE BBOASR2    BBOASR2A  11A SYSOTHER 00:00:00.0      1      0
00000030000006FE BBOLDAP          F4 SYSOTHER 00:00:00.0      1      0
COMMAND ==>          SCROLL ==> DATA
F1=HELP      F2=SPLIT    F3=END      F4=RETURN   F5=RFIND   F6=RCHANGE
F7=UP        F8=DOWN     F9=SWAP     F10=LEFT    F11=RIGHT  F12=RETRIEVE

```

Table 6-2 Active Enclaves View–Fields

Field	Description
J2ee Enclave	Indicates the enclave identifier assigned by Workload Manager for the transaction being analyzed. The data in this field is represented by hexadecimal numbers.
J2ee Jobname	Indicates the jobname that hosts the J2EE/CORBA Server instance that has created or joined this enclave.
J2ee ServName	Indicates the name of the J2EE/CORBA Server instance as defined on the -ORBSrvname parameter in the startup JCL.
J2ee Asid	Indicates the address space identifier for the jobname that hosts this J2EE/CORBA Server Instance. The ASID is a unique identifier given to each job, started task or TSO user currently active in the system. This is much the like process identifier (pid) in a Unix environment. The data in this field is represented by hexadecimal numbers.
Service Class	Indicates the service class name associated with this address space as defined to Workload Manager.
CPU Time	Indicates the cumulative CPU time consumed by dispatchable units running in the enclave on the local system. For a multisystem enclave, CPU time consumed on other systems is not included.
Total Delays	Indicates the total number of delays (for calculating execution velocity).
CrossMem Wait1	Indicates the number of times this job has waited on a cross memory page fault in the address space identified in the Wait1 Asid field.
CrossMem Wait2	Indicates the number of times this job has waited for cross memory page fault in the address space identified in the Wait2 Asid field.
CrossMem Wait3	Indicates the number of times this job has waited for cross memory page fault in a third address space that is not identified in the Wait1 Asid or Wait2 Asid field.
VIO Wait	Indicates the number of times this job has waited for paging I/O from VIO.
AuxPagin Wait	Indicates the number of times this job has waited for shared paging from auxiliary.
Unknown Wait	Unknown. Address space is waiting, but none of the defined reasons apply. Value is 0 or 1.
Idle Work	Work is in STIMER wait, TSO terminal wait, APPC wait, or is an initiator waiting for work. Value is 0 or 1.
Wait1 Asid	Specifies the ASID of address space associated with cross memory delay #1.
Wait2 Asid	Specifies the ASID of address space associated with cross memory delay #2.

J2EE/CORBA Executed Enclaves (J2EENCLV)

The Executed Enclaves view (J2EENCLV) is designed to provide statistics for enclaves that have been executed and are no longer active in the J2EE/CORBA WebSphere Application Server environment. This view provides the same information that the Active Enclaves (J2ENCLV) view provides, but the information is complete for the duration of time the enclave was active. Waiting counts are all based on samples taken by the Workload Manager. This view also reports the number and type of those samples.

Figure F-2 J2EE/CORBA Executed Enclaves View

```

06MAR2002 16:01:41 ----- MAINVIEW WINDOW INTERFACE -----
CURR WIN ==> 1          ALT WIN ==>
>W1 =J2EENCLV=====BJWSYSI==*=====06MAR2002==16:01:41====MVWEB====D==126
J2ee           J2ee      J2ee      J2ee Service CPU      Total CPU  CPU
Enclave        Jobname   ServName Asid Class  Time      Delays Delay Using
0000003000000707 BBONM     NAMING01  F9 SYSOTHER 00:00:01.0  1  1
0000003000000707 BBOLDAP           F4 SYSOTHER 00:00:01.0  1  1
0000003000000707 BBODMN     DAEMON01  F7 SYSOTHER 00:00:01.0  1  1
0000003000000707 BBOSMS     SYSMGT01  F8 SYSOTHER 00:00:01.0  1  1
0000003000000707 BBOASR2    BBOASR2A 11A SYSOTHER 00:00:01.0  1  1
0000003000000707 BBOIR      INTFRP01  FA SYSOTHER 00:00:01.0  1  1
0000003000000707 BBOASR2S   BBOASR2A 11B SYSOTHER 00:00:01.0  1  1
0000004C00000714 BBOASR2S   BBOASR2A 11B SYSOTHER 00:00:00.4  1  0
0000004C00000714 BBOLDAP           F4 SYSOTHER 00:00:00.4  1  0
0000004C00000714 BBOSMS     SYSMGT01  F8 SYSOTHER 00:00:00.4  1  0
0000004C00000714 BBODMN     DAEMON01  F7 SYSOTHER 00:00:00.4  1  0
0000004C00000714 BBONM     NAMING01  F9 SYSOTHER 00:00:00.4  1  0
0000004C00000714 BBOASR2    BBOASR2A 11A SYSOTHER 00:00:00.4  1  0
0000004C00000714 BBOIR      INTFRP01  FA SYSOTHER 00:00:00.4  1  0
0000004C00000703 BBOLDAP           F4 SYSOTHER 00:00:00.4  1  0
0000003000000701 BBOASR2    BBOASR2A 11A SYSOTHER 00:00:00.4  0  0
COMMAND ==>
F1=HELP      F2=SPLIT    F3=END      F4=RETURN   F5=RFIND    F6=RCHANGE
F7=UP        F8=DOWN     F9=SWAP     F10=LEFT    F11=RIGHT   F12=RETRIEVE
SCROLL ==> DATA

```

Table 6-3 Executed Enclaves View–Fields (Part 1 of 2)

Field	Description
J2ee Enclave	Indicates the enclave identifier assigned by Workload Manager for the transaction being analyzed. The data in this field is represented by hexadecimal numbers.
J2ee Jobname	Indicates the jobname that hosts the J2EE/CORBA Server instance that has created or joined this enclave.
J2ee ServName	Indicates the name of the J2EE/CORBA Server instance as defined on the -ORBSrvname parameter in the startup JCL.
J2ee Asid	Indicates the address space identifier for the jobname that hosts this J2EE/CORBA Server Instance. The ASID is a unique identifier given to each job, started task or TSO user currently active in the system. This is much the like process identifier (pid) in a Unix environment. The data in this field is represented by hexadecimal numbers.
Service Class	Indicates the service class name associated with this address space as defined to Workload Manager.
CPU Time	Indicates the cumulative CPU time consumed by dispatchable units running in the enclave on the local system. For a multisystem enclave, CPU time consumed on other systems is not included.
Total Delays	Total delays for calculating execution velocity.
CPU Delay	Indicates the count of TCBs or SRBs that waited on a CPU. Increased for each TCB or SRB waiting to be dispatched or for a TCB waiting for a lock.
CPU Usings	Indicates the count of TCBs or SRBs dispatched on a processor. Increased for each TCB or SRB dispatched on any processor.
Privatel/Owait	Indicates the number of times this job waited for paging I/O from private storage.
Common I/Owait	Indicates the number of times this job waited for paging I/O from common storage.
CrossMem Wait1	Indicates the number of times this job waited an a cross memory page fault in the address space identified in the Wait1 Asid field.
CrossMem Wait2	Indicates the number of times this job waited for cross memory page fault in the address space identified in the Wait2 Asid field.
CrossMem Wait3	Indicates the number of times this job waited for cross memory page fault in a third address space that is not identified in the Wait1 Asid or Wait2 Asid field.
VIO Wait	Indicates the number of times this job waited for paging I/O from VIO.
AuxPagin Wait	Indicates the number of times this job waited for shared paging from auxiliary.
Unknown Wait	Unknown. Address space is waiting, but none of the defined reasons apply. Value is 0 or 1.

Table 6-3 Executed Enclaves View–Fields (Part 2 of 2)

Field	Description
Idle Work	Indicates whether work is in STIMER wait, TSO terminal wait, APPC wait, or is an initiator waiting for work. Value is 0 or 1.
Wait1 Asid	Indicates the ASID of address space associated with cross memory delay #1.
Wait2 Asid	Indicates the ASID of address space associated with cross memory delay #2.
Total Usings	Indicates the total number of usings for calculating execution velocity.
Total I/O Usings	Indicates the total number of I/O usings.
Dasd/I/O DelySamp	Indicates the number of DASD I/O delay samples taken while this enclave was active.
Queue DelySamp	Indicates the number of queue delay samples taken while this enclave was active (work was waiting on a server).
Private PagSamp	Indicates the number of server private paging delay samples taken while this enclave was active.
VIO Samples	Indicates the number of server space VIO delay samples taken while this enclave was active.
HypSpace Samples	Indicates the number of server hyperspace paging delay samples taken while this enclave was active.
MPL DelySamp	Indicates the number of MPL delay samples taken while this enclave was active.
SwapInDelySamp	Indicates the number of server swap-in delay samples taken while this enclave was active.
Total ExecSamp	Indicates the total number of execution samples taken while this enclave was active (sum of total usings, total delays, unknown and idle).
Object ClassName	Indicates the object class name representing the application for which this enclave was executed.
Method Name	Indicates the method that was initially invoked when the application received control for execution.

J2EE/CORBA Executed Applications (J2EEAPPZ)

The Executed Applications view (J2EEAPPZ) is designed to provide a list of applications that have been executed in the J2EE/CORBA WebSphere Application Server environment.

Figure 6-3 J2EE/CORBA Executed Applications View

```

06MAR2002 16:08:16 ----- MAINVIEW WINDOW INTERFACE -----
CURR WIN ==> 1          ALT WIN ==>
>W1 =J2EEAPPZ=====BJWSYSI==*=====06MAR2002==16:02:57====MVWEB====D====2
Object                               Initial
ClassName                             Method
com.ibm.ws390.wc.container.EJSRemoteRemoteWebContainer  _get_installedWeb
com.ibm.ws390.wc.container.EJSRemoteStatelessRemoteWebApp  dispatchByURI

COMMAND ==>
F1=HELP      F2=SPLIT      F3=END      F4=RETURN      F5=RFIND      F6=RCHANGE
F7=UP        F8=DOWN        F9=SWAP     F10=LEFT       F11=RIGHT     F12=RETRIEVE

SCROLL ==> DATA

```

Table 6-4 J2EE/CORBA Executed Applications View–Fields

Field	Description
Object Class Name	Identifies the object class name representing the application for which this enclave was executed. Asterisks may appear in this field indicating multiple non-matching values or names.
Initial Method	Indicates the method that was initially invoked when the application received control for execution. Asterisks may appear in this field indicating multiple non-matching values or names.

DB2 Connections (DB2INFO)

The DB2 Connections view identifies monitored WAS components that are connected to a local DB2 region and provides information about the connection. All monitored WAS components connected to a local DB2 region are displayed whether they are part of a WAS 4.x address space or a WAS plug-in. This view also hyperlinks to information about DB2 threads.

Figure 6-4 DB2 Connections View

```

11NOV2002 17:01:30 ----- MAINVIEW WINDOW INTERFACE(R4.0.02)-----
CURR WIN ==> 1          ALT WIN ==>
W1 =DB2INFO=====BJWSYSI==*=====11NOV2002==17:01:30====MVWEB====D====3
System  HTTPServ HTTP DB2  Location Connect  Correlation  Auth      Appl
Name    Jobname  Asid SSID Name    Name        ID         ID        Plan
SYSI    BBODMN   52 DGG1 DGG    RRSADF     CB390     CBDMNCR1 ?RRSAF
SYSI    BBOSMSS  94 DGG1 DGG    RRSADF     CB390     CBSYMSR1 ?RRSAF
SYSI    BBOSMS   3C DGG1 DGG    RRSADF     CB390     CBSYMC1R1 ?RRSAF

COMMAND ==>
F1=HELP      F2=SPLIT    F3=END      F4=RETURN   F5=RFIND    F6=RCHANGE
F7=UP        F8=DOWN     F9=SWAP     F10=LEFT    F11=RIGHT   F12=RETRIEVE

SCROLL ==> PAGE
    
```

Table 6-5 DB2 Connections View—Fields (Part 1 of 2)

Field	Description																						
System Name	Indicates the system identifier of the system on which the connection to the DB2 region occurred.																						
HTTPServ Jobname	Indicates the Jobname that hosts this web application. The Jobname is the HTTP Server/WebSphere Application Server address space that has connected to the DB2 region.																						
HTTP Asid	Indicates the address space identifier for the jobname that hosts this Application Server. The ASID is a unique identifier given to each job, started task or TSO user currently active in the system. This is much the like process identifier (pid) in a Unix environment. The data in this field is represented by hexadecimal numbers.																						
DB2 SSID	Indicates the unique subsystem identifier that is assigned to the connected RDBMS. This field contains a hyperlink to additional information about DB2 threads.																						
Location Name	The name by which DB2 refers to a specific DB2 subsystem in a network of subsystems.																						
Connect Name	<p>The connection name for this thread. This field can contain any of the following names:</p> <table border="1"> <thead> <tr> <th>Name</th> <th>Explanation</th> </tr> </thead> <tbody> <tr> <td>BATCH</td> <td>Batch jobs and connections executing under the TSO TMP when executed as a batch job</td> </tr> <tr> <td>TSO</td> <td>TSO users</td> </tr> <tr> <td>DB2CALL</td> <td>QMF and DB2 Call Attach connections</td> </tr> <tr> <td>UTILITY</td> <td>DB2 utilities</td> </tr> <tr> <td>DB2 Subsystem ID</td> <td>Internal DB2 connections</td> </tr> <tr> <td>IMS-ID</td> <td>IMS connections</td> </tr> <tr> <td>CICS-ID</td> <td>CICS connections. This is either the VTAM applid of CICS or the option specified in the SIGNID parameter of the DB2/CICS RCT</td> </tr> <tr> <td>RRSAF</td> <td>RRSAF connections</td> </tr> <tr> <td>Requesting Location Name</td> <td>Distributed Database Access Threads using the DB2 private protocol and for threads using the DRDA protocol from a DB2 3.1 or later requester, this field contains the connection name of the thread at the requesting location</td> </tr> <tr> <td>SERVER</td> <td>Distributed Database Access Threads using the DRDA protocol from a non-DB2 requester or from a DB2 2.3 requester</td> </tr> </tbody> </table>	Name	Explanation	BATCH	Batch jobs and connections executing under the TSO TMP when executed as a batch job	TSO	TSO users	DB2CALL	QMF and DB2 Call Attach connections	UTILITY	DB2 utilities	DB2 Subsystem ID	Internal DB2 connections	IMS-ID	IMS connections	CICS-ID	CICS connections. This is either the VTAM applid of CICS or the option specified in the SIGNID parameter of the DB2/CICS RCT	RRSAF	RRSAF connections	Requesting Location Name	Distributed Database Access Threads using the DB2 private protocol and for threads using the DRDA protocol from a DB2 3.1 or later requester, this field contains the connection name of the thread at the requesting location	SERVER	Distributed Database Access Threads using the DRDA protocol from a non-DB2 requester or from a DB2 2.3 requester
Name	Explanation																						
BATCH	Batch jobs and connections executing under the TSO TMP when executed as a batch job																						
TSO	TSO users																						
DB2CALL	QMF and DB2 Call Attach connections																						
UTILITY	DB2 utilities																						
DB2 Subsystem ID	Internal DB2 connections																						
IMS-ID	IMS connections																						
CICS-ID	CICS connections. This is either the VTAM applid of CICS or the option specified in the SIGNID parameter of the DB2/CICS RCT																						
RRSAF	RRSAF connections																						
Requesting Location Name	Distributed Database Access Threads using the DB2 private protocol and for threads using the DRDA protocol from a DB2 3.1 or later requester, this field contains the connection name of the thread at the requesting location																						
SERVER	Distributed Database Access Threads using the DRDA protocol from a non-DB2 requester or from a DB2 2.3 requester																						
Correlation ID	Designates a table, view or individual rows of a table or view within a single SQL statement. It is usually defined in any FROM clause or in the first clause of an UPDATE or DELETE statement.																						

Table 6-5 DB2 Connections View–Fields (Part 2 of 2)

Field	Description
Auth ID	A string that can be verified for connection to DB2 and to which a set of privileges are allowed.
Appl Plan	The control structure produced during the bind process and used by DB2 to process SQL statements encountered during statement execution.

HTTP Handler Info

This section of the Easy J2EE Menu provides a view into requests that flowed into WAS 4.x address space through the HTTP Transport Handler.

HTTP Handler Requests (J2EEHTTP)

The HTTP Handler Request view (J2EEHTTP) identifies which requests are flowing through the HTTP Transport Handler (sometimes called the “HTPT Catcher”) into a WAS 4.x address space. Each record correlates the identified request to a JE22/COIRBA enclave and offers a hyperlink to the relevant Executed Enclave view. The linked view provides detailed performance statistics about the overall transaction that resulted from this initial HTTP request.

Figure 6-5 HTTP Handler Requests View

```

06JAN2003 12:29:16 ----- MAINVIEW WINDOW INTERFACE(V4.1.03)-----
CURR WIN ==> 1          ALT WIN ==>
>W1 =J2EEHTTP=====BJWESAJ==*=====06JAN2003==12:29:15====MVWEB====D=====6
J2ee             HTTP             Client             Client   HT
Enclave          Request          IPAddress         Port     Pr
000000380000003E GET /PolicyIVP/BlueHands.gif  172.19.133.246  2199    HT
000000380000003C GET /PolicyIVP/ibm.gif        172.19.133.246  2197    HT
000000380000003B GET /PolicyIVP/cebit.html     172.19.133.246  2163    HT
0000003800000010 GET /TestMenu/TopDog         172.19.132.109  2375    HT
000000340000003F GET /PolicyIVP/Earth.jpg     172.19.133.246  2202    HT

COMMAND ==>
F1=HELP      F2=SPLIT    F3=END      F4=RETURN   F5=RFIND    F6=RCHANGE
F7=UP        F8=DOWN     F9=SWAP     F10=LEFT    F11=RIGHT   F12=RETRIEVE

SCROLL ==> PAGE

```

Table 6-6 HTTP Handler Requests View-Fields

Field	Description
J2ee Enclave	Identifies the ID of the enclave that was created to fill this request. Each value in this field contains a hyperlink to a J2EENCLV view that displays information about the executed enclave.
HTTP Request	Identifies the method invoked and the URI of the requested resource
Client IPAddress	Indicates the IP address of the requesting client
Client Port	Indicates the port number of the requesting client
HTTP Protocol	Indicates the version of the HTTP Protocol in use on the system
Referred By	Identifies the URL from which the request was referred
Session Cookie	Indicates the cookie identifier used for this request. A cookie includes the set of data that a website server gives to the browser the first time the user visits the site and updates with each return visit (session).

J2EE Configuration

This section of the Easy J2EE Menu provides information about J2EE environment variables and about JVM variables.

Environment Variables (JVMENVVR)

The Environment Variables view (JVMENVVR) displays the values that are associated with each of the WAS 4.x address spaces that are specified in respective **current.env** files. Several of the fields contain hyperlinks to display the complete contents of the entry. Not all of the variables can be displayed in a single screen. Press PF11 to display additional variables or PF10 to display previous variables.

Note: Changes made manually to the WAS 4.x **current.env** file will be overwritten when a SM/EUI conversation is activated. To ensure that changes to variables persist, either make changes through a SM/EUI conversation, or keep a record of the changes and include them in the next SM/EUI conversation you activate. (Please refer to IBM documentation for more information concerning the SM/EUI administration tool.)

Figure 6-6 Environment Variables View

```

11NOV2002 17:04:13 ----- MAINVIEW WINDOW INTERFACE(R4.0.02)-----
CURR WIN ==> 1          ALT WIN ==>
>W1 =JVMENVVR=====BJWSYSI==*=====11NOV2002==17:04:13====MVWEB====D====1
  JVM Environment Variables Info
<==PF10                PF11==>
J2ee Jobname..... BBOSMS
J2ee Address Space ID..... 3C
HTTP Server ID.....
HTTP Input Timeout..... Default
HTTP Listen IP Address.....
HTTP Output Timeout..... Default
HTTP Persistent Session Timeout Default
HTTP Server Port.....
HTTP Session Garbage Collection Default
HTTP Transaction Class.....
Log Response Failure..... Default
Log Return Exception..... Default
Default Dump..... Default
CEE3DMP Dump Options.....
Message Catalog Name..... Default
Bean Delete Sleep Time..... Default
COMMAND ==>
                                SCROLL ==> PAGE
  F1=HELP      F2=SPLIT      F3=END      F4=RETURN      F5=RFIND      F6=RCHANGE
  F7=UP        F8=DOWN       F9=SWAP     F10=LEFT      F11=RIGHT     F12=RETRIEVE

```

The table below lists all environmental variables displayed, and refers to the underlying variable name and the location in Appendix B, “Environment Variable Definitions.”

Table 6-7 Environment Variables View–Fields (Part 1 of 3)

Field or Variable	Description or Corresponding HTTP Variable
J2ee Jobname	Indicates the Jobname that of the server whose environment variables are being displayed.
J2ee Address Space ID	Indicates the address space identifier for the server whose environment variables are being displayed. The ASID is a unique identifier given to each job, started task or TSO user currently active in the system. This is much the like process identifier (pid) in a Unix environment. The data in this field is represented by hexadecimal numbers.
HTTP Server ID	“BBOC_HTTP_IDENTITY” on page B-1
HTTP Input Timeout	“BBOC_HTTP_INPUT_TIMEOUT” on page B-1
HTTP Listen IP Address	“BBOC_HTTP_LISTEN_IP_ADDRESS” on page B-1
HTTP Output Timeout	“BBOC_HTTP_OUTPUT_TIMEOUT” on page B-2
HTTP Persistent Session Timeout	“BBOC_HTTP_PERSISTENT_SESSION_TIMEOUT” on page B-2
HTTP Server Port	“BBOC_HTTP_PORT” on page B-2
HTTP Session Garbage Collection	“BBOC_HTTP_SESSION_GC” on page B-2
HTTP Transaction Class	“BBOC_HTTP_TRANSACTION_CLASS” on page B-2
Log Response Failure	“BBOC_LOG_RESPONSE_FAILURE.” on page B-2
Log Return Exception	“BBOC_LOG_RETURN_EXCEPTION” on page B-3
Default Dump	“BBODUMP” on page B-3
CEE3DMP Dump Options	“BBODUMP_CEE3DMP_OPTIONS” on page B-3
Message Catalog Name	“BBOLANG” on page B-3
Bean Delete Sleep Time	“BEAN_DELETE_SLEEP_TIME” on page B-3
DCE Message Protection	“CLIENT_DCE_QOP” on page B-4
Client Host Name	“CLIENT_HOSTNAME” on page B-4
Client LogStream Name	“CLIENTLOGSTREAMNAME” on page B-4
Client Resolve IP Name	“CLIENT_RESOLVE_IPNAME” on page B-4
Client Timeout	“CLIENT_TIMEOUT” on page B-5
WsnName Tree Starting Point	“com.ibm.ws.naming.ldap.containerdn” on page B-5
Domain Name	“com.ibm.ws.naming.ldap.domainname” on page B-5
LDAP Server IPN and Port	“com.ibm.ws.naming.ldap.masterurl” on page B-5
Configured System	“CONFIGURED_SYSTEM” on page B-5
Daemon IPName	“DAEMON_IPNAME” on page B-5
Daemon Port	“DAEMON_PORT” on page B-6

Table 6-7 Environment Variables View–Fields (Part 2 of 3)

Field or Variable	Description or Corresponding HTTP Variable
Data Sharing	"DATASHARING" on page B-6
Default Client XML Path	"DEFAULT_CLIENT_XML_PATH" on page B-6
Default Unauth Client ID	"DEFAULT_UNATH_CLIENT_ID" on page B-6
Daemon Server Generic	"DM_GENERIC_SERVER_NAME" on page B-6
Daemon Server Specific	"DM_SPECIFIC_SERVER_NAME" on page B-7
IntRep Server Generic	"IR_GENERIC_SERVER_NAME" on page B-7
IntRep Server Specific	"IR_SPECIFIC_SERVER_NAME" on page B-7
Interface Repository Procedure	"IRPROC" on page B-7
Debug Enabled	"IVB_DEBUG_ENABLED" on page B-8
Driver Path	"IVB_DRIVER_PATH" on page B-8
Trace Host	"IVB_TRACE_HOST" on page B-8
Trace Port	"IVB_TRACE_PORT" on page B-8
Java Naming Security Credential	"Variable java.naming.security.credentials" on page B-8
Java Naming Security Principal	"java.naming.security.principal" on page B-9
Java Compiler	"JAVA_COMPILER" on page B-9
Java Executable	"JAVA_IEEE754" on page B-9
JVM Boot Class Path	"JVM_BOOTCLASSPATH" on page B-9
JVM Boot Library Path	"JVM_BOOTLIBRARYPATH" on page B-9
JVM Debug Messaging	"JVM_DEBUG" on page B-10
JVM Debug Port	"JVM_DEBUG_PORT" on page B-10
Class Garbage Collection	"JVM_ENABLE_CLASS_GC" on page B-10
JVM Heap Size	"JVM_HEAPSIZE" on page B-11
JVM Local Refs	"JVM_LOCALREFS" on page B-11
JVM Log File	"JVM_LOGFILE" on page B-11
JVM Minimum Heap Size	"JVM_MINHEAPSIZE" on page B-11
LDAP Bind Password	"LDAPBINDPW" on page B-11
LDAP Config File	"LDAPCONF" on page B-12
LDAP Host Name	"LDAPHOSTNAME" on page B-12
LDAP IntRep Bind Password	"LDAPIRBINDPW" on page B-12
LDAP IntRep Config	"LDAPIRCONF" on page B-12
LDAP IntRep Host Name	"LDAPIRHOSTNAME" on page B-12
LDAP IntRep Authenticate	"LDAPIRNAME" on page B-12
LDAP IntRep Anchor	"LDAPIRROOT" on page B-13
LDAP Authenticate	"LDAPNAME" on page B-13
LDAP Anchor Entry	"LDAPROOT" on page B-13

Table 6-7 Environment Variables View–Fields (Part 3 of 3)

Field or Variable	Description or Corresponding HTTP Variable
Java DLL Search Path	"LIBPATH" on page B-13
Log Stream Name	"LOGSTREAMNAME" on page B-13
Naming Server Generic	"NM_GENERIC_SERVER_NAME" on page B-14
Naming Server Specific	"NM_SPECIFIC_SERVER_NAME" on page B-14
Naming Server Procedure	"NMPROC" on page B-14
OTS Default Timeout	"OTS_DEFAULT_TIMEOUT" on page B-14
OTS Maximum Timeout	"OTS_MAXIMUM_TIMEOUT" on page B-15
Minor Code Default	"RAS_MINORCODEDEFAULT" on page B-15
Remote DCE Password	"REM_DCEPASSWORD" on page B-15
Remote DCE Principal	"REM_DCEPRINCIPAL" on page B-15
Remote Password	"REM_PASSWORD" on page B-15
Remote Userid	"REM_USERID" on page B-16
Resolve IP Name	"RESOLVE_IPNAME" on page B-16
Resolve Port	"RESOLVE_PORT" on page B-16
Sys Mgt Default Admin	"SM_DEFAULT_ADMIN" on page B-16
Sys Mgt Server Generic	"SM_GENERIC_SERVER_NAME" on page B-16
Sys Mgt Server Specific	"SM_SPECIFIC_SERVER_NAME" on page B-17
Sys Mgt Procedure	"SMPROC" on page B-17
SSL Key Ring	"SSL_KEYRING" on page B-17
DB2 Subsystem Name	"SYS_DB2_SUB_SYSTEM_NAME" on page B-17
Default Tracing Level	"TRACEALL" on page B-18
Tracing Overrides	"TRACEBASIC" on page B-18
Trace Buffer Count	"TRACEBUFFCOUNT" on page B-18
Trace Buffer Location	"TRACEBUFFLOC" on page B-18
Trace Buffer Size	"TRACEBUFFSIZE" on page B-18
Trace Detail Overrides	"TRACEDetail" on page B-18
Trace Minor Code	"TRACEMINORCODE" on page B-19
CTRACE Parmlib Member	"TRACEPARAM" on page B-19
Common JAR Files Directory	"WS_EXT_DIRS" on page B-19
WAS Java Options	"WAS_JAVA_OPTIONS" on page B-19

JVM Properties (JVMPROPT)

The JVM Properties (JVMPROPT) view displays the values that are associated with each of the WAS 4.x address spaces that are specified in respective JVM.properties files. Several of the fields contain hyperlinks to display the complete contents of the entry.

Figure 6-7 JVM Properties View

```

11NOV2002 17:05:59 ----- MAINVIEW WINDOW INTERFACE(R4.0.02)-----
CURR WIN ==> 1          ALT WIN ==>
>W1 =JVMPROPT=====BJWSYSI==*=====11NOV2002==17:05:59===MVWEB===D===1
  JVM Properties Info.....

HTTP Server Jobname..... BBOSMS
Asid..... 3C
No Local Copies Flag.....
Connection Usage Scope Default
Server Class Loader Mode.....
Trace Settings.....
Web Container Config File.....
Include Web Container.....
Server Check Interval.....
Mail Debug.....
ORB Initial Host.....
ORB Initial Port.....

COMMAND ==>
F1=HELP      F2=SPLIT    F3=END      F4=RETURN   F5=RFIND   F6=RCHANGE
F7=UP       F8=DOWN    F9=SWAP    F10=LEFT   F11=RIGHT  F12=RETRIEVE
SCROLL ==> PAGE

```

Table 6-8 JVM Properties View—Fields (Part 1 of 2)

Field	Description
HTTP Server Jobname	Indicates the jobname of the HTTP server that processed this request.
ASID	Indicates the address space identifier (ASID) for the HTTP server that processed this request. The system assigns a unique ASID to each job, started task, or TSO user currently active in the system. This is much like the process identifier (pid) in a Unix environment. The data in this field is represented by hexadecimal numbers.
No Local Copies Flag	Specifies whether or not local objects are passed by reference or by value. Any value other than null specifies that local objects are to be passed by reference. If you wish to pass local objects by reference, IBM suggest that you set this property to "true" to be consistent with WebSphere Application Server on distributed systems. The value in this field is extracted from the JVM properties variable <i>com.ibm.ws390.noLocalCopies</i> .

Table 6-8 JVM Properties View–Fields (Part 2 of 2)

Field	Description
Connection Usage Scope Default	Specifies whether or not the J2EE server will create a connection pool to be associated with a single transaction, then return the connections to the global connection pool when the application component closes the connection. To specify this behavior, set this variable to <i>seriallyReusable</i> . The value in this field is extracted from the JVM properties variable <i>com.ibm.ws390.ConnectionUsageScopeDefault</i> .
Server Class Loader Mode	Displays the J2EE server's visibility mode: 1 = compatibility mode 2 = application mode 3 = server mode The default value is 1. The value in this field is extracted from the JVM properties variable <i>com.ibm.ws390.classloadermode</i> .
Trace Settings	Displays a fully qualified path to a file containing the trace settings. The value in this field is extracted from the JVM properties variable <i>com.ibm.ws390.trace.settings</i> .
Web Container Config File	Displays a fully qualified path to a file containing the web container configuration information. The value in this field is extracted from the JVM properties variable <i>com.ibm.ws390.config.filename</i> .
Include Web Container	Identifies, using comma-separated values, the servers to which the WAS v3.5 runtime is restricted for communication. The value in this field is extracted from the JVM properties variable <i>com.ibm.ws390.includeWebContainers</i> .
Server Check Interval	Displays the number of minutes between WAS v 3.5 discovery cycles. At the specified frequency, the runtime checks the servers specified in the Include Web Container variable. The value in this field is extracted from the JVM properties variable <i>com.ibm.ws390.serverCheckInterval</i> .
Mail Debug	Displays whether the debugging capability of JavaMail is enabled ("true") or disabled ("false"). There is no default value. The default value for a 4.x WebServer is 900. The value in this field is extracted from the JVM properties variable <i>mail.debug</i> .
ORB Initial Host	Displays the IP name that will be used by a OS/390 client, or server region acting as a client, to access the bootstrap server. The default value for a 4.x WebServer is the value specified by the RESOLVE_IPNAME environment variable (if used). The value in this field is extracted from the JVM properties variable <i>org.omg.CORBA.ORBInitialHost</i> .
ORB Initial Port	Displays the IP port number for the host name displayed in ORB Initial Host. The default value for a 4.x WebServer is 900. The value in this field is extracted from the JVM properties variable <i>org.omg.CORBA.ORBInitialPort</i> .

JVM Information

The JVM Information section of the Easy J2EE Menu leads to views that provide JVM profiling information. Such information can be highly valuable in tuning your J2EE/CORBA environment and in diagnosing performance problems. However, profiling can also be quite resource expensive. For this reason, MAINVIEW for WebSphere Application Server gives you the capability to turn profiling on or off for each category that can be profiled:

- JVM threads
- JVM methods
- JVM garbage collection
- JVM memory

Both the Easy J2EE Menu and the Easy WAS Plugin Menu provide links to the following profiling views

- a view to enable and disable profiling categories
- detailed JVM operation views
 - JVM threads
 - JVM methods
 - JVM garbage collection
 - JVM memory
- summary JVM views
 - JVM threads
 - JVM methods.

In addition, the Easy J2EE Menu provides links to views with information about deployed EJBs and JVM class performance.

Note: Profiling is available only if it has been installed and configured. For instructions, refer to the *MAINVIEW for WebSphere Application Server Customization Guide*.

Profiled Servers (PROFJOBS)

The Profiled Servers view (PROFJOBS) provides a means for enabling or disabling various categories of profiling on a J2EE/CORBA server. (For profiling services to be available, the profiler executable and profiler.properties file must have been copied onto the system on which the J2EE/CORBA server is running. The **current.env** configuration file must also be modified as described in the *MAINVIEW for WebSphere Application Server Customization Guide*.)

This view also displays the status (enabled or disabled) of each kind of profiling on a listed server.

Figure 6-8 Profiled Servers View

```

11NOV2002 14:51:10 ----- MAINVIEW WINDOW INTERFACE(R4.0.02)-----
CURR WIN ==> 1          ALT WIN ==>
W1 =PROFJOBS=====BJWSYSI==*=====11NOV2002==14:51:10====MVWEB====D====1
CMD   Server      Server Thread  METHOD   GC       Memory
----- Jobname  Asid   Stats   Stats   Stats   Stats
          IMVWEBQA    8A  ENABLED  ENABLED  ENABLED  ENABLED

COMMAND ==>
F1=HELP      F2=SPLIT    F3=END      F4=RETURN   F5=RFIND    F6=RCHANGE
F7=UP        F8=DOWN     F9=SWAP     F10=LEFT    F11=RIGHT   F12=RETRIEVE

SCROLL ==> PAGE

```

Table 6-9 Profiled Servers View—Fields

Field	Description															
CMD	Provides a place to enable or disable profiling on the server identified in the Server Jobname and Server Asid fields. The following table lists the commands to enable or disable profiling for individual services:															
	<table border="1"> <thead> <tr> <th>Profiling Type</th> <th>Enable Cmd</th> <th>Disable Cmd</th> </tr> </thead> <tbody> <tr> <td>Thread Stats</td> <td>enthd</td> <td>disthd</td> </tr> <tr> <td>Method Stats</td> <td>enmtd</td> <td>dismtd</td> </tr> <tr> <td>Garbage Collection Stats</td> <td>engc</td> <td>disgc</td> </tr> <tr> <td>Memory Stats</td> <td>enmem</td> <td>dismem</td> </tr> </tbody> </table>	Profiling Type	Enable Cmd	Disable Cmd	Thread Stats	enthd	disthd	Method Stats	enmtd	dismtd	Garbage Collection Stats	engc	disgc	Memory Stats	enmem	dismem
	Profiling Type	Enable Cmd	Disable Cmd													
	Thread Stats	enthd	disthd													
	Method Stats	enmtd	dismtd													
Garbage Collection Stats	engc	disgc														
Memory Stats	enmem	dismem														
Server Jobname	Indicates the jobname of the server on which profiling is being set.															
Server Asid	Indicates the address space identifier (ASID) server on which profiling is being set. The system assigns a unique ASID to each job, started task, or TSO user currently active in the system. This is much like the process identifier (pid) in a Unix environment. The data in this field is represented by hexadecimal numbers.															
Thread Stats	Indicates whether profiling for thread statistics is enabled or disabled on the specified server															
Method Stats	Indicates whether profiling for method statistics is enabled or disabled on the specified server															
GC Stats	Indicates whether profiling for garbage collection statistics is enabled or disabled on the specified server															
Memory Stats	Indicates whether profiling for memory statistics is enabled or disabled on the specified server															

JVM Threads (JTHREAD)

The JVM Threads view (JTHREAD) displays information the profiler has collected about JVM threads. The JVM Thread data allows the user to concentrate on long-running threads that may indicate a problem at the method level. The start and end time stamps indicate the wall-clock execution time and the CPU time indicates of the amount of CPU utilized for the most recent execution of the thread.

A hyperlink allows for drill-down to the methods that have executed on the thread. Following this hyperlink allows the user to identify one or more methods, applications, or both that are responsible for the long-running thread. This may prove particularly useful in a lockout condition—a situation in which one thread is preventing other threads from executing.

For this view to be populated, the Thread Stats option must be enabled on one or more servers through the PROFJOBS view. The hyperlink to JVM methods provides information for the classes that have been specified in the **profiler.properties** file. (See “Profiled Servers (PROFJOBS)” on page 6-22.)

Figure 6-9 JVM Threads View

```

11NOV2002 14:54:46 ----- MAINVIEW WINDOW INTERFACE(R4.0.02)-----
CURR WIN ==> 1          ALT WIN ==>
>W1 =JTHREAD=====BJWSYSI==*=====11NOV2002==14:54:45====MVWEB====D==213
Server  Server Thread          Times   CPU          CPU_Seconds
Jobname ASID  Name                        Loaded  Time          0.....75.....150
IMVWEBQA 8A Thread-601              25     00:00:00.00  +
IMVWEBQA 8A Thread-601              22     00:00:00.00  +
IMVWEBQA 8A Thread-2                1     00:01:54.84
IMVWEBQA 8A Thread-2                1     00:01:54.46
IMVWEBQA 8A Thread-2                1     00:01:54.09
IMVWEBQA 8A Thread-2                1     00:01:53.71
IMVWEBQA 8A Thread-2                1     00:01:53.33
IMVWEBQA 8A Thread-2                1     00:01:52.97
IMVWEBQA 8A Thread-2                1     00:01:52.59
IMVWEBQA 8A Thread-2                1     00:01:52.21
IMVWEBQA 8A Thread-2                1     00:01:51.84
IMVWEBQA 8A Thread-2                1     00:01:51.47
IMVWEBQA 8A Thread-2                1     00:01:51.10
IMVWEBQA 8A Thread-2                1     00:01:50.72
IMVWEBQA 8A Thread-2                1     00:01:50.34
IMVWEBQA 8A Thread-2                1     00:01:49.94
COMMAND ==>
F1=HELP      F2=SPLIT      F3=END        F4=RETURN     F5=RFIND      F6=RCHANGE
F7=UP        F8=DOWN       F9=SWAP       F10=LEFT      F11=RIGHT     F12=RETRIEVE
SCROLL ==> PAGE

```

Table 6-10 JVM Threads View–Fields

Field	Description
Server Jobname	Indicates the jobname of the server that processed this request.
Server Asid	Indicates the address space identifier (ASID) for the server that processed or is processing this request. The system assigns a unique ASID to each job, started task, or TSO user currently active in the system. Here it is the Unix process ID (PID) of the JVM. The data in this field is represented by hexadecimal numbers.
Thread Name	Displays the name of the thread
Times Loaded	Displays the number of time the thread has been loaded
CPU Time	Displays the amount of CPU time used by the thread in seconds
CPU_Seconds	Displays a graphical representation of CPU time used
Total Objects	Displays the number of objects allocated by the thread
Total Size	Displays the amount of amount of memory (in bytes) that the thread allocated for objects
Group Name	Displays the name of the group of which the thread is a member.
Parent Name	Displays the name of the thread that spawned the thread named in Thread Name.
Start Time	Indicates the time (GMT) at which this thread was started.
End Time	Indicates the time (GMT) at which this thread was stopped.
OS Thread	Displays the operating system ID of the underlying thread that corresponds to the JVM thread
Host Name	Displays the name of the host on which the JVM is running
OS PID	Displays the process ID of the job that owns this OS thread.

JVM Methods (JMETHOD)

The JVM Methods view (JMETHOD) displays information the profiler has collected about JVM methods. The JVM method data provides the user with information about invocation and execution performance of JVM methods, as well as their association with JVM threads and JVM classes. This information in turn helps identify applications that may be causing performance problems.

For this view to be populated, the Method Stats option must be enabled on one or more servers through the PROFJOBS view, and the classes to be profiled must be specified in the **profiler.properties** file. (See “Profiled Servers (PROFJOBS)” on page 6-22.)

Figure 6-10 JVM Methods View

```

11NOV2002 15:05:26 ----- MAINVIEW WINDOW INTERFACE(R4.0.02)-----
CURR WIN ==> 1          ALT WIN ==>
>W1 =JMETHOD=====BJWSYSI==*=====11NOV2002==15:05:26====MVWEB====D====9
Server  Server Method      CPU      CPU_Seconds Elapsed      Exe
Jobname ASID  Name          Time      0...5...10 Time      Cou
IMVWEBQA 8A doGet      00:00:00.02 00:00:00.02 00:00:00.02
IMVWEBQA 8A doGet      00:00:00.01 00:00:00.01 00:00:00.01
IMVWEBQA 8A doGet      00:00:00.01 00:00:00.03 00:00:00.03
IMVWEBQA 8A doGet      00:00:00.01 00:00:00.01 00:00:00.01
IMVWEBQA 8A doGet      00:00:00.01 00:00:00.01 00:00:00.01
IMVWEBQA 8A doGet      00:00:00.01 00:00:00.02 00:00:00.02
IMVWEBQA 8A doGet      00:00:00.01 00:00:00.02 00:00:00.02
IMVWEBQA 8A doGet      00:00:00.01 00:00:00.01 00:00:00.01
IMVWEBQA 8A doGet      00:00:00.01 00:00:00.01 00:00:00.01
IMVWEBQA 8A &lt;init&gt; 00:00:00.00 00:00:00.00 00:00:00.00

COMMAND ==>
F1=HELP      F2=SPLIT     F3=END       F4=RETURN    F5=RFIND     F6=RCHANGE
F7=UP        F8=DOWN      F9=SWAP      F10=LEFT     F11=RIGHT    F12=RETRIEVE

```

Table 6-11 JVM Methods View–Fields

Field	Description
Server Jobname	Indicates the jobname of the server that processed this request.
Server ASID	Indicates the address space identifier (ASID) for the server that processed this request. The system assigns a unique ASID to each job, started task, or TSO user currently active in the system. Here it is the Unix process ID (PID) of the JVM. The data in this field is represented by hexadecimal numbers.
Method Name	Name of the method
CPU Time	Amount of CPU time (in seconds) consumed by the method during its most recent execution
CPU Seconds	Displays a graphical representation of CPU time
Elapsed Time	Displays the duration of method execution in wall clock time
Execution Count	Total number of times method has been invoked by the thread identified in the Thread Name field since the profiler started
Total CPU	Total CPU time of all method executions in seconds
Total Elapsed	Total wall clock time elapsed over all executions of this method
Thread Name	Name of the thread that invoked the method
Class Name	Class that invoked the method
Start Time	Time that the method started in seconds since midnight, January 1, 1970
End Time	Time that the method ended in seconds since midnight, January 1, 1970
Host Name	Name of the host on which the JVM is running
JVM PID	Unique process id of the JVM (not necessarily the OS pid)

JVM Garbage Collection (JVMGC)

The JVM Garbage Collection view (JTHREAD) displays information the profiler has collected about JVM garbage collection. This information can be helpful in tuning the allocation of heap storage. For example, small garbage collections that occur with high frequency could indicate that insufficient heap storage has been allocated. Likewise, large, infrequent garbage collections could indicate that the heap storage allocation is larger than optimal.

For this view to be populated, the GC Stats option must be enabled on one or more servers through the PROFJOBS view, and the classes to be profiled must be specified in the **profiler.properties** file. (See “Profiled Servers (PROFJOBS)” on page 6-22.)

Figure 6-11 JVM Garbage Collection View

```

11NOV2002 15:09:55 ----- MAINVIEW WINDOW INTERFACE(R4.0.02)-----
CURR WIN ==> 1          ALT WIN ==>
>W1 =JVMGC=====BJWSYSI==*=====11NOV2002==15:09:55====MVWEB====D====1
Server  Server Host      JVM      GC      GC      Total  Objects Total
Jobname ASID  Name      Pid      Count  Duration  Objects Size  Size
IMVWEBQA 138 SYSI      67109224  0 00:00:00.00  0      0

```

COMMAND ==>

F1=HELP	F2=SPLIT	F3=END	F4=RETURN	F5=RFIND	F6=RCHANGE
F7=UP	F8=DOWN	F9=SWAP	F10=LEFT	F11=RIGHT	F12=RETRIEVE

SCROLL ==> PAGE

Table 6-12 JVM Garbage Collection View–Fields

Field	Description
Server Jobname	Indicates the jobname of the server that processed this request.
Server ASID	Indicates the address space identifier (ASID) for the server that processed this request. The system assigns a unique ASID to each job, started task, or TSO user currently active in the system. Here it is the Unix process ID (PID) of the JVM. The data in this field is represented by hexadecimal numbers.
Host Name	Name of the host on which the JVM is running
JVM PID	Displays the process id of the JVM
GC Count	Displays the total number of garbage collections
GC Duration	Displays the start time of garbage collection
Total Objects	Displays the number of used objects on the heap
Objects Size	Displays the amount of memory (in bytes) currently being used by objects allocated by this JVM
Total Size	Displays the total amount of memory (in bytes) that this JVM has allocated for objects

JVM Memory (JVMMEM)

The JVM Memory view (JVMMEM) displays information the profiler has collected about JVM memory. This information could be especially useful in identifying “storage creep,” a condition that develops when allocated memory is not always freed after the operation using that memory has completed.

For this view to be populated, the Thread Stats option must be enabled on one or more servers through the PROFJOBS view, and the classes to be profiled must be specified in the **profiler.properties** file. (See “Profiled Servers (PROFJOBS)” on page 6-22.)

Figure 6-12 JVM Memory View

```

20DEC2002 15:39:15 ----- MAINVIEW WINDOW INTERFACE(V4.1.03)-----
CURR WIN ==> 1          ALT WIN ==>
W1 =JVMMEM=====BJWESAJ==*=====20DEC2002==15:39:15===MVWEB===D===1
Server  Server  Host          Time   Memory  Virtual  OS
Jobname ASID    Name          Millisec Usage   Usage   Pid
IMVWEBQA      D7  ESAJ                3793  880

COMMAND ==>
F1=HELP      F2=SPLIT     F3=END       F4=RETURN    F5=RFIND    F6=RCHANGE
F7=UP        F8=DOWN      F9=SWAP      F10=LEFT     F11=RIGHT   F12=RETRIEVE

SCROLL ==> DATA
    
```

Table 6-13 JVM Memory View—Fields (Part 1 of 2)

Field	Description
Server Jobname	Indicates the jobname of the server that processed this request.
Server ASID	Indicates the address space identifier (ASID) for the server that processed this request. The system assigns a unique ASID to each job, started task, or TSO user currently active in the system. Here it is the Unix process ID (PID) of the JVM. The data in this field is represented by hexadecimal numbers.

Table 6-13 JVM Memory View–Fields (Part 2 of 2)

Field	Description
Host Name	Name of the host on which the JVM is running
Time Millisec	Displays the amount of CPU time used by the WebSphere server
Memory Usage	Displays the amount of physical memory used by this server
Virtual Usage	Displays the amount of virtual memory used by this server
OS Pid	Identifies the process ID of on the OS that corresponds to the Server ASID.

JVM Thread Summary (JTHREADZ)

The JTHREADZ view (JTHREADZ) displays summary information about CPU usage over all executions of discovered threads.

Figure 6-13 JVM Thread Summary View

```

11NOV2002 15:15:20 ----- MAINVIEW WINDOW INTERFACE(R4.0.02)-----
CURR WIN ==> 1          ALT WIN ==>
W1 =JTHREADZ=====BJWSYSI==*=====11NOV2002==15:15:20====MVWEB====D===28
Server  Server Thread          Thread AvgCPU          AvgTotal AvgTotal
Jobname ASID  Name                        Count  Time           Objects  Size
IMVWEBQA 8A Thread-2                13 00:01:59.88    810893 22864307
IMVWEBQA 8A Thread-20                1 00:00:19.30    47320 2985296
IMVWEBQA 8A Thread-87                1 00:00:18.10    22457 1460540
IMVWEBQA 8A Thread-1                 1 00:00:13.92   164065 11946012
IMVWEBQA 8A Thread-80                1 00:00:13.80    60892 3867824
IMVWEBQA 8A Thread-24                1 00:00:12.93    63664 4101776
IMVWEBQA 8A Thread-17                1 00:00:12.37    62908 4021728
IMVWEBQA 8A Thread-294              1 00:00:03.60    4490 265152
IMVWEBQA 8A Thread-7                 13 00:00:03.34         2         32
IMVWEBQA 8A Thread-5                 1 00:00:02.56   22711 1858388
IMVWEBQA 8A Thread-0                 1 00:00:01.33   14698 1066432
IMVWEBQA 8A Thread-601             1 00:00:01.28   13173 834116
IMVWEBQA 8A Thread-8                 1 00:00:01.17   10428 650968
IMVWEBQA 8A Thread-4                 3 00:00:00.65     510     6232
IMVWEBQA 8A Thread-3                 3 00:00:00.44     501     6012
IMVWEBQA 8A Thread-29             1 00:00:00.27    1203    77228
COMMAND ==>
F1=HELP      F2=SPLIT      F3=END        F4=RETURN     F5=RFIND      F6=RCHANGE
F7=UP        F8=DOWN       F9=SWAP       F10=LEFT      F11=RIGHT     F12=RETRIEVE
SCROLL ==> PAGE
    
```

Table 6-14 JVM Thread Summary View-Fields

Field	Description
Server Jobname	Indicates the jobname of the HTTP server that processed this request.
Server ASID	Indicates the address space identifier (ASID) for the server that processed this request. The system assigns a unique ASID to each job, started task, or TSO user currently active in the system. Here it is the Unix process ID (PID) of the JVM. The data in this field is represented by hexadecimal numbers.
Thread Name	Displays the name of the thread
Thread Count	Displays the number of times this thread occurs for this server
AvgCPU Time	Displays the amount of CPU time used, averaged across all threads in the server
AvgTotal Objects	Displays the object size, averaged across all objects in the specified server
AvgTotal Size	Displays the average size of all objects in the server since the server was started

JVM Method Summary (JMETHODZ)

The JMETHODZ view (JMETHODZ) displays summary information about execution times and CPU usage over all invocations of discovered methods.

Figure 6-14 JVM Method Summary View

```

20DEC2002 15:29:10 ----- MAINVIEW WINDOW INTERFACE(V4.1.03)-----
CURR WIN ==> 1          ALT WIN ==>
>W1 =JMETHODZ=====BJWESAJ==*=====20DEC2002==15:29:09====MVWEB====D===27
Server  Server Method          Method AvgElapsed   AvgCPU   TotExec
Jobname ASID   Name          Count   Time     Time     Count
BBOASR2S BC setPremium          1 00:00:00.00 00:00:00.00 110
BBOASR2S BC setEntityContext    1 00:00:00.00 00:00:00.00 2
BBOASR2S BC setServer           1 00:00:00.00 00:00:00.00 2
BBOASR2S BC class$              1 00:00:00.00 00:00:00.00 1
BBOASR2S BC <clinit>            3 00:00:01.55 00:00:00.74 3
BBOASR2S BC <init>              5 00:00:00.10 00:00:00.04 447
BBOASR2S BC getHttpConnection  1 00:00:00.00 00:00:00.00 1562
BBOASR2S BC getSocket           1 00:00:00.00 00:00:00.00 1562
BBOASR2S BC resetObject        1 00:00:00.00 00:00:00.00 1562
BBOASR2S BC ejbCreate           2 00:00:00.10 00:00:00.09 2
BBOASR2S BC setSessionContext  2 00:00:00.00 00:00:00.00 2
BBOASR2S BC dispatch            1 00:00:07.13 00:00:04.78 1562
BBOASR2S BC equals              1 00:00:00.00 00:00:00.00 1430
BBOASR2S BC hashCode            1 00:00:00.00 00:00:00.00 1210
BBOASR2S BC tran1               1 00:00:02.42 00:00:01.57 330
BBOASR2S BC tran2               1 00:00:02.31 00:00:01.33 55
COMMAND ==>
F1=HELP      F2=SPLIT      F3=END        F4=RETURN     F5=RFIND      F6=RCHANGE
F7=UP        F8=DOWN       F9=SWAP       F10=LEFT      F11=RIGHT     F12=RETRIEVE
SCROLL ==> DATA

```

Table 6-15 JVM Method Summary View—Fields (Part 1 of 2)

Field	Description
Server Jobname	Displays the jobname of the HTTP server that processed this request.
Server ASID	Indicates the address space identifier (ASID) for the server that processed this request. The system assigns a unique ASID to each job, started task, or TSO user currently active in the system. Here it is the Unix process ID (PID) of the JVM. The data in this field is represented by hexadecimal numbers.
Method Name	Identifies the name of the method
Method Count	Displays the number of times the method has been invoked
AvgElapsed Time	Displays the average time in seconds between the beginning and the completion of method execution
AvgCPU Time	Displays the average amount of time per execution during which the method has control of the CPU

Table 6-15 JVM Method Summary View–Fields (Part 2 of 2)

Field	Description
TotExec Count	Displays the number of times this method has been executed on this server since the server was started
Total Elapsed	Indicates the total amount of time during which the method has been executing since the server was started
Total CPU	Indicates the total amount of time that the method has had control of the CPU since the server was started
Class Name	Displays the fully qualified name of the class of which the method is a member

Deployed EJBs (JEJBS)

The Deployed EJBs view (JEJBS) displays important information about each Enterprise Java Bean (EJB) found during the discovery process. When method profiling is enabled for an EJB class identified in this view, a hyperlink to a method summary view is provided. This hyperlink allows the user go from the record representing the deployed EJB to a summary view that aggregates method statistics for all methods that have been invoked in the associated EJB class. In short, the user has the ability to see how each EJB class is performing from a list of all EJBs that have been deployed. The view that lists the deployed EJBs is independent of method profiling—only the hyperlink is contingent.

Figure 6-15 Deployed EJBs View

```

19DEC2002 12:48:55 ----- MAINVIEW WINDOW INTERFACE(V4.1.03)-----
CURR WIN ==> 1          ALT WIN ==>
>W1 =JEJBS=====BJWSYSI==*=====19DEC2002==12:48:55====MVWEB====D====5
EJB          Server  Server  EJB      Session  Transaction
Name         Jobname  Asid    Type     Type     Type
ivp.policybmp      BBOASR2  250  Entity  NULL     NULL
ivp.policycmp      BBOASR2  250  Entity  NULL     NULL
ivp.policysession  BBOASR2  250  Session Stateless Container
PolicyIVP_WebApp   BBOASR2  250  Session Stateless Container
RemoteWebContainer BBOASR2  250  Session Stateless Bean

COMMAND ==>
F1=HELP      F2=SPLIT    F3=END      F4=RETURN   F5=RFIND    F6=RCHANGE
F7=UP        F8=DOWN     F9=SWAP     F10=LEFT    F11=RIGHT   F12=RETRIEVE
. . . . .
    
```

Table 6-16 Deployed EJB View—Fields (Part 1 of 2)

Field	Description
EJB Name	Identifies the name of the EJB. Each element in the list of EJB names hyperlinks to a JVMPERF view with performance information about the EJB.
Server Jobname	Identifies the jobname of the server control region.
Server Asid	Identifies the ASID of the server control region.

Table 6-16 Deployed EJB View-Fields (Part 2 of 2)

Field	Description
EJB Type	Identifies whether the EJB is an entity bean (which persists indefinitely until it is explicitly deleted) or a session bean (which is created with the session and persists only for the duration of the session).
Session Type	Identifies whether the bean is a stateless session or a stateful session.
Transaction Type	Identifies whether the bean's transaction management is controlled by the bean itself or by the container.
Persistence Type	Identifies whether the persistence of an entity bean is managed by the bean itself or by the container.
Web Application	Identifies a user defined web application of which this deployed EJB is a part.
EJB Class	Identifies the fully qualified name of the EJB class
Primary Key	Identifies the fully qualified name of an entity bean's primary key class, for example com/ibm/ws390/samples/ivp/ejb/PolicyCMPK
Home Interface	Identifies the fully qualified name of the EJB's home interface, for example com/ibm/ws390/samples/ivp/ejb/PolicySess
Remote Interface	Identifies the fully qualified name of the EJB's remote interface, for example com/ibm/ws390/wc/container/RemoteWebApp

JVM Performance (JVMPERF)

The JVMPERF view (JVMPERF) displays information about the CPU and overall execution time for methods running as part of a class within a JVM.

This view allows the user to determine which methods are utilizing the most CPU. Displaying the class name provides the ability to correlate the methods to an associated application. Each record also contains a jobname and ASID. In a multi-server environment where the same method may appear across different servers as well as different applications, the user might readily determine the server and application in which the problem method is executing.

Figure 6-16 JVM Performance View

```

02JAN2003 13:14:19 ----- MAINVIEW WINDOW INTERFACE(V4.1.03)-----
CURR WIN ==> 1          ALT WIN ==>
>W1 =JVMPERF=====BJWESAJ==*=====02JAN2003==13:14:19====MVWEB====D====2
Server  Server TotalCPU      CPU_Seconds      AvgElapsed      Class
Jobname ASID   Time              0.....20000.86400 Time             Name
BBOASR2S  A0 00:00:03.58      00:00:01.33    com/ibm/servlet
BBOASR2S  A0 00:00:00.01      00:00:00.01    com/ibm/ws390/w

COMMAND ==>
F1=HELP      F2=SPLIT      F3=END        F4=RETURN      F5=RFIND      F6=RCHANGE
F7=UP        F8=DOWN       F9=SWAP       F10=LEFT       F11=RIGHT     F12=RETRIEVE
    
```

Table 6-17 JVM Performance View-Fields

Field	Description
Server Jobname	Displays the jobname of the server control region.
Server ASID	Indicates the address space identifier (ASID) for the server that processed this request. The system assigns a unique ASID to each job, started task, or TSO user currently active in the system. This is much like the process identifier (pid) in a Unix environment. The data in this field is represented by hexadecimal numbers.

Table 6-17 JVM Performance View–Fields

Field	Description
TotalCPU Time	Displays the total amount of CPU time used by methods in the specified class since the server started
CPU_Seconds	Graphically displays the average amount of CPU time used per method invocation over all methods in the specified class.
AvgElapsed Time	Displays the average amount of time elapsed between method invocation and completion over all methods in the specified class
Class Name	Identifies the fully qualified classname of the profiled class for which method execution time is displayed in this view.

Chapter 7 STM Analysis

This chapter provides information about the following views through which STM information can be monitored:

Response Summary (STMDATAZ)	7-2
Response Details (STMDATA).....	7-5

Response Summary (STMDATAZ)

The Response Summary View (STMDATAZ) view displays information provided by the Synthetic Transaction Monitor (STM) product. STM facilitates the recording of IP-based client/server transactions and the replay of those transactions at specified intervals.

Figure 7-1 Response Summary View

```

10JAN2002 17:19:14 ----- INFORMATION DISPLAY -----
CURR WIN ==> 1          ALT WIN ==>
>W1 =STMDATAZ=====ESAJ=====10JAN2002==17:19:14===MVWEB=====6
Transaction      Num      Response Response      Response Response Xmitted Re
Description      Trans   Time      0.....50...100 Min      Max      Msgs      Ms
IBM Server              2      23.53              23.46      23.60      14
SYSM Server            1      18.13              18.13      18.13       3
sysb                   51      11.41              10.70      14.20      58
sysb-qa                192     10.45              10.18      13.50      34
SJSC Access            1       8.97               8.97       8.97       8
SYSO00 TMnu           320     8.72               0.62       36.08      1
SYSO00 Auth           192     8.68               0.07       37.12      0
SYSO00 Index          481     8.60               0.36       60.69      1
SYSO00 File           192     8.53               0.07       21.19      0
SJSC Files             1       4.69               4.69       4.69       1
ROMA TEST              96     3.22               3.11       4.13       1

```



```

COMMAND ==>
F1=HELP      F2=SPLIT    F3=END      F4=RETURN   F5=RFIND    F6=RCHANGE
F7=UP        F8=DOWN     F9=SWAP     F10=LEFT    F11=RIGHT   F12=RETRIEVE

```

SCROLL ==> PAGE

Table 7-1 Response Summary View–Fields

Field	Description
Transaction Description	Displays the text contained in the Description field of the recording file on the STM client. This information is used to identify the transaction. Asterisks might appear in this field, indicating multiple non-matching values or names.
The next five fields all presentations of the Response Time field, and display the amount of time (in seconds) that it took for a transaction to complete. The values represent true round trip response time, from the client to the host and back to the client.	
Num Trans	Indicates the count of all data with the same transaction description.
Response Time	Indicates the average (in seconds) of any row of data with the same transaction description, presented as numeric representation.
Response	Indicates the average (in seconds) of any row of data with the same transaction description, presented as graphic representation.
Response Min	Indicates the minimum (in seconds) of any row of data with the same transaction description.
Response Max	Indicates the maximum (in seconds) of any row of data with the same transaction description.
Xmitted Msgs	Indicates the number of messages transmitted to the HTTP server for the transaction. A message is either an application data segment or an application request. Note: This field contains the average of any row of data with the same transaction description.
Recv'd Msgs	For the transaction, indicates the number of data segments sent from the HTTP server to the client. Note: This field contains the average of any row of data with the same transaction description.
Xmitted Bytes	For the transaction, indicates the number of bytes transmitted to the HTTP server. This number represents the sum of all bytes in each transmitted message for this transaction. Note: This field contains the average of any row of data with the same transaction description.
Recv'd Bytes	For the transaction, indicates the number of bytes sent from the HTTP server to the client. This number represents the sum of all bytes in each received message for this transaction. Note: This field contains the average of any row of data with the same transaction description.
K-byte Per-sec	Indicates the effective throughput of this transaction. This number represents the sum of bytes sent and bytes received, divided by the transaction time in seconds. Note: This field contains the average of any row of data with the same transaction description.

Table 7-1 Response Summary View—Fields

Field	Description
Percent Matched	<p>Represents the amount of data returned to the client that matches the data returned to the original recording file. If the match percent is below the match requirement specified within the recording file, the transaction is not recorded to this view.</p> <p>For example, today a file is created that has the sole purpose of opening the company's home page. The content of the home page is stored in the recording file at the client. Every time the recording file is played, the home page returned is compared to the stored page. If the corporate home page has changed, the match percent becomes less than 100%.</p> <p>Note: This field contains the average of any row of data with the same transaction description.</p>
Workstation Name	<p>Indicates the name of the workstation that initiated the transaction.</p> <p>Asterisks that might appear in this field indicate multiple non-matching values or names.</p>
Status	<p>Indicates the response code sent to the client within the HTTP header in response to a client request. Codes are standard HTTP server response codes.</p> <p>Asterisks that might appear in this field indicate multiple non-matching values or names.</p>
Comp Code	<p>Indicates the completion status of the transaction.</p> <p>Asterisks that might appear in this field indicate multiple non-matching values or names.</p>
Process ID	<p>Indicates the name of the process used to execute this transaction. The process is the program that ran on the client machine to execute this transaction.</p> <p>Asterisks that might appear in this field indicate multiple non-matching values or names.</p>
Transact Keywords	<p>Indicates category keywords created by the client when recording the transaction. Category keywords allow the view to be sorted based on the type of transaction.</p> <p>Asterisks that might appear in this field indicate multiple non-matching values or names.</p>
ThresHold	<p>Asterisks that might appear in this field indicate multiple non-matching values or names.</p>
Connect Time	<p>For this transaction, indicates the connection time—the time that elapses on the client between the request for connection to the server(s) and when the connection is complete. A Web transaction might involve many connections to obtain HTML data and associated frames, images, applets, and so forth.</p> <p>Note: This field contains the average of any row of data with the same transaction description.</p>
Current Time	<p>Indicates the time during which the transaction occurred.</p> <p>Asterisks that might appear in this field indicate multiple non-matching values or names.</p>
Current Date	<p>Indicates the date on which the transaction occurred.</p> <p>Asterisks that might appear in this field indicate multiple non-matching values or names.</p>

Response Details (STMDATA)

The Response Details View (STMDATA) view displays detailed information provided by the Synthetic Transaction Monitor (STM) product. STM facilitates the recording of IP-based client/server transactions and the replay of those transactions at specified intervals.

Figure 7-2 Response Details View

```

10JAN2002 13:21:02 ----- INFORMATION DISPLAY -----
COMMAND ==>>                                SCROLL ==>> PAGE
CURR WIN ==>> 1                               ALT WIN ==>>
>W1 =STMDATA=====SYSM=====*=====10JAN2002==13:21:02====MVWEB=====144
Transaction      Response Xmitted Recv'd  Xmitted  Recv'd   K-bytes Percent
Description      Time      Msgs    Msgs     Bytes   Bytes    Per-sec Matched
ONLINE BANKING   57.40    78      92      5873    150936   2      65
PAYROLL QUERY    37.28    66      79      5923    142958   3      49
PARTS INVENTORY  60.30    78      83      5164    152858   2      7
ONLINE BANKING   53.13    78      91      5873    150936   2      65
PAYROLL QUERY    40.20    66      79      5923    142818   3      49
PARTS INVENTORY  59.84    78      83      5164    152858   2      13
ONLINE BANKING   55.13    78      91      5873    150936   2      65
PAYROLL QUERY    37.34    66      80      5923    142960   3      49
ONLINE BANKING   83.62    74      86      5651    149158   1      63
PARTS INVENTORY  59.44    78      82      5164    152858   2      13
PAYROLL QUERY    41.41    66      78      5923    142808   3      49
PARTS INVENTORY  59.79    78      82      5164    152858   2      13
ONLINE BANKING   57.10    78      91      5873    150936   2      65
PAYROLL QUERY    42.18    66      76      5923    142786   3      49
PARTS INVENTORY  65.45    70      78      5164    151750   2      8
ONLINE BANKING   61.46    62      79      4721    131736   2      54
F1=HELP          F2=SPLIT      F3=END        F4=RETURN     F5=RFIND      F6=RCHANGE
F7=UP            F8=DOWN       F9=SWAP       F10=LEFT      F11=RIGHT     F12=RETRIEVE

```

Table 7-2 Response Summary View—Fields

Field	Description
Transaction Description	Displays the text contained in the Description field of the recording file on the STM client. This information is used to identify the transaction.
Response Time	Displays the time (in seconds) that it took for the transaction to complete. This time represents true round trip response time, from the client to the host and back to the client.
Xmitted Msgs	Indicates the number of messages transmitted to the HTTP server for the transaction. A message is either an application data segment or an application request.
Recv'd Msgs	For the transaction, indicates the number of data segments sent from the HTTP server to the client.
Xmitted Bytes	For the transaction, indicates the number of bytes transmitted to the HTTP server. This number represents the sum of all bytes in each transmitted message for this transaction.
Recv'd Bytes	For the transaction, indicates the number of bytes sent from the HTTP server to the client. This number represents the sum of all bytes in each received message for this transaction.
K-byte Per-sec	Indicates the effective throughput of this transaction. This number represents the sum of bytes sent and bytes received, divided by the transaction time in seconds.
Percent Matched	<p>Represents the amount of data returned to the client that matches the data returned to the original recording file. If the match percent is below the match requirement specified within the recording file, the transaction is not recorded to this view.</p> <p>For example, today a file is created that has the sole purpose of opening the company's home page. The content of the home page is stored in the recording file at the client. Every time the recording file is played, the home page returned is compared to the stored page. If the corporate home page has changed, the match percent becomes less than 100%.</p>
Workstation Name	Indicates the name of the workstation that initiated the transaction.
Status	Indicates the response code sent to the client within the HTTP header in response to a client request. Codes are standard HTTP server response codes.
Comp Code	Indicates the completion status of the transaction.
Process ID	Indicates the name of the process used to execute this transaction. The process is the program that ran on the client machine to execute this transaction.
Transact Keywords	Indicates category keywords created by the client when recording the transaction. Category keywords allow the view to be sorted based on the type of transaction.
Connect Time	For this transaction, indicates the connection time—the time that elapses on the client between the request for connection to the server(s) and when the connection is complete. A Web transaction might involve many connections to obtain HTML data and associated frames, images, applets, and so forth.
Current Time	Indicates the time during which the transaction occurred.
Current Date	Indicates the date on which the transaction occurred.

Chapter 8 Viewing Historical Data

This chapter provides information about the historical data feature. Historical data lets you look at system data as it existed an hour ago, yesterday, last week, last month, or last year.

This chapter contains the following sections:

Overview	8-2
Data Availability	8-3
TIME Command	8-4
Information for Which Historical Data Is Recorded	8-4

Overview

Historical data lets you recreate the operating environment as it existed during a previous timeframe so that you can compare the current performance with a previous performance. This comparison lets you determine whether your system is working normally or whether there is a problem.

Historical data consists of your data from a specified recent interval and its preceding intervals. Using the TIME command, you can specify intervals from any timeframe for which data exists on your system. You can also use certain fields to determine when the data was collected and to hyperlink to particular timeframes.

Data Availability

When you need historical data, you must ensure that the data is available in one of the historical data sets that has been allocated.

To determine whether data has been recorded to historical data sets, and to view a list of allocated historical data sets, type **DSL** on the command line. **DSL** (Figure 8-1) is displayed.

Figure 8-1 DSL

```

08FEB2002 19:24:07 ----- MAINVIEW WINDOW INTERFACE -----
CURR WIN ==> 1          ALT WIN ==>
>W1 =DSL=====BJWESAJ==*=====08FEB2002==19:24:07====MVWEB====D====3
C DDNAME   From Date  Time  To Date   Time  Rec Status Pending  Data set name
-----
HISTDS00 07FEB2002 10:55 08FEB2002 19:15 Yes Active ***** MVW.V20KAW4.WE
HISTDS02                               Yes Closed ***** MVW.V20KAW4.WE
HISTDS01                               Yes Closed ***** MVW.V20KAW4.WE

COMMAND ==>
F1=HELP      F2=SPLIT    F3=END      F4=RETURN   F5=RFIND    F6=RCHANGE
F7=UP        F8=DOWN     F9=SWAP     F10=LEFT    F11=RIGHT   F12=RETRIEVE
  
```

BMC Software recommends that you check **DSL** before using the **TIME** command. When you specify the **TIME** command for an unavailable date and time, an error message is displayed.

Data from recording intervals between **From Date** and **To Date** may not be available for any of the following reasons:

- Data was not collected.
- Data is offline.
- Data was overwritten by new data.
- The data set has an error.

If you do not see the date and/or time that you want on the DSLIST view, the data set that you need may have been archived on tape or in an offline data set, or the data may have been purged. To determine whether the data was archived or purged, see your product administrator. (If you are the administrator, see the *MAINVIEW Administration Guide*).

TIME Command

You can use the TIME command to specify the intervals of historical data that you want to display. The TIME command lets you display data as it existed at the end of one interval. To see data that spans a greater timeframe, use the TIME duration parameter with the date and time parameters.

For detailed information about using the TIME command, the syntax of the command, and examples of different uses of the TIME command, see *Using MAINVIEW*.

Information for Which Historical Data Is Recorded

MAINVIEW for WebSphere Application Server collects historical data concerning the following views, if the data sets have been correctly allocated during AutoCustomization (refer to the *MAINVIEW for WebSphere Application Server Customization Guide* for details):

ACCESS	DIAGTCB	J2EEHTTP	JVMPERF	SERVOVER
ACCESSD	ERRORS	J2EENCLV	NOFILEZ	SYSOVER
ACCESSZ	ERRORSD	J2SERV	PERFORMD	THREAD
AUTHZ	ERRORSZ	J2SERVC	PERFSUM	THREADD
CACHE	FILESUM	JMETHOD	REQCLASS	THREADZ
CACHED	HEAPDET	JMETHODZ	REQTYPE	TRAFFIC
CODEZ	HEAPINFO	JTHREAD	REQUESTD	TRAFFICD
CONNECTS	HTTPJOBS	JTHREADZ	RESPONSD	UACCSUM
DB2INFO	J2CENCLV	JVMGC	RESPONSE	UVOLSUM
DIAGRSP	J2EEAPPZ	JVMMEM	SERVCOOK	WASPERF

Chapter 9 Setting Alarms

MAINVIEW Alarm Manager works with MAINVIEW for WebSphere Application Server, and other MAINVIEW products, to provide alarms. These alarms display messages that can alert you when system resources are overused.

MAINVIEW for WebSphere Application Server does not include prepackaged alarms, but you can set up your own alarms as you use the product. This chapter provides a checklist with the steps that are required to set an alarm in MAINVIEW for WebSphere Application Server.

This chapter contains the following sections:

MAINVIEW Alarm Manager	9-2
Alarm Setting Checklist	9-2

MAINVIEW Alarm Manager

Product Name is a tool that, with other MAINVIEW products, notifies you when an exception condition occurs. MAINVIEW Alarm Manager can monitor multiple systems simultaneously. You can display a single view that shows exceptions for all MAINVIEW performance monitors within your MVS enterprise.

Any data element on any MAINVIEW product can be used to generate alarms that produce the following results:

- create MVS console or subsystem messages
- display messages in a MAINVIEW Alarm Manager view that let you hyperlink to the MAINVIEW product which produced the exception
- trigger an automated alert or action from MAINVIEW® AutoOPERATOR™ for quick problem resolution

MAINVIEW Alarm Manager generates alarms when thresholds from specific MAINVIEW product views are exceeded. Alarms can be based on summarized data from multiple systems and subsystems that use the MAINVIEW single system image (SSI) capabilities.

Using MAINVIEW Alarm Manager, you can create and modify alarm definitions that display meaningful messages for your site's requirements. Alarms can be set for any (or all) severity levels, from informational to critical.

For more information about MAINVIEW Alarm Manager, see the MAINVIEW Alarm Manager *User Guide*.

Alarm Setting Checklist

The checklist in this section contains the steps that you must perform to set the alarm for MAINVIEW for WebSphere Application Server. This checklist provides a summary of the steps that you must perform and where to find detailed instructions if you need them.

Step	Task	Description	Reference
1	allocate a new GROUP BBVDEF data set similar to USER BBVDEF	If you do not have the user view definition (USER BBVDEF) data set allocated, you will be asked whether a clist should create one. Indicate Yes to create the USER BBVDEF data set.	<i>MAINVIEW Alarm Manager User Guide</i>
2	issue tso isrddn and examine the BBVDEF concatenation	In the MAINVIEW for WebSphere Application Server monitor, issue tso isrddn from the command line. This information is needed for Step 9.	<i>MAINVIEW Alarm Manager User Guide</i>
3	set an alarm threshold	The alarm threshold is set in the ERRORS view.	<i>MAINVIEW Alarm Manager User Guide</i>
4	issue cust	In the MAINVIEW for WebSphere Application Server monitor, issue cust from the command line.	<i>MAINVIEW Alarm Manager User Guide</i>
5	issue threshold command and determine where threshold value should be set	Enter t for threshold on the View Customization command line and select the column where the threshold value should be set.	<i>MAINVIEW Alarm Manager User Guide</i>
6	set condition and attribute values	These are examples of condition and attribute values: Condition Attr 1st => =IMW0196I* =>9 reverse red 2nd => >68 => 2 yellow	<i>MAINVIEW Alarm Manager User Guide</i>
7	check for error log entries	If any error log entries match threshold values, the entries will be highlighted in the attribute color	<i>MAINVIEW Alarm Manager User Guide</i>
8	display the Exit Views Customization panel	To display the Exit Views Customization panel, press PF3 .	<i>MAINVIEW Alarm Manager User Guide</i>
9	save changes to Exit Views Customization panel	To display the Save View Definition panel and save your changes, indicate Yes . The view is saved in the first data set of BBVDEF concatenation.	<i>MAINVIEW Alarm Manager User Guide</i>
10	copy the USER BBVDEF data set	After the new view is saved in USER BBVDEF, copy it into the GROUP BBVDEF dataset.	<i>MAINVIEW Alarm Manager User Guide</i>
11	add the GROUP BBVDEF data set	The GROUP BBVDEF data set must be added in front of BBVDEF concatenation. You must add the data set to the MAINVIEW Alarm Manager PAS and the MAINVIEW for WebSphere Application Server PAS.	<i>MAINVIEW Alarm Manager User Guide</i>
12	start the MAINVIEW Alarm Manager PAS	Use the sample JCL provided in <i>h/q.UBBSAMP(MVALPAS)</i> to start the MAINVIEW Alarm Manager PAS.	<i>MAINVIEW Alarm Manager User Guide</i>

	Step	Task	Description	Reference
	13	perform a recycle	The MAINVIEW for WebSphere Application Server PAS must be recycled.	<i>MAINVIEW Alarm Manager User Guide</i>
	14	issue the Setalarm 00 command	Within the new view, issue Setalarm 00 from the command line.	<i>MAINVIEW Alarm Manager User Guide</i>
	15	go to the MAINVIEW Alarm Manager Easy Menu (MVALARM)	In the split screen, MVALARM will be displayed. Select Current Alarms and install the alarm.	<i>MAINVIEW Alarm Manager User Guide</i>
	16	save the alarm	After you install the alarm, save your selection.	<i>MAINVIEW Alarm Manager User Guide</i>
	17	verify the installation of Alarm 00	To verify the installation of Alarm 00, select List Alarm Groups and check the status.	<i>MAINVIEW Alarm Manager User Guide</i>

|

Chapter 10 MMA and Integration with PATROL

This chapter provides a brief explanation of the integration between PATROL[®] for WebSphere Application Server and MAINVIEW for WebSphere Application Server through the BMC Software Middleware Management Architecture (MMA) technology.

This chapter contains the following sections:

Overview.....	10-2
Frequently Asked Questions (FAQ)	10-2
What is MMA?.....	10-2
What pieces must be in your environment for integration between PATROL for WebSphere Application Server and MAINVIEW for WebSphere Application Server?.....	10-3
How do you set up the integration?	10-3
How do you begin monitoring HTTP and WebSphere Application Server information collected by MAINVIEW for WebSphere Application Server?	10-3
How do the components of integration work together?.....	10-4
Where can I get further information?.....	10-5

Overview

Starting with release 2.0, MAINVIEW for WebSphere Application Server provides optional integration with PATROL for WebSphere Application Server. Using the PATROL Console, you can use this integration to view a variety of details about HTTP servers that might be running an IBM WebSphere Application Server. This information includes the following categories:

- Presence, status, availability, and statistics of HTTP servers
- Presence and availability of an WebSphere Application Server on an HTTP server
- Presence, availability, and performance statistics about servlets on a WebSphere Application Server

Frequently Asked Questions (FAQ)

This section is a short set of frequently asked questions about integration between PATROL for WebSphere Application Server and MAINVIEW for WebSphere Application Server. The following questions are answered:

- “What is MMA?” on page 10-2
- “What pieces must be in your environment for integration between PATROL for WebSphere Application Server and MAINVIEW for WebSphere Application Server?” on page 10-3
- “How do you set up the integration?” on page 10-3
- “How do you begin monitoring HTTP and WebSphere Application Server information collected by MAINVIEW for WebSphere Application Server?” on page 10-3
- “How do the components of integration work together?” on page 10-4
- “Where can I get further information?” on page 10-5

What is MMA?

MMA is a technology developed by BMC Software to facilitate communication from one machine type to another. It includes many features and functions that are not used in the integration of these two products at this time.

What pieces must be in your environment for integration between PATROL for WebSphere Application Server and MAINVIEW for WebSphere Application Server?

Integration requires that you have the following components in your overall environment:

1. MMA code (this installs automatically when you install MAINVIEW for WebSphere Application Server unless you direct otherwise—please contact BMC Support for further information)
2. A “persistent area” that arranges for data collection according to requests from PATROL (this area is automatically created when MAINVIEW for WebSphere Application Server is installed)
3. PATROL for WebSphere Application Server version 1.2, which includes a required OS/390 Knowledge Module® (KM)
4. Startup scripts for the two MMA pieces that run on the z/OS or OS/390 system (these can be created through an optional step in the AutoCustomization of MAINVIEW for WebSphere Application Server)

How do you set up the integration?

1. Install and customize MAINVIEW for WebSphere Application Server. During AutoCustomization, complete the “Create MMA Startup Procedures” step, as explained in the “Installation Customization” chapter of the *MAINVIEW for WebSphere Application Server Customization Guide*. Make note of the MMA Server name and the port on which the MMA Communication Manager is listening.
2. Purchase, install, and configure PATROL for WebSphere Application Server version 1.2 or higher, including loading the correct .kml file as directed in the *PATROL for WebSphere Application Server User Guide*.
3. Configure the MMA client as explained in the *PATROL for WebSphere Application Server User Guide*.

How do you begin monitoring HTTP and WebSphere Application Server information collected by MAINVIEW for WebSphere Application Server?

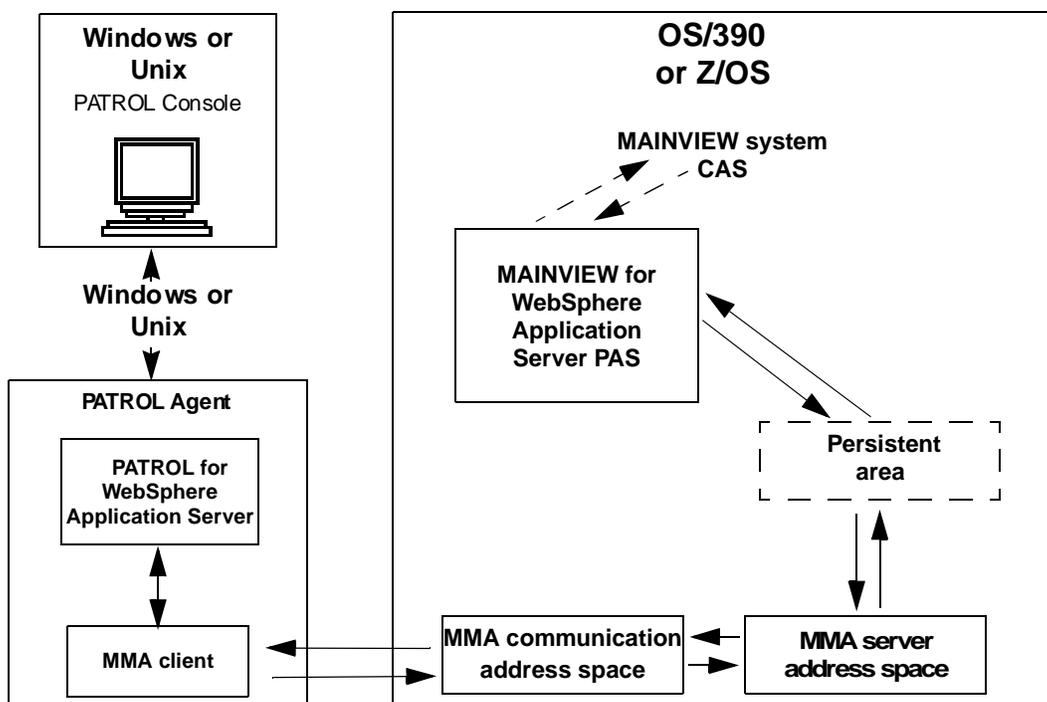
1. Start the PAS for MAINVIEW for WebSphere Application Server (if this PAS is not running, requests from PATROL will be ignored)
2. Start the MMA Communication Manager
3. Start the MMA Server.
4. Start a PATROL Developer Console
5. Load the OS-390 KM if you have not done so already.

At this point, icons should appear on the PATROL Console, and information should begin populating the icons.

How do the components of integration work together?

Figure 10-1 on page 10-4 depicts the relationship among the pieces in the integration of MAINVIEW for WebSphere Application Server and PATROL for WebSphere Application Server.

Figure 10-1 PATROL for WebSphere Application Server integration with MAINVIEW for WebSphere Application Server



The MMA client on the PATROL side is installed automatically with PATROL for WebSphere Application Server. For details on installation and configuration, refer to the *PATROL for WebSphere Application Server User Guide*.

The Persistent Area on the enterprise server side is installed transparently and automatically when MAINVIEW for WebSphere Application Server is installed. Its operation is also completely transparent. It converts MMA server requests into instructions that are executed on MAINVIEW for WebSphere Application Server, then returns the requested information to the MMA server for transmission through the depicted components, back to the PATROL Console.

Where can I get further information?

Integration between MAINVIEW for WebSphere Application Server and PATROL for WebSphere Application Server is also discussed in the following locations:

- The “Installation Customization” chapter of the *MAINVIEW for WebSphere Application Server Customization Guide*.
- Chapter 2, “Starting and Exiting MAINVIEW for WebSphere Application Server” in this document.
- The “Configuring PATROL for WebSphere Application Server” chapter in the *PATROL for WebSphere Application Server User Guide*.

Appendix A Troubleshooting tips

This appendix provides tips to help you resolve problems you may encounter with the MAINVIEW for WebSphere Application Server and Synthetic Transaction Monitor products. The format of this appendix is a series of frequently asked questions:

Frequently Asked Questions	A-1
Is there a difference between ACF 2 and RACF when it comes to assigning the userID for the MAINVIEW for WebSphere Application Server PAS (MV PAS)?	A-1
How do you record, play, and report a transaction with the Synthetic Transaction Monitor (STM)?	A-2
There are problems with the STM Response Time panels in MAINVIEW for WebSphere Application Server, could there be problems with the STM set up?	A-4

Frequently Asked Questions

Here is a list of questions frequently asked about MAINVIEW for WebSphere Application Server and Synthetic Transaction Monitor:

Is there a difference between ACF 2 and RACF when it comes to assigning the userID for the MAINVIEW for WebSphere Application Server PAS (MV PAS)?

Assign a userID for MV PAS with the same permission as that of the Web Server for ACF 2. The userID can be the same as that of the Web Server.

The MV PAS can have the same userID as that of the Web Server for RACF. Be sure to assign a userID with the OMVS segment authority to the MV PAS started task.

Note: If you do not assign the userID, the started task subsystem can not make any socket calls. Numerous error messages will be generated.

What is the search order MAINVIEW for WebSphere Application Server uses to find a TCPIP.DATA file in a multi-stack environment?

MAINVIEW for WebSphere Application Server uses the search order below to find a TCPIP.DATA file. When verification is affirmative, the product uses the file or statement.

1. Verifies the existence of ETC.RESOLV.CONF.
2. Checks whether a SYSTCPD DD statement is coded explicitly in the proc.
3. Verifies the existence of SYS1.TCPPARMS(TCPDATA).
4. Verifies the existence of TCPIP.TCPIP.DATA.
5. Verifies the existence of TCPIP.DATA.

Note: If you are passing any runtime arguments to the SAS/C resolver, the search order could be invalid.

During the installation of MAINVIEW for WebSphere Application Server, the SYSTCPD DD card should specify a TCPIP.DATA file reference in the MAINVIEW for WebSphere Application Server PAS.

How do you record, play, and report a transaction with the Synthetic Transaction Monitor (STM)?

After you install STM on the PC, a tape recorder icon will appear in the PC system tray.

Note: Close all Microsoft Internet Explorer sessions before you begin the record and play procedures.

To record, play, and report a transaction to your s/390 Web Server, complete the following steps:

Record a Transaction

1. Right-click the recorder icon and select **Record and Play Transactions...**
2. Click **OK** in the **Important Note** dialog.
3. Select a recording file name and click **Record**.
4. Start a Microsoft Internet Explorer session.

Note: The numbers (Connections and Total Bytes) in your recording dialog should change.

5. Use the browser to navigate the s/390 Web Server.
6. Click **Stop** to end the recording of the browser session and shutdown your browser.

Play a Recorded Transaction

1. Click **Play** to test the recorded transaction.
2. An **Important Tip** dialog is displayed if the recording was successful. Click **OK** to close the dialog.
3. Click **Playback Settings...**
4. Select **On regular intervals** and click **OK** to accept the playback interval value.

Tip: You can change the Description which displays as a line item in MAINVIEW for WebSphere Application Server panels.

5. Click **OK**.
6. Click **Yes** to save changes.
7. Click **OK**. A test transaction runs in the run location that you indicated.
8. View the Response Times reports in MAINVIEW for WebSphere Application Server.

Set Up Reporting of Recorded Transactions

1. Click **Scheduler...** to test the reporting function.
2. Click the line item **Report to: website** and click **Settings**.

3. Verify that the server name points to the Web Server where MAINVIEW for WebSphere Application Server is running.
4. Verify the path is the same location as the MVSTMCGI program.

The server root is implied. The default path includes:
/usr/lpp/internet/server_root.

Note: You will probably have to change the path. MVSTMCGI is installed under cg-bin. The installation path is /cgi-bin/mvstmcgi.

There are problems with the STM Response Time panels in MAINVIEW for WebSphere Application Server, could there be problems with the STM set up?

Consider the following **Q & A** to troubleshoot problems with the STM Response Time panels:

Question

Did the MVCPY step of the BBCUST process run correctly?

Answer

The hfs path of the script is specified in MVCPY job.

Question

Does the script reside in a path where CGI scripts are allowed to run?

Answer

Make sure the correct httpd.conf file has a similar statement:

```
Exec/cgi-bin/*/usr/lpp/internet/server_root/cgi-bin/*
```

A directive on the server should point to the path where mvstmcgi was written.

Question

Does the STM Transaction Scheduler on the workstation point to this script?

Answer

The STM Report Settings path must point to the script URI.

Test for the path pointer: Click **OK** on the STM Report Settings dialog. If there is an error, the script on the server is not configured correctly.

Question

Does the Product Address Space (PAS) point to the correct stm.log file?

Answer

The stm.log file is written to the same directory path as that of the cgi program. If you change the STMDATA DD path, STM will not find the data.

Make sure the following DD statement is correctly implemented in the PAS started task:

```
//STMDATA DD PATH='/user/lpp/internet/server_root/cgi-gin/stm.log'  
//PATHOPTS=(ORDONLY,OCREAT),PATHMODE=(SIRWXU,SIRWYG,SIRWYO)
```

Appendix B Environment Variable Definitions

This appendix provides definitions for the environment variables monitored by MAINVIEW for WebSphere Application Server. You can also find this information for any one variable by putting your cursor on the variable name in the view and pressing PF1.

Environment Variables

BBOC_HTTP_IDENTITY

A valid SAF userid to be used as this HTTP request's current security principal. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable BBOC_HTTP_IDENTITY.

BBOC_HTTP_INPUT_TIMEOUT

The number of seconds the J3EE server will wait for the complete arrival of an HTTP request before cancelling the connection. The default value for a 4.x WebServer is 10. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable BBOC_HTTP_INPUT_TIMEOUT.

BBOC_HTTP_LISTEN_IP_ADDRESS

IP address used by the J2EE server to listen for HTTP client connection requests. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable BBOC_HTTP_LISTEN_IP_ADDRESS.

BBOC_HTTP_OUTPUT_TIMEOUT

The number of seconds that the J2EE server will wait for a response before closing the connection to the application. The default value for a 4.x WebServer is 120. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable BBOC_HTTP_OUTPUT_TIMEOUT.

BBOC_HTTP_PERSISTENT_SESSION_TIMEOUT

The number of seconds the J2EE server will wait during a persistent connection, between consecutive requests, before disconnecting. The default value for a 4.x WebServer is 30. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable BBOC_HTTP_PERSISTENT_SESSION_TIMEOUT.

BBOC_HTTP_PORT

The J2EE server listens for HTTP requests on this port and directs the request to the Web container. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable BBOC_HTTP_PORT.

BBOC_HTTP_SESSION_GC

A persistent connection can be set to have a maximum number of HTTP requests before closing. This value indicates that maximum number. The default value for a 4.x WebServer is 50. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable BBOC_HTTP_SESSION_GC.

BBOC_HTTP_TRANSACTION_CLASS

This is the name of a Work Load Manager (WLM) transaction class, that, if valid, will be used to create the enclave for all HTTP requests. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable BBOC_HTTP_TRANSACTION_CLASS.

BBOC_LOG_RESPONSE_FAILURE.

If set to YES, message BBOU0733W will be issued to record the failure of sending a response to the client. The default value for a 4.x WebServer is NO. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable BBOC_LOG_RESPONSE_FAILURE.

BBOC_LOG_RETURN_EXCEPTION

If set to YES, a response containing a System Exception will cause message BBOU0734W to be sent to the error log. The default value for a 4.x WebServer is NO. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable BBOC_LOG_RETURN_EXCEPTION.

BBODUMP

This value specifies the default type of dump (if any) to be taken. A value of 0 indicates "no dump", 1 indicates a "ctrace dump", 2 is a "cdump", 3 is a "csnap dump", and 4 indicates a "CEE3DMP dump" will be taken. The default value for a 4.x WebServer is 3. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable BBODUMP.

BBODUMP_CEE3DMP_OPTIONS

This value is used when BBODUMP=4. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable BBODUMP_CEE3DMP_OPTIONS.

BBOLANG

This value is the name of the Message Catalog used, and specifies the language used. The default value for a 4.x WebServer is ENUS. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable BBOLANG.

BEAN_DELETE_SLEEP_TIME

When stateful session beans expire, their state is deleted from the backing store. This value indicates the number of seconds allowed before that state is deleted. The default value for a 4.x WebServer is 4200. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable BEAN_DELETE_SLEEP_TIME.

CBCONFIG

When a conversation is activated, WebSphere will write configuration and environment files into a read/write directory in the HFS. This value indicates the directory that is available for this use. The default value for a 4.x WebServer is /WebSphere390/CB390. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable CBCONFIG.

CLASSPATH

The .jar and classes.zip Java class files that are used by Java business objects in server regions. The statement must be one line only. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable CLASSPATH.

CLIENT_DCE_QOP

Specifies the level of DCE message protection. The value of this environment variable assigns one of the following three levels of protection to messages. NO_PROTECTION - assures that the messages and their replies are from a legitimate sender. INTEGRITY - assures that the message is from a legitimate sender and the message has not been modified since it was sent. CONFIDENTIALITY - the message is encrypted so that no one but the legitimate receiver can read it. The default value is NO_PROTECTION. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable CLIENT_DCE_QOP.

CLIENT_HOSTNAME

Allows a client to find its host IP name when no Daemon is running on the same system. The default value for a 4.x WebServer is null. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable CLIENT_HOSTNAME.

CLIENTLOGSTREAMNAME

The error log stream where a client ORB writes error information. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable CLIENTLOGSTREAMNAME.

CLIENT_RESOLVE_IPNAME

Specifies the IP name used to access a local or remote bootstrap server. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable CLIENT_RESOLVE_IPNAME.

CLIENT_TIMEOUT

Sets the time out value for a client method call response. The value is set using tenths of seconds. The default value for a 4.x WebServer is 0. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable CLIENT_TIMEOUT.

com.ibm.ws.naming.ldap.containerdn

The starting point of the WsnName tree. This value must match the LDAP initialization file value. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable com.ibm.ws.naming.ldap.containerdn.

com.ibm.ws.naming.ldap.domainname

Determines the host root and is used for partitioning the JNDI global name space. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable com.ibm.ws.naming.ldap.domainname.

com.ibm.ws.naming.ldap.masterurl

The LDAP server IP name and port number. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable com.ibm.ws.naming.ldap.masterurl.

CONFIGURED_SYSTEM

Indicates the name of the system where the server instance was originally configured. Do not add or change this variable at any time. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable CONFIGURED_SYSTEM.

DAEMON_IPNAME

The IP name that the Daemon server registers with the DNS. This variable must be defined before installation and before the Daemon bootstrap process starts. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable DAEMON_IPNAME.

DAEMON_PORT

The port number where the Daemon server watches for requests. Specified values must be provided to the System Management Server control region. The default value for a 4.x WebServer is 5555. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable DAEMON_PORT.

DATASHARING

Indicates whether an instance shares DB2 resources with other members of the sysplex. The default value for a 4.x WebServer is 1 and signifies data sharing is active. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable DATASHARING.

DEFAULT_CLIENT_XML_PATH

Indicates the location of the set of XML files that hold default parameter lists used by the System Management Scripting API. The default value for a 4.x WebServer is /usr/lpp/WebSphere/samples/smapi. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable DEFAULT_CLIENT_XML_PATH.

DEFAULT_UNATH_CLIENT_ID

Specifies the default local and remote user ID that only the System Management server associates with servers. The default value for a 4.x WebServer is CBGUEST. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable DEFAULT_UNATH_CLIENT_ID.

DM_GENERIC_SERVER_NAME

The server name of the Daemon Server. If you change this value, you must also change the value for the System Management control region. The default value for a 4.x WebServer is CBDAEMON. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable DM_GENERIC_SERVER_NAME.

DM_SPECIFIC_SERVER_NAME

The server instance name of the Daemon server. The environment variable must be specified for all server instances. The default value for a 4.x WebServer is DAEMON01. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable DM_SPECIFIC_SERVER_NAME.

IBM_OMGSSL

Indicates whether the server will export only CORBA-compliant security tags. The default value for a 4.x WebServer is 0. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable IBM_OMGSSL.

ICU_DATA

The path to files required by the XML parser used by the System Management server. The default value for a 4.x WebServer is /usr/lpp/WebSphere/bin/. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable ICU_DATA.

IR_GENERIC_SERVER_NAME

The server name of the Interface Repository server. A WLM application environment must be defined by the same name for the IR server regions to work. The default value for a 4.x WebServer is CBINTFRP. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable IR_GENERIC_SERVER_NAME.

IR_SPECIFIC_SERVER_NAME

The server instance name of the IR server. This variable must be specified for all server instances in a sysplex. The default value for a 4.x WebServer is INTFRP01. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable IR_SPECIFIC_SERVER_NAME.

IRPROC

The procedure used to start the IR server by the Daemon server. If you supply a start procedure, copy the information from the default procedure into the new start procedure. The default value for a 4.x WebServer is BBOIR. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable IRPROC.

IVB_DEBUG_ENABLED

Loads the object level trace run time for tracing and/or debugging client and server application components. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable IVB_DEBUG_ENABLED.

IVB_DRIVER_PATH

The directory path where WebSphere for z/OS files reside after SMP/E installation. The default value for a 4.x WebServer is /usr/lpp/WebSphere. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable IVB_DRIVER_PATH.

IVB_TRACE_HOST

Denotes the workstation IP address or host name where the object level trace viewer runs. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable IVB_TRACE_HOST.

IVB_TRACE_PORT

Denotes the same port as the TCP/IP port specified for the object level trace server. The default value for a 4.x WebServer is 2102. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable IVB_TRACE_PORT.

Variable java.naming.security.credentials

The password specified by java.naming.security.credentials and used by the user ID. The password must match the administrator access ID password, which is defined in the LDAP initialization file during initial system customization. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable java.naming.security.credentials.

java.naming.security.principal

The user ID that is defined to have write access to the WsnName directory. This provides read/write access to all JNDI users. The user ID must match the administrator access ID password, which is defined in the LDAP initialization file during initial system customization. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable java.naming.security.principal.

JAVA_COMPILER

Declares the use of the JIT compiler. A null value for the environment variable turns the JIT compiler on, and any other value turns the compiler off. The default value for a 4.x WebServer is null. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable JAVA_COMPILER.

JAVA_IEEE754

Denotes the executable code to load for the Java virtual machine. The setting is required only for Java clients on z/OS or OS/390. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable JAVA_IEEE754.

JVM_BOOTCLASSPATH

Enables use of the bootclasspath. This is equivalent to the -Xbootclasspath/p: Java invocation option. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable JVM_BOOTCLASSPATH.

JVM_BOOTLIBRARYPATH

Enables use of the bootlibrarypath. This is equivalent to the -Dsun.boot.library.path= Java invocation option. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable JVM_BOOTLIBRARYPATH.

JVM_DEBUG

Reroutes JVM messages to SYSOUT for debugging. It is equivalent to the `-verbose:class,jni` Java invocation. A setting of 1 invokes the JVM messaging. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable `JVM_DEBUG`.

JVM_DEBUG_PORT

Denotes the TCP/IP port to connect the debugger to the JVM. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable `JVM_DEBUG_PORT`.

JVM_ENABLE_CLASS_GC

Enables garbage collection of class objects. A setting of 1 enables the garbage collection messages. It is equivalent to the `-Xnoclassgc` Java invocation. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable `JVM_ENABLE_CLASS_GC`.

JVM_ENABLE_VERBOSE_GC

This option turns verbose garbage collection on or off. A setting of 1 enables the garbage collection messages. It is equivalent to the `-verbose:gc` Java invocation. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable `JVM_ENABLE_VERBOSE_GC`.

JVM_EXTRA_OPTIONS

Specifies one new Java environment variable that has not been defined by IBM. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable `JVM_EXTRA_OPTIONS`.

JVM_HEAPSIZE

Sets the maximum number of megabytes for the JVM heap. It is equivalent to the `-Xmx=xxxM` Java invocation. To ensure the best performance, specify the same value for both the `JVM_HEAPSIZE` and `JVM_MINHEAPSIZE` variables. The default value for a 4.x WebServer is 256. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable `JVM_HEAPSIZE`.

JVM_LOCALREFS

Use this variable only under the direction of IBM support. The default value for a 4.x WebServer is 128. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable `JVM_LOCALREFS`.

JVM_LOGFILE

Denotes the HFS file where messages from the JVM will be logged. This variable should only be used in a single-server environment. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable `JVM_LOGFILE`.

JVM_MINHEAPSIZE

Sets the minimum number of megabytes for the JVM heap. It is equivalent to the `-Xmx=xxxM` Java invocation. To ensure the best performance, specify the same value for both the `JVM_HEAPSIZE` and `JVM_MINHEAPSIZE` variables. The default value for a 4.x WebServer is 256. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable `JVM_MINHEAPSIZE`.

LDAPBINDPW

The Naming Server password used to bind the LDAP server. This is used with `LDAPNAME`. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable `LDAPBINDPW`.

LDAPCONF

The LDAP configuration file that is used by WebSphere for z/OS. Enclose the data set in single quotes when designating MVS data sets. Do not use quotes when designating a file in the HFS. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable LDAPCONF.

LDAPHOSTNAME

The LDAP server host name that the Interface Repository Server uses as its data store. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable LDAPHOSTNAME.

LDAPIRBINDPW

The Interface Repository Server password used to bind the LDAP server. This is used with LDAPIRNAME. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable LDAPIRBINDPW.

LDAPIRCONF

The LDAP configuration file that is used by LDAP server that the Interface Repository Server uses as a data store. Enclose the data set in single quotes when designating MVS data sets. Do not use quotes when designating a file in the HFS. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable LDAPIRCONF.

LDAPIRHOSTNAME

The LDAP server host name that the Interface Repository Server uses as its data store. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable LDAPIRHOSTNAME.

LDAPIRNAME

The Interface Repository Server uses this LDAP entry name to authenticate itself to the LDAP server that it uses as its data store. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable LDAPIRNAME.

LDAPIRROOT

The LDAP entry name where the Interface Repository Server anchors its data. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable LDAPIRROOT.

LDAPNAME

The Naming Server uses this LDAP entry name to authenticate itself to the LDAP server that it uses as its data store. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable LDAPNAME.

LDAPROOT

The LDAP entry name where the Naming Server anchors its data. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable LDAPROOT.

LIBPATH

Denotes the DLL search paths for Java in the HFS. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable LIBPATH.

LOGSTREAMNAME

The Daemon and System management servers use this WebSphere for z/OS stream name during bootstrap. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable LOGSTREAMNAME.

MAX_SRS

Specifies the maximum number of server regions allowed by workload management to run concurrently in the server's application environment. The default value for a 4.x WebServer is 256. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable MAX_SRS.

MIN_SRS

Specifies the number of server regions to keep running once initialized. The server regions will not be shut down even though they become inactive. The default value for a 4.x WebServer is 0. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable MIN_SRS.

NM_GENERIC_SERVER_NAME

The server name of the Naming Server. In order for the Naming Server regions to work, a workload management application environment must be defined. The default value for a 4.x WebServer is CBNAMING. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable NM_GENERIC_SERVER_NAME.

NM_SPECIFIC_SERVER_NAME

Specifies the Naming Server instance name. This variable must be specified for all server instances in the second and subsequent systems in a sysplex. The default value for a 4.x WebServer is NAMING01. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable NM_SPECIFIC_SERVER_NAME.

NMPROC

The Daemon Server uses this start procedure to start the Naming Server. If you supply the name of your own start procedure, copy the information from the default start procedure to the new start procedure. The default value for a 4.x WebServer is BBONM. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable NMPROC.

OTS_DEFAULT_TIMEOUT

Specifies the default number of seconds given to an application transaction to complete if the transaction does not set its own time-out value. The default value for a 4.x WebServer is 30. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable OTS_DEFAULT_TIMEOUT.

OTS_MAXIMUM_TIMEOUT

Specifies the maximum number of seconds given to an application transaction to complete. If the transaction sets a greater amount of time, the system limits the time to the number assigned to this variable. The default value for a 4.x WebServer is 60. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable OTS_MAXIMUM_TIMEOUT.

RAS_MINORCODEDEFAULT

Specifies the default behavior for gathering documentation about system exception minor codes. Do not use this variable unless you are under the guidance of IBM support. The default value for a 4.x WebServer is NODIAGNOSTICDATA. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable RAS_MINORCODEDEFAULT.

REM_DCEPASSWORD

The remote DCE principal password, which is passed in the security context when a client makes a request outside the sysplex and SSL Type 1 authentication is being used. This value must conform to DCE principal requirements. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable REM_DCEPASSWORD.

REM_DCEPRINCIPAL

When a client makes a request outside the sysplex and SSL Type 1 authentication is being used, this is the principal passed in the security context. This value must conform to DCE principal requirements. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable REM_DCEPRINCIPAL.

REM_PASSWORD

When a client makes a request to a remote system and SSL or user ID and password security is being used, this is the password used in the security context. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable REM_PASSWORD.

REM_USERID

When a client makes a request to a remote system and SSL or user ID and password security is being used, this is the user ID used in the security context. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable REM_USERID.

RESOLVE_IPNAME

The IP name that the System Management Service registers with the DNS. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable RESOLVE_IPNAME.

RESOLVE_PORT

The port number where the System management Server listens for requests. The default value for a 4.x WebServer is 900. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable RESOLVE_PORT.

SM_DEFAULT_ADMIN

The administrator ID for the Administration and Operations applications. Setting this variable after bootstrap runs has no effect. If you do not set this variable, the default is used. The default value for a 4.x WebServer is CBADMIN. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable SM_DEFAULT_ADMIN.

SM_GENERIC_SERVER_NAME

The System Management Server name. You must use this name to define a workload management application environment for the Server Management Server regions to work. The default value for a 4.x WebServer is CBSYSMGT. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable SM_GENERIC_SERVER_NAME.

SM_SPECIFIC_SERVER_NAME

The System Management Server instance name. This variable must be specified for all server instances in the second and subsequent systems in a sysplex. The default value for a 4.x WebServer is SYSMGT01. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable SM_SPECIFIC_SERVER_NAME.

SMPROC

The Daemon Server uses this start procedure to start the Systems Management Server. If you supply the name of your own start procedure, copy the information from the default start procedure to the new start procedure. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable SMPROC.

SOMOOSQL

This variable improves performance for client applications that use object oriented SQL queries on string attributes. The default value for a 4.x WebServer is null. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable SOMOOSQL.

SRVIPADDR

The IP address that WebSphere for z/OS servers use to listen for client connection requests. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable SRVIPADDR.

SSL_KEYRING

The name of the client key ring used in SSL processing. The key ring must reside in RACF. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable SSL_KEYRING.

SYS_DB2_SUB_SYSTEM_NAME

This variable is the DB2 name that the Daemon and System Management servers use to connect to the database. The default value for a 4.x WebServer is DB2. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable SYS_DB2_SUB_SYSTEM_NAME.

TRACEALL

Specifies the default tracing level. A value of 0 = no tracing, 1 = exception tracing, 2 = basic and exception tracing, and 3 = detailed tracing. The default value for a 4.x WebServer is 1. Do not change this variable unless you are under the guidance of IBM support. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable TRACEALL.

TRACEBASIC

Specifies subcomponent tracing overrides for WebSphere for z/OS. Do not change this variable unless you are under the guidance of IBM support. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable TRACEBASIC.

TRACEBUFFCOUNT

Denotes the number of trace buffers to allocate. The default value for a 4.x WebServer is 4. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable TRACEBUFFCOUNT.

TRACEBUFFLOC

Denotes where you want trace records to go. The default value for a 4.x WebServer is SYSPRINT BUFFER. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable TRACEBUFFLOC.

TRACEBUFFSIZE

Denotes the size of a single trace buffer. Specify whether the amount is "K" for kilobytes or "M" for megabytes. The default value for a 4.x WebServer is 1M. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable TRACEBUFFSIZE.

TRACEDetail

Specifies subcomponents tracing overrides. Do not change this variable unless you are under the guidance of IBM support. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable TRACEDetail.

TRACEMINORCODE

Enables the traceback of system exception minor codes. Do not use this variable unless you are under the guidance of IBM support. The default value for a 4.x WebServer is null. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable TRACEMINORCODE.

TRACEPARM

Identifies the CTRACE PARMLIB member used for diagnostic purposes. See the IBM manual GA22-7589 (z/OS MVS Diagnosis: Tools and Service Aids) for details on member naming requirements. The default value for a 4.x WebServer is 00. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable TRACEPARM.

WS_EXT_DIRS

Denotes the common JAR files and paths that the J2EE server instance can access for multiple applications. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable WS_EXT_DIRS.

WAS_JAVA_OPTIONS

Do not use this variable unless you are under the guidance of IBM support. There is no default value for a 4.x WebServer. The value in this field is extracted from the Java Virtual Machine (JVM) Environment Variable WAS_JAVA_OPTIONS.

Glossary

This glossary defines BMC Software terminology. Other dictionaries and glossaries can be used in conjunction with this glossary.

Since this glossary pertains to BMC Software-related products, some of the terms defined might not appear in this book.

To help you find the information you need, this glossary uses the following cross-references:

Contrast with indicates a term that has a contrary or contradictory meaning.

See indicates an entry that is a synonym or contains expanded information.

See also indicates an entry that contains related information.

action	Defined operation, such as modifying a MAINVIEW window, that is performed in response to a command. <i>See</i> object.
active window	Any MAINVIEW window in which data can be refreshed. <i>See</i> alternate window, current window, window.
administrative view	Display from which a product's management tasks are performed, such as the DSLIST view for managing historical data sets. <i>See</i> view.
ALT WIN field	Input field that allows you to specify the window identifier for an alternate window where the results of a hyperlink are displayed. <i>See</i> alternate window.
Alternate Access	<i>See</i> MAINVIEW Alternate Access.
alternate form	View requested through the FORM command that changes the format of a previously displayed view to show related information. <i>See also</i> form, query.

alternate window	(1) Window that is specifically selected to display the results of a hyperlink. (2) Window whose identifier is defined to the ALT WIN field. <i>Contrast with</i> current window. <i>See</i> active window, window, ALT WIN field.
analyzer	(1) Online display that presents a snapshot of status and activity data and indicates problem areas. (2) Component of CMF MONITOR. <i>See</i> CMF MONITOR Analyzer.
application	(1) Program that performs a specific set of tasks within a MAINVIEW product. (2) In MAINVIEW VistaPoint, combination of workloads to enable display of their transaction performance data in a single view.
application trace	<i>See</i> trace.
ASCH workload	Workload comprising Advanced Program-to-Program Communication (APPC) address spaces.
AutoCustomization	Online facility for customizing the installation of products. AutoCustomization provides an ISPF panel interface that both presents customization steps in sequence and provides current status information about the progress of the installation.
automatic screen update	Usage mode wherein the currently displayed screen is refreshed automatically with new data at an interval you specify. Invoked by the ASU command.
batch workload	Workload consisting of address spaces running batch jobs.
BBI	Basic architecture that distributes work between workstations and multiple OS/390 targets for BMC Software MAINVIEW products.
BBI-SS PAS	<i>See</i> BBI subsystem product address space.
BBI subsystem product address space (BBI-SS PAS)	OS/390 subsystem address space that manages communication between local and remote systems and that contains one or more of the following products: <ul style="list-style-type: none"> • MAINVIEW AutoOPERATOR • MAINVIEW for CICS • MAINVIEW for DB2 • MAINVIEW for DBCTL • MAINVIEW for IMS Online • MAINVIEW for WebSphere MQ • MAINVIEW for WebSphere MQ Integrator • MAINVIEW SRM • MAINVIEW VistaPoint (for CICS, DB2, DBCTL, and IMS workloads)

BBPARM	<i>See</i> parameter library.
BBPROC	<i>See</i> procedure library.
BBPROF	<i>See</i> profile library.
BBSAMP	<i>See</i> sample library.
BBV	<i>See</i> MAINVIEW Alternate Access.
BBXS	BMC Software Subsystem Services. Common set of service routines loaded into common storage and used by several BMC Software MAINVIEW products.
border	Visual indication of the boundaries of a window.
bottleneck analysis	Process of determining which resources have insufficient capacity to provide acceptable service levels and that therefore can cause performance problems.
CA-Disk	Data management system by Computer Associates that replaced the DMS product.
CAS	Coordinating address space. One of the address spaces used by the MAINVIEW windows environment architecture. The CAS supplies common services and enables communication between linked systems. Each OS/390 or z/OS image requires a separate CAS. Cross-system communication is established through the CAS using VTAM and XCF communication links.
CFMON	<i>See</i> coupling facility monitoring.
chart	Display format for graphical data. <i>See also</i> graph.
CICSplex	User-defined set of one or more CICS systems that are controlled and managed as a single functional entity.
CMF MONITOR	Comprehensive Management Facility MONITOR. Product that measures and reports on all critical system resources, such as CPU, channel, and device usage; memory, paging, and swapping activity; and workload performance.
CMF MONITOR Analyzer	Batch component of CMF MONITOR that reads the SMF user and 70 series records created by the CMF MONITOR Extractor and/or the RMF Extractor and formats them into printed system performance reports.

CMF MONITOR Extractor

Component of CMF that collects performance statistics for CMF MONITOR Analyzer, CMF MONITOR Online, MAINVIEW for OS/390, and RMF postprocessor. *See* CMF MONITOR Analyzer, CMF MONITOR Online, MAINVIEW for OS/390.

CMF MONITOR Online

Component of CMF that uses the MAINVIEW window interface to present data on all address spaces, their use of various system resources, and the delays that each address space incurs while waiting for access to these resources. *See* CMF MONITOR, MAINVIEW for OS/390.

CMF Type 79 API

Application programming interface, provided by CMF, that provides access to MAINVIEW SMF-type 79 records.

CMFMON

Component of CMF MONITOR that simplifies online retrieval of information about system hardware and application performance and creates MAINVIEW SMF-type 79 records.

The CMFMON *online facility* can be used to view data in one or more formatted screens.

The CMFMON *write facility* can be used to write collected data as MAINVIEW SMF-type 79 records to an SMF or sequential data set.

CMRDETL

MAINVIEW for CICS data set that stores detail transaction records (type 6E) and abend records (type 6D). Detail records are logged for each successful transaction. Abend records are written when an abend occurs. Both records have the same format when stored on CMRDETL.

CMRSTATS

MAINVIEW for CICS data set that stores both CICS operational statistic records, at five-minute intervals, and other records, at intervals defined by parameters specified during customization (using CMRSOPT).

column

Vertical component of a view or display, typically containing fields of the same type of information, that varies by the objects associated in each row.

collection interval

Length of time data is collected. *See also* delta mode, total mode.

command delimiter

Special character, usually a ; (semicolon), used to stack commands typed concurrently on the COMMAND line for sequential execution.

COMMAND line

Line in the control area of the display screen where primary commands can be typed. *Contrast with* line command column.

Command MQ Automation D/S

Command MQ agents, which provide local proactive monitoring for both MQSeries and MSMQ (Microsoft message queue manager). The Command MQ agents operate at the local node level where they continue to perform functions regardless of the availability of the MQM (message queue manager) network. Functionality includes automatic monitoring and restarts of channels, queue managers, queues and command servers. In cases where automated recovery is not possible, the agents transport critical alert information to a central console.

Command MQ Automation S/390

Command MQ component, which monitors the MQM (message queue manager) networks and intercedes to perform corrective actions when problems arise. Solutions include:

- Dead-Letter Queue management
- System Queue Archival
- Service Interval Performance solutions
- Channel Availability

These solutions help ensure immediate relief to some of the most pressing MQM operations and performance problems.

Command MQ for D/S

Command MQ for D/S utilizes a true client/server architecture and employs resident agents to provide configuration, administration, performance monitoring and operations management for the MQM (message queue manager) network.

Command MQ for S/390

See MAINVIEW for WebSphere MQ.

COMMON STORAGE MONITOR

Component of MAINVIEW for OS/390 that monitors usage and reconfigures OS/390 or z/OS common storage blocks.

composite workload

Workload made up of a WLM workload or other workloads, which are called *constituent workloads*.

constituent workload

Member of a composite workload. Constituent workloads in a composite usually belong to a single workload class, but sometimes are mixed.

contention

Occurs when there are more requests for service than there are servers available.

context	In a Plex Manager view, field that contains the name of a target or group of targets specified with the CONTEXT command. <i>See</i> scope, service point, SSI context, target context.
CONTEXT command	Specifies either a MAINVIEW product and a specific target for that product (<i>see</i> target context) or a MAINVIEW product and a name representing one or more targets (<i>see</i> SSI context) for that product.
control statement	(1) Statement that interrupts a sequence of instructions and transfers control to another part of the program. (2) Statement that names samplers and other parameters that configure the MAINVIEW components to perform specified functions. (3) In CMF MONITOR, statement in a parameter library member used to identify a sampler in the extractor or a report in the analyzer, or to describe either component's processing requirements to the operating system.
coupling facility monitoring (CFMON)	Coupling facility views that monitor the activity of your system's coupling facilities.
current data	Data that reflects the system in its current state. The two types of current data are real-time data and interval data. <i>Contrast with</i> historical data. <i>See also</i> interval data, real-time data.
current window	In the MAINVIEW window environment, window where the main dialog with the application takes place. The current window is used as the default window destination for commands issued on the COMMAND line when no window number is specified. <i>Contrast with</i> alternate window. <i>See</i> active window, window.
DASD	(Direct Access Storage Device) (1) A device with rotating recording surfaces that provides immediate access to stored data. (2) Any device that responds to a DASD program.
DASD ADVISOR	An interactive software tool that diagnoses DASD performance problems and makes recommendations to reduce overall service time. This tool measures and reports on the operational performance of IBM and IBM-compatible devices.
data collector	Program that belongs to a MAINVIEW product and that collects data from various sources and stores the data in records used by views. For example, MAINVIEW for OS/390 data collectors obtain data from OS/390 or z/OS services, OS/390 or z/OS control blocks, CMF MONITOR Extractor control blocks, and other sources. <i>Contrast with</i> extractor.

delta mode	(1) In MAINVIEW for DB2 analyzer displays, difference between the value sampled at the start of the current statistics interval and the value sampled by the current analyzer request. <i>See also</i> statistics interval. (2) In CMFMON, usage mode wherein certain columns of data reflect the difference in values between one sample cycle and the next. Invoked by the DELta ON command. <i>See also</i> collection interval, sample cycle, total mode.
DFSMS	(Data Facility Storage Management System) Data management, backup, and HSM software from IBM for OS/390 or z/OS mainframes.
DMR	<i>See</i> MAINVIEW for DB2.
DMS	(Data Management System) <i>See</i> CA-Disk.
DMS2HSM	<i>See</i> MAINVIEW SRM DMS2HSM.
DSO	(Data Set Optimizer) CMF MONITOR Extractor component that uses CMF MONITOR Extractor data to produce reports specifying the optimal ordering of data sets on moveable head devices.
EasyHSM	<i>See</i> MAINVIEW SRM EasyHSM.
EasyPOOL	<i>See</i> MAINVIEW SRM EasyPOOL.
EasySMS	<i>See</i> MAINVIEW SRM EasySMS.
element	(1) Data component of a data collector record, shown in a view as a field. (2) Internal value of a field in a view, used in product functions.
element help	Online help for a field in a view. The preferred term is <i>field help</i> .
Enterprise Storage Automation	<i>See</i> MAINVIEW SRM Enterprise Storage Automation.
event	A message issued by Enterprise Storage Automation. User-defined storage occurrences generate events in the form of messages. These events provide an early warning system for storage problems and are routed to user-specified destinations for central viewing and management.
Event Collector	Component for MAINVIEW for IMS Online, MAINVIEW for IMS Offline, and MAINVIEW for DBCTL that collects data about events in the IMS environment. This data is required for Workload Monitor and optional for Workload Analyzer (except for the workload trace service). This data also is recorded as transaction records (X'FA') and program records (X'F9') on the IMS system log for later use by the MAINVIEW for IMS Offline components: Performance Reporter and Transaction Accountant.
expand	Predefined link from one display to a related display. <i>See also</i> hyperlink.

extractor	Program that collects data from various sources and keeps the data control blocks to be written as records. Extractors obtain data from services, control blocks, and other sources. <i>Contrast with</i> data collector.
extractor interval	<i>See</i> collection interval.
fast path	Predefined link between one screen and another. To use the fast path, place the cursor on a single value in a field and press Enter . The resulting screen displays more detailed information about the selected value. <i>See also</i> hyperlink.
field	Group of character positions within a screen or report used to type or display specific information.
field help	Online help describing the purpose or contents of a field on a screen. To display field help, place the cursor anywhere in a field and press PF1 (HELP). In some products, field help is accessible from the screen help that is displayed when you press PF1 .
filter	Selection criteria used to limit the number of rows displayed in a view. Data that does not meet the selection criteria is not displayed. A filter is composed of an element, an operator, and an operand (a number or character string). Filters can be implemented in view customization, through the PARM/QPARM commands, or through the Where/QWhere commands. Filters are established against elements of data.
fire	The term used to indicate that an event has triggered an action. In MAINVIEW AutoOPERATOR, when a rule selection criteria matches an incoming event and <i>fires</i> , the user-specified automation actions are performed. This process is also called <i>handling</i> the event.
fixed field	Field that remains stationary at the left margin of a screen that is scrolled either right or left.
FOCAL POINT	MAINVIEW product that displays a summary of key performance indicators across systems, sites, and applications from a single terminal.
form	One of two constituent parts of a view; the other is query. A form defines how the data is presented; a query identifies the data required for the view. <i>See also</i> query, view.
full-screen mode	Display of a MAINVIEW product application or service on the entire screen. There is no window information line. <i>Contrast with</i> windows mode.
global command	Any MAINVIEW window interface command that can affect all windows in the window area of a MAINVIEW display.

graph	Graphical display of data that you select from a MAINVIEW window environment view. <i>See also</i> chart.
hilevel	For MAINVIEW products, high-level data set qualifier required by a site's naming conventions.
historical data	(1) Data that reflects the system as it existed at the end of a past recording interval or the duration of several intervals. (2) Any data stored in the historical database and retrieved using the TIME command. <i>Contrast with</i> current data, interval data and real-time data.
historical database	Collection of performance data written at the end of each installation-defined recording interval and containing up to 100 VSAM clusters. Data is extracted from the historical database with the TIME command. <i>See</i> historical data.
historical data set	In MAINVIEW products that display historical data, VSAM cluster file in which data is recorded at regular intervals.
HSM	(Hierarchical Storage Management) Automatic movement of files from hard disk to slower, less-expensive storage media. The typical hierarchy is from magnetic disk to optical disk to tape.
hyperlink	<p>(1) Preset field in a view or an EXPAND line on a display that permits you to</p> <ul style="list-style-type: none"> • access cursor-sensitive help • issue commands • link to another view or display <p>The transfer can be either within a single product or to a related display/view in a different BMC Software product. Generally, hyperlinked fields are highlighted. (2) Cursor-activated short path from a topic or term in online help to related information. <i>See also</i> fast path.</p>
Image log	<p>Collection of screen-display records. Image logs can be created for both the BBI-SS PAS and the BBI terminal session (TS).</p> <p>The BBI-SS PAS Image log consists of two data sets that are used alternately: as one fills up, the other is used. Logging to the BBI-SS PAS Image log stops when both data sets are filled and the first data set is not processed by the archive program.</p> <p>The TS Image log is a single data set that wraps around when full.</p>
IMSplex System Manager (IPSM)	MVIMS Online and MVDBC service that provides Single System Image views of resources and bottlenecks for applications across one or more IMS regions and systems.

interval data	<p>Cumulative data collected during a collection interval. Intervals usually last from 15 to 30 minutes depending on how the recording interval is specified during product customization. <i>Contrast with</i> historical data.</p> <p>Note: If change is made to the workloads, a new interval will be started.</p> <p><i>See also</i> current data and real-time data.</p>
InTune	<p>Product for improving application program performance. It monitors the program and provides information used to reduce bottlenecks and delays.</p>
IRUF	<p>IMS Resource Utilization File (IRUF). IRUFs can be either detail (one event, one record) or summarized (more than one event, one record). A detail IRUF is created by processing the IMS system log through a program called IMFLEDIT. A summarized IRUF is created by processing one or more detail IRUFs, one or more summarized IRUFs, or a combination of both, through a sort program and the TASCOSTR program.</p>
job activity view	<p>Report about address space consumption of resources. <i>See</i> view.</p>
journal	<p>Special-purpose data set that stores the chronological records of operator and system actions.</p>
Journal log	<p>Collection of messages. Journal logs are created for both the BBI-SS PAS and the BBI terminal session (TS).</p> <p>The BBI-SS PAS Journal log consists of two data sets that are used alternately: as one fills up, the other is used. Logging to the BBI-SS PAS Journal log stops when both data sets are filled and the first data set is not being processed by the archive program.</p> <p>The TS Journal log is a single data set that wraps around when full.</p>
line command	<p>Command that you type in the line command column in a view or display. Line commands initiate actions that apply to the data displayed in that particular row.</p>
line command column	<p>Command input column on the left side of a view or display. <i>Contrast with</i> COMMAND line.</p>
Log Edit	<p>In the MAINVIEW for IMS Offline program named IMFLEDIT, function that extracts transaction (X'FA') and program (X'F9') records from the IMS system log. IMFLEDIT also extracts certain records that were recorded on the system log by IMS. IMFLEDIT then formats the records into a file called the IMS Resource Utilization File (IRUF).</p>
MAINVIEW	<p>BMC Software integrated systems management architecture.</p>

MAINVIEW Alarm Manager (MV ALARM)

In conjunction with other MAINVIEW products, notifies you when an exception occurs. MAINVIEW Alarm Manager is capable of monitoring multiple systems simultaneously, which means that MAINVIEW Alarm Manager installed on one system keeps track of your entire sysplex. You can then display a single view that shows exceptions for all MAINVIEW performance monitors within your OS/390 or z/OS enterprise.

MAINVIEW Alternate Access

Enables MAINVIEW products to be used without TSO by providing access through EXCP and VTAM interfaces.

MAINVIEW Application Program Interface (MVAPI)

A CLIST- or REXX-based, callable interface that allows MAINVIEW AutoOPERATOR EXECs to access MAINVIEW monitor product view data.

MAINVIEW AutoOPERATOR

Product that uses tools, techniques, and facilities to automate routine operator tasks and provide online performance monitoring, and that achieves high availability through error minimization, improved productivity, and problem prediction and prevention.

MAINVIEW control area

In the MAINVIEW window environment, first three lines at the top of the view containing the window information line and the COMMAND, SCROLL, CURR WIN, and ALT WIN lines. The control area cannot be customized and is part of the information display. *Contrast with* MAINVIEW display area, MAINVIEW window area.

MAINVIEW Desktop Version of the MAINVIEW window interface designed to run on OS/2 and Windows workstations.

MAINVIEW display area

See MAINVIEW window area.

MAINVIEW Explorer Product that provides access to MAINVIEW products from a Web browser running under Windows. MAINVIEW Explorer replaces MAINVIEW Desktop.

MAINVIEW for CICS Product (formerly MV MANAGER for CICS) that provides real-time application performance analysis and monitoring for CICS system management.

MAINVIEW for DB2 Product (formerly MV MANAGER for DB2) that provides real-time and historical application performance analysis and monitoring for DB2 subsystem management.

MAINVIEW for DBCTL (MVDBC)

Product that provides real-time application performance analysis and monitoring for DBCTL management.

MAINVIEW for IMS (MVIMS) Offline

Product with a Performance Reporter component that organizes data and prints reports used to analyze IMS performance and a Transaction Accountant component that produces cost accounting and user charge-back records and reports.

MAINVIEW for IMS (MVIMS) Online

Product that provides real-time application performance analysis and monitoring for IMS management.

MAINVIEW for IP

Product that monitors OS/390 and z/OS mission-critical application performance as it relates to TCP/IP stack usage. Collected data includes availability, connections, response times, routers, service levels, storage, traffic, Web cache, and so on.

MAINVIEW for Linux–Servers

Product that allows you to monitor the performance of your Linux systems from the MAINVIEW windows interface.

MAINVIEW for MQSeries

See MAINVIEW for WebSphere MQ.

MAINVIEW for OS/390

System management application (formerly known as MAINVIEW for MVS prior to version 2.5). Built upon the MAINVIEW window environment architecture, it uses the window interface to provide access to system performance data and other functions necessary in the overall management of an enterprise.

MAINVIEW for UNIX System Services

System management application that allows you to monitor the performance of the Unix System Services from a MAINVIEW window interface.

MAINVIEW for VTAM

Product that displays application performance data by application, transaction ID, and LU name. This collected data includes connections, response time statistics, application availability, and application throughput.

MAINVIEW for WebSphere Application Server (formerly known as MAINVIEW for WebSphere)

Product that provides extensive information for managing the IBM WebSphere Application Server for z/OS and OS/390 environment. At the user's option, information is displayed about multiple or single HTTP servers, WAS plug-ins, or J2EE/CORBA containers. The product also provides JVM profiling capability.

MAINVIEW for WebSphere MQ

Delivers comprehensive capabilities for configuration, administration, performance monitoring and operations management for an entire MQM (message queue manager) network.

MAINVIEW for WebSphere MQ Integrator

Licensed feature of MAINVIEW for WebSphere MQ that provides comprehensive configuration, administration, performance monitoring, and operations management capabilities for an IBM WebSphere MQ Integrator message broker network.

MAINVIEW Selection Menu

ISPF selection panel that provides access to all MAINVIEW windows-mode and full-screen mode products.

MAINVIEW SRM *See* MAINVIEW Storage Resource Manager (SRM).

MAINVIEW SRM DMS2HSM

Product that facilitates the conversion of CA-Disk, formerly known as DMS, to HSM.

MAINVIEW SRM EasyHSM

Product that provides online monitoring and reporting to help storage managers use DFHSM efficiently.

MAINVIEW SRM EasyPOOL

Product that provides control over data set allocation and enforcement of allocation and naming standards. EasyPOOL functions operate at the operating system level to intercept normal job processing, thus providing services without any JCL changes.

MAINVIEW SRM EasySMS

Product that provides tools that aid in the conversion to DFSMS and provides enhancement to the DFSMS environment after implementation. EasySMS consists of the EasyACS functions, the SMSACSTE function, and the Monitoring and Positioning Facility.

MAINVIEW SRM Enterprise Storage Automation

Product that delivers powerful event generation and storage automation technology across the storage enterprise. Used in conjunction with MAINVIEW AutoOPERATOR, automated solutions to perform pool, volume, application, or data set-level manipulation can be created and used in response to any condition or invoked to perform ad hoc requests.

MAINVIEW SRM SG-Auto

Product that provides early warning notification of storage anomalies and automated responses to those anomalies based on conditions in the storage subsystem.

MAINVIEW SRM SG-Control

Product that provides real-time monitoring, budgeting, and control of DASD space utilization.

MAINVIEW SRM StopX37/II

Product that provides enhancements to OS/390 or z/OS space management, reducing the incidence of space-related processing problems. The StopX37/II functions operate at the system level to intercept abend conditions or standards violations, thus providing services without any JCL changes.

MAINVIEW SRM StorageGUARD

Product that monitors and reports on DASD consumption and provides historical views to help control current and future DASD usage.

MAINVIEW Storage Resource Manager (SRM)

Suite of products that assist in all phases of OS/390 or z/OS storage management. MAINVIEW SRM consists of products that perform automation, reporting, trend analysis, and error correction for storage management.

MAINVIEW SYSPROG Services

See SYSPROG services.

MAINVIEW VistaPoint

Product that provides enterprise-wide views of performance. Application and workload views are available for CICS, DB2, DBCTL, IMS, OS/390, or z/OS. Data is summarized at the level of detail needed; for example, views can be for a single target, an OS/390 or z/OS image, or an entire enterprise.

MAINVIEW window area

Portion of the information display that is not the control area and in which views are displayed and windows opened. It includes all but the first three lines of the information display. *Contrast with* MAINVIEW control area.

monitor

Online service that measures resources or workloads at user-defined intervals and issues warnings when user-defined thresholds are exceeded.

Multi-Level Automation (MLA)

The user-defined, multiple step process in Enterprise Storage Automation that implements solutions in a tiered approach, where solutions are invoked one after another until the condition is resolved.

MVALARM	<i>See</i> MAINVIEW Alarm Manager.
MVAPI	<i>See</i> MAINVIEW Application Program Interface.
MVCICS	<i>See</i> MAINVIEW for CICS.
MVDB2	<i>See</i> MAINVIEW for DB2.
MVDBC	<i>See</i> MAINVIEW for DBCTL.
MVIMS	<i>See</i> MAINVIEW for IMS.
MVIP	<i>See</i> MAINVIEW for IP.
MVLNX	<i>See</i> MAINVIEW for Linux–Servers.
MVMQ	<i>See</i> MAINVIEW for WebSphere MQ or MAINVIEW for WebSphere MQ Integrator.
MVMVS	<i>See</i> MAINVIEW for OS/390.
MVScope	MAINVIEW for OS/390 application that traces both CPU usage down to the CSECT level and I/O usage down to the channel program level.
MVSRM	<i>See</i> MAINVIEW Storage Resource Manager (SRM).
MVSRMHSM	<i>See</i> MAINVIEW SRM EasyHSM.
MVSRMSGC	<i>See</i> MAINVIEW SRM SG-Control.
MVSRMSGD	<i>See</i> MAINVIEW SRM StorageGUARD.
MVSRMSGP	<i>See</i> MAINVIEW SRM StorageGUARD.
MVUSS	<i>See</i> MAINVIEW for UNIX System Services.
MVVP	<i>See</i> MAINVIEW VistaPoint.
MVVTAM	<i>See</i> MAINVIEW for VTAM.
MVWEB	<i>See</i> MAINVIEW for WebSphere Application Server.

nested help	Multiple layers of help pop-up windows. Each successive layer is accessed by clicking a hyperlink from the previous layer.
object	<p>Anything you can manipulate as a single unit. MAINVIEW objects can be any of the following: product, secondary window, view, row, column, or field.</p> <p>You can issue an action against an object by issuing a line command in the line command column to the left of the object. <i>See</i> action.</p>
OMVS workload	Workload consisting of OS/390 OpenEdition address spaces.
online help	Help information that is accessible online.
OS/390 and z/OS Installer	BMC Software common installation system for mainframe products.
OS/390 product address space (PAS)	Address space containing OS/390 or z/OS data collectors, including the CMF MONITOR Extractor. Used by MAINVIEW for OS/390, MAINVIEW for UNIX System Services, and CMF MONITOR products. <i>See</i> PAS.
parameter library	<p>Data set consisting of members that contain parameters for specific MAINVIEW products or a support component There can be several versions:</p> <ul style="list-style-type: none"> • the distributed parameter library, called BBPARM • a site-specific parameter library or libraries <p>These can be</p> <ul style="list-style-type: none"> • a library created by AutoCustomization, called UBBPARM • a library created manually, with a unique name
PAS	Product address space. Used by the MAINVIEW products. Contains data collectors and other product functions. <i>See also</i> OS/390 product address space (PAS) <i>and</i> BBI subsystem product address space (BBI-SS PAS).
performance group workload	Collection of address spaces defined to OS/390 or z/OS. If you are running OS/390 or z/OS with WLM in compatibility mode, MAINVIEW for OS/390 creates a performance group workload instead of a service class.
PERFORMANCE MANAGER	MAINVIEW for CICS online service for monitoring and managing current performance of CICS regions.
Performance Reporter (MVIMS)	MVIMS Offline component that organizes data and prints reports that can be used to analyze IMS performance.

Performance Reporter

Product component that generates offline batch reports. The following products can generate these reports:

- MAINVIEW for DB2
- MAINVIEW for CICS

Plex Manager

Product through which cross-system communication, MAINVIEW security, and an SSI context are established and controlled. Plex Manager is shipped with MAINVIEW window environment products as part of the coordinating address space (CAS) and is accessible as a menu option from the MAINVIEW Selection Menu.

pop-up display

Full-screen panel that displays additional information about a selected event in a detail trace.

pop-up window

Window containing help information that, when active, overlays part of the window area. A pop-up window is displayed when you issue the HELP command while working in windows-mode.

PRGP workload

In MVS/SP 5.0 or earlier, or in compatibility mode in MVS/SP 5.1 or later, composite of service classes. MAINVIEW for OS/390 creates a performance group workload for each performance group defined in the current IEAIPS.xx member.

procedure library Data set consisting of members that contain executable procedures used by MAINVIEW AutoOPERATOR. These procedures are execute command lists (EXECs) that automate site functions. There can be several versions:

- the distributed parameter library, called BBPROC
- a site-specific parameter library or libraries

These can be

- a library created by AutoCustomization, called UBBPROC
- a library created manually, with a unique name

The site-created EXECs can be either user-written or customized MAINVIEW AutoOPERATOR-supplied EXECs from BBPROC.

product address space

See PAS.

profile library

Data set consisting of members that contain profile information and cycle refresh definitions for a terminal session connected to a BBI-SS PAS. Other members are dynamically created by MAINVIEW applications. There can be several versions:

- the distributed profile library, called BBPROF
- a site-specific profile library or libraries

These can be

- a library created by AutoCustomization, called SBBPROF
- a library created manually, with a unique name

The site library is a common profile shared by all site users. The terminal session CLIST creates a user profile automatically if one does not exist; it is called `userid.BBPROF`, where `userid` is your logon ID. User profile libraries allow each user to specify unique PF keys, CYCLE commands, target system defaults, a Primary Option Menu, and a unique set of application profiles.

query

One of two constituent parts of a view; the other is form. A query defines the data for a view; a form defines the display format. *See also* form, view.

real-time data

Performance data as it exists at the moment of inquiry. Real-time data is recorded during the smallest unit of time for data collection. *Contrast with* historical data. *See also* current data and interval data.

Resource Analyzer

Online real-time displays used to analyze IMS resources and determine which are affected by specific workload problems.

Resource Monitor	Online data collection services used to monitor IMS resources and issue warnings when defined utilization thresholds are exceeded.
row	(1) Horizontal component of a view or display comprising all the fields pertaining to a single device, address space, user, and so on. (2) Horizontal component of a DB2 table consisting of a sequence of values, one for each column of the table.
RxD2	Product that provides access to DB2 from REXX. It provides tools to query the DB2 catalog, issue dynamic SQL, test DB2 applications, analyze EXPLAIN data, generate DDL or DB2 utility JCL, edit DB2 table spaces, perform security administration, and much more.
sample cycle	<p>Time between data samples.</p> <p>For the CMF MONITOR Extractor, this is the time specified in the extractor control statements (usually 1 to 5 seconds).</p> <p>For real-time data, the cycle is not fixed. Data is sampled each time you press Enter.</p>
sample library	<p>Data set consisting of members each of which contains one of the following items:</p> <ul style="list-style-type: none"> • sample JCL that can be edited to perform specific functions • macro that is referenced in the assembly of user-written services • sample user exit routine <p>There can be several versions:</p> <ul style="list-style-type: none"> • the distributed sample library, called BBSAMP • a site-specific sample library or libraries <p>These can be</p> <ul style="list-style-type: none"> • a library created by AutoCustomization, called UBBSAMP • a library created manually, with a unique name
sampler	Program that monitors a specific aspect of system performance. Includes utilization thresholds used by the Exception Monitor. The CMF MONITOR Extractor contains samplers.
SBBPROF	<i>See</i> profile library.
scope	Subset of an SSI context. The scope could be all the data for the context or a subset of data within the context. It is user- or site-defined. <i>See</i> SSI context, target.

screen definition	Configuration of one or more views that have been stored with the SAVEScr command and assigned a unique name. A screen includes the layout of the windows and the view, context, system, and product active in each window.
selection view	In MAINVIEW products, view displaying a list of available views.
service class workload	<p>Collection of address spaces defined to OS/390 or z/OS. If you are running Workload Manager (WLM) in goal mode, MAINVIEW for OS/390 creates a service class workload for each service class that you define through WLM definition dialogs.</p> <p>If you are running MVS 4.3 or earlier, or MVS/SP 5.1 or later with WLM in compatibility mode, OS/390 creates a performance group workload instead of a service class. <i>See</i> performance group workload.</p>
service objective	Workload performance goal, specified in terms of response time for TSO workloads or turnaround time for batch workloads. Performance group workloads can be measured by either objective. Composite workload service objectives consist of user-defined weighting factors assigned to each constituent workload. For compatibility mode, neither OS/390 nor z/OS provides any way to measure service.
service point	<p>Specification, to MAINVIEW, of the services required to enable a specific product. Services can be actions, selectors, or views. Each target (for example, CICS, DB2, or IMS) has its own service point.</p> <p>The PLEX view lists all the defined service points known to the CAS to which the terminal session is connected.</p>
service request block (SRB)	Control block that represents a routine to be dispatched. SRB mode routines generally perform work for the operating system at a high priority. An SRB is similar to a task control block (TCB) in that it identifies a unit of work to the system. <i>See also</i> task control block.
service select code	Code entered to invoke analyzers, monitors, and general services. This code is also the name of the individual service.
session	Total period of time an address space has been active. A session begins when monitoring can be performed. If the product address space (PAS) starts after the job, the session starts with the PAS.
SG-Auto	<i>See</i> MAINVIEW SRM SG-Auto.
SG-Control	<i>See</i> MAINVIEW SRM SG-Control.

single system image (SSI)

Feature of the MAINVIEW window environment architecture where you can view and perform actions on multiple OS/390 or z/OS systems as though they were a single system. The rows of a single tabular view can contain rows from different OS/390 or z/OS images.

Skeleton Tailoring Facility

A facility in MAINVIEW AutoOPERATOR that allows skeleton JCL to be used during job submission. Skeleton JCL can contain variables within the JCL statements to be substituted with data values at job submission time. Directive statements can be used in the skeleton JCL to cause the repetition of a set of skeleton statements. This facility functions similar to the TSO skeleton tailoring facility.

SRB *See* service request block.

SSI *See* single system image.

SSI context Name created to represent one or more targets for a given product. *See* context, target.

started task workload

Address spaces running jobs that were initiated programmatically.

statistics interval For MAINVIEW for DB2, cumulative count within a predefined interval (30-minute default set by the DB2STATS parameter in the distributed BBPARM member BBIISP00) for an analyzer service DELTA or RATE display. Specifying the DELTA parameter displays the current value as the difference between the value sampled by the current analyzer request and the value sampled at the start of the current interval. Specifying the RATE parameter displays the current value by minute (DELTA divided by the number of elapsed minutes).

stem variables A REXX facility, supported in MAINVIEW AutoOPERATOR REXX EXECs and the Skeleton Tailoring Facility, where variable names end with a period followed by a number, such as &POOL.1. This configuration allows each variable to actually represent a table or array of data, with the zero variable containing the number of entries in the array. For example, &POOL.0 = 5 would indicate variables &POOL.1 through &POOL.5 exist.

StopX37/II *See* MAINVIEW SRM StopX37/II.

StorageGUARD *See* MAINVIEW SRM StorageGUARD.

summary view View created from a tabular view using the Summarize option in view customization. A summary view compresses several rows of data into a single row based on the summarize criteria.

SYSPROG services	Component of MAINVIEW for OS/390. Over 100 services that detect, diagnose, and correct OS/390 or z/OS system problems as they occur. Accessible from the OS/390 Performance and Control Main Menu. Note that this component is also available as a stand-alone product MAINVIEW SYSPROG Services.
system resource	<i>See</i> object.
target	Entity monitored by one or more MAINVIEW products, such as an OS/390 or z/OS image, an IMS or DB2 subsystem, a CICS region, or related workloads across systems. <i>See</i> context, scope, SSI context.
target context	Single target/product combination. <i>See</i> context.
TASCOSTR	MAINVIEW for IMS Offline program that summarizes detail and summary IMS Resource Utilization Files (IRUFs) to be used as input to the offline components.
task control block (TCB)	Address space-specific control block that represents a unit of work that is dispatched in the address space in which it was created. <i>See also</i> service request block.
TCB	<i>See</i> task control block.
terminal session (TS)	Single point of control for MAINVIEW products, allowing data manipulation and data display and providing other terminal user services for MAINVIEW products. The terminal session runs in a user address space (either a TSO address space or a stand-alone address space for EXCP/VTAM access).
TDIR	<i>See</i> trace log directory.
threshold	Specified value used to determine whether the data in a field meets specific criteria.
TLDS	<i>See</i> trace log data set.
total mode	Usage mode in CMFMON wherein certain columns of data reflect the cumulative value between collection intervals. Invoked by the DELta OFF command. <i>See also</i> collection interval, delta mode.
trace	(1) Record of a series of events chronologically listed as they occur. (2) Online data collection and display services that track transaction activity through DB2, IMS, or CICS.

trace log data set (TLDS)

Single or multiple external VSAM data sets containing summary or detail trace data for later viewing or printing. The trace log(s) can be defined as needed or dynamically allocated by the BBI-SS PAS. Each trace request is assigned its own trace log data set(s).

trace log directory (TDIR)

VSAM linear data set containing one entry for each trace log data set. Each entry indicates the date and time of data set creation, the current status of the data set, the trace target, and other related information.

transaction

Specific set of input data that initiates a predefined process or job.

Transaction Accountant

MVIMS Offline component that produces cost accounting and user charge-back records and reports.

TS

See terminal session.

TSO workload

Workload that consists of address spaces running TSO sessions.

UAS

See user address space.

UBBPARM

See parameter library.

UBBPROC

See procedure library.

UBBSAMP

See sample library.

user address space

Runs a MAINVIEW terminal session (TS) in TSO, VTAM, or EXCP mode.

User BBPROF

See profile library.

view

Formatted data within a MAINVIEW window, acquired from a product as a result of a view command or action. A view consists of two parts: query and form. *See also* form, job activity view, query.

view definition

Meaning of data that appears online, including source of data, selection criteria for data field inclusion and placement, data format, summarization, context, product, view name, hyperlink fields, and threshold conditions.

view command

Name of a view that you type on the COMMAND line to display that view.

view command stack

Internal stack of up to 10 queries. For each command, the stack contains the filter parameters, sort order, context, product, and time frame that accompany the view.

view help	Online help describing the purpose of a view. To display view help, place the cursor on the view name on the window information line and press PF1 (HELP).
window	Area of the MAINVIEW screen in which views and resources are presented. A window has visible boundaries and can be smaller than or equal in size to the MAINVIEW window area. <i>See</i> active window, alternate window, current window, MAINVIEW window area.
window information line	Top border of a window. Shows the window identifier, the name of the view displayed in the window, the system, the scope, the product reflected by the window, and the tomfooleries for which the data in the window is relevant. <i>See also</i> window status field.
window number	Sequential number assigned by MAINVIEW to each window when it is opened. The window number is the second character in the window status field. <i>See also</i> window status field.
window status	One-character letter in the window status field that indicates when a window is ready to receive commands, is busy processing commands, is not to be updated, or contains no data. It also indicates when an error has occurred in a window. The window status is the first character in the window status field. <i>See also</i> window information line, window status field.
window status field	Field on the window information line that shows the current status and assigned number of the window. <i>See also</i> window number, window status.
windows mode	Display of one or more MAINVIEW product views on a screen that can be divided into a maximum of 20 windows. A window information line defines the top border of each window. <i>Contrast with</i> full-screen mode.
WLM workload	In goal mode in MVS/SP 5.1 and later, a composite of service classes. MAINVIEW for OS/390 creates a workload for each WLM workload defined in the active service policy.
workflow	Measure of system activity that indicates how efficiently system resources are serving the jobs in a workload.
workload	(1) Systematic grouping of units of work (for example, address spaces, CICS transactions, IMS transactions) according to classification criteria established by a system administrator. (2) In OS/390 or z/OS, a group of service classes within a service definition.
workload activity view	Tracks workload activity as the workload accesses system resources. A workload activity view measures workload activity in terms of resource consumption and how well the workload activity meets its service objectives.

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- Workload Analyzer** Online data collection and display services used to analyze IMS workloads and determine problem causes.
- workload definition** Workload created through the WKLIST view. Contains a unique name, a description, an initial status, a current status, and selection criteria by which address spaces are selected for inclusion in the workload. *See* Workload Definition Facility.
- Workload Definition Facility**
In MAINVIEW for OS/390, WKLIST view and its associated dialogs through which workloads are defined and service objectives set.
- workload delay view**
Tracks workload performance as the workload accesses system resources. A workload delay view measures any delay a workload experiences as it contends for those resources.
- Workload Monitor** Online data collection services used to monitor IMS workloads and issue warnings when defined thresholds are exceeded.
- workload objectives**
Performance goals for a workload, defined in WKLIST. Objectives can include measures of performance such as response times and batch turnaround times.

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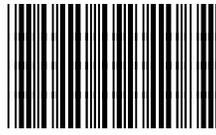
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