

iWay

iWay Server Installation
Version 5 Release 2.5

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Preface

This documentation describes how to install the iWay Server Version 5 Release 2.5 software. It is intended for system administrators and others who are responsible for installing the software and general machine administration for user ID setup and run time security.

How This Manual Is Organized

This manual includes the following chapters:

Chapter		Contents
1	Introduction to Server Installation	Lists the necessary terminology and prerequisites for general sever installation.
2	Server Installation for Windows NT/2000	Describes the installation requirements and the step-by-step instructions for a Windows NT/2000 installation.
3	Server Installation for UNIX	Describes the installation requirements and the step-by-step instructions for a UNIX installation. This includes all UNIX platforms such as HP-UX, AIX®, Solaris™, and Linux®.
4	Server Installation for OS/390 and z/OS	Describes the installation requirements and the step-by-step instructions for an OS/390 and z/OS installation.
5	Server Installation for MVS	Describes the installation requirements and the step-by-step instructions for an MVS installation.
6	Server Installation for OS/400	Describes the installation requirements and the step-by-step instructions for an OS/400 installation.
7	Server Installation for OpenVMS	Describes the installation requirements and the step-by-step instructions for an OpenVMS installation.
8	Server Installation for VM	Describes the installation requirements and the step-by-step instructions for a VM installation.

Documentation Conventions

The following conventions apply throughout this manual:

Convention	Description
<code>THIS TYPEFACE</code> or <code>this typeface</code>	Denotes syntax that you must enter exactly as shown.
<code>this typeface</code>	Represents a placeholder (or variable) in syntax for a value that you or the system must supply.
<code>underscore</code>	Indicates a default setting.
<code>this typeface</code>	Represents a placeholder (or variable), a cross-reference, or an important term. It may also indicate a button, menu item, or dialog box option you can click or select.
this typeface	Highlights a file name or command.
Key + Key	Indicates keys that you must press simultaneously.
{ }	Indicates two or three choices; type one of them, not the braces.
[]	Indicates a group of optional parameters. None are required, but you may select one of them. Type only the parameter in the brackets, not the brackets.
	Separates mutually exclusive choices in syntax. Type one of them, not the symbol.
...	Indicates that you can enter a parameter multiple times. Type only the parameter, not the ellipsis points (...).
.	Indicates that there are (or could be) intervening or additional commands.

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Call Information Builders Customer Support Service (CSS) at (800) 736-6130 or (212) 736-6130. Customer Support Consultants are available Monday through Friday between 8:00 a.m. and 8:00 p.m. EST to address all your iWay Server Installation questions. Information Builders consultants can also give you general guidance regarding product capabilities and documentation. Please be ready to provide your six-digit site code (xxxx.xx) when you call.

You can also access support services electronically, 24 hours a day, with InfoResponse Online. InfoResponse Online is accessible through our World Wide Web site, <http://www.informationbuilders.com>. It connects you to the tracking system and known-problem database at the Information Builders support center. Registered users can open, update, and view the status of cases in the tracking system and read descriptions of reported software issues. New users can register immediately for this service. The technical support section of www.informationbuilders.com also provides usage techniques, diagnostic tips, and answers to frequently asked questions.

To learn about the full range of available support services, ask your Information Builders representative about InfoResponse Online, or call (800) 969-INFO.

Information You Should Have

To help our consultants answer your questions most effectively, be ready to provide the following information when you call:

- Your six-digit site code (xxxx.xx).
- Your iWay Software configuration:
 - The iWay Software version and release.
 - The communications protocol (for example, TCP/IP or LU6.2), including vendor and release.
- The stored procedure (preferably with line numbers) or SQL statements being used in server access.
- The database server release level.
- The database name and release level.
- The Master File and Access File.

- The exact nature of the problem:
 - Are the results or the format incorrect? Are the text or calculations missing or misplaced?
 - The error message and return code, if applicable.
 - Is this related to any other problem?
- Has the procedure or query ever worked in its present form? Has it been changed recently? How often does the problem occur?
- What release of the operating system are you using? Has it, your security system, communications protocol, or front-end software changed?
- Is this problem reproducible? If so, how?
- Have you tried to reproduce your problem in the simplest form possible? For example, if you are having problems joining two data sources, have you tried executing a query containing just the code to access the data source?
- Do you have a trace file?
- How is the problem affecting your business? Is it halting development or production? Do you just have questions about functionality or documentation?

User Feedback

In an effort to produce effective documentation, the Documentation Services staff welcomes your opinions regarding this manual. Please use the Reader Comments form at the end of this manual to relay suggestions for improving the publication or to alert us to corrections. You can also use the Documentation Feedback form on our Web site, <http://www.iwaysoftware.com>.

Thank you, in advance, for your comments.

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CHAPTER 1

Introduction to Server Installation

Topics:

- Terminology
- Installation Requirements

This documentation covers the requirements necessary for installation, configuration and general use of the server software on a given platform. The installation process, while not exactly the same on all platforms, has many steps and concepts in common. Each platform-related section is organized by issues and steps in the order in which they would occur during the installation process.

The steps in the following chapters for the Windows NT®/2000, UNIX®, OS/390 and z/OS™, OpenVMS™, or OS/400® platforms will result in the installation of the software plus a basic configuration with no configured data adapters.

Installation on MVS® and VM does not produce a basic configuration. Specific configuration of the data adapters, including basic configuration, is covered in the Server Administration manuals for each platform.

Terminology

To eliminate the repetitive listing of individual platform names and terms that may be particularly long and sometimes confusing, the following terms and generalities will be used.

- UNIX refers to any UNIX or Linux implementation (for example, Solaris, Tru64™, AIX, Red Hat™, and others). Linux is a generic open source implementation of UNIX, but a particular Linux release has specific implementations by specific vendors (or groups) for specific hardware platforms. Therefore, compiled software for a given Linux operating system level may be interchangeable between Intel releases; it does not mean that compiled software may be directly used on any hardware implementation with a different chipset.
- Windows NT/2000 refers to any supported MS/Windows NT 4.0 with Service Pack 5 or higher or 2000 Server environment. Servers are not supported on Windows NT 3.x and Windows workstation releases (for example, 95, 98, ME, 2000 Professional and XP Professional). However, connectors are supported in these environments.
- MVS or Traditional MVS refers to the implementation model for MVS that uses JCL, PDSs, and Load Libraries that run as started tasks.
- OS/390 and z/OS refers to an OS/390 and z/OS implementation model using UNIX System Services (USS) as a run time shell and file system to store and run applications. The actual implementation of the product can access traditional MVS application PDS files and data sets. There is also JCL in this implementation, but it is used for installation purposes and as a shell to start, control, and stop the USS implementation. The USS implementation is more like a UNIX release in terms of the way processes run and the features.
- OS/400 refers to an AS/400 machine running OS/400. The AS/400 is also known as IBM's iSeries of machines. Generally, the terms AS/400 and OS/400 can be used interchangeably, but AS/400 is the hardware and OS/400 is the operating system. The distinction only recently became important because other operating systems are now available on AS/400 hardware. The OS/400 implementation is a mix of traditional OS/400 program libraries. Use of the QSH (UNIX) shell and file system (IFS) plus traditional OS/400 application libraries are also accessible. Only RISC processor hardware is supported. The older CISC machines are not supported.
- OpenVMS refers to Compaq's OpenVMS operating system. Some people also refer to OpenVMS as VMS™; the terms are interchangeable. OpenVMS was originally from Digital Equipment Company (DEC), which later merged with Compaq. It is not uncommon to hear the original company name in reference to this platform. Only Alpha processor hardware is supported, the older VAX machines are not supported.

- VM refers to IBM's VM/CMS. While UNIX Systems Services do exist under VM, only the traditional VM model is supported.
- A connector refers to client side products and/or actual applications that talk to a server for some purpose.
- A server refers to the server environment that connects requests with application agents to service the requests. The server environment is a number of processes that provide management, logging, and application processing. The environment is generally configured with data adapters that allow the application agents to access data sources such as Oracle®, DB2®, SQL Server, and other remote servers acting as subservers.
- A server or data adapter refers to the ability of an application agent to access an external data source such as Oracle, DB2, Essbase, SQL Server, and other remote servers acting as subservers. Adapter configuration is part of the general configuration of the server environment and is not specific to individual application agents. The actual data adapters available will vary by platform. Specifics are detailed in the *Server Administration* manual.

Installation Requirements

Review the documented installation process before starting. Checking the steps beforehand will allow the installation to go smoothly. In some cases, the information provided in this manual might need to be disseminated among several administrators if job functions, such as software loading and ID creation, are performed by several people.

Installation Requirements

CHAPTER 2

Server Installation for Windows NT/2000

Topics:

- Installation Requirements
- Installing the Server
- Verifying the Server Installation
- Uninstalling the Server
- Troubleshooting

This document describes the requirements and procedures for proper installation of the Server for Windows NT/2000.

Installation Requirements

Before beginning server installation, review the following requirements:

- Supported Hardware and Software
- Disk Space Requirements
- Memory Usage
- Communications Requirements
- Installation User ID Requirements

Supported Hardware and Software

The following hardware and software have been tested with the server.

Hardware	Software Operating System Release
Intel (Pentium class or higher) PC	Microsoft Windows NT Version 4.0, with Service Pack 6a applied.
	Microsoft Windows 2000 Server.
	Microsoft Internet Explorer 5.5 or higher is required for the Web Console

Note:

- The server will be supported on Windows 2003 Server with full certification of Windows 2003 later in the year.
- The server is supported on Windows XP as a developer's environment only.
- Installing an iWay Server on a Primary Domain Controller is not recommended.
- Particular database vendors may have specific minimum service pack requirements.

Disk Space Requirements

The following are disk space requirements for all servers.

Server Type	During Install	After Install
All Server Types	2 megabytes	90 megabytes

Memory Usage

Memory usage depends on the following elements:

- Number of data access agents.
- Type of access that is performed: joins, large retrieval, etc.
- Connection queue.

The following table shows the memory requirements for installation and operation of the server. These numbers apply when the server is in an idle state, so they can fluctuate slightly.

Server Type	Workspace Memory	Memory per Active Agent
Full Function Server	12 megabytes	10 megabytes

Communications Requirements

The following communications protocols are compatible with the server.

Communications Protocol	Requirements
SNA (LU6.2)	Inbound or outbound: Microsoft SNA Server Version 4.0 with Service Pack 3 (for Microsoft Windows NT, Version 4.0 only), Microsoft Integration Server 2000 (Windows 2000 only), IBM's eNetwork Communications Server Version 6.0 or higher (6.1 or higher on Windows 2000) must be installed and configured.
TCP/IP	Microsoft TCP/IP for Windows NT must be installed and configured. Note: Up to 4 consecutive open ports for each server you want to run will be used. The starting port number (of the consecutive ports) is chosen during the installation process.

Installation User ID Requirements

The Windows ID that is used to install the server is the default server administrator, and it is referred to as the "iadmin" ID. After the server is installed, you can change this ID and add additional server administrators. Server administrators are users that have permission to start and configure the server.

During normal operation, it is not necessary for server administrators to also have administrator rights to the local Windows machine. However during installation, you must be logged on as a Windows administrator, because the installation program adds a service to the operating system. After installation, Windows administrator rights can be revoked.

A server administrator's ID and password are encrypted and stored by the server's configuration. These IDs and passwords must be kept in sync with Windows IDs and passwords to the start server with security on. When starting with security on, if the server administrator does not have a password, or the password is not in sync with Windows, the server starts in Safe Mode, and not all functionality is available. See *Troubleshooting* on page 2-14 for details on how to fix this problem.

Installing the Server

Installation is performed by the setup program, which yields a basic configuration. After installation, the administrator can start both the server and a browser against the server's HTTP listener. This allows the administrator to complete the configuration (typically for DBMS and outbound communications nodes) using the Web Console.

Procedure How to Install and Configure the Server

Note: You should exit all programs before continuing.

1. Insert the server installation CD into your CD-ROM drive.
2. If the Windows Autorun feature is active, the installation setup program will start automatically. If not, at the command prompt or using the Start Menu Run feature, type the following:

```
drive:\setup
```

where:

```
drive
```

Is the letter of the drive where you placed the installation CD.

The Choose Setup Language window opens.

3. From the drop-down menu, select the language to be used during installation.
Click *OK* to continue or *Cancel* to stop the installation procedure.
If a prior installation exists, a question will appear asking if you would like to refresh the installation.
4. Click *Yes* to replace the current installation. When the replace is finished you can start the server. See *Verifying the Server Installation* on page 2-13.
Click *No* to continue with installation.
The Software License Agreement window opens.

5. Click *Yes* to accept the terms of the agreement and continue installing the server. Click *No* to reject the software license agreement and exit the Setup program. The Software Registration window opens:

Server Setup

Software Registration

Please enter the user name, the company name and the license key. The license key is printed on a label inside the package.

User Name

Company

License

InstallShield

< Back Next > Cancel

6. In the Software Registration window, enter the user name, company name, and the three part License Key.

Important: The License Key is printed on a form included with the software and should be saved for future reference. You must include the hyphens.

The License Key determines which product you are installing, such as a Full-Function Server or a WebFOCUS Reporting Server. Default settings, such as folder names, vary depending on the license key you enter. The screens that follow are for an iWay Full Function Server.

7. Click Next.

- If you enter an invalid License Key, the Setup program displays a warning:



Click OK to correct the key.

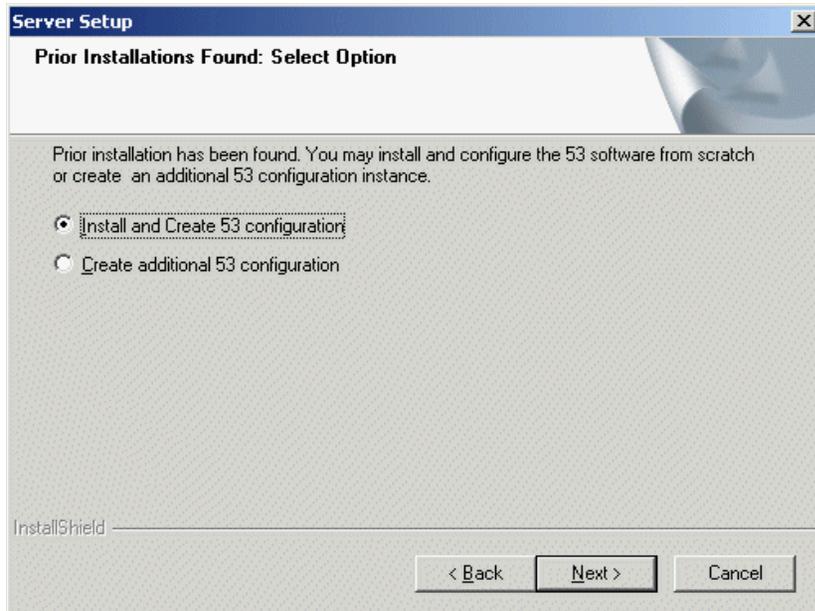
- If the License Key is correct, the Registration Confirmation window opens:



8. Click *OK* to continue.

The next window will vary, depending on whether there is an existing 52 Server installed on the machine.

- On a machine that has never had a server installed, the installation script will directly jump to the Select Program Folder window. Proceed to the screen before step 11.
- On a machine where a version 52 server has been installed, the Prior Installations Found: Select Option window displays:



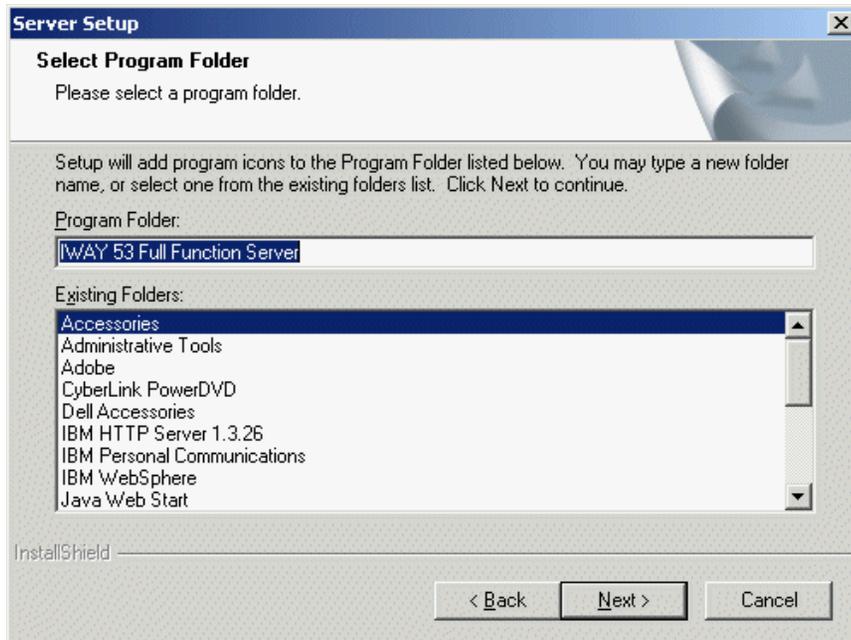
9. In the Prior Installations Found: Select Option window, choose one option:

- **Install and Create 52 configuration.** This option creates the software installation directory (EDAHOME) and an original configuration directory (EDACONF) to go with the installation directory. A new folder/directory may be picked or an existing one over-written.
- **Create additional 52 configuration.** This option allows you to create a new configuration.

Important: The original configuration can only be reconfigured manually or through the Web Console. If you replace a prior configuration, the Server Setup program creates a backup of your original configuration in the BACKUP directory.

10. Click Next.

The Select Program Folder window opens:

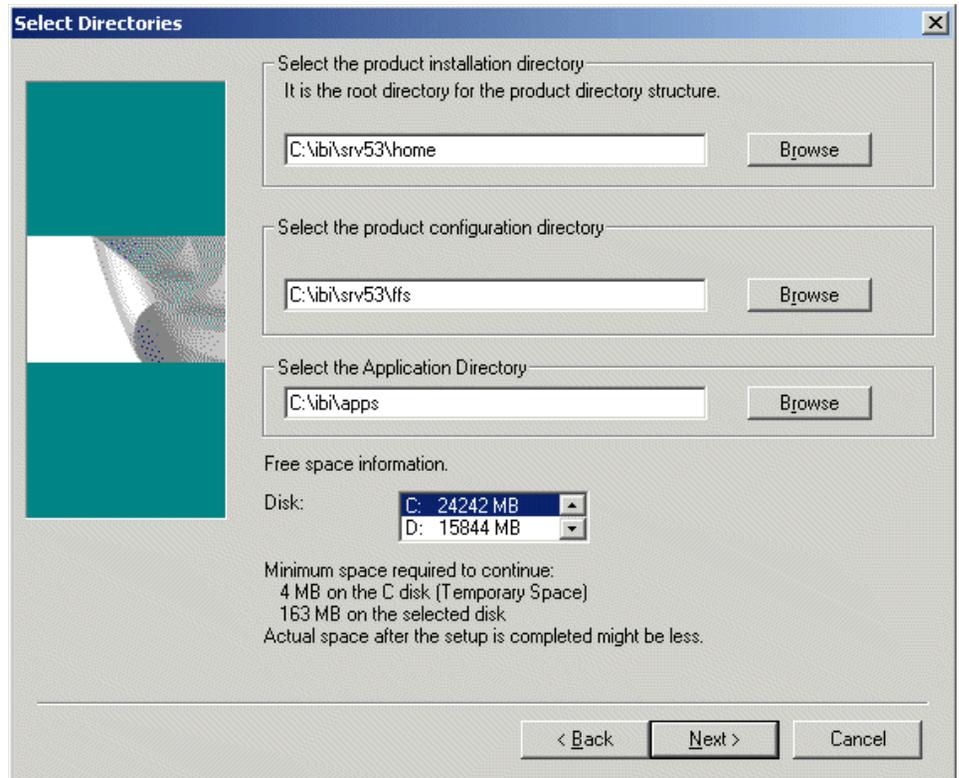


11. Accept the default or specify a new program folder.

The name defaults based upon the server type being installed, but it can have a suffix (for example, 001) to configure additional servers. In all cases, the name must be unique. The setup program adds this new folder to the Startup menu.

12. Click Next.

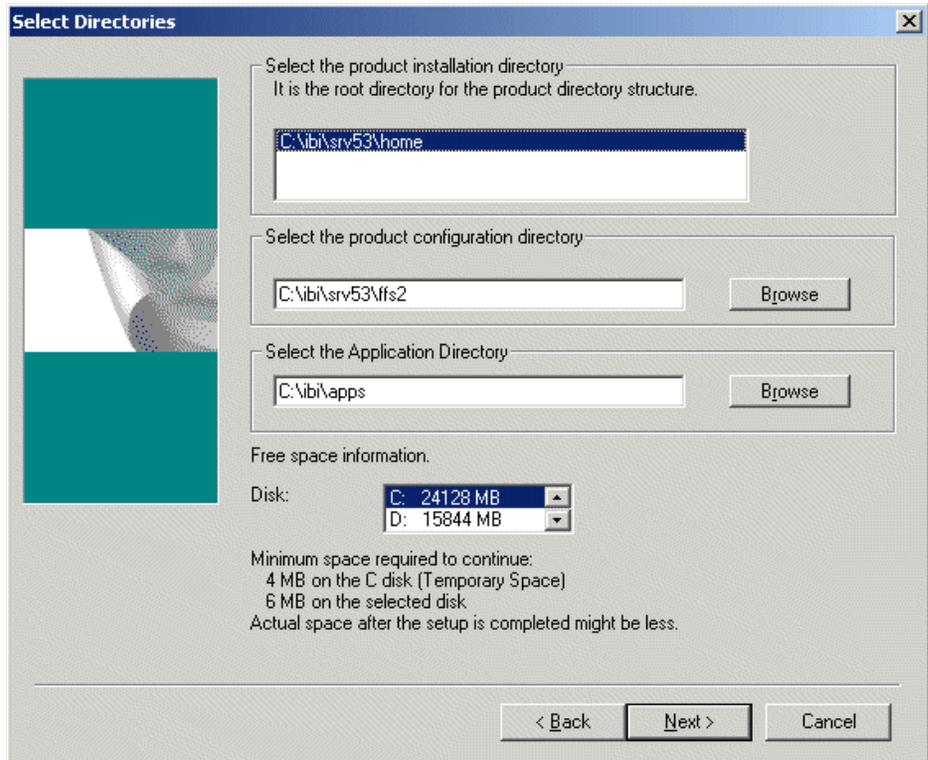
13. Complete the Select Directories window. This Window varies depending on whether pre-existing servers were found and which server was selected.
 - If no pre-existing servers were found, or Install and Create 52 Configuration was selected, then the Select Directories window opens:



Enter the names of the directories where you want to install and configure the server, and from where you want to find and read applications. Click Next to proceed to step 15, the Configure Server Administrator ID/Password and Inbound Communications window.

Note: You can include spaces in the directory name; however, the Setup program does not include them when it creates the directory.

- If a pre-existing server was found and you chose to create an additional configuration, a different Select Directories window opens:



You must choose an existing EDACONF directory, and enter the directory where you want to store the new EDACONF. If you have more than one version installed, the Select Directories window shows a list of existing EDACONF directories. Select the EDACONF directory you want to use for configuration, and enter the directory where you want to store the configuration.

14. Click *Next*.

15. In the Configure Server Administrator ID/Password and Inbound Communications window, supply the information requested:

Configure Server Administrator ID/Password and Inbound Communications

Server Administrator ID and Password

The Server Administrator Password is required for 'secured' and 'wprotect' security modes. It can be omitted for 'unsecured' security mode.

Server Administrator ID:

Server Administrator Password:

TCP/IP Services

Base TCP/IP Port Number:

This is the first of four consecutive port numbers that are open and dedicated to the TCP Listener, HTTP Listener and other IP based services.

< Back Next > Cancel

- **Server Password.** Enter the password of the person logged on to the computer. Both the ID and password can be changed after the installation using the Web Console. If the password is incorrect, the server will start in safe mode. See *Safe Mode* on page 2-14 for more information.
- **TCP/IP Services.** Type the Base TCP/IP Port Number or the service name representing the port number that the server is using for TCP/IP. The server needs four consecutive ports for internal and external communications. The default varies by product to support multiple servers on a particular machine.

For a Full Function Server, the default is 8100, which reserves ports 8100-8103.

For a WebFOCUS Reporting Server, the default is 8120, which reserves ports 8120-8123.

For ETL, the default is 8116, which reserves ports 8116-8119.

Note: The HTTP port number is always one greater than the base TCP/IP port number. For example; if the TCP/IP port number is 8100, the HTTP port number will be 8101.

16. Click *Next* to proceed to the Demo files installation.
17. In the Demo files installation screen, select the language in which the Demo files should be installed. If no language is selected, the installation continues but the Demo files are not installed. These files are not required for the operation of the server.
18. Click *Next*. The Setup program installs software and configures the server using the information you specified. A resource meter and copy messages will appear during this step. The Setup program creates a server program group to receive the program icons for the product. The actual name will be based upon the server product that was installed.
19. Click *Finish* to exit the Server Setup Program.

Note: After running the Setup program, if you need to modify the configuration or configure DBMS support, you may do this using the Web Console. For more information, see the *Server Administration for UNIX, Windows, OpenVMS, OS/400, OS/390 and z/OS* manual.

You are now ready to verify your installation.

Verifying the Server Installation

After you have completed your configuration, your server should be started, and the Console displayed.

If not, to manually start the server, select the Start Security On option in the folder group for the server (for example, iWay 52 Server). Then open the Web Console, by selecting Web Console in the same group.

Note: If you prefer to start the server without security, open the Start With Alternative Security Modes subdirectory and select Start Security OFF.

Procedure How to Use the Web Console to Test the Server

After installation, the server will start and the Web Console is displayed. The Web Console home page contains links for the various features it supports. Click Test Basic Server Functionality to test the installation. A sample report is executed and a new window will display the results.

Detailed use of the Web Console for configuration or general operation of the server is available by clicking Help on the left navigation pane and in the *Server Administration for UNIX, Windows, OpenVMS, OS/400, OS/390 and z/OS* manual.

Procedure How to Install the Debuggable Version

As with any complex software product, there is sometimes a need to produce traces and other information in order to identify problems. To address this issue, the product is shipped with a debuggable version. To install the debuggable version, the CD must be in its original install location.

Note: The Debuggable Version should not be installed and activated unless explicitly requested by customer support for problem resolution.

1. From the Start menu, select *Programs*.
2. Select *iWay Servertype*.
3. Select *Diagnostic Functions*.
4. Select *Install Debuggable Version*.

Uninstalling the Server

Ensure that the server is stopped and execute the uninstall program in the server's program group (for example, iWay 52 Server). This program removes the EDACONF and EDACONF directories of this server instance.

If you have more than one configuration using the same EDACONF directory, the additional configurations contain unconfigure icons instead of uninstall icons. If you want to uninstall your initial configuration, you must unconfigure the additional configurations first. If you do not unconfigure these instances before uninstalling the EDACONF directory, you disable the additional configurations, including their unconfigure utilities. A manual cleanup is then required.

Troubleshooting

Safe Mode

If the server starts in safe mode normal, normal use of the server is disabled. However, the administrator can connect to the Web Console to fix the problem. When the Web Console is started the reason the server is in safe mode is listed on its Home page. Click the fix hyperlink listed under the problem and make the correction. Save and restart the server. A common reason for the server to start in safe mode is that the `server_admin_password` is not correct.

CHAPTER 3

Server Installation for UNIX

Topics:

- Installation Requirements
- Installing the Server
- Verifying the Server Installation
- Configuring the Server With Different Security Modes
- General Server Startup and Use
- Troubleshooting

This document describes the requirements and procedures for proper installation of the Server for UNIX.

Installation Requirements

Before beginning server installation, review the following requirements:

- Supported Platforms and Operating Systems
- Disk Space Requirements
- Memory Usage
- Communications Requirements
- Installation User ID Requirements

Supported Platforms and Operating Systems

The following table lists supported platforms and operating system releases. Confirm that your platform and operating system release are supported and that the label on the CD identifies the correct software.

Important: The CD label displays the platform and operating system release on which the software was built. The software will run on the designated or higher release. However, DBMS support must be taken into consideration when selecting software. Please consult your local branch if you have any questions.

Operating System Release and CD Label
Compaq Tru64 V4.0D
Compaq Tru64 V5.0A
HP-UX 11 (32 Bit)
HP-UX 11 (64 Bit)
IBM AIX 4.2.1
IBM AIX 4.3.3
IBM AIX 4.3.3 (64 Bit)
IBM/z Series OS/390 Linux (2.49 Kernel)
NCR MP-RAS 3.02
RedHat Linux 6.2 (2.2.14 Kernel) for Intel
RedHat Linux 7.2 (2.4.7 Kernel) for Intel
Sequent Dynix/ptx 4.5.1

Operating System Release and CD Label
Siemens Reliant 5.45
SUN Solaris 2.6
SUN Solaris 7 (64 bit)
SUN Solaris 8 (64 bit)

Note:

- To use the server, Korn Shell (ksh) must be installed on your system. Since Korn Shell is not installed with Linux, Linux sites must install the Public Domain Korn Shell (pdksh) package from their respective Linux vendor.
- Bull Escala - Use software for IBM AIX.
- Siemens-Fujitsu PRIMEPOWER - Use software for SUN Solaris.

The server also supports a range of data adapters for Adabas/C, DB2 UDB, C-ISAM (Informix), Essbase, Informix (SDK), Ingres II, Oracle, Progress, Red Brick, Sybase (ASE and IQ), Teradata, Nucleus and UniVerse; see the DBMS support chart for specific combinations on any given platform. Specific DBMS information (such as release levels, user IDs, and passwords) is not used during basic installation, but will be used later during configuration.

Disk Space Requirements

The following are approximate disk space requirements. Specific sizes may vary slightly with options selected during configuration. The usage numbers do not include space for actual applications, databases, sort space, output preparation, or logs.

Platform	Version	After Install
HP HP-UX	11 (32Bit)	122 megabytes
IBM AIX	4.2.1	37 megabytes
Sun Solaris	2.6 (32-bit)	120 megabytes

Memory Usage

Memory and shared memory usage depend on the following elements:

- Number of data access agents.
- Type of access performed: joins, large retrieval, etc.
- Connection queue.

Actual memory usage differs between the various UNIX implementations and the server load. The following table shows the shared memory usage for installation and operation of the server.

Platform	Workspace Memory	Memory Per Agent	Listener Memory
HP HP-UX 11 (32bit)	.7 Megabytes	1.7 Megabytes	Any .7 Megabytes
IBM AIX 4.2.1	1 Megabyte	2.2 Megabytes	Any .6 Megabytes
Sun Solaris 2.6 (32bit)	2 Megabytes	18 Megabytes	Any 5 Megabytes

Communications Requirements

The TCP/IP Transport protocol is supported on all platforms and is the primary method of communications between iWay-enabled connector applications and iWay Servers. The SNA (LU6.2) protocol is also supported on a limited set of platforms. The following topics describe specific protocol requirements.

Communications Protocol	Requirements
TCP/IP	Up to 4 consecutive open ports for each server you want to run will be used. Since an initial installation also yields an initial configuration, a set of port numbers must be available at install time.
SNA (LU6.2)	<p>The System Administrator should confirm that:</p> <ul style="list-style-type: none"> • The System Network Architecture (SNA) software is configured on both target nodes in the network. • An SNA configuration for intra-node communications exists. This is required in order to directly test the configuration locally. <p>For information on supported versions of SNA software, see <i>Software Release Requirements for SNA (LU6.2)</i> on page 3-5.</p>

Reference **Software Release Requirements for SNA (LU6.2)**

The following software releases are supported for SNA (LU6.2):

Platform	Software	Version
HP	SNAPplus	Version 4.0
IBM	Communications Server	Version 5
NCR	SNA Services	Version 3.01
Sun	SunLink SNA/PTP	Version 9.1

Installation User ID Requirements

The operating system ID you use when installing the server will own the files and is the default server administrator. Server administrators are users that have permission to start and configure the server. You can create a new operating system ID to run and own the server files or use any ordinary (non super user) ID. However, you should not install the server as root.

Through out this documentation, the name "iadmin" is used to refer to the server administrator ID and group, but you may use any name for this ID. The "iadmin" ID should have a Korn or Bourne shell as the default logon shell.

When running the server in secured mode, end users and applications are authenticated against the operating system when they need access to the server. Therefore, in addition to the "iadmin" ID, operating system IDs must be available for end users and applications to access the server. Server data access agents will impersonate these IDs before performing any file access on their behalf. For security purposes, you should not allow end users and applications to use the "iadmin" ID. The "iadmin" ID should be available only to users who require administrative privileges to the server.

Installing the Server

Installation takes place in three steps:

- Mounting the software CD.
- Performing the installation.
- Dismounting the software CD.

Mounting the Software CD

Before beginning installation, you must make the software on the CD accessible to the user performing the actual installation. To do this, the media may be mounted and the setup program directly accessed; or the media may be mounted and the contents copied to disk for later access.

Procedure How to Mount the Software CD

If the machine on which the software is being installed does not have a CD device, see *How to Mount the CD on Machines Without a CD-ROM Device* on page 3-8.

1. Log on as root. (This is usually required by the mount command.)
2. If you do not have a standard location for mounting CD media, create a directory to which you will mount the CD; for example, /cdrom.
3. After inserting the software CD into the CD drive, mount the CD by issuing the following command:

For Operating System	Enter
Compaq Tru64	<code>mount -t cdfs -o noversion device_name /cdrom_directory</code>
HP HP-UX	<code>mount -F cdfs device_name /cdrom_directory</code>
IBM AIX and Bull Escala	<code>mount -r -v cdrfs device_name /cdrom_directory</code>
Linux (Any vendor)	<code>mount device_name /cdrom_directory</code> Note: Linux will usually auto mount your CD as /cdrom or /mnt/cdrom; no further actions need to be taken.
IBM Dynix/ptx, NCR MP-RAS and UnixWare	<code>mount -F cdfs -r device_name /cdrom_directory</code>
Siemens Reliant	<code>mount -F hs device_name /cdrom_directory</code>
Solaris (without volume management)	<code>mount -F hsfs -r device_name /cdrom_directory</code>
Solaris (with volume management)	A CD is auto mounted as: <code>/cdrom_directory/iWay</code> Note: iWay is the standard volume label for iWay CDs.

where:

device_name

Is the system name for your CD device. Consult your UNIX System Administrator for the name of the device for your platform.

cdrom_directory

Is the directory to which you will be mounting the CD drive. This is a static directory for Solaris Volume Management.

The CD will now be accessible to the ID doing the actual install.

The install process does not require that any files be copied to disk before running the setup program. The setup program can be accessed directly from the CD.

Procedure **How to Mount the CD on Machines Without a CD-ROM Device**

If your machine does not have a CD device, the following steps must be followed prior to installation:

1. Unload the CD to a disk drive on a machine on your network that has the appropriate device. Usually, any UNIX or PC machine may be used.
2. Transfer the CD files (in binary mode) to a temporary directory on the machine on which you wish to install the software.
3. Continue as though the machine you are using has a CD device, but specify actual disk drive locations.

Note: Files transferred from a PC might be capitalized on the CD. After the ftp, these files must be renamed in lowercase, and the permissions on the files must be checked.

Permissions should be as follows:

-rwxr-xr-x	inu.out
-rw-r--r--	iserver.tar
-rwxr-xr-x	isetaup

Use the chmod command to change permissions if necessary.

Procedure How to Install the Server

Note: For performance reasons, the software should not be installed or accessed using NFS-mounted disks; a directly connected disk is always preferable.

1. Log on as the iadmin user ID.

Note: Logging on with the iadmin ID is recommended (rather than with "su"; from root).

2. Set the default protection mask to minimally read/execute (if it has not already been set to that option). For example:

```
$ umask 022
```

The install procedure may be run from any directory; you do not need to "cd" to that directory (provided the full path name is used). Also ensure that you have write privileges to the directory from which you are running the command. To test this, enter:

```
$ touch xxxx
```

3. The installation procedure name is isetup. Call it using the appropriate full path name to the CD location (or where ever the procedure is located).

```
$ /cdrom/isetup
```

The isetup program requires a license key plus five basic parameters. The default values are presented at the beginning of the program. You may skip to final confirmation; otherwise, you are prompted for individual changes.

The five required parameters are:

Parameter	Description
EDAHOME	Location for actual software.
EDACONF	Location for default configuration.
APPROOT	Location for default applications and sample applications.
Server Admin Password	Password to access Web Console when running the server in WCPROTECT mode. Supplying a password is recommended.
TCP Base Port	The port number the server's TCP Listener listens on. Also the start of the set of four port numbers used by the server for other TCP-based services.

Note: If you select N at the default settings prompt, you also have the option to install demo files. If you wish to install the demo files, select N at the default settings prompt and choose a language for the demo when prompted.

Example **Generating a UNIX Installation**

The following is an example of a Full-Function Server installation that shows the defaults being taken. If you are satisfied with the selections, answer yes to the final prompt and wait for the return of the command prompt before proceeding to the next step.

If you decide to change a default, you will be prompted for the individual values. However, there are some rules about directory locations. The default location is the iadmin user ID home directory. The EDACONF directory path name is locked into the pattern `*ibi/srv52*/home*`. If you change EDACONF, the default EDACONF follows the change in the pattern. EDACONF can also be changed, but is locked into a similar pattern.

```
$ /cdrom/isetup
```

```
-----
```

```
                Welcome to the Product Set Up Facility
Please respond to the prompts or enter Q to quit at any prompt.
```

```
-----
```

```
Select an options:
```

1. Install and Configure
2. Add Additional Configuration Instance
3. Refresh Installation (Reinstall, Keep Configurations)
4. Install Debuggables to the Installation Directory

```
Enter a selection (Default=1) : 1
```

```
-----
```

```
Enter your License Key (Format 999-999-9999) :   xxx-xxx-xxxx
```

```
License Key has been checked
```

```
Product: Full Function Server
```

```
Maximum Number of Users: 2
```

```
Maximum Number of CPUs: 2
```

```
ISETUP: License xxx-xxx-xxxx has been accepted
```

```
-----
```

```
Please enter the full path name of the media for the product
```

```
(Default=/cdrom/iserver.tar)
```

Please supply media or <Enter> :

Enter the Server Administrator (iadmin) Password:

Please review the default settings.

EDAHOME = /home/iadmin/ibi/srv52/home
EDACONF = /home/iadmin/ibi/srv52/ffs
APPROOT = /home/iadmin/ibi/apps
TCP_BASE_PORT = 8100

If you are satisfied with the default settings you may proceed to final confirmation else you will be prompted for individual values.

Proceed with defaults? (Y/N Default=Y) : y

The following selections have been made for ...

Install Options ...

INSTALLATION_DEVICE = /cdrom/iserver.tar
PRODUCT = server
EDAHOME = /home/iadmin/ibi/srv52/home

Configure Options ...

EDACONF = /home/iadmin/ibi/srv52/ffs
EDAHOME = /home/iadmin/ibi/srv52/home
LICENSE = xxx-xxx-xxxx
APPROOT = /home/iadmin/ibi/apps
SERVER_TYPE = ffs
SERVER_NAME = "iWay 52 Full Function Server"
SERVER_ADMIN_ID = iadmin
SERVER_ADMIN_PASSWORD = 2E17EEB1CF514BA4
TCP_BASE_PORT = 8100

Please confirm these values with one of the following responses ...

Y = Accept and Proceed
N = Start Over
Q = Quit

Please supply confirmation: Y

Please, wait while we are installing the server ...

ISETUP: Installation Step completed

Installing the Server

```
Please, wait while we are configuring the server ...
```

```
ISETUP: Configuration Step completed
```

```
-----  
Would you like to start the server (Y/N Default=Y)? : Y
```

```
ISETUP: The server has been started
```

```
-----  
To administer the server go to a web browser  
and open the URL http://hostname:8101  
$
```

Additional Configurations

If you have additional licenses and need to configure an additional server, log on with the iadmin ID and run EDAHOME/bin/isetup, where EDAHOME is the directory in which the software was installed. At the main menu, select option 2, Add Additional Configuration Instance.

The prompts for adding a configuration are similar to those for an installation, but EDAHOME is the directory where the software was originally installed. Typically, you would not want to accept the defaults, as doing so will cause your current configuration to be overwritten. If the supplied EDACONF already exists, the installation will copy it to a directory called BACKUP.

Refreshing Installation Directories

Sometimes it is necessary to refresh the installation of the server. To do this run, the isetup program located in the EDAHOME/bin directory. At the main menu, select option 3, Refresh Installation (Reinstall, Keep Configuration). This refreshes programming files under the server installation directory and does not affect any configuration directories. However, it does remove any patches that may have been applied to the server.

Procedure How to Dismount the Software CD-ROM

When you have finished accessing the CD, dismount and store it. All UNIX vendors use the following command to dismount:

```
$ umount /cdrom_directory
```

where:

```
cdrom_directory
```

Is the mount point directory used in the original mount command.

Normally you will not need the CD again unless a support situation requires debuggable versions of the software to be installed. A set of debuggable versions matching the original software is provided on the CD for this situation if it should arise.

Verifying the Server Installation

After completing the installation, you should verify that the server is functioning properly.

Procedure How to Test the Server Installation

To test the installation, use the initial configuration that is created by the installation. The server may be brought up, checked, connected to, tested, disconnected, and shut down using the following basic steps.

1. Log on as the iadmin user ID.
2. Start the server with appropriate path to edastart and -start option:


```
/home/iadmin/ibi/srv52/ffs/edastart -start
```
3. Check to ensure that the processes are up with -show:


```
/home/iadmin/ibi/srv52/ffs/edastart -show
```
4. Start the Web Console by starting a browser pointed at the HTTP Listener Port of the server. The URL format is http://host:port. For example, if the default ports were used during installation, use http://host:8101 for an iWay Server and http://host:8121 for a WebFOCUS Server. The HTTP Listener port number is one higher than the TCP Listener Port specified during the installation.
5. If the server is running secured, you will receive a logon screen. Log on as the iadmin user ID.

Note: For information on how to configure the server for Secured Mode, see *Configuring the Server With Different Security Modes* on page 3-14.

6. The Home Page of the Web Console will open. The Home Page is arranged in a menu-like context for the various features it supports. Detailed use of the Web Console for configuration or general operation of the server is available by clicking Help in the left navigation menu and in the *iWay Server Administration for UNIX, Windows, OpenVMS, OS/400, OS/390 and z/OS* manual.
7. The Home Page has a link for testing the server. Click the Test Basic Server Functionality link to run a sample report.
8. If you are done using the server, you can stop it through the Web Console by clicking Workspace on the left and then Stop.
9. If there are startup problems, examine the `/home/iadmin/ibi/srv52/ffs/edaprint.log` file.

Installing the Debuggable Version

As with any complex software product, there is sometimes a need to produce traces and other information in order to identify problems. The product is shipped with a debuggable version. If necessary, it should be installed using the `isetup` tool. Select option 4, Install Debuggables to the Installation Directory, from the main menu. The original installation CD is required in order to complete this installation. The debuggable version should not be installed and activated unless explicitly requested by customer support for problem resolution.

Configuring the Server With Different Security Modes

There are three security modes for a server.

1. **Security OFF.** This is the default unless security was configured.
2. **Security ON.** With security ON, users must either send a password to connect to the server or use some other form of verification.
3. **Security WCPROTECT.** With security WCPROTECT, users are not verified against the operating system, but will be verified against the `edaserve.cfg` file when logging into the Web Console.

Each of these security options can be set with the `EDAEXTSEC` variable, as follows.

```
export EDAEXTSEC={ON|OFF|WCPROTECT}
```

The default is OFF unless the server has been configured for Secured Mode, as described below; then the default is ON.

Procedure How to Configure the Server for Secured Mode

Although the actual installation is done with an ordinary user id, this procedure requires root permission.

Note: The server should be down when carrying out this procedure.

1. Log on as root or su to root.
2. Change your current directory to the bin directory of the home directory created during the installation procedure.

For example, enter the following command:

```
cd /home/iadmin/ibi/srv52/home/bin
```

3. Change file ownership permissions by entering the following commands:

```
chown root tscom300.out
chmod 4555 tscom300.out
```

4. Verify your changes by issuing the following command:

```
ls -l tscom300.out
```

The output should be similar to the following:

```
-r-sr-xr-x 1 root iadmin 123503 Aug 23 04:45 tscom300.out
```

Note the permissions and ownerships.

When you start the server, it will run with security on.

Procedure How to Configure the Server for WCPROTECT Mode

1. Prior to starting the server, issue the variable EDAEXTSEC as follows:

```
export EDAEXTSEC=WCPROTECT
```

2. Start the server.

A user will only be authenticated when connecting to the Web Console. Only IDs and passwords stored by the server in edaserve.cfg will have administrative access to the Web Console.

General Server Startup and Use

After configuring for secured mode (if desired), the server is started and managed with the same steps as those that start the Web Console and verify the server. For more information, see *How to Test the Server Installation* on page 3-13. If the server has not been configured for adapters yet, now is an appropriate time to do so using the Web Console and the *iWay Server Administration for UNIX, Windows, OpenVMS, OS/400, OS/390 and z/OS* manual.

Reference Commonly Used Server Start Options and Functions

Command and Option	Function
<code>edastart</code>	Starts server with the line mode console to actively view server log and dynamically issue edastart options such as show, traceon, and stop. Uses Control C to get console command prompt.
<code>edastart -start</code>	Starts the server without line mode console.
<code>edastart -sstart n</code>	Starts the server, but waits n seconds for actual start up.
<code>edastart -show</code>	Shows general status of server and agents.
<code>edastart -stop</code>	Stops the server.
<code>edastart -cleardir</code>	Removes all temporary directories and files created by the server.
<code>edastart -traceon</code>	Turns on tracing. May be used at initial start up or after start. Should not be turned on (due to overhead) unless there is a problem that needs to be traced. It is always preferable to run traces at initial start up time unless instructed otherwise.
<code>edastart -traceoff</code>	Turns off tracing.
<code>edastart -?</code>	Displays edastart options.
<code>edastart -?s</code>	Displays support information and support related options.

Troubleshooting

Safe Mode

If the server starts in safe mode normal use of the server is disabled. However the administrator can connect to the Web Console to fix the problem. When the Web Console is started the reason the server is in safe mode is listed on the HOME page. Click the fix hyperlink listed under the problem and make the correction. Save and restart the server.

Note: A common reason for the server to start in safe mode is that the `server_admin_password` is not correct.

CHAPTER 4

Server Installation for OS/390 and z/OS

Topics:

- Installation Requirements
- Installing a New Server for OS/390 and z/OS
- General Server Startup and Use
- DB2 Security Exit Configuration
- Adding a Configuration Instance
- Upgrading Your Server Release
- Migrating From an MVS Server
- Frequently Asked Questions

This document describes the requirements and procedures for:

- Installing a new Server for OS/390 and z/OS (follow this document in sequential order).
- Adding a configuration instance (see *Adding a Configuration Instance* on page 4-34).
- Upgrading your Server for OS/390 and z/OS from an earlier Version 5, Release 2.x (see *Upgrading Your Server Release* on page 4-38).
- Migrating from the Server for MVS (see *Migrating From an MVS Server* on page 4-47).

The Server for OS/390 and z/OS supports data adapters for the following Database Management Systems (DBMSs):

Adabas	CA-IDMS/SQL	Teradata
BULL GCOS	CA-IDMS/DB,	SAP
Datacom,	IMS	Siebel
DB2 CLI,	Millennium	Supra
DB2 CAF,	MODEL 204	Total
EJB,	MQ Series	VSAM
Flat Files	Oracle	XML
FOCUS		

You do not need specific DBMS information (such as release levels, user IDs, and passwords) for installation. This information will be needed later for configuration.

Installation Requirements

Before beginning server installation, review the following requirements:

- Operating System Requirements
- Disk Space Requirements
- Memory Requirements
- Communications Requirements

Operating System Requirements

The server requires the following operating system levels.

Operating System	Release
OS/390	2.10
z/OS	1.1 or higher

Disk Space Requirements

The following table lists approximate disk space requirements for each platform. Specific sizes may vary slightly with options selected during configuration. The usage numbers do not include space for actual applications, databases, sort space, output preparation, or logs.

Platform	Version	During Installation	After Installation
OS/390	2.10	1 Gigabyte	750 Megabytes
z/OS	1.1 through 1.4	1 Gigabyte	750 Megabytes

Memory Requirements

Memory usage of a configured environment consists of the following elements:

- Workspace Manager
- Listeners
- Concurrently running application agents

Actual memory usage depends on application features and differs between applications. The following table lists memory usage values:

Platform	Workspace Memory	Memory Per Agent
OS/390	9 Megabytes	1.2 Megabytes
z/OS	9 Megabytes	1.2 Megabytes

Communications Requirements

The TCP/IP Transport protocol is supported on all platforms and is the primary method of communication between connector applications and servers. Up to four consecutive open ports for each server you want to run will be used. The starting number of consecutive ports is required for installation.

Installing a New Server for OS/390 and z/OS

To install a new Server for OS/390 and z/OS, perform the following steps.

Step 1. Establish the HFS Directory for the Server

The server installation requires a set of HFS directories where the product executable files, configuration files and sample applications are loaded. The server also use HFS directories for temporary files during the server operation by default. Application files (MFD/FEX) can be kept in the HFS directories or in PDS.

To better control the space allocated to server software, we recommend defining a separate HFS data set, OMVS.IADMIN, and mounting it as /u/iadmin for the exclusive use of the server. Note that both names can be changed and existing HFS data sets used as an alternative.

Step 1a. Define the HFS Data Set

Create the JCL to define the HFS data set, add a job card, and submit. In the following sample JCL, the name assigned to the HFS data set is OMVS.IADMIN.

```
//***** JOB CARD GOES HERE *****/
//
//*****DEFINE HFS *****/
//DEFWEB EXEC PGM=IEFBR14
//DD1 DD DISP=(NEW,CATLG),DSN=OMVS.IADMIN,DSNTYPE=HFS,
// VOL=SER=VPWRKC,DCB=(DSORG=PO),
// SPACE=(CYL,(1200,5),,CONTIG,ROUND)
```

Step 1b. Mount the File System

At the command line in Option 6 of ISPF, issue the following commands

```
MOUNT FILESYSTEM('OMVS.IADMIN')  
MOUNTPOINT('/u/iadmin') TYPE (HFS) MODE (RDWR)
```

where:

OMVS.IADMIN

Is the name associated with the file system defined in Step 1a.

/u/iadmin

Is the mount entry point for the file system. Specify a directory appropriate for your site.

The specified directory must exist before you issue the MOUNT command. Once the directory is created, the minimum permissions for all directory levels leading to iadmin must be 755.

Update your BPXPRMXX member in SYS1.PARMLIB to permanently mount the file system.

Step 2. Set Up User IDs

To install and run the server, you will need to set up the following user IDs:

- **Server Administration User ID (Non-Super User).** The installation of the server requires at least one non-super user ID that has read access to the BPX.FILEATTR.APF Facility file. This ID must have a unique numeric UID (User ID Definition). This ID should be available only to users who require administrative privileges to the server.

We recommend that you assign *iadmin* as the ID for installing and running the server; this is the name used throughout the installation procedure. However, you can choose any site-specific user ID with a unique numeric UID.

- **Server System User ID (Super User).** If you plan to run the server with security on, you must create a super-user Server System ID for the server. This ID must have UID(0) specified in its RACF definition. The server will use this ID when it needs super user privileges for commands such as changing ownership. This allows multiple users to access the server and execute requests based on the methods used by WebSphere and IBM's HTTP Server.

We recommend that you assign *iserver* as the Server System ID. However, you can choose a site-specific user ID.

Note: Should you wish to change this system ID after the server is installed, you can edit the *edaserve.cfg* file and restart the server.

- **General User IDs.** For server users, ensure that each user ID has an OMVS segment.

Step 2a. Define the Server Administration User ID

The following sample definition of a server administration user ID is created using RACF commands that only the Security Administrator can issue.

```
ADDUSER iadmin PASSW(XXXX)
DFLTGRP (OMVSGRP)
OMVS (UID(8) HOME('/u/iadmin') PROGRAM('/bin/sh'))
TSO (ACCTNUM(12345) PROC (PROC01))
```

Verify that the above ADDUSER command completed successfully. To do so, issue the following command:

```
[TSO] LISTUSER iadmin OMVS NORACF
```

You should receive the following response:

```
USER=iadmin
OMVS INFORMATION
-----
UID=0000000008
HOME=/u/iadmin
PROGRAM=/bin/sh
```

A Security Administrator must update the Facility classes of RACF, as shown below. The following commands are issued with ISPF Option 6:

```
RDEFINE FACILITY BPX.FILEATTR.APF UACC(NONE)
PERMIT BPX.FILEATTR.APF CL(FACILITY) ID(iadmin) ACCESS(READ)
```

For the above commands to take effect, the RACF Facility class will have to be refreshed.

```
SETROPTS RACLIST(FACILITY) REFRESH
```

Verify that the home directory of the server administration user ID is correct. To do so, issue the following command from omvs:

```
pwd
```

You should receive the following response:

```
/u/iadmin
```

This directory should be the home directory specified in the UID definition for iadmin.

For a second confirmation, issue the following command:

```
echo $HOME
```

You should receive the following response:

```
/u/iadmin
```

Verify that the server administration user ID has a unique UID and the correct GID defined. To do so, log on using the IADMIN user ID and, from omvs, issue the following command and press *Enter*:

```
id
```

You should receive the following response:

```
uid=0000000008(IADMIN) gid=50(group)
```

This UID and GID should match what is defined in the OMVS segment.

Step 2b. Define the Server System User ID

The following sample definition of a server system user ID is created using RACF commands that only the Security Administrator can issue.

```
ADDUSER iserver  
DFLTGRP (OMVSGRP)  
OMVS(UID(0) HOME('/u/iserver') PROGRAM('/bin/sh'))
```

Verify that the above ADDUSER command completed successfully by issuing the following command:

```
[TSO] LISTUSER iserver OMVS NORACF
```

You should receive the following output:

```
USER=iserver  
OMVS INFORMATION  
-----  
UID=0000000000  
HOME=/u/iserver  
PROGRAM=/bin/sh
```

Step 2c. Add OMVS Segment to General User IDs

For users of the server, ensure that each user ID has an OMVS segment (or is setup to use a default user ID as documented in the IBM manual *UNIX System Services Planning*). To modify an existing TSO user ID profile, from ISPF Option6, issue the following command

```
ALTUSER user_ID OMVS(UID(nnn) HOME('/u/user_ID') PROGRAM('/bin/sh'))
```

where:

```
user_ID
```

Is the user ID you are modifying.

Step 3. Collect Required Information for Data Adapters

For the data adapters listed in the following table, the installation procedure will prompt you for the specified information. For all other data adapters, no information is required during installation.

Data Adapter	Information Required	Format / Notes
Adabas	Load library	DSN
CA-Datacom	Load library	DSN
DB2 CAF	SDSNLOAD load library	DSN (if not already in linklist.) For security information, see <i>DB2 Security Exit Configuration</i> on page 4-29.
DB2 CLI	CLI DSNAOINI	Environment variable. Full path and file name of DB2 CLI ini file. For example: /u/iadmin/db2cli.ini
CA-IDMS/DB and CA-IDMS/SQL	IDMS.LOADLIB IDMS.DBA.LOAD.LIB SYSCTL SYSIDMS	DSN DSN DSN DSN
IMS	DFSPZP DFSRESLB load library	DSN DSN
MODEL 204	M204 load library	DSN
Oracle	ORACLE_SID ORACLE_HOME LIBPATH	Environment variable: Oracle SID Environment variable: Oracle home directory Environment variable: location of Oracle lib directory, usually \$ORACLE_HOME/lib
Supra	LINKLIB INTERFLM ENVLIB CSIPARM	DSN DSN DSN DDNAME: points to the data set that contains the CSIPARM definition, which in turn points to the Central PDM you are accessing. For the name of this file, contact your Supra Database Administrator.

Note: If you are using non-APF authorized DBMS Libraries, you must allocate the libraries to the DDNAME TASKLIB in the ISTART JCL. The installation routine collects the information and allocates the required libraries in STEPLIB.

After the server is installed and configured, data adapters can be configured using a Web-based server configuration tool called the Web Console.

Step 4. Copy the Installation Software From Tape or FTP

There are two ways to unload the installation media:

- **From Tape.** The software is provided on a cartridge in 3480 or 3490 format with both MVS PDSs and HFS tar files. You must unload the installation data set from the tape before you can run the installation as explained below in *Unloading From Tape* on page 4-8. This is how most installations are performed.
- **From FTP/Disk.** The software can be downloaded from a special FTP site and includes both an MVS data set and HFS files. You must allocate space and ensure that the MVS data set and HFS files are in the appropriate locations as explained below in *Copying From FTP/Disk* on page 4-10. You must contact your Information Builders representative if you wish to use this option.

Unloading From Tape

The software is provided on a cartridge in 3480 or 3490 format with both MVS PDSs and HFS tar files. Perform the following to unload the installation data set from the tape:

1. Log on to TSO with the iadmin user ID. This user ID must have an OMVS segment defined and access to the HFS directory where the product will be installed.
2. Run an IEBCOPY job to allocate and unload the *qualif*.HOME.DATA data set. This PDS contains the members needed for the actual installation.

The following is sample JCL for the initial unload to a new data set:

```
//IEBCOPY EXEC PGM=IEBCOPY,REGION=0M
//SYSPRINT DD SYSOUT=*
//SYSUT1 DD UNIT=workunit,SPACE=(CYL,(5,1))
//OUT1 DD DISP=(NEW,CATLG,DELETE),
// DSN=qualif.HOME.DATA,
// DCB=(RECFM=FB,LRECL=80,BLKSIZE=3200),
// SPACE=(CYL,(1,5,25)),
// UNIT=SYSDA
//IN1 DD DISP=(OLD,PASS),
// DSN=HOME.DATA,
// UNIT=cart,
// VOL=(,RETAIN,,SER=volser),
// LABEL=(1,SL)
//SYSPRINT DD SYSOUT=*
//SYSIN DD *
COPY INDD=IN1,OUTDD=OUT1
```

where:

workunit

Is the unit for the work data set.

qualif

Is the high-level qualifier for HOME.DATA and for all other MVS data sets that the installation procedure allocates. We recommend that the high-level qualifier reflect the release of the server (for example, IADMIN.SRV52). However, you can use any site specific value.

Note: Using a low-level qualifier such as HOME.DATA is recommended, but any site specific value can be used.

cart

Is the unit type of the tape drive. Common names include 3480, TAPE, or 3490. Change as needed.

volser

Is the value shown on the media label.

After this job has run, *qualif*.HOME.DATA is allocated, cataloged, and populated with the members needed to continue the product installation.

Proceed to *Step 5. Run ISETUP* on page 4-11.

Copying From FTP/Disk

This section only applies when installing from FTP/Disk. You must contact your Information Builders representative before attempting this.

1. Log on to TSO with the iadmin user ID. This user ID must have an OMVS segment defined and access to the HFS directory where the product will be installed.
2. Allocate a temporary sequential data set with a name such as the following:

```
qualif.ISERVER.DATA
```

and the following attributes:

```
LRECL(80),RECFM(F,B),BLKSIZE(3120),SPACE=(TRK,(2,2))
```

Note: Substitute the name you use for *qualif.ISERVER.DATA* in the steps below.

3. Create a temporary HFS directory to hold the installation files. For example:

```
/u/iadmin/download.
```
4. Using TSO or ISPF option 6, connect to the FTP site using the information provided by your Information Builders representative.
5. Once connected, type the following to indicate a binary transfer:

```
binary
```

6. Type the following to get the MVS installation software:

```
get iserver.data 'qualif.ISERVER.DATA' (replace
```
7. Type the following to indicate the location for the HFS files:

```
lcd /u/iadmin/download
```

8. Type the following to get the HFS files:

```
mget *
```

You will be prompted to accept the transfer of 7 files (6 HFS files and 1 MVS data set).

```
Mget inu.out (Yes|No|Quit|Stop prompting)?
```

9. Enter:

```
Yes
```

to accept the transfer of all **except for** the iserver.data data set indicated by a prompt such as the following:

```
Mget iserver.data (Yes|No|Quit|Stop prompting)?
```

10. When you receive the above prompt, enter:

```
No
```

11. When all 6 HFS files have been transferred, type the following to exit FTP:

```
quit
```

12. Under TSO, explode the sequential file *qualif.ISERVER.DATA* created above into a PDS using the following command:

```
RECEIVE INDSN('qualif.ISERVER.DATA')
```

13. At the restore parameters prompt, type the following to create the *qualif.HOME.DATA* PDS:

```
DSNAME('qualif.HOME.DATA')
```

Note: Using a low-level qualifier such as HOME.DATA and a high-level qualifier that reflects the release of the server (for example, IADMIN.SRV52) is recommended. However, you can use any site specific value.

In the ISETUP procedure below, be sure to specify (*D*)isk for the Input Source and provide the HFS directory into which you transferred the installation files.

Step 5. Run ISETUP

Server installation consists of a series of ISPF panels, which gather the required information. After the panel dialog is complete, JCL is created and submitted (if required) to install the server on OS/390 and z/OS. This JCL job retrieves the remainder of the MVS libraries and HFS files from the media and configures a basic working server.

Installing a New Server for OS/390 and z/OS

To begin, using option 6 in ISPF, execute the ISETUP member in your *qualif*.HOME.DATA. The first Installation and Configuration panel opens:

```
IWay Software           Installation and Configuration           OS/390 and z/OS
Command ==>                                                    P1

Welcome to the Product Set Up Facility
Please respond to the following selection

Select an option:

      1. Install and Configure
      2. Add Additional Configuration Instance
      3. Refresh Installation (Reinstall, Keep Configurations)

Enter selection (Default=1) ==>
Enter License Key           ==> - - Last License key processed
Input source                ==> T (T)ape or (D)isk

Enter Job Card information           Override JOB name checking ==> N
==> //IADMIN JOB (ACCOUNT INFO), _____
==> //* _____
==> //* _____
Press Enter to continue, PF3 to END or PF1 for Help
```

1. Complete the panel as follows:

<p>Enter selection</p>	<p>Accept the default value 1, <i>Install and Configure</i>, for a new installation.</p> <p>Note:</p> <ul style="list-style-type: none"> • For option 2, <i>Add Additional Configuration Instance</i>, see <i>Adding a Configuration Instance</i> on page 4-34. • For option 3, <i>Refresh Installation</i>, see <i>Upgrading Your Server Release</i> on page 4-38.
<p>Enter License Key</p>	<p>Enter the 10-digit License Key that was provided with the software. Be sure to store this key in a safe place for future reference.</p>
<p>Input source</p>	<p>Choose the input source, T for Tape or D for Disk. The default value is T.</p> <p>Note: If you downloaded the server software via FTP, choose D and, on the next panel, provide the directory name where the transferred files reside.</p>
<p>Enter Job Card information</p>	<p>To provide valid JCL for submitting jobs to the JES queue, provide a valid job name (a maximum of the first seven characters following the // on the first JCL line), which defaults to the user ID that you are currently using. This job name, plus a job name character (A,B,C and so on) is used in the JCL generated by the installation procedure.</p>
<p>Override JOB name checking</p>	<p>To provide your own JOB Card information, provide valid JCL and select 'Y' for the "Override JOB name checking" question. This will cause the same JCL to be used for all jobs created.</p>

2. Press *Enter* to continue to the next panel.

```
IWay Software           Installation and Configuration           OS/390 and z/OS
Command ==>                                                    P2

                               New Installation

Please enter the following information for Full Function Server

Input Media (blank any field for default)
Volume serial number      ==> T5205U
Volume unit type         ==> 3480
Work unit type           ==> SYSDA

Installation parameters (blank any field for default)
HFS Base Directory       ==> /u/iadmin
HFS APPROOT Directory   ==> /u/iadmin/ibi/apps
Server System Userid    ==> ISERVER
TCP Base Port           ==> 8100_

MVS Installation Libraries
EDACONF Library         ==> IADMIN.SRV52.FFS.DATA
EDAHOME Library         ==> IADMIN.SRV52.HOME.LOAD
EDAHOME Library Unit    ==> 3390      Volume ==> USERMA

Press Enter to continue, PF3 to return to previous menu or PF1 for Help
```

3. Complete the panel as follows:

Input Media	
Note: If installing from disk, provide the directory name where the installation files reside.	
Volume serial number	Provide the volume serial number for the server media. This volume serial number is located on the tape supplied in your server package. The value shown is an example of the required format.
Volume unit type	Review the default value and change if necessary.
Work unit type	Review the default value and change if necessary. Note: The <i>Work Unit Type</i> field can specify a UNIT= type value (for example, SYSDA) or to direct work files to a specific volume serial number you can specify, in single quotation marks ('), 'SYSDA,VOL=SER=volume'.

Installation parameters	
HFS Base Directory	This indicates where to install the server. The default value is the home directory of the user ID you are using to install the product. Change this value, if necessary, to a valid directory that has space for the installation. The installation procedure checks whether this directory exists and has enough space. If either test fails, you will receive a message indicating the failure and available options.
HFS APPROOT Directory	This indicates where application components will reside. The default value is based on the value specified for <i>HFS Base Directory</i> . To specify another location for application components, change the value for this field.
Server System Userid	This shows the default value, ISERVER. To change this value, see the requirements in <i>Step 2. Set Up User IDs</i> on page 4-4.
TCP Base Port	This indicates the first of four consecutive ports that must be available for the listeners and other internal needs. For example, if you choose port 8100, then ports 8100, 8101, 8102, and 8103 are used by the server. Ensure that you choose ports that are not currently being used.

MVS Installation Libraries	
<code>EDACONF Library</code>	This is the full data set name the installation procedure will use to allocate the EDACONF configuration library on MVS. If you are running from <code>qualif.HOME.DATA</code> , this field will have the default value <code>qualif.server_type.DATA</code> (where <code>server_type</code> is based on License key). If you used another name to unload the first data set, this field will be blank. On subsequent running of ISETUP, the previous value used will be displayed. Change the value as necessary.
<code>EDAHOME Library</code>	This is the full data set name the installation procedure will use to allocate the EDAHOMELoad library on MVS. If you are running from <code>qualif.HOME.DATA</code> , this field will have the default value <code>qualif.HOME.LOAD</code> . If you used another name to unload the first data set, this field will be blank. On subsequent running of ISETUP, the previous value used will be displayed. Change the value as necessary.
<code>EDAHOME Library Unit/Volume</code>	These show the values that the installation process will use to allocate the EDAHOMELoad library on MVS. If necessary, you can change these to site specific values.

4. Press *Enter* to proceed to the next panel. Depending on your license key, you may receive the Data Adapter panel before the Demonstration Files panel. The Data Adapter panel lists adapters that require the allocation of MVS libraries in the ISTART JCL.
5. If you receive the Data Adapter panel:
 - a. Place a 'Y' next to the required adapters and press *Enter* to proceed to the next panel.
 - b. Supply the information required and press *Enter* to proceed to the Demonstration Files panel.

For more information, see *Step 3. Collect Required Information for Data Adapters* on page 4-7.

Note: After the server is installed and configured, you can use the Web Console to complete configuration of these data adapters and to configure adapters that do not have MVS JCL requirements.

- In the Demonstration Files panel, place a Y next to the desired language and press *Enter* to proceed to the Confirmation panel.

Note: If you do not select a language, demonstration files are not installed.

```

IWay Software           Installation and Configuration           OS/390 and z/OS
Command ==> _                                               P4
                                     New Installation

Please confirm the following information for Full Function Server

Input Media
  Volume serial number   ==> T5205U
  Work unit type        ==> SYSDA
  Unit type             ==> 3480
Installation parameters
  HFS EDACONF Directory ==> /u/iadmin/ibi/srv52/ffs
  HFS EDAHOME Directory ==> /u/iadmin/ibi/srv52/home
  HFS APPROOT Directory ==> /u/iadmin/ibi/apps
  Server System Userid  ==> ISERVER
  TCP Base Port         ==> 8100
  EDACONF Library       ==> IADMIN.SRV52.FFS.DATA
  EDAHOME Library       ==> IADMIN.SRV52.HOME.LOAD
  EDAHOME Library Unit  ==> 3390   Volume ==> USERMA

Continue ? (N)o, (C)reate JCL only, (S)ubmit JCL ==> S   (Enter N, C or S)

Press Enter to process, PF3 to return to previous menu or PF1 for Help

```

- Ensure that all values on the Confirmation panel are correct, then select one of the following options:
 - N. Select this option to return to the initial screen and change installation values.
 - C. Select this option to create JCL to be submitted at a later time. The JCL is placed in your configuration library
 - S. Select this option to create JCL and submit the job immediately.

8. As the job is processed, in SDSF, check the JESLOG for errors and return codes.

Following is a list of the jobs created. All members are created in the configuration library.

<code>ISETUPJ1</code> <code>ISOPTS1</code>	Main JCL Job stream that is used to install the server.
<code>ISTART</code>	Starts the server.
<code>ISTOP</code>	Stops the server.
<code>ICLEAR</code>	Clears server resources after abnormal end.
<code>ICLRDIR</code>	Clears super-user-owned directories from a previously run secure server.
<code>ISHOW</code>	Shows current workspace status.
<code>ITRCON</code>	Turns on dynamic tracing (server will be started if not already running).
<code>ITRCOFF</code>	Turns off dynamic tracing (server will be started if not already running).
<code>ISAVEDIA</code>	Creates a directory called <code>sdnnnnn</code> and populates it with full diagnostic information.

The following table shows the HFS directory structures created during the install process.

<code>/u/iadmin/ibi/srv52/tape</code>	Contains HFS files from the input media.
<code>/u/iadmin/ibi/srv52/install</code>	Working directory for the installation process. Log and error files reside here.
<code>/u/iadmin/ibi/apps</code>	The installation creates <i>baseapp</i> and one or more sample application directories under this directory.
<code>/u/iadmin/ibi/profiles</code>	This is where the server profiles are created.
<code>/u/iadmin/ibi/srv52/home</code>	Server system directories are created under this directory.

<p><code>/u/iadmin/ibi/srv52/server_type</code></p> <p>where:</p> <p><code>server_type</code></p> <p>Is one or more of the following:</p> <ul style="list-style-type: none"> <code>ffs</code> Full-Function server <code>wfs</code> WebFOCUS Reporting Server <code>etl</code> ETL Server <code>wfm</code> WebFOCUS Maintain Server <code>cgw</code> Communications Gateway <code>aas</code> Application Adapter Server 	<p>Configuration directories are created under this directory. The license key specified in the ISETUP procedure determines the <code>server_type</code>.</p>
---	---

Example Server ISTART JCL

The ISETUP procedure generates the configuration library `qualif.server_type.DATA`. This library contains the member ISTART, which starts the server. An example of the ISTART member follows:

```
//IADMINA      JOB   (IADMIN) , 'IADMIN' ,MSGCLASS=X,MSGCLASS=(1,1) ,CLASS=Y,
//              NOTIFY=IADMIN
//*
//TSCOM300     EXEC  PGM=TSCOM300
//STEPLIB      DD   DSN=IADMIN.SRV52.HOME.LOAD,DISP=SHR
//EDAPRINT     DD   SYSOUT=*
//SYSPRINT     DD   SYSOUT=*
//SYSOUT       DD   SYSOUT=*
//EDAPARM      DD   *
//*
//EDAENV       DD   *
TZ=EST5EDT
EDACONF=/u/iadmin/ibi/srv52/ffs
PATH=/bin
SHELL=/bin/sh
```

Note: The TZ=EST5EDT is the Time Zone setting, which ensures that the timestamps found in the product files are accurate. The default is Eastern Standard Time. You can edit this setting to reflect a different time zone. For more information on the UNIX variable TZ, see the IBM documentation that covers z/OS UNIX System Services.

The license key determines the name of the configuration directory, which is automatically created by the ISETUP procedure.

Step 6. Test the Server Installation

To test the server installation:

1. Log on to TSO as iadmin.
2. Submit the ISTART JCL to start the server.
3. Check the job output for errors. Look for the EDAPRINT message:

`Workspace initialization completed`

4. Start the Web Console by opening a browser pointed at the listener port of the server. The URL format is

`http://host:port`

where:

`host`

Is the name of the machine on which the server is installed.

`port`

Is one port higher than the port specified when installing the server. For example, if you specified port 8100 during installation, then use port 8101 to access the Web Console.

The Web Console opens.

5. Click *Test* to run a sample report.

When you are finished using the server, you can use the Web Console to stop the server by selecting the *Workspace* link on the left and then choosing *Stop*.

If you experience problems at start up, examine the job output for more information.

Step 7. Configure Server Security

The server runs in one of the following security modes:

- **Security OFF.** This is the default unless security is configured.
- **Security ON.** All connecting users are authenticated against the security package (RACF, ACF2, Top Secret), and the data agents are impersonated according to the deployment mode to control access right to data files and dbms objects.

To configure server security:

1. Log on to TSO using an ID with read access to BPX.FILEATTR.APF FACILITY.
2. Using the name of the actual EDHOME directory, change file attributes by entering the following TSO commands in ISPF Command Shell (option 6):

```
OSHELL extattr +a /u/iadmin/ibi/srv52/home/bin/tscom300.out
OSHELL extattr +a /u/iadmin/ibi/srv52/home/bin/tsqprx.out
```

3. Verify your changes by issuing the following command:

```
OSHELL ls -E /u/iadmin/ibi/srv52/home/bin/tscom300.out
OSHELL ls -E /u/iadmin/ibi/srv52/home/bin/tsqprx.out
```

The extended attributes portion of the output should be a-s-.

4. The libraries allocated to STEPLIB in the ISTART JCL must be APF-authorized. Any non APF-authorized libraries must be allocated the TASKLIB DDNAME.
5. Test server security by repeating the process described in *Step 6. Test the Server Installation* on page 4-20.

Configuring Security With Top Secret

If you use Computer Associates CA-TOP SECRET, follow these guidelines or refer to the security vendor's manual for implementing its SAF Interface for user-level security.

Through a facility entry, the server must be defined to CA-TOP SECRET as a multi-user facility requiring task-level authority. For more information, see *How to Define UNIX System Services Users in Computer Associates' eTrust CA-Top Secret Security for OS/390 and z/OS Cookbook*.

To use CA-TOP SECRET, perform the following steps:

1. Create a CA-TOP SECRET facility entry called IWAY for the server security module, *PATHNAM.
2. Within this entry, include CA-TOP SECRET parameters to establish the proper operating characteristics.
3. Each user of the server must be defined to CA-TOP SECRET and given access to the appropriate system resources.

The following is an example of a facility entry that defines the server to CA-TOP SECRET:

```
FACILITY DISPLAY
INITPGM=*PATHNAM ID=9 TYPE=26
ATTRIBUTES=IN-USE, ACTIVE, SHRPRF, ASUBM, TENV, NOABEND, MULTIUSER, NOXDEF
ATTRIBUTES=LUMSG, STMSG, SIGN (M) , NOPSEUDO, INSTDATA, NORNDPW, AUTHINIT
ATTRIBUTES=NOPROMPT, MENU, NOAUDIT, RES, NOMRO, WARNPW, NOTSOC
ATTRIBUTES=NOTRACE, NOLAB, NODORMPW, NONPWR, NOIMSXTND
MODE=IMPL
LOGGING=ACCESS, INIT, SMF, MSG, SEC9
UIDACID=8 LOCKTIME=000 DEFACID=*NONE* KEY=8
```

The ISERVER and IADMIN ACIDs must have authority to the FACILITY you have defined for the SERVER and to the resources within the facility.

Following is an example of an IADMIN ACID definition for Top Secret Security:

```

ACCESSORID = IADMIN      NAME           = WEBFOCUS ADMIN ID
TYPE       = USER       SIZE           =          512  BYTES
FACILITY   = TSO
FACILITY   = TMON
FACILITY   = EDASQL
FACILITY   = ACCESSRA
FACILITY   = ACCMVS
FACILITY   = TPXS
FACILITY   = DISPCH
DEPT ACID  = H02SYS      DEPARTMENT = SYSTEMS PROGRAMMING
DIV ACID   = HC02        DIVISION   = INFOMATION SYSTEMS SUPPORT
ZONE ACID  = SW          ZONE        = South West
CREATED    = 03/02/04    LAST MOD   = 03/04/04  13:34
PROFILES   = H02SYSP1    DISALLP    EDASQLP    EDAHCADV
PROFILES   = H02USSP0    XPTRPROF
GROUPS     = OSYSGRP     OMVSGRP
DFLTGRP    = OMVSGRP
XA HFSSEC  = /U.IADMIN                                     OWNER (H02USS  )
  ACCESS   = ALL
----- SEGMENT OMVS
HOME       = /u/iadmin
OMVSPGM    = /bin/sh
UID        = 0000000028
    
```

Note that UID is *not* zero.

Following is an example of an ISERVER ACID definition for Top Secret Security:

```
TSS LIST(ISERVER) DATA(ALL, PROFILE)
ACCESSORID = ISERVER  NAME           = WEBFOCUS ID
TYPE       = USER    SIZE           =      512 BYTES
FACILITY   = TSO
FACILITY   = TMON
FACILITY   = EDASQL
FACILITY   = ACCESSRA
FACILITY   = ACCMVS
FACILITY   = TPXS
FACILITY   = DISPCH
DEPT ACID  = H02SYS   DEPARTMENT = SYSTEMS PROGRAMMING
DIV ACID   = HC02     DIVISION   = INFORMATION SYSTEMS SUPPORT
ZONE ACID  = SW       ZONE       = South West
CREATED    = 03/02/04 LAST MOD   = 03/02/04 09:51
PROFILES   = H02SYSP1 DISALLP   EDASQLP  EDAHCADV
PROFILES   = H02USSP0 XPTRPROF
GROUPS     = OSYSGRP  OMVSGRP
DFLTGRP    = OMVSGRP
----- SEGMENT OMVS
HOME       = /
OMVSPGM    = /bin/sh
UID        = 0000000000
```

Note that UID is zero.

For more information, see Computer Associates' *eTrust CA-Top Secret Security for OS/390 and z/OS Cookbook*.

Configuring Security With CA-ACF2

If you are installing the server to run with an ACF2 security package, please be advised that fix number TA6769G may have to be applied. For details about this fix, contact Computer Associates.

To create the necessary logon IDs and profile records, issue the following commands:

```
ACF
SET LID
INSERT OMVS GROUP(OMVSGRP) STC UID(0)
INSERT INETD GROUP(OMVSGRP) STC UID(0) HOME(/) OMVSPGM(/bin/sh)
INSERT TCPIP GROUP(OMVSGRP) STC UID(0)
```

For more information, see the following sections in Computer Associates' *eTrust CA-ACF2 Security for z/OS and OS/390 Cookbook*.

- Defining USS Users
- Superusers
- HTTP Server
- Installation Steps

Turning Security OFF

In the event that security needs to be removed from the server, perform the following steps:

1. In the *qualif.HOME.DATA(ISTART)* JCL, add the following setting under the EDAENV DDNAME:

```
EDAEXTSEC=OFF
```
2. Submit the *qualif.HOME.DATA(ICLRDIR)* JCL. This will clean any remaining files from when the server was running with security on.
3. Submit *qualif.HOME.DATA(ISTART)*. The server will now be running with security turned off.

General Server Startup and Use

This section provides information on operation and use of the server. Additional information on the server and how to configure adapters is available in the Web Console help. The Web Console help is also available as the *iWay Server Administration for UNIX, Windows, OpenVMS, OS/400, OS/390 and z/OS* manual.

Server Startup and Stop

- Startup
Submit the ISTART member of the MVS configuration library for your server.
- Stop
Submit the ISTOP member of the configuration library or use the Web Console.

Server Startup and Operation Using MVS Operator MODIFY Commands

On MVS, you can start the server using MODIFY commands either from the MVS Console or SDSF. You can use MODIFY commands to pass options to an already running job:

Use MVS Operator MODIFY commands in the following format:

```
MODIFY jobname, parameters
```

For instance:

```
MODIFY IWAY525, -SHOW
```

Note: If the server job is cancelled or it abends, submit the ICLEAR job in the configuration data set before restarting the server.

Batch Execution

The following sample jcl allows you to access data via an individual access agent TSCOM3 as a batch job. This is the equivalent to edastart -t in a Unix environment.

Make the following modifications to the ISTART JCL:

```
//INPUT          DD *
EX FEX
/*
//OUTPUT        DD SYSOUT=*
//EDAPARM
-t
/*
//EDAENV        DD *
TRMIN=//DD:INPUT
TRMOUT=//DD:OUTPUT
EDACURDIR=u/iadmin/ibi/srv52/ffs/edatemp
```

Note:

- The INPUT and OUTPUT DDNAMEs are arbitrary and can be any valid DDNAME except for TRMIN and TRMOUT. You can also allocate the INPUT and/or OUTPUT DDNAMEs to a data set if so desired.
- If the keyword EDACURDIR is not specified, then the output will be placed in the home directory of the user ID that is executing the request.
- The name of the FEX must always be UPPERCASE.
- Any parameters used in EDAPARM must start in Column 1 or the parameter will be ignored. Also, only one parameter can be used per line as shown below:

```
//EDAPARM
-t
-traceon
/*
```

Getting Diagnostic Information

If you encounter problems, you will need to submit the following information to iWay Technical Support:

- Server trace.
- JCL for ISTART.
- Job output.
- System dump (if needed).
- Any additional information regarding how the problem occurred.

To generate a server trace:

1. Turn tracing on from the Web Console or by running the ITRCON JCL member.
2. Reproduce the problem.
3. Stop the server.
4. Submit the ISAVEDIA member to produce the diagnostic information.

A directory called *sdnnnnn* is created under your configuration directory (for example, */ibi/server52/ffs/sd123456*). Diagnostic information is placed in this directory. Make sure you have access to this directory.

Important: In order for the correct information to be copied to your directory, do not change anything in the EDAENV DD statement.

To generate a system dump:

1. Allocate DDNAME SYSMDUMP pointing to the data set with the following DCB parameters:

```
RECFM=FB,LRECL=4160,BLKSIZE=4160.
```

2. To get the first dump, add the parameter FREE=CLOSE to your DD statement. The DD statement should appear as follows:

```
//SYSMDUMP DD DISP=SHR,DSN=MYID.EDAPTH.SYSMDUMP,FREE=CLOSE
```

3. To get the LAST dump, the statement should appear as follows:

```
//SYSMDUMP DD DISP=SHR,DSN=MYID.EDAPTH.SYSMDUMP
```

Only two IDs must have privileges to write into this data set: ISERVER and IADMIN. General server users DO NOT need read or write access to the SYSMDUMP data set.

4. To prevent abendaaid from intercepting the dump, add:

```
//ABNLIGNR DD DUMMY
```

5. Save the entire job output for the server (including JES logs).

DB2 Security Exit Configuration

Customize the DB2 security exit to allow the Data Adapter for DB2 to run with user-level security enabled. If you do so, users will connect to DB2 with the authorization of the user ID with which they logged on to the server. The server must also be running with security turned on.

If you do not customize the DB2 security exit, all users will be assigned the connect ID to DB2 that is associated with the region, job submitter, or started task.

The changes that must be made to the IBM DB2 signon exit, DSN3SATH, differ for RACF and CA-TOP SECRET sites and CA-ACF2 sites.

- For an example of the changes that must be made in DSN3SATH for RACF and CA-TOP SECRET sites, see *Changing DSN3SATH for RACF (Version 6.1 example code) and CA-TOP SECRET Sites* on page 4-30.
- For an example of the changes that must be made in DSN3SATH for CA-ACF2 sites, see *Changing DSN3SATH for CA-ACF2 Sites* on page 4-32.

The arrows shown in the examples indicate the lines containing the recommended modification of DSN3SATH, which calls the module FOCDNS3 the supplied exit.

Once you have finished the edits, assemble the exit into an object file. This object file is input to the link JCL found in *Modifying the Link JCL for DSN3SATH* on page 4-33.

Note:

- The positioning of these lines is appropriate, assuming that no other changes or additions have already been made to DSN3SATH. If any changes have been made, you should decide on the most appropriate location for this call to FOCDNS3.
- FOCDNS3 is used to set the proper primary (individual user ID) authorization.
- Another program, FOCDNS4, is used to set the proper secondary (group ID) authorization for RACF and CA-TOP SECRET. FOCDNS4 is not needed with CA-ACF2; the secondary authorization ID(s) will be set correctly without it.

Example Changing DSN3SATH for RACF (Version 6.1 example code) and CA-TOP SECRET Sites

```

SATH001 DS    0H
        USING WORKAREA,R11      ESTABLISH DATA AREA ADDRESS ABILITY
        ST     R2,FREMFLAG      SAVE FREEMAIN INDICATOR
        XC     SAVEAREA(72),SAVEAREA CLEAR REGISTER SAVE AREA
        LA     R15,SAVEAREA      GET ADDRESS OF CSECT'S SAVE AREA
        ST     R13,FOUR(,R15)    CHAIN THE SAVE AREA BACK POINTER
        ST     R15,EIGHT(,R13)   CHAIN SAVEAREA FORWARD
        LR     R13,R15           ADDRESS OF CSECT'S SAVE AREA SPACE
        XC     EXPLARC,EXPLARC    INIT RETURN CODE TO NORMAL RETURN
        XC     SECCOUNT,SECCOUNT  CLEAR GROUP NAME COUNTER FIELD
        L      R8,PSAAOLD-PSA    GET CURRENT ASCB ADDRESS AND
                                USING ASCB,R8 SET MAPPING
                                ADDRESS ABILITY

                                EJECT
*****SECTION 1:  DETERMINE THE PRIMARY AUTHORIZATION ID *****
*
*   IF THE INPUT AUTHID IS NULL OR BLANKS, CHANGE IT TO THE AUTHID
*   IN EITHER THE JCT OR THE FIELD POINTED TO BY ASCBJBNS.
*
*   THE CODE IN THIS SECTION IS AN ASSEMBLER LANGUAGE VERSION OF
*   THE DEFAULT IDENTIFY AUTHORIZATION EXIT. IT IS EXECUTED ONLY
*   IF THE FIELD ASXBUSER IS NULL UPON RETURN FROM THE RACROUTE
*   SERVICE. FOR EXAMPLE, IT DETERMINES THE PRIMARY AUTH ID FOR
*   ENVIRONMENTS WITH NO SECURITY SYSTEM INSTALLED AND ACTIVE.
*
*****
                                SPACE
--->   LA     R1,AIDLPRIM        LOAD PARM REG1
--->   CALL   FOCDSN3           GO GET EXIT
        CLI   AIDLPRIM,BLANK    IS THE INPUT PRIMARY AUTHID NULL
        BH   SATH020           SKIP IF A PRIMARY AUTH ID EXISTS
        L    R7,ASCBSCB        GET CSCB ADDRESS
        CLI   CHTRKID-CHAIN(R7),CHTSID IS IT TSO FOREGROUND ADDR SPACE
        BNE  SATH010           BRANCH IF NOT
        L    R7,ASCBJBNS       GET ADDRESS OF LOGON ID
        MVC  AIDLPRIM,0(R7)     MAKE IT THE PRIMARY AUTH ID
        B    SATH019           TO END OF THIS ROUTINE
SATH010 DS    0H              NOT TSO, BUT BATCH OR STC SPACE
        L    R6,PSATOLD-PSA    CURRENT TCB ADDRESS
        L    R7,TCBJSCB-TCB(,R6) CURRENT JSCB ADDRESS
        L    R5,JSCBJCT-IEZJSCB(,R7) CURRENT JCT ADDRESS
        LA   R5,X'10'(,R5)     ADJUST FOR CORRECT DSECT MAPPING
        CLI  JCTUSER-INJMJCT(R5),X'4E' IF JCTUSER PLUS SIGN OR LESS
        BNH  SATH019           THEN LEAVE AIDLPRIM BLANK KEB0026
        MVC  AIDLPRIM(7),JCTUSER-INJMJCT(R5) COPY JOB USER ID

```


DB2 Security Exit Configuration

```
      BZ      SATH024          NO, USE ADDRESS SPACE ACEE @KYL0108
      CLC     ACEEACEE,EYEACEE IS IT REALLY AN ACEE? @KYL0108
      BE      SATH027          YES, PROCEED NORMALLY @KYL0108
      SPACE 1
SATH024 DS      0H              USE ADDRESS SPACE ACEE @KYL0108
      L      R6,ASCBASXB        GET ADDRESS SPACE EXTENSION BLOCK
      L      R6,ASXBSENV-ASXB(,R6) GET ACEE ADDRESS
---> CALL     FOCDSN4          GO GET EXIT (4=GROUP AUTH)
      LTR    R6,R6              DOES AN ACEE EXIST? IF NOT,
      BZ     SATH049           SKIP AROUND CONNECTED GROUP NAME
      CLC    ACEEACEE,EYEACEE DOES IT LOOK LIKE AN ACEE?
      BNE    SATH049           NO, THEN CAN'T DO GROUPS
      DROP   R8                DROP ASCB BASE REG @TU25003
      SPACE 1
SATH027 DS      0H              CHECK LIST OF GROUPS OPTION @KYL0108
      TM     RCVTOPTX,RCVTLGRP IS LIST OF GROUPS CHECKING ACTIVE
      BZ     SATH040           SKIP TO SINGLE GROUP COPY IF NOT
      DROP   R7                DROP RCVT BASE REG @TU25003
      SPACE 1
*      RACF LIST OF GROUPS OPTION IS ACTIVE
```

Example Changing DSN3SATH for CA-ACF2 Sites

```
*****
*      PRIMARY AUTHORIZATION ID      *
*****
*
--> LA      R1,AIDLPRIM          POINT TO AUTH FIELD
--> CALL     FOCDSN3             CALL TASK-LEVEL-EXIT
      CLI    AIDLPRIM,C' '      PRIMARY AUTHID THERE?
      BH     PRIMTSO            ..YES, EVERYTHING OK HERE
      L      R3,PSAAOLD-PSA(0)  CURRENT ASCB ADDRESS
```

Example Modifying the Link JCL for DSN3SATH

This is sample link JCL for the IBM exit DSN3SATH. Modify the JCL to link the modules into the DB2 security exit as follows.

```
//LKED EXEC PGM=IEWL, PARM='LIST,XREF,LET,RENT,AMODE=31'
//OBJECT DD DSN=db2pref.SDSNSAMP.OBJ,DISP=SHR <--OUTPUT OF ASSEMBLE
STEP
//EDAMOD DD DSN=qualif.HOME.LOAD,DISP=SHR
//SYSLMOD DD DSN=db2pref.DSNEXIT,DISP=SHR
//SYSPRINT DD SYSOUT=*
//SYSUT1 DD UNIT=SYSDA,SPACE=(100,(50,50))
//SYSLIN DD *
INCLUDE OBJECT
INCLUDE EDAMOD(FOCDNS3)
INCLUDE EDAMOD(FOCDNS4) <---OMIT FOR CA-ACF2
ENTRY DSN3@ATH
NAME DSN3@ATH(R)
/*
```

where:

db2pref

Is the prefix for the DB2 data sets.

qualif

Is the high-level qualifier for the data sets.

Once this job finishes successfully, you must recycle the DB2 subsystem in order for the changes to take effect.

Note: For the DB2 CAF adapter, it may be a site requirement for the STEPLIB allocation in the ISTART JCL to include the DB2 SDSNLOAD library. The ISETUP procedure does not do this for you, it will have to be added manually.

Adding a Configuration Instance

To add a configuration instance, perform the following steps.

Note: Adding a configuration instance allows you to run different server configuration instances using the same server binaries. For example, if you installed using a Full Function Server license code, you can use a WebFOCUS license to add a second configuration for a WebFOCUS Reporting Server. However, if you wish to run multiple instances of a single configuration type (two Full Function Server instances), you should run a second complete install.

1. Execute ISETUP again. You should have a *qualif.HOME.DATA* PDS unloaded from the installation tape. Use option 6 in ISPF to execute the ISETUP member of this PDS.

Note: If this PDS is not available, run an IEBCOPY job to allocate and unload it from the installation tape.

2. Complete the first Installation and Configuration panel as follows:

Enter selection	Choose option 2, <i>Add Additional Configuration Instance</i> .
Enter License Key	Enter the 10-digit License Key for the configuration.
Input source	Choose the input source, T for Tape or D for Disk. The default value is T.
Enter Job Card information	To provide valid JCL for submitting jobs to the JES queue, provide a valid job name (a maximum of the first seven characters following the // on the first JCL line), which defaults to the user ID that you are currently using. This job name, plus a job name character (A,B,C and so on) is used in the JCL generated by the installation procedure.
Override JOB name checking	To provide your own JOB Card information, provide valid JCL and select 'Y' for the "Override JOB name checking" question. This will cause the same JCL to be used for all jobs created.

3. Press *Enter* to continue to the next panel.

- Complete the panel as follows:

Configuration Parameters	
HFS Base Directory	This indicates where to install the configuration (EDACONF) and where the binaries (EDAHOME) are installed. The installation procedure checks whether this directory exists and has enough space. If either test fails, you receive a message indicating the failure and available options.
HFS APPROOT Directory	This indicates where application components will reside for the configuration. The default value is based on the value specified for <i>HFS Base Directory</i> . To specify another location for application components, change the value for this field.
Server System Userid	This shows the default value, ISERVER. To change this value, see the requirements in <i>Step 2. Set Up User IDs</i> on page 4-4.
TCP Base Port	This indicates the first of four consecutive ports that must be available for the listeners and other internal needs. Ensure that you choose ports that are not currently used by another configuration or process.
MVS Installation Libraries	
EDACONF Library	This is the full data set name the installation procedure will use to allocate the EDACONF configuration library on MVS. If you are running from <i>qualif.HOME.DATA</i> , this field will have the default value <i>qualif.server_type.DATA</i> (where <i>server_type</i> is based on License key). If you used another name to unload the first data set, this field will be blank. Change the value as necessary.
EDAHOME Library (Reference only)	This is the full data set name for the EDAHOME library to which the new configuration applies.

- Press *Enter* to proceed to the next panel. Depending on your license key, you may receive the Data Adapter panel before the Demonstration Files panel. The Data Adapter panel lists adapters that require the allocation of MVS libraries in the ISTART JCL.

Adding a Configuration Instance

6. If you receive the Data Adapter panel:
 - a. Place a 'Y' next to the required adapters and press *Enter* to proceed to the next panel.
 - b. Supply the information required and press *Enter* to proceed to the Demonstration Files panel.

For more information, see *Step 3. Collect Required Information for Data Adapters* on page 4-7.

Note: After the configuration is installed and configured, you can use its Web Console to complete configuration of these data adapters and to configure adapters that do not have MVS JCL requirements.

7. In the Demonstration Files panel, place a Y next to the desired language and press *Enter* to proceed to the Confirmation panel.

Note: If you do not select a language, demonstration files are not installed.

8. Ensure that all values on the Confirmation panel are correct, then select one of the following options:
 - N. Select this option to return to the initial screen and change installation values.
 - C. Select this option to create JCL to be submitted at a later time. The JCL is placed in your configuration library.
 - S. Select this option to create JCL and submit the job immediately.

9. As the job is processed, in SDSF, check the JESLOG for errors and return codes.

Following is a list of the jobs created. All members are created in the configuration library.

ISETUPJ2 ISOPTS2	Main JCL Job stream that is used to add a server configuration.
ISTART	Starts the server.
ISTOP	Stops the server.
ICLEAR	Clears server resources after abnormal end.
ICLRDIR	Clears super-user-owned directories from a previously run secure server.
ISHOW	Shows current workspace status.
ITRCON	Turns on dynamic tracing (server will be started if not already running).
ITRCOFF	Turns off dynamic tracing (server will be started if not already running).
ISAVEDIA	Creates a directory called <i>sdnnnnn</i> and populates it with full diagnostic information.

A configuration HFS directory is created.

<pre> /u/iadmin/ibi/srv52/server_type where: server_type Is one or more of the following: ffs Full-Function server wfs WebFOCUS Reporting Server etl ETL Server wfm WebFOCUS Maintain Server cgw Communications Gateway aas Application Adapter Server </pre>	<p>Configuration directories are created under this directory. The license key specified in the ISETUP procedure determines the <i>server_type</i>.</p>
---	---

Upgrading Your Server Release

When upgrading a 5.2.x server from an earlier 5.2.x release, you can either:

- Completely reinstall the server using the procedures under *Installing a New Server for OS/390 and z/OS* on page 4-3.
- or
- Reinstall only the binaries files (Refresh Installation) and use your existing configuration as explained below.

Note:

- We recommend not setting the SECURITY_TYPE variable in the EDAENV DDNAME and choosing the default security path.
- Make sure you follow the steps that appear after the installation to re-enable security and reconfigure adapters.

Step 1. Copy the Installation Software From Tape or FTP

There are two ways to unload the installation media:

- **From Tape.** The software is provided on a cartridge in 3480 or 3490 format with both MVS PDSs and HFS tar files. You must unload the installation data set from the tape before you can run the installation as explained below in *Unloading From Tape* on page 4-38. This is how most installations are performed.
- **From FTP/Disk.** The software can be downloaded from a special FTP site and includes both an MVS data set and HFS files. You must allocate space and ensure that the MVS data set and HFS files are in the appropriate locations as explained below in *Copying From FTP/Disk* on page 4-40. You must contact your Information Builders representative if you wish to use this option.

Unloading From Tape

The software is provided on a cartridge in 3480 or 3490 format with both MVS PDSs and HFS tar files. Perform the following to unload the installation data set from the tape:

1. Log on to TSO with the iadmin user ID. This user ID must have an OMVS segment defined and access to the HFS directory where the product will be installed.
2. Run an IEBCOPY job to allocate and unload the *qualif.HOME.DATA* data set. This PDS contains the members needed for the actual installation.

The following is sample JCL for overwriting an existing *qualif*.HOME.DATA:

```
//IEBCOPY EXEC PGM=IEBCOPY,REGION=0M
//SYSPRINT DD SYSOUT=*
//SYSUT1 DD UNIT=workunit,SPACE=(CYL,(5,1))
//OUT1 DD DISP=SHR,
// DSN=qualif.HOME.DATA
//IN1 DD DISP=(OLD,PASS),
// DSN=HOME.DATA,
// UNIT=cart,
// VOL=(,RETAIN,,SER=volser),
// LABEL=(1,SL)
//SYSPRINT DD SYSOUT=*
//SYSIN DD *
COPY INDD=IN1,OUTDD=OUT1
```

where:

workunit

Is the unit for the work data set.

qualif

Is the high-level qualifier for HOME.DATA and for all other MVS data sets that the installation procedure allocates. We recommend that the high-level qualifier reflect the release of the server (for example, IADMIN.SRV52). However, you can use any site specific value.

Note: Using a low-level qualifier such as HOME.DATA is recommended, but any site specific value can be used.

cart

Is the unit type of the tape drive. Common names include 3480, TAPE, or 3490. Change as needed.

volser

Is the value shown on the media label.

After this job has run, *qualif*.HOME.DATA is allocated, cataloged, and populated with the members needed to continue the product installation.

Proceed to *Step 2. Run ISETUP* on page 4-41.

Copying From FTP/Disk

This section only applies when installing from FTP/Disk. You must contact your Information Builders representative before attempting this.

1. Log on to TSO with the iadmin user ID. This user ID must have an OMVS segment defined and access to the HFS directory where the product will be installed.
2. Allocate a temporary sequential data set with a name such as the following:

```
qualif.ISERVER.DATA
```

and the following attributes:

```
LRECL(80),RECFM(F,B),BLKSIZE(3120),SPACE=(TRK,(2,2))
```

Note: Substitute the name you use for *qualif.ISERVER.DATA* in the steps below.

3. Create a temporary HFS directory to hold the installation files. For example:

```
/u/iadmin/download.
```
4. Using TSO or ISPF option 6, connect to the FTP site using the information provided by your Information Builders representative.
5. Once connected, type the following to indicate a binary transfer:

```
binary
```

6. Type the following to get the MVS installation software:

```
get iserver.data 'qualif.ISERVER.DATA' (replace
```
7. Type the following to indicate the location for the HFS files:

```
lcd /u/iadmin/download
```

8. Type the following to get the HFS files

```
mget *
```

You will be prompted to accept the transfer of 7 files (6 HFS files and 1 MVS data set).

```
Mget inu.out (Yes|No|Quit|Stop prompting)?
```

9. Enter:

```
Yes
```

to accept the transfer of all **except for** the iserver.data data set indicated by a prompt such as the following:

```
Mget iserver.data (Yes|No|Quit|Stop prompting)?
```

10. When you receive the above prompt, enter:

```
No
```

11. When all 6 HFS files have been transferred, type the following to exit FTP:

```
quit
```

12. Under TSO, explode the sequential file *qualif.ISERVER.DATA* created above into a PDS using the following command:

```
RECEIVE INDSN('qualif.ISERVER.DATA')
```

13. At the restore parameters prompt, type the following to create the *qualif.HOME.DATA* PDS:

```
DSNAME('qualif.HOME.DATA')
```

Note: Using a low-level qualifier such as HOME.DATA and a high-level qualifier that reflects the release of the server (for example, IADMIN.SRV52) is recommended. However, you can use any site specific value.

In the ISETUP procedure below, be sure to specify (*D*)isk for the Input Source and provide the HFS directory into which you transferred the installation files.

Step 2. Run ISETUP

Note: Ensure that all server processes are stopped before upgrading.

Server upgrade consists of a series of ISPF panels, which gather information for the upgrade. After the panel dialog is complete, JCL is created and submitted (if required) to upgrade the server on OS/390 and z/OS. This JCL job retrieves the remainder of the MVS libraries and HFS files from the media and configures a basic working server.

To begin the upgrade, using option 6 in ISPF, execute the ISETUP member in your *qualif.HOME.DATA*. The first Installation and Configuration panel opens.

1. Complete the first Installation and Configuration panel as follows:

Enter selection	Choose option 3, <i>Refresh Installation</i> . This refreshes the programming files under the server installation directory as well as the MVS load library.
Enter License Key	Enter the 10-digit License Key that was provided for your current release of the server.
Input source	Choose the input source, T for Tape or D for Disk. The default value is T.

<p>Enter Job Card information</p>	<p>To provide valid JCL for submitting jobs to the JES queue, provide a valid job name (a maximum of the first seven characters following the // on the first JCL line), which defaults to the user ID that you are currently using. This job name, plus a job name character (A,B,C and so on) is used in the JCL generated by the installation procedure.</p>
<p>Override JOB name checking</p>	<p>To provide your own JOB Card information, provide valid JCL and select 'Y' for the "Override JOB name checking" question. This will cause the same JCL to be used for all jobs created.</p>

2. Press *Enter* to continue to the next panel.

3. Complete the panel as follows:

<p>Input Media</p> <p>Note: If installing from disk, provide the directory name where the compressed software resides.</p>	
<p>Volume serial number</p>	<p>Provide the volume serial number for the server media. This volume serial number is located on the tape supplied in you server package. The value shown is an example of the required format.</p>
<p>Volume unit type</p>	<p>Review the default value and change if necessary.</p>
<p>Work unit type</p>	<p>Review the default value and change if necessary.</p> <p>Note: The <i>Work Unit Type</i> field can specify a UNIT= type value (for example, SYSDA) or to direct work files to a specific volume serial number you can specify, in single quotation marks ('), 'SYSDA,VOL=SER=volume'.</p>

<p>Installation parameters</p>	
<p>HFS Base Directory</p>	<p>This indicates where to install the server. The default value is the home directory of the user ID you are using to install the product. This should be the same base directory as the server you are updating to ensure that the configuration can find the binaries.</p>
<p>HFS APPROOT Directory</p>	<p>This indicates where application components will reside. The default value is based on the value specified for <i>HFS Base Directory</i>. To specify another location for application components, change the value for this field.</p>

<p>MVS Installation Libraries</p>	
<p>EDACONF Library</p>	<p>This is the full data set name to which the refresh installation procedure will add configuration jobs. It is best to use the current configuration library, but you can place these new jobs in a different library if you wish.</p>

MVS Installation Libraries	
EDAHOME Library	This is the full data set name the installation procedure will use to allocate the EDAHOME load library on MVS. This should match the EDAHOME library you are updating.
EDAHOME Library Unit/Volume	These show the values that the installation process will use to allocate the EDAHOME load library on MVS. If necessary, you can change these to site specific values. Note: These two values are important when the previous LOAD library is APT authorized. To retain the APF attribute, the LOAD library must be allocated on the same volume as the current LOAD library.

4. Press *Enter* to proceed to the Confirmation panel.
5. Ensure that all values on the Confirmation panel are correct, then select one of the following options:
 - N. Select this option to return to the initial screen and change installation values.
 - C. Select this option to create JCL to be submitted at a later time. The JCL is placed in your configuration library.
 - S. Select this option to create JCL and submit the job immediately.
6. As the job is processed, in SDSF, check the JESLOG for errors and return codes.

The following jobs are added to the configuration library:

ISETUPJ3 ISOPTS3	Main JCL Job stream that is used to install the server.
---------------------	---

The following directories are added to the HFS directory structure of the existing server:

/u/iadmin/ibi/srv52/tape	Contains HFS files from the input media.
/u/iadmin/ibi/srv52/install	Working directory for the installation process. Log and error files reside here.

Step 3. Add the Server System ID in the Server Configuration File

You must manually update the following configuration file to use an earlier configuration with 5.2.3 or later binaries:

```
/u/iadmin/ibi/srv52/ffs/bin/edaserve.cfg
```

Determine where this file is on your system and use a text editor, such as TSO OEDIT, to add the following line:

```
server_system_id=iserver_system_ID
```

where:

```
iserver_system_ID
```

Is the Server System ID you assigned during initial installation of the server. The default value is ISERVER.

Step 4. Test the Server Installation

To test the server installation:

1. Log on to TSO as iadmin.
2. Submit the ISTART JCL to start the server.
3. Check the job output for errors. Look for the EDAPRINT message:

```
Workspace initialization completed
```

4. Start the Web Console by opening a browser pointed at the listener port of the server. The URL format is

```
http://host:port
```

where:

```
host
```

Is the name of the machine on which the server is installed.

```
port
```

Is one port higher than the port specified when installing the server. For example, if you specified port 8100 during installation, then use port 8101 to access the Web Console.

The Web Console opens.

5. Click *Test* to run a sample report.

When you are finished using the server, you can use the Web Console to stop the server by selecting the Workspace link on the left and then choosing Stop.

If you experience problems at start up, examine the job output for more information.

Step 5. Reconfigure Server Security

The server runs in one of the following security modes:

- Security OFF. This is the default unless security is configured.
- Security ON. All connecting users are authenticated against the security package (RACF, ACF2, Top Secret), and the data agents are impersonated according to the deployment mode to control access right to data files and dbms objects.

To reconfigure server security:

1. Log on to TSO using an ID with read access to BPX.FILEATTR.APF FACILITY.
2. Using the name of the actual EDAHOME directory, change file attributes by entering the following TSO commands in ISPF Command Shell (option 6):

```
OSHELL extattr +a /u/iadmin/ibi/srv52/home/bin/tscom300.out
OSHELL extattr +a /u/iadmin/ibi/srv52/home/bin/tsqprx.out
```

3. Verify your changes by issuing the following command:

```
OSHELL ls -E /u/iadmin/ibi/srv52/home/bin/tscom300.out
OSHELL ls -E /u/iadmin/ibi/srv52/home/bin/tsqprx.out
```

The extended attributes portion of the output should be a-s-

4. The libraries allocated to STEPLIB in the ISTART JCL must be APF-authorized. Any non APF-authorized libraries must be allocated the TASKLIB DDNAME.
5. Test server security by repeating the process described in *Step 4. Test the Server Installation* on page 4-45.

Step 6. Reconfigure Adapters

While most adapters do not require additional steps after updating binary files, the following table notes the adapters that do require some consideration:

Data Adapter	Steps After Updating Binaries
Adabas	<ul style="list-style-type: none"> • Re-enable the module containing SVC using the Web Console adapter configuration page. • Test the adapter from the adapter page before running your applications.
DB2	<ul style="list-style-type: none"> • Rebind the DB2 plan using the Web Console adapter configuration page. • Test the adapter from the adapter page before running your applications.

Migrating From an MVS Server

Applications running on a traditional MVS server will not require any changes when migrated. The server supports read and write access to all PDSs, such as Master, Access, FOCEXEC, and data. DYNAM is fully supported in release 5.2 of the server. The server can read and write sequential files and FOCUS files, both locally and using the FOCUS Database Server (FDS).

To migrate application components (Master Files, Access Files, and FOCEXECs):

1. Transfer the following allocations from your MVS server JCL to ISTART JCL: MASTER, FOCEXEC, ACCESS, HTML, GIF, and data files (if DYNAM is not to be used). Note that you may not have all of them.
2. Edit edaserve.cfg using the OS/390 and z/OS equivalents of MVS parameters as described in the following sections.

For new applications, your files (Master, Access, and FOCEXEC) are placed in a pre-specified directory on HFS. All temporary files (such as FOCSORT) are written to the EDATEMP directory on HFS by default.

Installation and Configuration

- **MVS**
 1. **IEBCOPY** - Unload EDALIB.DATA.
 2. **EDAJINS2** - Unload and allocate PDSs.
 3. **EDACFGF** - Configuration Routine.
 4. Add Jobcard to server JCL and submit.
- **OS/390 and z/OS**
 1. **IEBCOPY** - Unload HOME.DATA.
 2. **ISETUP** - An ISPF panel-driven installation which unloads and allocates the Load library, creates the server directory structure, and copies the files to HFS.
 3. Submit the ISTART server JCL.

Server JCL

- **MVS**

qualif.INSTALL.DATA (FFSJCL)

```
//JOB CARD
//
// *
//EDASERVE EXEC PGM=SSCTL
//STEPLIB DD DISP=SHR,DSN=qualif.EDALIB.LOAD
//EDARPC DD DISP=SHR,DSN=qualif.EDARPC.DATA
//FOCEXEC DD DISP=SHR,DSN=qualif.EDARPC.DATA
//MASTER DD DISP=SHR,DSN=qualif.EDAMFD.DATA
//ACCESS DD DISP=SHR,DSN=qualif.EDAAFD.DATA
//EDAPRINT DD SYSOUT=*
//IBISNAP DD SYSOUT=A
//EDASERVE DD DISP=SHR,DSN=qualif.INSTALL.DATA(FFSSERV)
//ERRORS DD DISP=SHR,DSN=qualif.EDAMSG.DATA
//EDACSG DD DISP=SHR,DSN=qualif.INSTALL.DATA(FFSCSG)
//EDACONS DD DISP=SHR,DSN=qualif.INSTALL.DATA(FFSCONS)
```

- **OS/390 and z/OS**

qualif.HOME.DATA (ISTART)

```
//JOB CARD
//
// *
//TSCOM300 EXEC PGM=TSCOM300
//STEPLIB DD DISP=SHR,DSN=qualif.HOME.LOAD
//FOCEXEC DD DISP=SHR,DSN=qualif.EDARPC.DATA
//MASTER DD DISP=SHR,DSN=qualif.EDAMFD.DATA
//ACCESS DD DISP=SHR,DSN=qualif.EDAAFD.DATA
//EDAPRINT DD SYSOUT=*
//SYSPRINT DD SYSOUT=*
//SYSOUT DD SYSOUT=*
//EDAPARM DD *
// *
//EDAENV DD *
PATH=/bin
TZ=EST5EDT <--- Time Zone Setting
EDACONF=/u/admin/ibi/srv52/ffs
SHELL=/bin/sh
```

Data File Allocations

- **MVS**

Allocations for all file types supported via DYNAM or JCL.

- **OS/390 and z/OS**

PDS+

Existing Master Files and Access Files can be read from existing JCL or DYNAM allocations.

New applications will reside on UNIX System Services.

VSAM, FIXED, and FOCUS

R/W Access to files via DYNAM works are unchanged.

All DYNAM options are supported with the exception of HIPER/NOHIPER.

HIPER/NOHIPER

These keywords will be ignored.

FOCUS Files on a FOCUS Database Server

Separate batch jobs.

- **MVS**

A DDNAME was allocated in the server JCL to point to the communications data set to be used to identify the FOCUS Database Server job on which the FOCUS files reside.

A USE statement was then issued to connect the FOCUS Master File to the DDNAME allocated to the communications file.

For example:

```
//FOCSU01 DD DSN=X.Y.Z,DISP=SHR
```

The USE statement in a FOCEXEC:

```
USE  
CAR ON FOCSU01  
END
```

- **OS/390 and z/OS**

The USE command is left unchanged but the FOCSU01 value now is a NODE name in the server's communications configuration file, odin.cfg.

For example:

```
USE  
CAR ON FOCSU01  
END
```

Identifies SINK machine via communications DD //FOCSU01

```
NODE=FOCSU01 <===== USS server (odin.cfg file)
BEGIN
  PROTOCOL=SBS
  CLASS=SUCLIENT
  PORT=X.Y.Z <===== communications dataset
END
```

The above NODE block resides in odin.cfg and can be constructed using the Web Console.

Global Configuration Settings

In configuration file, EDASERVE.CFG.

- **MVS**

qualif.install.data(EDASERVE)

```
EXTSEC = OFF|ON
SMFNUM = 254
FASTLOAD = **AUTO**
LONGSYNM= ON (in release 5.2, this is the default)
LICENSE = 100-111-1231
STORAGEABOVE = 4096
STORAGEBELOW= 512
SZERO=YES
APFAUTH=INTERNAL
```

- **OS/390 and z/OS**

/ibi/srv52/ffs/bin/edaserve.cfg

```
edahome = /u/iadmin
server_admin_id = EDADMA
license = 100-111-1231
approot = /ibi/edauss/TEST/apps
server_name = "IWAY 52 Full Function Server"
cfg_date = 07/24/2002 19:14:46
smf_recno=255
```

Currently not applicable:

```
STORAGEABOVE = 4096
STORAGEBELOW = 512
FASTLOAD=**AUTO**
```

Currently not available:

```
SZERO=YES
LONGSYNM=ON
```

Service Settings

- **MVS**

qualif.install.data(EDASERVE)

```

SERVICE           = EDAUSER
PROGRAM            = TSCOM3
NUMBER_READY       = 0
DEPLOYMENT         = PRIVATE
REFRESH_LIMIT      = 100
MAXIMUM            = 3
IDLELIM            = -1
CPU_LIMIT          = 15
MEMORY_LIMIT_ABOVE = nnn
MEMORY_LIMIT_BELOW = nnn
PRTYGROUP          = 10

SERVINIT           = *,++
DYNAM ALLOC FILE EDASPROF -
  DA EDADMA.P513.EDAPROF.DATA(FEDADMA) SHR REU
DYNAM ALLOC FILE EDAPROF -
  DA EDADMA.P513.EDAPROF.DATA SHR REU
DYNAM ALLOC FILE IBITRACE -
  DA EDADMA.P513.INSTALL.DATA(IBITRACE) SHR REU

```

*Multiple Service Blocks are supported.

- **OS/390 and z/OS**

/ibi/srv52/ffs/bin/edaserve.cfg

```

SERVICE = DEFAULT
BEGIN
  maximum = 10
  number_ready = 2
  deployment = private
  queueing = off
  idle_session_limit = -1
  idle_agent_limit = 120
  profile = profile.fex
  cpu_limit = -1
  memory_limit = -1
  wlm_enclave_trname = wlm_transaction_name
  max_connection_per_user = -1
  agent_refresh = 100
  owner_control_request = no
END

```

*Multiple Services are supported.

Note that `wlm_enclave_trname` performs the same function as `PRTYGRP`.

Enabling Tracing on the Server

- **MVS**

Allocate IBITRACE in the EDASERVE member. Read the TRACE output from SDSF or send to a file.

```
DYNAM ALLOC FILE IBITRACE -  
    DA EDADMA.P513.INSTALL.DATA(IBITRACE) SHR REU
```

- **OS/390 and z/OS**

IBITRACE allocation is not needed. There are two ways to enable tracing:

1. On the Web Console under DIAGNOSTICS.
2. Submit the ITRCON JCL job.

For additional Diagnostics, see *Getting Diagnostic Information* on page 4-28.

Server Profiles

- **MVS**

```
qualif.EDAPROF.DATA(Fuserid)
```

Metadata Allocations:

```
DYNAM ALLOC FILE EDASYNA SHR REU -  
    DATASET EDADMA.V525SA.EDADMA.EDASYNA.DATA  
DYNAM ALLOC FILE EDASYNM SHR REU -  
    DATASET EDADMA.V525SA.EDADMA.EDASYNM.DATA  
DYNAM ALLOC FILE EDASYNR SHR REU -  
    DATASET EDADMA.V525SA.EDADMA.EDASYNR.DATA
```

```
SQL EDA SET USER server/userid,password  
SQL EDA SET SERVER server  
SQL [EDA] SET AUTOCLOSE ON FIN|COMMIT  
SQL EDA SET JOINTYPE ={NestedLoop|SortMerge}
```

HIPER Settings:

```
SET HIPERINSTALL={ON|OFF}  
SET HIPEREDA={ON|OFF}  
SET HIPEREXTENTS=nnn  
SET HIPERFILE=nnn  
SET HIPERLOCKED={ON|OFF}  
SET HIPERSPACE=nnn
```

```

SET BLIM=buffersize
SET SLIM=n
SET CACHE={0|n}
SET EXTSORT={ON|OFF}
SET CDN={ON|OFF}
SET LANGUAGE=language
SET SMARTMODE={ON|OFF}
SET SQLENGINE=sqlengine

```

- **OS/390 and z/OS**

```
/ibi/srv52/ffs/etc/.prf
```

```
APP ENABLE
APP PATH IBISAMP
```

Note: The settings below are generated in the server profile, edasprof, as defaults to access MVS existing applications and metadata.

```
APP MAP MVSAPP
mas>//dd:master;fex>//dd:focexec;acx>//dd:access;htm>//dd:html
APP APPENDPATH MVSAPP
```

```
SQL EDA SET USER server/userid,password
SQL EDA SET SERVER server
SQL [EDA] SET AUTOCLOSE ON FIN|COMMIT
SQL EDA SET JOINTYPE ={NestedLoop|SortMerge}
```

HIPER Settings:

```

DYNAM MEMIO ON      to enable this feature
DYNAM MEMIO OFF    to disable feature (default) (I/O goes to disk)
DYNAM MEMIO HIPER  to use HIPERSPACE memory for I/O
DYNAM MEMIO MEMORY to use main storage for I/O

```

```

SET BLIM=buffersize
SET SLIM=n
SET CACHE={0|n}
SET EXTSORT={ON|OFF}
SET CDN={ON|OFF}
SET LANGUAGE=language
SET SMARTMODE={ON|OFF}
SET SQLENGINE=sqlengine

```

Configuring Data Adapters

	MVS	OS/390 and z/OS
Adabas	Edit and run <i>qualif.EDALIB.DATA(GENEADL)</i> to re-link ADALNK into FADALINK, which will be called by the server. The JCL must be edited with the appropriate values. Add Jobcard and submit.	During installation, you must provide the fully qualified data set name for the Adabas load library. Configure using the Web Console.
DATAKOM	Create a DATAKOM URT. Create a server-side URT.	Allocate the CA-DATAKOM load library to your STEPLIB in the ISTART JCL. Configure using the Web Console.
DB2 CAF	Edit and run <i>qualif.EDALIB.DATA(RELJINS)</i> to link and bind the DB2 interface, which will be called by the server. The JCL must be edited with the appropriate values. Add Jobcard and submit.	Configure using the Web Console.
DB2 CLI	NO DB2 CLI available for SSCTL	During the installation, you must provide the location of the db2cli.ini file. Configure using the Web Console.
CA-IDMS/DB	Allocate CA-IDMS loadlibs in STEPLIB.	Allocate the CA-IDMS/DB loadlibs in STEPLIB. Configure using the Web Console.
CA-IDMS/SQL	Edit and run <i>qualif.EDALIB.DATA(GENEIDQ)</i> to link module IDQFOC. Allocate CA-IDMS loadlibs in STEPLIB.	Allocate the CA-IDMS/SQL loadlibs in STEPLIB. Configure using the Web Console.
IMS	Allocation of IMS loadlibs in STEPLIB.	Allocate the IMS loadlibs in STEPLIB. Configure using the Web Console.
MODEL 204	Edit and run <i>qualif.EDALIB.DATA(GENE204)</i> .	Allocate the MODEL 204 loadlibs in STEPLIB. Configure using the Web Console.

	MVS	OS/390 and z/OS
Oracle	<p>Edit and run <i>qualif.EDALIB.DATA(GENEORA)</i> to link and bind the Teradata interface, which will be called by the server. The JCL must be edited with the appropriate values. Add Jobcard and submit.</p> <p>Add appropriate load libraries to server JCL.</p>	<p>Add the following EXPORT variables to the ISTART JCL:</p> <pre>ORACLE_SID=ORAT ORACLE_HOME=/usr/lpp/oracle9 LIBPATH=\$ORACLE_HOME/lib</pre> <p>Configure using the Web Console.</p>
Supra	<p>Edit and run <i>qualif.EDALIB.DATA(GENEFSP)</i></p> <p>Allocate the SUPRA loadlibs in STEPLIB.</p>	<p>Allocate the SUPRA loadlibs in STEPLIB.</p> <p>Configure using the Web Console.</p>
Teradata	<p>Edit and run <i>qualif.EDALIB.DATA(GENEDBC)</i> to link and bind the Teradata interface, which will be called by the server. The JCL must be edited with the appropriate values. Add Jobcard and submit.</p>	<p>Configure using the Web Console.</p>

Metadata

- **MVS**

ADABAS, VSAM, IMS and IDMS use AUTOTOOLS to create Master File Descriptions (metadata). DB2, Oracle, Teradata metadata is created via CREATE SYNONYM.

- **OS/390 and z/OS**

Metadata for the following DBMS is created via the Web Console using Create synonym: Adabas, DB2 CAF and DB2 CLI, Fixed, CA-IDMS/DB and CA-IDMS/SQL, IMS, Oracle, Teradata, VSAM.

Starting the Server Console

- **MVS**

Type the following command at the prompt

```
LOGON APPLID(consoleapplid)
```

where:

```
consoleapplid
```

Is the LU2 applid used to communicate with the console. Its value can be found in the adapter JCL file (EDACONS).

- **OS/390 and z/OS**

Open the Web Console by starting a browser pointed at the HTTP Listener Port of the server. The URL format is `http://host:port`. For example, `http://host:8101` for the full-function server (if the default ports were used during installation). The actual HTTP Listener port number is one higher than the TCP Listener Port specified during the installation.

Media

- **MVS**

The server software is provided on a cartridge in 3480 or 3490 format with MVS PDSs.

- **OS/390 and z/OS**

The server software is provided on a cartridge in 3480 or 3490 format with both MVS PDSs and HFS tar files.

Configuring a Secured Server

- **MVS**

In EDASERVE member, set EXTSEC=ON.

The *qualif*.EDALIB.LOAD library used by the JCL must be APF-authorized.

- **OS/390 and z/OS**

Logon to TSO with a user ID that has read access to the BPX.FILEATTR.APF Facility. This is for the security internal which is the default. See the documentation for the MVS security setting.

Substituting in the actual EDHOME directory, change the file attributes by entering the following commands in TSO or in ISFP Command Shell (option 6):

```
OSHELL extattr +a /u/iadmin/ibi/srv52/ home/bin/tscom300.out  
OSHELL extattr +a /u/iadmin/ibi/srv52/home/bin/tsqprx.out
```

Verify your changes by issuing the following commands:

```
OSHELL ls -E /u/iadmin/ibi/srv52/home/bin/tscom300.out
OSHELL ls -E /u/iadmin/ibi/srv52/home/bin/tsqprx.out
```

The *qualif*.HOME.LOAD library used by the JCL must be APF authorized.

GETUSER Subroutine

- **MVS**
Fully supported.
- **OS/390 and z/OS**
Supported with minor adjustments.

WLM Enclave Feature

- **MVS**
This parameter is placed in the service block of the EDASERVE configuration file so that an enclave name can be specified. This enclave is a feature of Workload Manager (WLM).

```
WLM_ENCLAVE_TRNAME = wlm_transaction_name
```

- **OS/390 and z/OS**
A parameter is available in the service block of the edaserve.cfg configuration file so that an enclave transaction name can be specified. This enclave transaction is a feature of Workload Manager (WLM).

Based on this setting, the task will join a WLM enclave when a request starts, and leave the enclave when the request finishes. This gives control of the dispatching priority of the task to WLM. The transaction rules defined on WLM will determine the default service class associated to this transaction, and the service class assigned will determine how the request runs.

This feature balances a workload so that a long running request will not affect a short running request. This can be achieved through WLM rules designed to lower the priority of a long request after a certain period of time. Without this feature, all requests share the region's priority.

```
wlm_enclave_trname = wlm_transaction_name
```

This is a service-level keyword and can be up to 8 alphanumeric characters. It is used in edaserve.cfg to pass a transaction name to WLM. If this transaction name matches one defined in the WLM Classification Rules for Job Entry Subsystem (JES), a corresponding WLM Service Class pointed to by this rule is assigned to all requests associated with this service.

The classification rules for the JES must be used even if the server is started as a Started task. The SUBTASKs are run under the JES. The simplest rule is:

```
* Subsystem Type JES - Batch Jobs
```

Classification:

```
Default service class is PRDBATLO
There is no default report class.
```

Qualifier # type	Qualifier name	Starting position	Service Class	Report Class
1 TN	IWAYFAST		EDAQRYHI	

In this way, you do not need to define a Classification Group containing IWAYFAST as a qualifier (transaction name).

Agent Services

The server has the ability in the edaserve.cfg configuration file to divide its agents into different services. This is very similar to the service blocks found in the EDASERVE member for the Server for MVS. Each agent is running for a specific service, and each service can have different values for some of the configuration parameters. During installation, the "DEFAULT" service block will be configured in edaserve.cfg. Additional services can be configured as required, using the Web Console.

SMF Records

The server can write SMF records for each connect and disconnect. Accounting reports can be viewed through the Web Console. The recommended integer value is in an inclusive range from 128 to 255. This number represents the SMF number used by the accounting facility when it sends records to the SMF system. Numbers from 1 to 128 are not recommended. To activate usage accounting, place the smf_recno parameter in the edaserve.cfg before any service block entries.

Syntax

How to Activate SMF Records

To activate SMF records, use the following syntax:

```
smf_recno=255
```

Frequently Asked Questions

Q. What does it mean when the server abends with a U4039?

A. A U4039 is a generic abend which is the consequence of a problem that has happened prior. For information on the prior event, check the edaprint.log file and/or the MVS system log.

Q. How do I suppress unwanted INSUFFICIENT AUTHORITY to GETPSENT messages that clog JESLOG?

A. IBM's APAR II11813 describes how to suppress these messages. The APAR recommends issuing one of the following RACF commands:

```
SETROPTS LOGOPTIONS (NEVER(PROCACT))
SETOPTS LOGOPTIONS (DEFAULT(PROCACT))
```

Q: How do I execute user profiles from a PDS?

A: We recommended that you copy the user profiles to the HFS directory /ibi/profiles, and rename them to add the extension .prf (for example, *user_id*.prf). Alternatively, you can use the following technique to execute user profiles from a PDS:

1. In the server JCL, allocate DDNAME //MVSPROF to the PDS containing user profiles. For example:

```
//MVSPROF DD DISP=SHR,DSN=qualif.EDAPROF.DATA
```

2. Add the lines highlighted in **bold** to the global server profile, edasprof.prf:

```
APP PATH IBISAMP
APP MAP MVSPROF fex=//dd:mvspref
APP MAP MVSAPP mas=//dd:master;fex=//dd:focexec;acx=//dd:access; ...
APP MAP MVSMETA mas=//dd:holdmast;acx=//dd:holdacc
APP APPENDPATH MVSAPP
-SET &USERID='12345678';
-SET &USERID=GETUSER(&USERID);
EX MVSPROF/&USERID
```

Frequently Asked Questions

Q: I suspect that I have a memory utilization problem and I am using SyncSort. How can I display SyncSort memory utilization?

A: Do the following:

1. Add the following to the server startup JCL *qualif.server_type*.DATA(ISTART):

```
/* BMSG must start at or after column 2
//SORTPARM DD
  BMSG
/*
```

where:

qualif

Is the high-level qualifier for the data sets.

server_type

Is one or more of the following:

ffs Full-Function server
wfs WebFOCUS Reporting Server
etl ETL Server
wfm WebFOCUS Maintain Server
cgw Communications Gateway
aas Application Adapter Server

2. Add the following line to *edasprof.prf*:

```
SET SORTLIB = MVMSGSS
```

CHAPTER 5

Server Installation for MVS

Topics:

- Installation Requirements
- Unloading the Media

This topic describes the requirements and procedures for proper installation of the Server for MVS.

Installation Requirements

Before beginning the server installation, you should review the following requirements:

- Supported Platforms and Operating Systems
- Disk Space Requirements
- Memory Requirements

Supported Platforms and Operating Systems

The following software must be installed and operational before installing the server:

- OS/390 1.3 (or higher) or z/OS 1.1 (or higher).
- VTAM V3.2 or higher.
- An external security manager, if security is required.

Disk Space Requirements

Certain baseline data sets are required for the software, regardless of configuration (in addition to those data sets that depend upon actual configuration). The disk space requirements are as follows:

Baseline	
Data Set	3380 or 3390 Cylinders
<i>qualif</i> .EDALIB.DATA	5
<i>qualif</i> .EDALIB.LOAD	100
<i>qualif</i> .EDARPC.DATA	60
<i>qualif</i> .EDAMSG.DATA	20
<i>qualif</i> .EDACTL.DATA	16
<i>qualif</i> .EDA.DBRMLIB	1
<i>qualif</i> .EDAPROF.DATA	1
<i>qualif</i> .INSTALL.DATA	1
<i>qualif</i> .EDAREXX.DATA	1

Hub, Full-Function, and WebFOCUS Reporting Servers	
Data Set	3380 or 3390 Cylinders
<i>qualif.EDAAFD.DATA</i>	1
<i>qualif.EDAMFD.DATA</i>	2
<i>qualif.owner.REMTRANS.LOG</i>	1
<i>qualif.owner.SYSCOLLN.FOCUS</i>	1
<i>qualif.owner.SYSCOLLT.FOCUS</i>	1
<i>qualif.owner.SYSRPC.FOCUS</i>	1
<i>qualif.owner.EDASYNA.DATA</i>	1
<i>qualif.owner.EDASYNM.DATA</i>	1

WebFOCUS Reporting Servers Only	
Data Set	3380 or 3390 Cylinders
<i>qualif.HTML.DATA</i>	1
<i>qualif.GIF.DATA</i>	1
<i>qualif.STY.DATA</i>	1

IBM and OCS TCP/IP Only	
Data Set	3380 or 3390 Cylinders
<i>qualif.EDASASC.LINKLIB</i>	5

National Language Support (NLS) Only	
Data Set	3380 or 3390 Cylinders
<i>qualif.EDANLS.DATA</i>	40

Note: Retaining the full installation is recommended, in case other services are to be installed on the same system.

Memory Requirements

The following virtual memory is required for operation of the server.

Type of use	Virtual Memory Needed
Base	10 MB
Per Relational Gateway user	850 K
Per Automatic Passthru-only user	1.4 MB
Per Full-Function Server user	3.4 MB

Unloading the Media

Complete the following steps to unload data sets from the distribution media. The Server for MVS is supplied on either a single 3490 cartridge (default installation) or on two 3480 cartridges.

Step 1. Unload the Install Tools Data Set From the Media

Choose a high-level qualifier to store the software under and run an IEBCOPY job to allocate and initialize the *qualif*.EDALIB.DATA PDS. This PDS contains the JCL procedures needed for the actual software installation process. When using two 3480 cartridges, this PDS is on the first cartridge.

The following JCL can be edited to unload this PDS:

```
//COPYEM EXEC PGM=IEBCOPY
//SYSUT1 DD UNIT=workunit,SPACE=(CYL,(5,1))
//OUT DD DISP=(NEW,CATLG,DELETE),DSN=qualif.EDALIB.DATA,
// DCB=(RECFM=FB,LRECL=80,BLKSIZE=1600),
// SPACE=(CYL,(5,1,100)),UNIT=SYSDA
//IN DD DISP=(OLD,PASS),DSN=EDALIB.DATA,
// UNIT=CART,
// VOL=(,RETAIN,,SER=tapvol),
// LABEL=(1,SL)
//SYSPRINT DD SYSOUT=*
//SYSIN DD *
COPY OUTDD=OUT,INDD=IN
//
```

where:

workunit

Is the unit for the work data set.

qualif

Is the selected high-level qualifier for EDALIB.DATA, and the subsequent data sets to be unloaded.

UNIT=CART

Is the unit type of the drive where the media is mounted. The default is CART, but other common names include 3480, TAPE, 3420, or 3490; names can be changed as needed.

tapvol

Is the volser label value as shown on the actual physical installation media.

After the job has run, the *qualif*.EDALIB.DATA Install Tools PDS will be allocated, cataloged, and populated with the procedures and jobs needed to continue the install.

Example Unloading the Install Tools Data Set From the Media

This sample JCL specifically allocates and unloads the Install Tools PDS into a high-level qualified PDS of IWAY.V5R2M05.EDALIB.DATA. The IWAY.V5R2M05 qualifier was used to indicate a specific product and release, but any qualifier-naming convention may be used.

```
//COPYEM EXEC PGM=IEBCOPY
//SYSUT1 DD UNIT=SYSDA,SPACE=(CYL,(5,1))
//OUT DD DISP=(NEW,CATLG,DELETE),
// DSN=IWAY.V5R2M05.EDALIB.DATA,
// DCB=(RECFM=FB,LRECL=80,BLKSIZE=1600),
// SPACE=(CYL,(5,1,100)),UNIT=SYSDA
//IN DD DISP=(OLD,PASS),DSN=EDALIB.DATA,UNIT=CART,
// VOL=(,RETAIN,,SER=D5205E),LABEL=(1,SL)
//SYSPRINT DD SYSOUT=*
//SYSIN DD *
COPY OUTDD=OUT,INDD=IN
//
```

Step 2. Customize Low-level Qualifiers (Optional)

You can optionally complete this step to change the default low-level data set qualifiers to meet a corporate standard. Otherwise, proceed to *Step 3. Allocate the Software Data Sets and Unload the Media* on page 5-7.

Note: Changing low-level qualifier names is not recommended (unless necessary).

Edit the *qualif.EDALIB.DATA(EDASNAME)* member and change the low-level data set qualifiers to reflect corporate naming standards.

```
// SET EDALIBD= ' EDALIB.DATA'           Server installation library
// SET EDALIBL= ' EDALIB.LOAD'          Server base load library
// SET EDAAFDD= ' EDAAFDD.DATA'         Server access files
// SET EDAMFDD= ' EDAMFD.DATA'          Server master files
// SET EDARPCD= ' EDARPC.DATA'          Server procedures
// SET EDAMSGD= ' EDAMSG.DATA'          Server messages
// SET EDACTLD= ' EDACTL.DATA'          Server base samples
// SET EDACICD= ' EDACICS.DATA'         Server CICS samples
// SET EDACICL= ' EDACICS.LOAD'         Server CICS load library
// SET EDASASC= ' EDASASC.LINKLIB'      Server sockets run-time lib
// SET EDADBRM= ' EDA.DBRMLIB'          Server plan library
// SET EDAPROF= ' EDAPROF.DATA'         Server profiles
// SET EDANLSD= ' EDANLS.DATA'          Server NLS library
// SET EDAINST= ' INSTALL.DATA'         EDA installation O/P Library
// SET EDAREXX= ' EDAREXX.DATA'         ECC REXX RPC Library
// SET WFRHTMD= ' HTML.DATA'            WebFocus HTML library
// SET WFRSTYD= ' STY.DATA'             WebFocus Style Sheet library
// SET WFRGIFD= ' GIF.DATA'             WebFocus GIF library
// SET WFRQUED= ' REQUESTS.DATA'        WebFocus Deferred requests Q
// SET WFRRES D= ' RESULTS.DATA'        WebFocus Deferred results
// SET WFRWFMD= ' WINFORMS.DATA'        Maintain screen library
// SET WFRFCMD= ' FOCCOMP.DATA'         Maintain compile library
```

Any given name on the list may be used in the install process, the configuration process, or both; it is a single control list for any creation.

Step 3. Allocate the Software Data Sets and Unload the Media

The following steps allocate the actual software data sets and unload them from the media.

Edit and then submit the *qualif*.EDALIB.DATA(EDAJINS2) member making sure to do the following:

1. Add a job card for your site.
2. Provide the high-level qualifier in place of *qualif*.
3. Provide the volsers in place of *tapvol*.

When using two 3480 cartridges, provide the volsers of both cartridges in parenthesis surrounded by single quotes and separated by a comma:

```
' (tapvol1, tapvol2) '
```

4. Modify any additional parameters as required by your site.
5. If you are installing a WebFOCUS Reporting Server, uncomment the two *WFRALL lines and the two *WFRUNL lines.
6. If you are rerunning the installation uncomment the *EDADEL line so the current install is removed first. For WebFOCUS also uncomment the *WFRDEL line to remove WebFOCUS data sets.

The EDAJINS2 JCL parameters are as follows:

```
//EDAPROCS JCLLIB ORDER=qualif.EDALIB.DATA
//*EDADEL EXEC PROC=EDAQDEL, PREFIX='qualif'
//*WFRDEL EXEC PROC=WFRQDEL, PREFIX='qualif'
//EDAALL EXEC PROC=EDAQALL, PREFIX='qualif',
// DUNIT=SYSDA
//*WFRALL EXEC PROC=WFRQALL, PREFIX='qualif',
//* DUNIT=SYSDA
//EDAUNL EXEC PROC=EDAQUNL, PREFIX='qualif',
// TUNIT=CART, TVOL=tapvol, WORK=SYSDA
//*WFRUNL EXEC PROC=WFRQUNL, PREFIX='qualif',
//* TUNIT=CART, TVOL=tapvol, WORK=SYSDA
```

where:

qualif

Specifies the high-level qualifier for the data sets.

DUNIT

Specifies the disk unit used when allocating the data sets. In this JCL, the default is SYSDA. To specify volume and unit when allocating the data sets, use the following

```
DUNIT='myunit', VOL=SER=myvol'
```

For example:

```
DUNIT='SYSDA', VOL=SER=USERM1'
```

TUNIT=CART

Is the unit type of the drive where the media is mounted. The default is CART; other common names include 3480, TAPE, 3420, or 3490. Change as needed.

tapvol

Is the volser label value as shown on the actual physical installation media. If you are installing from two 3480 cartridges, provide the volsers of both cartridges in parenthesis:

```
TUNIT=CART, TVOL='(tapvol1, tapvol2)', WORK=SYSDA
```

WORK

Specifies a DASD work unit. The default is SYSDA. Change as needed.

Example Allocating and Unloading the Software Data Sets From the Media

The following JCL samples (for a modified EDAJINS2) allocate and unload the remaining required data sets with a high-level qualifier of IWAY.V5R2M05. The IWAY.V5R2M05 qualifier indicates a specific product and release, but any qualifier-naming standard may be used. Follow the example for your media type.

- An example for using a **single 3490 cartridge** is the following:

```
//EDAPROCS JCLLIB ORDER=IWAY.V5R2M05.EDALIB.DATA
//*EDADEL EXEC PROC=EDAQDEL, PREFIX=' IWAY.V5R2M05 '
//*WFRDEL EXEC PROC=WFRQDEL, PREFIX=' IWAY.V5R2M05 '
//EDAALL EXEC PROC=EDAQALL, PREFIX=' IWAY.V5R2M05 ',
// DUNIT=SYSDA
//*WFRALL EXEC PROC=WFRQALL, PREFIX=' IWAY.V5R2M05 ',
//* DUNIT=SYSDA
//EDAUNL EXEC PROC=EDAQUNL, PREFIX=' IWAY.V5R2M05 ',
// TUNIT=CART, TVOL=D5205E, WORK=SYSDA
//*WFRUNL EXEC PROC=WFRQUNL, PREFIX=' IWAY.V5R2M05 ',
//* TUNIT=CART, TVOL=D5205E, WORK=SYSDA
```

Add a job card and submit to start the actual unload.

- An example for using **two 3480 cartridges** is the following:

```
//EDAPROCS JCLLIB ORDER=IWAY.V5R2M05.EDALIB.DATA
//*EDADEL EXEC PROC=EDAQDEL, PREFIX=' IWAY.V5R2M05 '
//*WFRDEL EXEC PROC=WFRQDEL, PREFIX=' IWAY.V5R2M05 '
//EDAALL EXEC PROC=EDAQALL, PREFIX=' IWAY.V5R2M05 ',
// DUNIT=SYSDA
//*WFRALL EXEC PROC=WFRQALL, PREFIX=' IWAY.V5R2M05 ',
//* DUNIT=SYSDA
//EDAUNL EXEC PROC=EDAQUNL, PREFIX=' IWAY.V5R2M05 ',
// TUNIT=CART, TVOL=' (A5205E, B5205E) ', WORK=SYSDA
//*WFRUNL EXEC PROC=WFRQUNL, PREFIX=' IWAY.V5R2M05 ',
// TUNIT=CART, TVOL=' (A5205E, B5205E) ', WORK=SYSDA
```

Add a job card and submit to start the actual unload.

The JCL will allocate and load the following data sets:

Data Set	Description
<code>qualif.EDALIB.LOAD</code>	Server base load library.
<code>qualif.EDAAFD.DATA</code>	Server Access Files.
<code>qualif.EDAMFD.DATA</code>	Server Master Files.
<code>qualif.EDARPC.DATA</code>	Server procedures.
<code>qualif.EDAMSG.DATA</code>	Server messages.
<code>qualif.EDACTL.DATA</code>	Server base samples.
<code>qualif.EDASASC.LINKLIB</code>	Server sockets run-time library.
<code>qualif.EDA.DBRMLIB</code>	DB2 installation library.
<code>qualif.EDAPROF.DATA</code>	Server profile.
<code>qualif.INSTALL.DATA</code>	EDA installation O/P library.
<code>qualif.EDAREXX.DATA</code>	ECC REXX RPC library.

Note: When running EDAJINS2, a member named EDAPREFX will be generated in `qualif.EDALIB.DATA`. This member contains the following line

```
// SET PREFIX='qualif'
```

where:

`qualif`

Specifies the high-level qualifier for the data sets.

This member is used by subsequent routines to provide the high-level qualifier information for data sets (such as catalogs). However, the JCL used in the actual configuration process requires that the qualifier is edited for actual use. See the *iWay Server for MVS Configuration* manual for more information on the configuration routines.

Step 4. Unload the NLS Data Set From the Media (Optional)

Complete this step when using National Language Support (NLS) features.

The following JCL steps allocate the data sets needed for NLS. Edit the *qualif.EDALIB.DATA(NLSJINS2)*, add a job card, and submit the job. The JCL parameters to change are:

```
//EDAPROCS JCLLIB ORDER=qualif.EDALIB.DATA
//*NLSDEL EXECPROC=NLSQDEL,PREFIX='qualif' ' (remove * for job rerun)
//NLSALL EXECPROC=NLSQALL,PREFIX='qualif',',
// DUNIT=SYSDA
//NLSUNL EXECPROC=NLSQUNL,PREFIX='qualif',
//TUNIT=CART,TVOL=tapvol
```

where:

qualif

Specifies the high-level qualifier for the data sets.

DUNIT

Specifies the disk unit used when allocating the data sets. In this JCL, the default is SYSDA. To specify a volume and unit when allocating the data sets, use the following form:

```
DUNIT='myunit,VOL=SER=myvol'
```

For example,

```
DUNIT='SYSDA,VOL=SER=USERM1'
```

TUNIT=CART

Is the unit type of the drive which the media is mounted. The default is CART, but other common names include 3480, TAPE, 3420, or 3490. Change as needed.

tapvol

Is the volser label value as shown on the actual physical installation media. If you are installing from two 3480 cartridges, provide the volsers of both cartridges as follows:

```
TUNIT=CART,TVOL='(tapvol1,tapvol2)'
```

Example Unloading the NLS Data Set From the Media

This sample JCL (of a modified NLSJINS2) allocates and unloads, from a single 3490 cartridge, the NLS data sets with a high-level qualifier of IWAY.V5R2M05. The actual qualifier must match the qualifier used in prior steps.

```
//EDAPROCS JCLLIB ORDER=IWAY.V5R2M05.EDALIB.DATA
//*NLSDEL EXECPROC=NLSQDEL, PREFIX= IWAY.V5R2M05 '
//NLSALL EXECPROC=NLSQALL, PREFIX= IWAY.V5R2M05,
// DUNIT=SYSDA
//NLSUNL EXECPROC=NLSQUNL, PREFIX= ' IWAY.V5R2M05 ' ,
//TUNIT=CART, TVOL=D5205E
```

If you are using two 3480 cartridges, you must provide both volsers for the TVOL:

```
// TUNIT=CART, TVOL= ' (A5205E, B5205E) '
```

Note: To rerun this job, remove the * before NLSDEL. This will delete the data set before reallocating it.

The JCL will allocate and load the following data set:

Data Set	Description
qualif.EDANLS.DATA	National Language Support library.

This concludes the software installation process. Configuration is covered in the *iWay Server Configuration for MVS* manual. If a separate administrator performs the configuration, the high-level qualifier selected and used in the installation should be provided for configuration purposes.

CHAPTER 6

Server Installation for OS/400

Topics:

- Step 1. Reviewing System Requirements
- Step 2. Creating User IDs
- Step 3. Acquiring the Installation Library
- Step 4. Running the Installation Program
- Step 5. Verifying the Server Installation
- Step 6. Configuring the Server With Different Security Modes
- General Server Start Up and Use
- Other OS/400 Start Up Options
- Troubleshooting
- Accessing IFS Files and QSYS Libraries
- Creating J.D. Edwards Metadata

This document describes the requirements and procedures for proper installation of the Server for OS/400.

Step 1. Reviewing System Requirements

Before beginning server installation, review the following requirements:

- Operating System Release Requirements
- Shell Requirements
- Disk Space Requirements
- Memory Usage Requirements
- Communications Requirements
- MQ XML Listener Requirements

Operating System Release Requirements

The following table lists supported platforms and operating system releases. Confirm that the platform and the intended operating system releases are supported combinations on the chart, and that the label on the actual media indicates the correct software.

Hardware / Operating System Vendor	Operating System Release	CD-ROM Label
IBM iSeries (RISC)	OS/400 V4R4	OS400 V04R04M00
	OS/400 V4R5	OS400 V04R05M00
	OS/400 V5R1 or Higher (required for DBCS)	OS400 V05R01M00

The software also supports data adapters. See the DBMS support chart for specific combinations. Specific DBMS information (such as release levels, user IDs, and passwords) is not used during the basic installation, but will be used later during configuration.

To use the server for DBCS language code page configurations (i.e. Japanese), you must be running OS/400 V5R1 or higher. The installation process for this level of software includes an additional prompt (as shown in the example below) to select the initial installation code page. Due to the limitations of the OS/400 V5R1 operating system, if you intend to configure for one of the listed DBCS code pages, you must select the initial code page during initial server installation, so that certain files will be unloaded properly. In all cases, the specific language and code page (both DBCS pages and non-DBCS pages) must then also be configured on the Web Console. If your DBCS language is not listed, please contact customer support.

The operating system should also have the latest cumulative patch levels applied.

Shell Requirements

The OS/400 - QShell Interpreter (OS/400 Installation Option 30) must be installed to use the server. The QShell Interpreter is a free, but optionally installable feature of OS/400. The easiest way to check if this feature is installed is to enter QSH on the OS/400 command line. If it is installed, a Unix like environment starts (F3 to exit). If it is not installed, you receive a "Command QSH in library *LIBL not found" message. If it is not installed, install it before proceeding.

Disk Space Requirements

The following are approximate disk space requirements. Specific sizes may vary slightly with options selected during configuration. The usage numbers do not include space for actual applications, data sources, sort space, output preparation, or logs.

Platform	Version	During Install	After Install
IBM iSeries OS/400	V4R4	1000 Megabytes	500 Megabytes
	V4R5	1000 Megabytes	500 Megabytes
	V5R1	1000 Megabytes	500 Megabytes

Memory Usage Requirements

Memory and shared memory usage depend on the following elements:

- Number of data access agents.
- Type of access that is performed: joins, large retrieval, etc.
- Connection queue.

Actual memory usage differs between applications and the server load.

Communications Requirements

The TCP/IP transport protocol is supported on all platforms and is the primary method of communications between iWay-enabled connector applications and servers. Up to 4 consecutive open ports for each server you want to run will be used. The starting port number (of the consecutive ports) is required during the installation process, since the initial installation also yields an initial configuration.

MQ XML Listener Requirements

OS/400 System Administrators, note: the following PTFs must be installed for access to the MQ XML listener.

OS400 V4R4	OS400 V4R5	OS400 V5R1
SF66797	SF66797	
SF66796	SF66796	
SF66621	SF66715	
SF66573	SF66714	
SF66572	SF66621	
SF66428	SF66573	
SF66322	SF66572	
SF66304	SF66495	
SF66102	SF66428	
SF66101	SF66322	
SF66073	SF66304	
SF66071	SF66287	
SF65944	SF66102	
SF65919	SF66101	
SF65823	SF66100	
SF65822	SF66073	
SF65805	SF66071	
SF65128	SF65944	
SF65127	SF65939	
SF65088	SF65919	
SF64746	SF65823	
SF64739	SF65822	
SF64735	SF65814	
	SF65810	
	SF65805	
	SF65791	
	SF65260	
	SF65165	
	SF65128	
	SF65127	
	SF65088	
	SF65076	
	SF64746	
	SF64739	
	SF64735	
	SF63984	

Step 2. Creating User IDs

The installation of an iWay server requires an ID to install and own the files as well as to administer the server; this is also known as the "iadmin" ID. The iadmin ID should:

- not be QSECOFR, have a group of QSECOFR, or have other special authorities.
- have a message queue delivery of *NOTIFY if this is not the default for the system.
- have a HOMEDIR other than the OS/400 default of "/" and the directory should actually exist.

In addition to the ID you assigned to administer the server, referred to as *iadmin*, which can have any value you assign, you will need a second ID literally called iadmin to properly unload the CD-ROM library. If this literal iadmin ID is not being used to install and own the files, you can remove it after installation.

To properly create the real iadmin ID and home directory (as QSECOFR), issue the following:

```
CRTUSRPRF USRPRF(IADMIN) PASSWORD(MYPASS) HOMEDIR('/home/iadmin')
  TEXT('Server Administrator ID') DLVRY(*NOTIFY)
QSH CMD('mkdir /home/iadmin')
QSH CMD('chmod 755 /home/iadmin')
QSH CMD('chown iadmin /home/iadmin')
```

Running the server in secured mode also requires that particular files have their ownership changed to QSECOFR (this step is done after installation).

End users of the server will also require an ID for access if the server is running in secured mode. The data access agents of the server will impersonate these user IDs before performing any file access on their behalf. No special authorities or setup are needed for these IDs.

In this documentation, iadmin user ID names and group associations are "iadmin;" this name is only suggested for easier reference. You may use any actual name for the administrator ID.

Note: The iadmin ID should only be available to users who require administrative privileges to the server for security purposes.

Step 3. Acquiring the Installation Library

Software must be installed from a library that is restored either from a CD or an FTPed save file.

- **From CD.** The software is provided on CD. This is how most installations are performed. For CD installation, see *Acquiring the Installation Library From CD* on page 6-6.
- **From FTP.** The software can be downloaded from a special FTP site. You must contact your Information Builders representative if you wish to use this option. For FTP installation, see *Acquiring the Installation Library From the FTP Site* on page 6-7.

Acquiring the Installation Library From CD

1. Place the CD in the CD drive.
2. Log on as the QSECOFR ID (or an ID with RSTLIB authority) and restore the product library from the CD to disk with:

```
RSTLIB SAVLIB(R720525BTP) DEV(OPT01)
```

Note: The actual device name may differ. To view available devices, use the command:

```
WRKCFGSTS CFGTYPE(*DEV) CFGD(*OPT)
```

If you have an existing library that you do not want to overwrite, use the following syntax, which assigns the name ABC:

```
RSTLIB SAVLIB(R720525BTP) DEV(OPT01) RSTLIB(ABC)
```

and substitute this alternate library name (ABC in the above example) wherever R720525BTP is used in these instructions.

The actual library name will also differ when you install a service pack (e.g., 5.2.6 versus 5.2.5). The numeric portion of the library name will match the service pack number; for instance, the library name for 5.2.5 would be R720525BTP, while for 5.2.6 it would be R720526BTP, and so forth. In the case of a service pack, the appropriate library name must be substituted as the product library name in these instructions.

3. If you are not using the real iadmin as the iadmin ID to own the files and manage the server, issue (as QSECOFR):

```
CHGOBJOWN OBJ(R720525BTP/INU) OBJTYPE(*PGM) NEWOWN(QSECOFR)
```
4. Log off the QSECOFR user ID and proceed to *Step 4. Running the Installation Program* on page 6-8.

After you complete the installation, you can delete the R720525BTP installation library.

Acquiring the Installation Library From the FTP Site

If you are downloading software from the FTP site, you must follow these instructions for creating save files and restoring libraries from save files.

1. If your FTP connection is from an OS400 machine to either the Information Builders FTP site or a local site where the .savf was already downloaded, transfer the file in binary mode as follows:

```
ftp {node}
{id}
{password}
cd {target_directory}
syscmd crtsavf file(*curlib/iserver)
binary
get iserver.savf iserver (replace
quit
```

where:

target_directory

Is the URL to which you were directed for downloading the software, or the directory to which you have already downloaded the file.

A copy of the installation instructions is available in this directory.

If your FTP connection is from a PC or UNIX machine on which you already downloaded a .savf file from the Information Builders FTP site to the OS400 machine, transfer the file in binary mode as follows:

```
ftp {node}
{id}
{password}
cd {target_directory}
quote rcmd crtsavf file(*curlib/iserver)
binary
put iserver.savf iserver (replace
quit
```

where:

target_directory

Is the directory to which you have already downloaded the file.

A copy of the installation instructions is available in this directory.

Note: UNIX is case-sensitive. FTP commands must be lower case. File names, which are generally lower case, must match the case of the file being referenced.

2. Log on to OS400 as QSECOFR and restore the installation library from the save file:

```
RSTLIB SAVLIB(R720525BTP) DEV(*SAVF) SAVF(IADMIN/ISERVER) MBROPT(*ALL)
```

Step 4. Running the Installation Program

3. Log off the QSECOFR user ID and proceed to *Step 4. Running the Installation Program* on page 6-8.

After you complete the installation, you can delete the iserver save file and the R720525BTP installation library.

Step 4. Running the Installation Program

1. Log on with the IADMIN user ID.
2. On the OS/400 command line, call the installation procedure. For example:

```
CALL R720525BTP/ISETUP
```

The ISETUP program requires a license key (see the shipping manifest for the actual key) plus a few basic parameters. The ID being used to install the software is the server administrator ID (iadmin); its password is prompted for and required to accomplish certain operations. All other parameters have defaults and are displayed. Responding "yes" to this list of defaults skips the process to the final confirmation step; otherwise, you are prompted individually for each of the values.

NLS on a server is set to "off" by default. It is configured using the Web Console as of 5.2.x (unlike previous releases, which required individual prompting during ISETUP for NLS values).

The parameters are:

Parameter	Description
License Key	Installation Key (actual key will be on shipping documents).
EDAHOME	IFS Directory location for files. Any changes in the EDAHOME location must follow the pattern *ibi.srv52*.home* in its declaration.
EDAHOMELIB	QSYS library location for programs.
EDACONF	Location for the default configuration. The default value is based on the license key and any change in the EDAHOME directory pattern. The default will be a sibling directory to the EDAHOME directory in terms of its location, and have a name such as ffs, wfm, etl, spg or wfs (based on the key and on any change in the EDAHOME pattern).
APPROOT	Location for default applications and sample applications.
Server Admin Password	Server Administrator password. It is recommended to supply a password, although it is only required when running the server in the WCPROTECT mode.

Parameter	Description
TCP Base Port	The port number on which the server's TCP listener listens. Also the start of the set of port numbers used by the server for other TCP based services.

Install Example

The example below shows a Full-Function Server installation using the defaults. The prompts are self-explanatory.

Note: On OS/400 Version 5 Release 1 or higher, there are additional prompts for DBCS code pages.

From the command line on the OS/400 Menu:

```
CALL R720525BTP/ISETUP
```

```
-----
                Welcome to the Product Set Up Facility
        Please respond to the prompts or enter Q to quit at any prompt.
-----

Select an initial code page:

        1. Generic      37 (Configure Specific Code Page via Web Console)
        2. Japanese    939
        3. Japanese    5035

Enter a selection (Default=1) : 1
-----

Select an option:

        1. Install and Configure
        2. Add Additional Configuration Instance
        3. Refresh Installation (Reinstall, Keep Configurations)
        4. Install Debuggables to the Installation Directory

Enter a selection (Default=1) : 1
-----

Enter your License Key (Format 999-999-9999) : xxx-xxx-xxxx
```

Step 4. Running the Installation Program

License Key has been checked

Product: Full Function Server

Maximum Number of Users: 2

Maximum Number of CPUs: 2

ISETUP: License xxx-xxx-xxxx has been accepted

Please enter the media library name

(Default=R720525BTP)

Please supply media or <Enter> :

Enter the Server Administrator (IADMIN) Password: XXXXXXXX

Please review the default settings.

EDAHOME = /home/iadmin/ibi/srv52/home

EDAHOMELIB = srv52

EDACONF = /home/iadmin/ibi/srv52/ffs

APPROOT = /home/iadmin/ibi/apps

TCP_BASE_PORT = 8100

If you are satisfied with the default settings you may proceed to final confirmation else you will be prompted for individual values. Proceed with defaults? (Y/N Default=Y) : Y

The following selections have been made for ...

Install Options ...

INSTALLATION_DEVICE = R720525BTP

PRODUCT = server

EDAHOME = /home/iadmin/ibi/srv52/home

EDAHOMELIB = srv52

APPROOT = /home/iadmin/ibi/apps

Configure Options ...

EDACONF = /home/iadmin/ibi/srv52/ffs

EDAHOME = /home/iadmin/ibi/srv52/home

EDAHOMELIB = srv52

```
LICENSE = xxx-xxx-xxxx
APPROOT = /home/iadmin/ibi/apps
SERVER_TYPE = ffs
SERVER_NAME = "IWAY 52 Full Function Server"
SERVER_ADMIN_ID = iadmin
SERVER_ADMIN_PASSWORD = ECECC5B1F12E735A
TCP_BASE_PORT = 8100
```

Please confirm these values with one of the following responses ...

```
Y = Accept and Proceed
N = Start Over
Q = Quit
```

Please supply confirmation: Y

Please, wait while we are installing the server ...

ISETUP: Installation Step completed

Please, wait while we are configuring the server ...

ISETUP: Configuration Step completed

Would you like to start the server (Y/N Default=Y)? : Y

ISETUP: The server has been started

To administer the server go to a web browser
and open the URL <http://myhost.mycompany.com:8101>

Press ENTER to end terminal session.

After pressing the ENTER key, control returns to the command prompt of the OS/400 Menu.

If you are satisfied with the selections, answer "yes" to the final prompt and wait for the return of the command prompt before proceeding to the next step.

If any of the target locations exist, they will be marked with "(*EXISTS*)" on the display line. This gives you the opportunity to change a location if you do not want to overwrite it by changing the default values.

Step 4. Running the Installation Program

If you decide to change a default, you will be prompted for the individual values. However, you must follow some rules about directory locations. The default root location is the iadmin user ID home directory. The EDACONF directory path name is locked into the pattern *ibi/srv52*/home*. If you change EDACONF, the default EDACONF and EDACONF follow the change in the pattern. The EDACONF and EDACONF may also be changed, but they are locked into a similar pattern (except for the lowest portion of the EDACONF directory name, which reflects the type of server).

Additional Configurations

If you have additional licenses and need to configure an additional server, log on with the iadmin ID, start QSH, and run EDACONF bin/isetup, where EDACONF is the directory on which the software was installed (ibi/srv52/home by default). At the main menu, select option 2, Add Additional Configuration Instance.

The prompts for adding a configuration are similar to those for an installation, but EDACONF is the directory where the software was originally installed. Typically, you would not want to accept the defaults, as doing so will cause your current configuration to be overwritten. If the supplied EDACONF already exists, the installation will copy it to a directory called BACKUP.

Refreshing an Installation

Sometimes it is desirable to refresh the server software's installation directory (EDACONF) because it has become accidentally damaged, populated with unwanted files, or needs updating with a service pack. To do this, run the ISETUP program on the CD-ROM from which the software was originally installed, or from a service pack CD-ROM. At the main menu, select option 3, Refresh Installation (Reinstall, Keep Configuration). This refreshes programming files under the server installation directory (EDACONF) and does not affect any configuration directories. The complete directory tree (EDACONF) and library (EDACONFLIB) are removed and re-created; if any files need to be retained, they should be copied elsewhere beforehand.

Debuggable Version

As with any complex software product, there is sometimes a need to produce traces and other information in order to identify problems; thus debuggable software is needed. Whether the original software CD-ROM has these debuggables is generally dependent on disk space. The debuggable version should not be installed and activated unless explicitly requested by customer support for problem resolution. If a separate CD-ROM is required, it will be shipped as needed. When necessary, install the debuggable version by running ISETUP from the appropriate CD-ROM and selecting option 4, Install Debuggables to the Installation Directory, from the main menu.

Step 5. Verifying the Server Installation

To test the installation, use the initial configuration created by the installation. The server may be brought up, checked, connected to, tested, disconnected, and shut down using the following steps.

1. Log on with the iadmin user ID.
2. There are several methods to start a server and options that may be used. The following method for starting a server (using the appropriate library name and TSCOM300 options) would be the most familiar to an OS/400 Administrator:

```
CALL SRV52/TSCOM300 PARM('-edaconf /home/iadmin/ibi/srv52/ffs -start')
```

Alternate startup methods and batch examples are noted below.

3. Check to ensure that the processes are up with -show:


```
CALL SRV52/TSCOM300 PARM('-edaconf /home/iadmin/ibi/srv52/ffs -show')
```
4. Start the Web Console by starting a browser pointed at the listener port of the server. The URL format is http://host:port. For example, http://host:8101 for the iWay Server and http://host:8121 for the WebFOCUS Server (if the default ports were used during installation). The actual listener port number is one higher than the TCP listener port specified during the installation.
5. If the server is running in secured mode, you will receive a logon screen. Log on with the iadmin user ID.
6. The home page of the Web Console will open. The home page is arranged in a menu like context for the various features it supports. Use of the server admin ID (iadmin) to log on will display server administration features that non admin IDs would not normally see.

Information on how to use the Web Console is available as a drill-down on the Console itself and in the *Server Administration for UNIX, Windows, OpenVMS, OS/400, OS/390 and z/OS* manual.

7. The home page has a drill-down for testing the server. Click the test drill-down to run a sample report.
8. If you are done using the server, use the Stop Server drill-down on the Web Console Menu.
9. If there are startup problems, examine the IFS/ home/iadmin/ibi/srv52/ffs/edaprint.log file.

Step 6. Configuring the Server With Different Security Modes

There are three security modes for a Server.

1. **Security OFF.** This is the default unless security was configured.
2. **Security ON.** With security ON, users must either send a password to connect to the server or use some other form of verification.
3. **Security WCPROTECT.** With security WCPROTECT, users are not verified against the operating system, but will be verified against the edaserve.cfg file when logging into the Web Console.

Each of these security options can be set with the EDAEXTSEC variable, as follows.

```
export EDAEXTSEC={ON|OFF|WCPROTECT}
```

The default is OFF unless the server has been configured for Secured Mode, as described below; then the default is ON.

Procedure How to Configure the Server for Secured Mode

To run a server in secured mode on OS/400, certain files must claim ownership by QSECOFR or a QSECOFR authorized ID. Running with security ON forces users to send a password to connect to the server, or to use some other form of verification. While general installation of the server software is done by iadmin (an ordinary user ID), this step requires QSECOFR authority.

To change ownerships, do the following:

1. Login as QSECOFR.
2. Using the library specified during the installation, change the file ownership by entering the following commands:

```
CHGOBJOWN OBJ (SRV52/TSCOM300) OBJTYPE (*PGM) NEWOWN (QSECOFR)
```

```
CHGOBJOWN OBJ (SRV52/R1SEC) OBJTYPE (*SRVPGM) NEWOWN (QSECOFR)
```

Your software is now installed along with an initial configuration.

Procedure How to Configure the Server for WCPROTECT Mode

1. Prior to starting the server, issue the variable EDAEXTSEC as follows:

```
export EDAEXTSEC=WCPROTECT
```

2. Start the server.

A user will only be authenticated when connecting to the Web Console. Only the ID and Password in the edaserve.cfg will have administrative access to the server.

General Server Start Up and Use

After configuring for secured mode (if desired), the server is started and managed using the same server startup and Web Console startup steps used for validating the server (steps 1 - 6). If the server has not been configured for adapters, now is an appropriate time to do so, using the Web Console and the *Server Administration for UNIX, Windows, OpenVMS, OS/400, OS/390 and z/OS* manual.

OS/400 Sites have the option of using QSH commands that run "edastart" or a CALL to TSCOM300 to start and manage a server.

The chart below lists commonly used "edastart" options and functions (the parameters are the same for TSCOM300 usage).

Command and Option	Function
<code>edastart</code>	(No parameters) Starts the server with the line mode console to actively view the server log (edaprint). Also allows dynamically issuing edastart options, such as show, traceon, traceoff, quit, stop, etc. Use your 5250 SysReq key and enter "2" to receive the console command prompt to enter commands. If you are using a PC and 5250 emulator software, see your emulator keyboard map for the PC's equivalent key or use your emulator's help instructions on how to create mapping for the SysReq key.
<code>edastart -start</code>	Starts the server in background; only a short message appears.
<code>edastart -sstart n</code>	Starts the server, but waits n seconds for actual startup.
<code>edastart -show</code>	Shows general status of server and agents.
<code>edastart -stop</code>	Stops the server.
<code>edastart -quit</code>	Exits the server's line mode console log (edaprint) and returns to the operating system command prompt, but leaves the server running.
<code>edastart -console</code>	Reenters the server's line mode console log (edaprint).
<code>edastart -traceon</code>	Turns on tracing. May be used at initial startup or after. Tracing should not be turned on (due to overhead) unless there is a problem that needs to be traced. It is always preferable to start traces at initial startup time unless instructed otherwise.

Command and Option	Function
<code>edastart -traceoff</code>	Turns off tracing.
<code>edastart -?</code>	Displays edastart options (this list, plus more).
<code>edastart -?s</code>	Displays support information and support related options.

Note: The OS/400 commands WRKACTJOB and WRKSBJOB should not be used to shutdown a running server.

Alternate startup methods, which start the server either with command line options or as a submitted job, are detailed in *Other OS/400 Start Up Options* on page 6-17.

Other OS/400 Start Up Options

The methods below may be used to start or manage the server environment using either native OS/400 CALL syntax or QSH syntax. (The directory and library names specified during the installation process are used in these examples.)

- To start the server from the native OS/400 menu command line, use:

```
CALL SRV52/TSCOM300 PARM('-edaconf /home/iadmin/ibi/srv52/ffs -start')
```

- To start the server from the native OS/400 menu command line with traces, use:

```
CALL SRV52/TSCOM300 PARM('-edaconf /home/iadmin/ibi/srv52/ffs -start -traceon')
```

- To stop the server from the native OS/400 menu command line, use:

```
CALL SRV52/TSCOM300 PARM('-edaconf /home/iadmin/ibi/srv52/ffs -stop')
```

- To clear all server resources after a malfunction or after server termination using WRKACTJOB or WRKSBMJOB from the native OS400 menu command line, use:

```
CALL SRV52/TSCOM300 PARM('-edaconf /home/iadmin/ibi/srv52/ffs -clear')
```

- To start the server from the command line of a QSH session, use:

```
QSH (starts QSH)
/home/iadmin/ibi/srv52/ffs/bin/edastart -start
```

- To stop the server from the command line of a QSH session, use:

```
QSH (starts QSH)
/home/iadmin/ibi/srv52/ffs/bin/edastart -stop
```

- To start the server as a QSH session, but from the OS/400 command line, use:

```
QSH CMD('/home/iadmin/ibi/srv52/ffs/bin/edastart -start &')
```

- To stop the server as a QSH session, but from the OS/400 command line, use:

```
QSH CMD('/home/iadmin/ibi/srv52/ffs/bin/edastart -stop')
```

- To start the server as a submitted QSH session on the OS/400 command line with a code page (Belgium), use:

```
SBMJOB CMD(QSH CMD('/home/iadmin/ibi/srv52/ffs/bin/edastart -start &'))
```

```
JOB(MYJOB) LANGID(NLB) CNTRYID(BE) CCSID(500)
```

- To start the server as a submitted job on the OS/400 command line with a code page (Belgium) and specific job queue, use:

```
SBMJOB CMD(CALL SRV52/TSCOM300 PARM('-edaconf  
/home/iadmin/ibi/srv52/ffs'))  
JOB(MYJOB) LANGID(NLB) CNTRYID(BE) CCSID(500) JOBQ(MYQUEUE)
```

Note: The -start and -sstart options should not be used for submitted jobs. These options close the job log file, which causes the submitted job to end immediately.

You can issue other combinations of standard server control parameters by replacing the option in one of the examples above with another "edastart" option, such as -stop, -show, -traceon, and -traceoff.

Note: It is important in a submitted job to include "-start" and a trailing "&" in the QSH command (as shown above) when using this form of SBMJOB. Failure to do so will cause ENDSBS or ENDSYS to fail in shutting down the spawning processes.

CL and CMD Programs

The process of installing a server will also create and compile CL and CMD sources so that server functions such as start, stop, show and tracing may be activated on the OS/400 menu command line. The start command starts the server as a batch job issued to a specified job queue, and is particularly useful for automatically starting a server at boot time or with minimal effort.

The source is created and permanently assigned to a configuration's bin directory, then copied into QTEMP and compiled. If the ID being used to install the server has an explicit current library, the compiled programs will reside in *CURLIB; otherwise, they will go to QGPL. The user ID should have a current library (CURLIB). The core EDASTART program is generic for any installation and is driven by the defaults within the command files. If you want to have more than one configuration, use separate libraries or rename the programs to prevent overwriting. The basic commands and functions are listed in the table below.

Command	Function
ISTART	edastart
ISTOP	edastart -stop
ISHOW	edastart -show
ITRCON	edastart -traceon
ITRCOFF	edastart -traceoff
ICLEAR	edastart -clear

To use any of the commands, type the command at the OS/400 Menu command line. You may change any of the following settings by using the OS/400 F4 Prompt mode:

- EDACONF Directory EDASTART Parameter
- Subsystem Name
- Subsystem Library Name
- Language ID
- Country ID
- Coded Character Set ID
- Job Name Prefix

The CL and CMD script may be further customized, or the defaults may be changed, by manually copying the desired file to a library and then changing and recompiling it. Detailed instructions for all steps are contained within the EDASTART CL source. Configuration of a particular language on the Web Console does not currently change the defaults with the file sources; these must be changed manually.

Troubleshooting

Safe Mode

If the Server starts in safe mode normal use of the server is disabled. However the administrator can connect to the Web Console to fix the problem. When the Web Console is started the reason the server is in safe mode is listed on the HOME page. Click the fix hyperlink listed under the problem and make the correction. Save and restart the server. A common reason for the server to start in safe mode is that the `server_admin_password` is not correct.

If the server administrator does not have a password a secured server will always start in safe mode. To correct this a password will need to be added for this ID on the operating system.

Accessing IFS Files and QSYS Libraries

The location of FOCEXEC, MASTER, and FOCUS application files starting with release 5.x may be QSYS, IFS, or both. IFS is the preferred location, and is the location used for files created by the HTTP Web Console.

Syntax **How to Use Conventions for IFS**

IFS access follows the standards of a number of other platforms for EDAPATH, FILEDEF, USE, and APPS, but is most like UNIX because the file names follow the same rules. The following is a summary of the respective commands and conventions.

```
SET EDAPATH = directory [: directory ]  
FILEDEF ddname DISK filename [ ( options )  
USE  
filename [AS name ]  
END  
APP MAP MYAPP directory
```

where:

directory

Is the full path directory name (for example, /home/iadmin/acctng).

ddname

Is the reference name for the file being opened.

filename

Is either the relative or full path file name (for example, myfile.dat, acctng/myfile.dat or /home/iadmin/acctng/myfile.dat).

options

Are the available access options such as LRECL or RECFM.

name

Is the alternate name for the Master File.

Use of a relative path name is not recommended, since this varies with any given connection to the server. Use of environment variables or shortcuts (for example, \$HOME or ~) are not supported in any context.

Using Conventions for QSYS

QSYS access works with libraries and has the following EDAPATH, FILEDEF, USE, and APP support for accessing existing applications.

iWay 5.x has two application search methodologies, APP and EDAPATH. The 5.1 default was EDAPATH and the 5.2 default is APP. APP is enabled by the APP ENABLE command in the server profile.

The EDAPATH command is used to access IFS. It is also used to access QSYS Libraries with an IFS style of references. The option to use IFS references to QSYS Libraries is a native feature of OS/400. IFS references to QSYS names, such MYLIB, use IFS style references such as /QSYS.LIB/MYLIB.LIB, which are clearly recognizable as a QSYS reference. IFS QSYS references used in EDAPATH or APP MAP must be capitalized for proper utilization.

EDAPATH searches recognize these QSYS type of specifications and make the application library members (for example, EDAMAS(*), EDAACX(*), FOCEXEC(*)) available.

Example Accessing QSYS Libraries

In APP mode, the APP MAP command supports use of IFS QSYS Library references so the MAP NAME may be used for path search purposes in applications via the APP PATH command. However, the contents of a QSYS mapping are not available from the Web Console.

The syntax for APP MAP to a QSYS Library is:

```
APP MAP ACCTNG /QSYS.LB/ACCTNG.LIB
```

In EDAPATH mode, if accounting and shipping libraries, respectively named ACCTNG and SHIP, were created from applications built with Version 4.3.1, you would access them by issuing the following:

```
SET EDAPATH = /QSYS.LIB/ACCTNG.LIB : /QSYS.LIB/SHIP.LIB
```

The FILEDEF syntax to used access files that were created as single member source physical files of a QSYS Library is:

```
FILEDEF dname DISK library/file
```

Note: The source physical does not need to pre-exist for file creation purposes.

The FILEDEF syntax used to access files that were created as members in a source physical file of a QSYS Library is:

```
FILEDEF dname DISK library/file(member)
```

The source physical needs to pre-exist for file creation purposes.

Creating J.D. Edwards Metadata

The USE syntax used to access FOCUS database files, created as members in a source physical file starting with "F\$" of a QSYS Library, is

```
USE  
library/file(member name) [AS name ] [NEW]  
END
```

where:

member name

Is assumed as the FOCUS file name unless an AS phrase is explicitly issued. If the member name is left off the specification, then the member and file name are assumed to be the same. The NEW option allows new files to be created if they do not exist already.

This construction allows you to organize multiple FOCUS data sources within a single QSYS source physical name with a functionally name, such as FOCUS, ACCTG, SHIPPING, AR, or AP; or as individual QSYS source physical names, such as SHIP(SHIP), AR(AR), AP(AP), or SHIP(FOCUS).

Prior 3.x and 4.x Versions created FOCUS databases with an arbitrary "F\$" added to the beginning of the source physical name and used "FOCUS" as the member name. Therefore, the name on the disk was in the form CURLIB/F\$MYDB(FOCUS). The 5.x release does not assume this is a default, and therefore requires either a USE command with an explicit AS; or that the files are renamed to fit the 5.x conventions.

The source physical does not need to pre-exist for file creation purposes.

Reference Environment Variables

EDAPATH may also be set as an environment variable before server startup using appropriate syntax for WRKENVVAR or OSH export and a list of desired (colon separated) directories.

Creating J.D. Edwards Metadata

Creation of J.D. Edwards Metadata requires the use of the following iWay tools: AUTOTOOL and JDECONV. These tools are available on a separate CD entitled *iWay 5.2 OS/400 Tools*. The output from these tools will be in QSYS. You need to either map to this location or copy the files to an IFS location.

CHAPTER 7

Server Installation for OpenVMS

Topics:

- Step 1. Check System Requirements
- Step 2. Create User IDs
- Step 3. Copy the Installation Software From FTP or Mount the CD
- Step 4. Run the Setup Procedure
- Step 5. Verify the Server Installation
- Step 6. Configure the Server With Different Security Modes
- General Server Startup and Use
- Troubleshooting

This document describes the requirements and procedures for proper installation of the Server for OpenVMS.

Step 1. Check System Requirements

Before beginning server installation, review the following requirements:

- Operating System Level and Patches Requirements
- Disk Space Requirements
- Memory Usage Requirements
- Workspace Manager Shared Memory Resources Requirements
- Communications Requirements

Operating System Level and Patches Requirements

The following table lists supported platforms and operating system releases. Confirm that the platform and the intended operating system release are supported combinations on the chart, and that the label on the actual media indicates the correct software.

OpenVMS for Alpha

Operating System Release	CD-ROM Label	Patches
7.1	OpenVMS V7.1	ALPBASE02_071
		ALPF11X03_071
		ALPSYSA02_071
		ALPSYSB02_071
		ALPPORTS01_071
		ALPDCL01_071
		ALPMONT02_071
		ALPBACK04_071
		ALPDISM01_071
		ALPINIT01_071
		ALPMTAA01_071
		ALPACRT06_071
		ALPDRIV11_071
		ALPMOUN07_071
		ALPSHAD06_071
		ALPBACK05_071
ALPPTHRO2_071		
Digital TCP/IP Services V4.2 ECO 5		

Step 1. Check System Requirements

Operating System Release	CD-ROM Label	Patches
7.2-2 (Not 7.2 or 7.2-1)	OpenVMS V7.2-2	VMS722_UPDATE V 1.0
		VMS722_LAN V3.0
		VMS722_RMS V4.0
		VMS722_PTHREAD V1.0
		Compaq TCP/IP Services V5.3 ECO 2
		VMS722_ACRTL V2.0
		VMS722_SYS V1.0
		VMS722_IPC V1.0
7.3-1	OpenVMS V7.3-1	VMS731_RMS V3.0
		Compaq TCP/IP Services V5.3 ECO 2
		VMS731_ACRTL V1.0
		VMS731_F11X V1.0
		VMS731_PTHREAD V1.0
		VMS731_SYS V3.0

The software also supports a range of data adapters for ADABAS/C, Oracle, Progress, RDB and RMS; see the DBMS support chart for specific combinations on any given platform. Specific DBMS information (such as release levels, user IDs, and passwords) is not used during the basic installation, but will be used later during configuration.

OpenVMS requires certain operating system patches to install and run a server. The chart below is based on operating system release levels.

Third party TCP/IP packages from Process Software have also been tested at the Multinet 4.4 and TCPWare 5.6 levels for basic connect and data retrieval, and are known to be operational and require no special configuration. If you have a problem using third party TCP/IP products, be sure to specify the product, the release, and any installed patches when contacting Customer Support.

Disk Space Requirements

The following are approximate disk space requirements. Specific sizes may vary slightly according to the options that were selected during configuration. The usage numbers do not include space for actual applications, databases, sort space, output preparation, or logs.

Platform	Version	After Install
OpenVMS for Alpha	7.1	260000 blocks
	7.2-2	250000 blocks
	7.3-1	250000 blocks

Memory Usage Requirements

Memory usage in a configured environment is determined by the following factors:

- Workspace Manager.
- Listeners.
- Concurrently running application agents.

Actual memory usage varies depending on the features used by the application, and will increase or decrease as agents change between active and idle states.

Workspace Manager Shared Memory Resources Requirements

The Workspace Manager makes use of a specific system resource known as shared memory. Each individually configured Full-Function Server with or without Data Adapters uses one shared memory. The size of this memory varies based upon the sizes of the agents table and the queue.

Generally, shared memory use does not require special configuration; it is just a resource that system administrators like to know is being used so they can monitor it with the SHOW MEMORY/POOLED command (non-paged section).

Communications Requirements

The TCP/IP Transport protocol is the primary method of communications between iWay-enabled connector applications and iWay servers. The System Administrator should make sure that TCP/IP is communicating properly by using the ping command between the desired platforms.

Up to 4 consecutive open ports for each server you want to run will be used. The starting port number (of the consecutive ports) is required during the installation process, since the initial installation also yields an initial configuration.

Step 2. Create User IDs

The installation of an iWay server requires an ID to install and own the files as well as to administer the server; this is also known as the "iadmin ID". The same ID should be used for both functions (installation and administration) and should not be the SYSTEM ID. The iadmin ID is an any user ID with a set of privileges and quotas for secured or non-secured mode. Running the server in secured mode will require more privileges than running in non-secured mode. If you are planning to run a secured server, see *Step 6. Configure the Server With Different Security Modes* on page 7-17 and configure for that mode at this time.

The iadmin privileges for non-secured servers are:

Privilege	Function	Required for Use of
NETMBX	May create network device	Mailboxes
PRMGBL	May create permanent global sections	IPC Shared Memory
PRMMBX	May create permanent mailbox	IPC Control Pipes
SYSGBL	May create system wide global sections	IPC Shared Memory
SYSNAM	May insert in system logical name table	IPC Control Pipes
TMPMBX	May create temporary mailbox	Mailboxes
SYSLCK	May lock system wide resources	Progress Data Adaptor only

Any additional privileges required by particular underlying databases must also be authorized.

Running OpenVMS servers in secured mode is always recommended. This is because non-secured servers run as the privileged account and connecting end-users requests run as the privileged iadmin account, thus presenting a security risk. Non-secured mode should only be used when adequate safeguards have been taken so that the required privileges do not present a risk, or for short periods of time only (such as while debugging an issue).

The following OpenVMS minimal quota resources are also required:

Quota Resources	Value
PAGE_FILE	1000000
BUFFER_LIMIT	800000
IO_BUFFERED	200
IO_DIRECT	200

Quota Resources	Value
AST_LIMIT	300
QUEUE_LIMIT	50
PRIORITY	4
WORKING_SET	3076
MAXIMUM_WORKING_SET	8192
EXTENT	10240
FILE_LIMIT	300
ENQUEUE_LIMIT	2000
JOB_TABLE_QUOTA	10000

Note: The IMPERSONATE privilege (one of the requirements for secured mode operation) allows dynamic setting of quota levels and uses the above table of values. If the configuration is run in secured mode, the initial default values for server validation purposes need not be a concern unless the defaults are unusually low.

End-users connecting to a server will also require an ID with specific set up for access. See the *End-User Requirements* on page 7-21 for details.

Note: The iadmin ID should only be available to users who require administrative privileges to the server for security purposes.

Step 3. Copy the Installation Software From FTP or Mount the CD

There are two ways to access the installation media:

- **From CD.** The software is provided on CD in OSD-2 format. This is how most installations are performed. You must mount the CD as explained below in *Mounting the Software CD* on page 7-8. Once mounted, you can execute it directly from CD, or you can copy the software to disk and execute it.
- **From FTP.** The software can be downloaded from a special FTP site. You must contact your Information Builders representative if you wish to use this option. For more information, see *Copying From FTP* on page 7-9.

Mounting the Software CD

To make the software on the CD accessible to the user performing the actual installation, the media must be mounted. After mounting, the set up program can be directly accessed, or the contents can be copied to disk for future access.

1. Insert the CD into the CD-ROM drive.
2. Issue the following command:

```
MOUNT /OVER=ID device_name:
```

where:

```
device_name
```

Is the system name for your CD-ROM device. Consult your OpenVMS System Administrator for the name of the device for your platform. This document uses "CDROM:" to generically refer to this device for OpenVMS purposes.

The CD will now be accessible for the ID doing the actual installation and will have a root directory of:

```
[IWAY]
```

The installation process can be run directly from CD without copying any files to disk.

3. If you wish to run the installation directly from CD, proceed to *Step 4. Run the Setup Procedure* on page 7-10. However, it may be advantageous to copy all files to disk in order to speed installation.

If you are not installing directly from CD, create an empty subdirectory under the ID you are using for installation. For example:

```
CREATE /DIRECTORY [.TMP]
```

4. Copy the CD's contents to the [.TMP] directory.
5. Ensure that you are in the parent directory and not the [.TMP] directory:

```
SET DEFAULT [-]
```

Note: Do not run the installation procedure from the [.TMP] directory in which ISETUP resides as this will cause errors in the installation process.

6. Proceed to *Step 4. Run the Setup Procedure* on page 7-10.

After you complete the installation, you can later delete the [.TMP] directory.

Copying From FTP

This section only applies when installing from FTP. You must contact your Information Builders representative before attempting this.

1. Create an empty subdirectory under the ID you are using for installation:

```
CREATE /DIRECTORY [.TMP]
```

2. Download all files, in binary mode, from the Information Builders FTP site to the [.TMP] directory you just created.

```
SET DEFAULT [.TMP]
ftp {node}
{id}
{password}
cd {target_directory}
binary
mget *.*
quit
```

where:

target_directory

Is the URL to which you were directed for downloading the software.

A copy of the installation instructions is available in this directory.

3. Adjust saveset file attributes, which are lost during the file transfer, as follows:

```
SET FILE /ATTRIBUTE=(RFM:FIX,LRL:32256)*.BCK
```

4. Switch to the parent directory:

```
SET DEFAULT [-]
```

Note: Do not run the installation procedure from the [.TMP] directory in which ISETUP resides as this will cause errors in the installation process.

After you complete the installation, you can delete the [.TMP] directory.

Step 4. Run the Setup Procedure

The installation procedure name is called ISETUP. Perform the following to run it.

1. Log on with the iadmin user ID.
2. Set the default protection mask to minimally read/execute (if it has not already been set this way). For example:

```
SET PROTECTION=(S:RWED,O:RWED,G:RE,W:RE)/DEFAULT
```

3. Ensure that you are NOT in a directory containing the installation files.
4. Ensure that you have write privileges to the directory in which you execute the installation. You can test whether you have write permissions as follows:

```
CREATE [.XXX] /DIRECTORY
```

5. Execute the ISETUP procedure either:

- from CD:

```
RUN CDROM:[IWAY] ISETUP
```

- or hard disk location:

```
RUN [.TMP] ISETUP
```

6. Use the information below to complete the installation prompts. When prompted for media for the product, provide the location of iserver.bck.

- from CD:

```
CDROM:[IWAY] iserver.bck
```

- or hard disk location:

```
[.TMP] iserver.bck
```

The ISETUP program requires a license key (see the shipping manifest for the actual key) plus a few basic parameters. The ID being used to install the software is the server administrator ID (iadmin); its password is prompted for and required for certain operations. All other parameters have defaults and are displayed. Responding yes to this list of defaults skips the process to the final confirmation step; otherwise, you are prompted individually for each of the values.

NLS on a server is set to "off" by default. It is configured using the Web Console as of 5.2.x (unlike previous releases, which required individual prompting for NLS values during ISETUP).

The parameters are:

Parameter	Description
License Key	Installation Key (actual key will be on shipping documents).
EDAHOME	IFS directory location for files. Any changes in the EDAHOME location must follow the pattern *ibi.srv52*.home* in its declaration.
EDACONF	<p>Location for the default configuration. The default value is based on the license key and any change in the EDAHOME directory pattern. The default will be a sibling directory to the EDAHOME directory in terms of its location, and will have a name such as ffs, wfm, etl, spg or wfs (based on the key and on any change in the EDAHOME pattern).</p> <p>When EDASTART is used to control the server, if the full path name of the EDACONF directory exceeds 31 characters, the directory is automatically aliased as EDASHARE=EDAn where n is the TCP port number of the server.</p> <p>When aliasing occurs, a message similar to the following is displayed:</p> <pre>Warning: WSM id 'DISK\$SOFTWARE:[IWAY.IBI.SRV52.FFS] has been aliased to EDASHARE=EDA8100 due to length.</pre> <p>In 5.1 releases, EDASHARE had to be declared manually. Manual declarations will continue to be respected. However, we recommend removing manual declarations.</p>
APPROOT	Location for default applications and sample applications.
Server Admin Password	Server Administrator password. There is no default.
TCP Base Port	The port number on which the server's TCP Listener listens. It is also the start of the set of port numbers used by the server for other TCP based services.

Note: For performance reasons, you should not install to an FSD or NFS-mounted disks.

Step 4. Run the Setup Procedure

Example Installing and Starting a Full-Function Server

The example below shows a Full-Function Server installation from CD using the defaults. The prompts are self-explanatory.

The following steps detail the procedure for installation.

From the OpenVMS command prompt:

```
$ RUN CDROM:[IWAY]ISETUP
```

```
-----  
                Welcome to the Product Set Up Facility  
                Please respond to the prompts or enter Q to quit at any prompt.  
-----  
Select an options:  
  
    1. Install and Configure  
    2. Add Additional Configuration Instance  
    3. Refresh Installation (Reinstall, Keep Configurations)  
    4. Install Debuggables to the Installation Directory  
  
Enter a selection (Default=1) : 1  
  
-----  
Enter your License Key (Format 999-999-9999) :   xxx-xxx-xxxx  
  
    License Key has been checked  
  
    Product: Full Function Server  
    Maximum Number of Users: 2  
    Maximum Number of CPUs: 2  
  
ISETUP: License xxx-xxx-xxxx has been accepted  
  
-----  
Please enter the full path name of the media for the product  
  
(Default=CDROM:[IWAY]iserver.bck)  
  
Please supply media or <Enter> :  
  
-----
```

Enter the Server Administrator (IADMIN) Password: XXXXXXXX

Please review the default settings.

EDAHOME = IWAY:[iadmin.ibi.srv52.home]
EDACONF = IWAY:[iadmin.ibi.srv52.ffi]
APPROOT = IWAY:[iadmin.ibi.apps]
TCP_BASE_PORT = 8100

If you are satisfied with the default settings you may proceed to
final confirmation else you will be prompted for individual values.
Proceed with defaults? (Y/N Default=Y) : y

The following selections have been made for ...

Install Options ...

INSTALLATION_DEVICE = CDROM:[IWAY]iserver.bck
PRODUCT = server
EDAHOME = IWAY:[iadmin.ibi.srv52.home]

Configure Options ...

EDACONF = IWAY:[iadmin.ibi.srv52.ffi]
EDAHOME = IWAY:[iadmin.ibi.srv52.home]
LICENSE = xxx-xxx-xxxx
APPROOT = IWAY:[iadmin.ibi.apps]
SERVER_TYPE = ffi
SERVER_NAME = "IWAY 52 Full Function Server"
SERVER_ADMIN_ID = iadmin
SERVER_ADMIN_PASSWORD = ECECC5B1F12E735A
TCP_BASE_PORT = 8100

Please confirm these values with one of the following responses ...

Y = Accept and Proceed
N = Start Over
Q = Quit

Please supply confirmation: Y

Please, wait while we are installing the server ...

ISETUP: Installation Step completed

Please, wait while we are configuring the server ...

Step 4. Run the Setup Procedure

```
ISETUP: Configuration Step completed
```

```
-----  
Would you like to start the server (Y/N Default=Y)? : Y
```

```
ISETUP: The server has been started
```

```
-----  
To administer the server go to a web browser  
and open the URL http://myhost.mycompany.com:8101
```

```
$
```

If you are satisfied with the selections, answer yes to the final prompt and wait for the return of the command prompt before proceeding to the next step.

If any of the target locations exist, they will be marked with "(*EXISTS*)" on the display line. This gives you the opportunity to change a location if you do not want to overwrite it by changing the default values.

If you decide to change a default, you will be prompted for the individual values. However, you must follow some rules about directory locations. The default root location is the iadmin user ID home directory. The EDACONF directory path name is locked into the pattern *ibi.srv52*.home*. If you change EDACONF, EDACONF follows the change in the pattern. The EDACONF may also be changed, but it is locked into a similar pattern (except for the lowest portion of the EDACONF directory name, which reflects the type of server).

Your software is now installed along with an initial configuration.

Configuring an Additional Server

If you have additional licenses and need to configure an additional server, log on with the iadmin ID and run EDACONF [.BIN]ISETUP.EXE, where EDACONF is the directory on which the software was installed ([.IBI.SRV52.HOME] by default). At the main menu, select option 2, Add Additional Configuration Instance.

The prompts for adding a configuration are similar to those for an installation, but EDACONF is the directory where the software was originally installed. Typically, you would not want to accept the defaults, as doing so will cause your current configuration will be overwritten. If the supplied EDACONF already exists, the installation will copy it to a directory called BACKUP.

Refreshing an Installation

Sometimes it is desirable to refresh the server software's installation directory (EDAHOME) because it has become accidentally damaged, polluted with unwanted files, or needs updating with a service pack. To do this, run the ISETUP program on the CD-ROM from which the software was originally installed, or from a service pack CD-ROM. At the main menu, select option 3, Refresh Installation (Reinstall, Keep Configuration). This refreshes programming files under the server installation directory (EDAHOME) and does not affect any configuration directories. The complete directory tree (EDAHOME) and library (EDAHOMELIB) are removed and re-created; if any files need to be retained, they should be copied elsewhere beforehand.

Debuggable Version

As with any complex software product, there is sometimes a need to produce traces and other information in order to identify problems; thus debuggable software is needed. Whether the original software CD-ROM has these debuggables is generally dependent on disk space. The debuggable version should not be installed and activated unless explicitly requested by customer support for problem resolution. If a separate CD-ROM is required, it will be shipped as needed. When necessary, install the debuggable version by running ISETUP from the appropriate CD-ROM and selecting option 4, Install Debuggables to the Installation Directory, from the main menu.

Dismounting the Software CD

When you have finished accessing the CD-ROM, dismount it with the following command:

```
DISMOUNT device_name:
```

where:

```
device_name:
```

Is the device name used in the original mount command.

Normally the CD-ROM will not be needed again unless a support situation requires debuggable versions of the software to be installed. A set of debuggables matching the original software is on the CD-ROM for this purpose. You will also need the CD-ROM if you refresh the installation.

Step 5. Verify the Server Installation

To test the installation, use the initial configuration created during installation. The server may be brought up, checked, connected to, tested, disconnected, and shut down using the following steps.

1. Log on with the iadmin user ID.
2. Activate the account privileges (if they are not already activated) with:
`SET PROCESS /PRIV=ALL`
3. Start the server with the appropriate path to edastart and the -start option
`@IWAY: [IADMIN . IBI . SRV52 . FFS . BIN] EDASTART . COM -START`
4. Check to see whether the processes are active using -show
`@IWAY: [IADMIN . IBI . SRV52 . FFS . BIN] EDASTART . COM -SHOW`
5. Start the Web Console by starting a browser pointed at the Listener Port of the server. The URL format is `http://host:port`. For example, for the iWay Server, the URL is: `http://host:8101`; for the WebFOCUS server, the URL is `http://host:8121` (if the default ports were used during installation). The actual Listener Port number is one higher than the TCP Listener Port specified during the installation.
6. If the server is running in secured mode, you will receive a logon screen. Log on with the iadmin user ID.
7. The home page of the Web Console will open. The home page is arranged in a menu-like context for the various features it supports. Use of the server admin ID (iadmin) to log on will display server administration features that non admin IDs would not normally see.

Information on how to use the Web Console is available as a drill-down on the console itself and in the *Server Administration for UNIX, Windows, OpenVMS, OS/400, OS/390 and z/OS* manual.
8. The home page has a drill-down for testing the server. Click the test drill-down to run a sample report.
9. If you are done using the server, use the Stop Server drill-down on the Web Console Menu.
10. If there are startup problems, examine the `IWAY:[IADMIN.IBI.SRV52.FFS]EDAPRINT.LOG` file.

Step 6. Configure the Server With Different Security Modes

There are three security modes for a Server.

1. **Security OFF.** This is the default unless security was configured.
2. **Security ON.** With security ON, users must either send a password to connect to the server or use some other form of verification.
3. **Security WCPROTECT.** With security WCPROTECT, users are not verified against the operating system, but will be verified against the edaserve.cfg file when logging into the Web Console.

Each of these security options can be set with the EDAEXTSEC variable, as follows.

```
DEFINE EDAEXTSEC {ON|OFF|WCPROTECT}
```

The default is OFF unless the server has been configured for Secured Mode, as described below; then the default is ON.

Configuring the Server for Secured Mode

In order to run the server with security on, various privileges are required (depending upon the ID being used to connect to the server).

Reference Server ID (iadmin) Requirements

To connect to the server, users must either send a password or use some other form of verification. While actual installation can be done by an ordinary user, the changes listed here require the SYSTEM ID.

Run MCR AUTHORIZE to add the following privileges to the iadmin ID.

Privilege	Function	Required for Use of
CMKRNL	May change mode to kernel	Server impersonation features
IMPERSONATE	May impersonate another user	Server impersonation features
NETMBX	May create network device	Mailboxes *
PRMGBL	May create permanent global sections	IPC Shared Memory *
PRMMBX	May create permanent mailbox	IPC Control Pipes *

Step 6. Configure the Server With Different Security Modes

Privilege	Function	Required for Use of
SYSGBL	May create system wide global sections	IPC Shared Memory *
SYSNAM	May insert in system logical name table	IPC Control Pipes *
SYSPRV	May access objects using system protection	Server security features
TMPMBX	May create temporary mailbox	Mailboxes *
WORLD	May affect other processes in the world	Control of impersonated processes
SYSLCK	May lock system wide resources	Progress Data Adaptor only *

* Also required for non-secured servers.

Any additional privileges or changes in quota required by particular underlying databases must also be authorized and customized in the EDAENV.PRM file, as described in *How to Add/Change Privileges and Quotas (EDAENV.PRM)* on page 7-18.

The default minimal quota resources are also contained in the default EDAENV.PRM file. You do not need to have values explicitly declared in the UAF or SYSTEM tables, provided the iadmin user ID has IMPERSONATE privileges. However, some situations may require quotas to be increased (for instance, if there are problems accessing very large databases). This is also done by customizing the EDAENV.PRM file, as described below.

Procedure How to Add/Change Privileges and Quotas (EDAENV.PRM)

You can create privilege and quota settings using a configuration file (EDAENV.PRM). To customize the settings:

- Copy the default EDAHOME [.BIN]EDAENV.PRM file to EDACONF [.BIN].
- Edit and customize the EDACONF [.BIN]EDAENV.PRM file as needed (for edit rules, see below).
- Recycle the server.
- Repeat as needed until the desired effect is achieved (e.g., until the page file quota is large enough to access large files).

EDAENV.PRM edit rules:

Changing quota values are simply edited values.

To add a quota, use the form name=value with one declaration per line. Actual names follow the standard OpenVMS names for resources.

Privilege declarations lines have the format Privilege_n : privilege [, privilege, ...], where n is any integer from 1 to 99. The value for n must be unique among the Privilege_n lines. Any number of comma-separated privilege names per line may be declared, but each Privilege_n line must be on separate lines. Privilege names follow the standard OpenVMS names for these privileges.

The EDAENV.PRM file should not be confused with the EDAENV.COM file, which is used for running additional OpenVMS commands (typically logical declarations) at startup. An example of EDAENV.PRM follows:

```
io_direct = 200
queue_limit = 50
page_file = 1000000
buffer_limit = 800000
io_buffered = 200
ast_limit = 300
working_set = 3076
maximum_working_set = 8192
extent = 10240
file_limit = 300
enqueue_limit = 2000
job_table_quota = 10000
priority = 4
privilege_1 : TMPMBX, NETMBX, PRMMBX
privilege_2 : PRMGBL, SYSGBL, SYSNAM
privilege_3 : SYSPRV, CMKRNL, WORLD
privilege_4 : SYSLCK, IMPERSONATE
```

Procedure How to Configure the Server for WCPROTECT Mode

1. Prior to starting the server, issue the variable EDAEXTSEC as follows:

```
DEFINE EDAEXTSEC WCPROTECT
```

2. Start the server.

A user will only be authenticated when connecting to the Web Console. Only the ID and Password in the edaserve.cfg will have administrative access to the server.

General Server Startup and Use

After configuring for secured mode (if desired), the server is started and managed using the same server startup and Web Console startup steps used for validating the server (steps 1 - 6 in the *Step 5. Verify the Server Installation* on page 7-16). If the server has not been configured for adapters, now is an appropriate time to do so using the Web Console and *Server Administration for UNIX, Windows, OpenVMS, OS/400, OS/390 and z/OS* manual.

Commonly used edastart options and functions are as follows:

Command and Option	Function
<code>edastart</code>	(No parameters) Starts the server with the line mode console to actively view the server log (edaprint). Also allows dynamically issuing edastart options, such as show, traceon, traceoff, quit, and stop. Use Ctrl+C to receive the console command prompt to enter commands.
<code>edastart -start</code>	Starts the server in background; only a short message appears.
<code>edastart -sstart n</code>	Starts the server, but waits n seconds for actual startup.
<code>edastart -show</code>	Shows general status of the server and agents.
<code>edastart -stop</code>	Stops the server.
<code>edastart -quit</code>	Exits the server's line mode console log (edaprint) and returns to the operating system command prompt, but leaves the server running.
<code>edastart -console</code>	Reenters the server's line mode console log (edaprint).
<code>edastart -traceon</code>	Turns on tracing. May be used at initial startup or after start. Tracing should not be turned on (due to overhead) unless there is a problem that needs to be traced. It is always preferable to start traces at initial startup time unless instructed otherwise.
<code>edastart -traceoff</code>	Turns off tracing.
<code>edastart -?</code>	Displays edastart options (those on this list, and more).
<code>edastart -?s</code>	Displays support information and support-related options.

Adding JOB, GROUP or Other Defined Environment Values (EDAENV.COM)

At server startup, all Process level logicals are copied to the startup job stream; System level logicals are present by default. If a server must be configured to "see" Job or Group level logicals, or there are Process level logicals that should only be declared for the server, they must be individually declared in an EDACONF [.BIN]EDAENV.COM file. The contents of this file must be valid DCL syntax (typically just consisting of logical declarations). An example of EDAENV.COM follows:

```
$ DEFINE /GROUP ORASID MYORASID
```

Note: If EDAENV.COM is needed, you must create it. An empty template is not supplied.

End-User Requirements

End-user IDs connecting to a server (secured or unsecured) have requirements in terms of privileges, and require specific setup.

The privilege requirements are as follows:

Privilege	Function	Required for Use of
NETMBX	May create network device	Mailboxes
TMPMBX	May create temporary mailbox	Mailboxes
SYSLCK	May lock system wide resources	Progress Data Adaptor only

The ID setup requirements are as follows:

- Logons must have a UIC group associated with the ID (so the calls for ID information under OpenVMS 7.x are returned in standard OpenVMS 6.x [group,member] format).
- An end-user ID must have QUOTA on the same disk where the server writes its temp files (typically EDACONF [.EDATEMP]).

To check the UIC, issue the following

```
WRITE SYS$OUTPUT F$USER()
```

Troubleshooting

Safe Mode

If the Server starts in safe mode normal use of the server is disabled. However the administrator can connect to the Web Console to fix the problem. When the Web Console is started the reason the server is in safe mode is listed on the HOME page. Click the fix hyperlink listed under the problem and make the correction. Save and restart the server. A common reason for the server to start in safe mode is that the `server_admin_password` is not correct.

If the server administrator does not have a password a secured server will always start in safe mode. To correct this a password will need to be added for this ID on the operating system.

CHAPTER 8

Server Installation for VM

Topics:

- Operating System Release Levels
- Disk Space Requirements
- Installation Overview
- Installation Worksheet
- Installation Personnel
- Requirements for TCP/IP
- Installing the Server

This document describes the requirements and procedures for proper installation of the server software for VM. The process is described in two parts:

- **Installation.** Installation involves several required and optional steps. These include unloading the tape onto the disk (referred to as the maintenance disk); executing the GENEDAVM EXEC, which installs the NSS segments and copies the run-time files onto another disk (referred to as the production disk); linking the data adapter(s) used at your site; and optionally configuring Resource Governor and National Language Support.
- **Configuration.** Each client connecting to a Server for VM connects to a separate server instance. A server instance is a VM ID configured for TCP/IP communications. The steps you follow to configure a server instance depend on the protocol used at your site. See the *Server Configuration for VM* manual for details.

Note: The 5.x release of the Server for VM only supports the TCP/IP protocol. The LU2 and LU6.2 protocols are not supported.

Operating System Release Levels

The server runs on all VM operating system release levels supported by IBM.

Note: The server does not run in VM/ESA 370 mode.

Disk Space Requirements

The total disk space requirements for the server are summarized below.

Disk Type	3380 (in Cylinders)	3390 (in Cylinders)
Production	130	110
Maintenance (Version 5 Release 2 and higher)	500	400

The Production Disk

After installation, the server production minidisk will contain an executable copy of the server. This is the disk to which all server IDs must be linked when they start the server. It contains all the files necessary for running the server.

Most of the files on this disk are created by the CMS EXECs that generate the installed version of the server (which includes, for example, the server load modules and the text of server error messages). You can add your own locally created files, such as the text of user-written subroutines, or CMS EXECs of interest to users. The files created by the installation procedure on the production disk may vary from version to version.

The software does not explicitly use the CMS label for the production disk. However, we suggest that you use IWP as the label for the production disk of the current version of the server to which all users should be linked by default. If more than one version of the server is installed, we suggest a descriptive label for the server production disk, such as

[IWPnnn](#)

where:

[nnn](#)

Represents the version, release, and maintenance level. For example, IWP525 for the production disk of Version 5, Release 2, Maintenance Level 5 (5.2.5).

The Maintenance Disk

The maintenance disk is the CMS minidisk onto which you unload the distribution tape. Initially this disk should be empty; you should not store any other files on it.

Important: You must have different maintenance disks for different server versions. This requirement is critical. You may generate a defective copy of the server if you load the maintenance tape for one version onto the maintenance disk for another version.

When you phase out an older server version and want to reuse its maintenance disk for the next version, you must erase all the files on it. A simple way to do this is to use the CMS FORMAT command. It erases all of the files on the disk, and assigns a CMS label to it. Although you can label the disk any way you like, we suggest a name such as

IWMnnn

where:

nnn

Is the version, release, and maintenance level. For example, IWM525 for the maintenance disk of Version 5, Release 2, Maintenance Level 5 (5.2.5).

Note:

- When calling for support, always specify whether you are referring to an issue with the production disk or the maintenance disk.
- Client applications and servers should access only the current production disk, not the maintenance disk.

Installation Overview

Installation of the Server for VM requires planning and coordination. The following is an overview of the tasks you must complete to successfully install the VM server.

1. Review hardware and software requirements as described in this chapter.
2. Fill out the information requested in the Installation Worksheet, below.

Installation Worksheet

The information requested on the following worksheet applies to your hardware and software environment and will help you during the installation procedure. It may also be useful for reference in the future, when you update your server software or tune your operating system.

1. Which release and PUT level of VM and network software will be used to support the Server for VM?

_____ VM _____ VTAM _____ TCP/IP

2. Which security subsystem, if any, is used on the server?

_____ CA-ACF2 _____ VMSECURE _____ Other

_____ RACF _____ CA-TOPSECRET

3. Which types of mainframe data sources are available and how will they be accessed?

	Data Source	Read Only	Read/Write
_____	ADABAS	_____	_____
_____	FOCUS	_____	_____
_____	NOMAD	_____	_____
_____	SQL/DS	_____	_____
_____	VSAM	_____	_____

Installation Personnel

The following personnel are needed to install the Server for VM:

Network Systems Programmer	Describes the network layout, defines the VTAM node definitions for the Server for VM, and sets up the AVS virtual machine for TCP/IP communications.
VM Systems Programmer	Performs the installation of the Data Access Engine and data adapters. Optionally, this programmer also installs National Language Support.

1. The following general requirements are necessary in order to configure the server: One user ID for the Attach Manager. This ID requires:
 - Class "B" and "E" privilege.
 - IUCV allow.
 - XAutolog.
2. One user ID for the server. This ID requires:
 - Class "G" privilege.
 - IUCV allow.

Requirements for TCP/IP

The following sections describe the hardware and software requirements for configuring a server for the TCP/IP communications protocol.

Hardware Requirements

To install a server using TCP/IP, you need any one of the following network processors and associated components:

- IBM 3172 Interconnect Controller Model 001, 002, or 003.
- IBM 8232 LAN Channel Station.
- IBM 3720 or 3745 Communications Controller.
- HYPERchannel A220 Processor Adapter 42990007.

Software Requirements

The following software must be functional on your mainframe before you can install and operate the server using TCP/IP:

- A VM operating system release level supported by IBM.
- IBM TCP/IP for VM Version 2 Release 3 or higher.
- Server Communications Protocol Interface for TCP/IP.
- A unique service port designation for the Server for VM.

Installing the Server

This list outlines the steps in the server installation procedure. Certain steps are optional depending on your site requirements; these are noted.

1. Unload the server distribution tape onto the maintenance disk.
2. Modify the IBIDFSEG EXEC.
3. Generate the server.
4. Install the applicable data adapter(s).

Once you have completed the above steps, you can proceed to the *Server Configuration for VM* manual for instructions on setting up your server for TCP/IP communications.

Procedure How to Unload the Distribution Tape

The distribution tape is an unlabeled 1600 or 6250 BPI 9-track tape, or a 3480 cartridge, created by the VMFPLC2 command.

Note: The National Language Support (NLS) feature enables your site to provide messages in a variety of languages. The scope of NLS support (messages, data display, menus, and help files) varies from language to language. Contact your software representative for details on the support provided for a particular language.

1. Mount the tape on a 1600 BPI drive as virtual 181, or mount the cartridge on a 3480 drive as virtual 181.
2. Access the maintenance disk as your A disk, in read/write mode.
3. Issue the VMFPLC2 commands to unload all the files from the tape or cartridge onto the maintenance disk:

```
VMFPLC2 LOAD * * A
VMFPLC2 REW
VMFPLC2 FSF 2
VMFPLC2 LOAD * * A
```

- If you are implementing NLS and using a 6250 BPI tape, issue the following commands immediately after unloading the files from the distribution tape:

```
VMFPLC2 REW
VMFPLC2 FSF 6
VMFPLC2 LOAD * * A
```

- Once the tape or cartridge is unloaded, detach virtual 181.

Procedure How to Modify the IBIDFSEG EXEC File (Optional)

The IBIDFSEG EXEC defines the TRW, HLI, DLL, and RLM NSS segments to VM. By default, the NSS segments are called TRWSEGXA, HLISEGXA, DLLSEGXA, and RLMSEGXA.

The shared part of each NSS segment is defined by the SR attribute of the DEFSEG command; the nonshared part is defined by one or more EW attributes.

In this step, you may optionally modify the sample IBIDFSEG EXEC supplied on the server distribution tape. IBIDFSEG EXEC is shown below.

Example Modifying IBIDFSEG EXEC

The following copy of the IBIDFSEG EXEC illustrates the current version of this routine. Note that it now contains four requirements, with the latest being TRWSEGXA:

```
/*-----*/
/* IBIDFSEG EXEC                (c) Copyright IBI 1996                */
/*-----*/
/* No arguments. Exec set GLOBALV variables in IBIGEN group          */
/*-----*/

/*****

    NSS names and addresses.

    TRW - Table, Report Writer segment
    HLI - Host Language interface
    DLL - Dynamic Load Libraries
    RLM - Run time load modules

    Please modify the next 4 pairs of statements with:
    --> your chosen segment names
    --> the addresses selected for the segments

*****/

    TRWNAME = 'TRWSEGXA'
    trwaddr = '4000-42FF SR 4300-48FF EW'

    HLINAME = 'HLISEGXA'
```

Installing the Server

```
hliaddr = '4900-49FF SR 4A00-50FF EW'

DLLNAME = 'DLLDEGXA'
dlladdr = '5100-63FF SR 6400-72FF EW'

RLMNAME = 'RLMSEGXA'
rlmaddr = '7300-7301 SR 7400-7401 EW'

/*****
 * * * * * End of user modifications * * * * *
 *****/

Address 'COMMAND'
Trace '0'

'GLOBALV SELECT IBIGEN GET LOADNSHR'          /* get LOADNSHR setting */

'GLOBALV SELECT IBIGEN SET TRWNAME' trwname
'GLOBALV SELECT IBIGEN SETL TRWADDR' trwaddr loadnshr

'GLOBALV SELECT IBIGEN SET HLINEAME' hliname
'GLOBALV SELECT IBIGEN SETL HLIADDR' hliaddr loadnshr

'GLOBALV SELECT IBIGEN SET DLLNAME' dllname
'GLOBALV SELECT IBIGEN SETL DLLADDR' dlladdr loadnshr

'GLOBALV SELECT IBIGEN SET RLMNAME' rlmname
'GLOBALV SELECT IBIGEN SETL RLMADDR' rlmaddr loadnshr

'GLOBALV SELECT IBIGEN SET GENTYPE NOTXFOC'

Exit 0
```

The above NSS segments must reside above the 16M line and may not overlay any other NSS used during a session or the execution of an HLI program.

During the installation procedure, the mode is checked and the appropriate values from the XA variables are used. Remember, the server does not support VM/ESA 370 mode.

Note: You can change the values TRWSEGXA, HLISEGXA, DLLSEGXA, and RLMSEGXA. You can also change the NSS addresses in the IBIDFSEG EXEC, but do not change the size. The record format must remain F, and the record length must remain 80. Do not change any other lines in IBIDFSEG EXEC.

The RLMSEGXA is defined but no longer generated.

Procedure How to Generate the Server

This step creates a core of server load modules on the production disk. The majority of code in the NSS segments is defined in *How to Modify the IBIDFSEG EXEC File (Optional)* on page 8-7. This step also inserts your site code into the release information that appears. The GENEDAVM EXEC, which you execute in this step, installs the NSS segments and copies the run-time files onto the production disk.

Before completing the instructions below, log on to a virtual machine with Class E privilege. You cannot generate the server from a general user virtual machine with only Class G privilege.

1. Spool the console for documentation purposes by entering the following command:

```
CP SPOOL CON START
```

2. Use the DEF STOR command to set the virtual machine size. Define storage (DEF STOR xxM) for your virtual machine to at least 10M higher than the ending address of the highest of the four segments. For example, referring to the IBIDFSEG EXEC supplied, the highest ending address is 7401 (hex), which equates to 66 (decimal); therefore, storage should be set to 128M.

3. Set the machine mode by entering the following command:

```
SET MACHINE ESA
```

Note: The server does not support VM/ESA 370 mode.

4. IPL CMS by entering the following command:

```
IPL CMS
```

5. Release all unused CMS minidisks, including minidisks that are not required for the installation of the server. The server maintenance disk and the CMS system disks are required. The maintenance disk must be accessed as A, in read/write mode. The CMS system disks will most likely be 190 and 19E, accessed as S and Y/S, respectively.

6. The Attach Manager ID needs the privilege DIAGPCHK.

7. Prior to executing the GENEDAVM EXEC, it is recommended that you issue the following command to allow the console to scroll automatically:

```
CP TERM MORE 0 0 HOLD OFF
```

If you do not enter this command, the screen will have to be cleared every time it becomes full of messages. To reset this setting, enter the following command:

```
CP TERM MORE 50 10 HOLD ON
```

Additionally, verify that the maintenance disk is accessed as the "A" disk in R/W mode, and that the production disk is accessed as the "C" disk in R/W mode.

The NSS and other files needed by the server are generated by the GENEDAVM EXEC on the maintenance disk.

Execute the GENEDAVM EXEC:

```
GENEDAVM
```

The GENEDAVM EXEC writes messages to the terminal as it proceeds. If you receive any CMS error messages during this procedure (with the exception of "File Already Exists" messages), call Customer Support Service (CSS) or your software representative.

8. Close the terminal console spool by entering:

```
CP SPOOL CON CLOSE STOP
```

The terminal console input and output commands will be printed on a printer unless directed elsewhere by the CP SPOOL CON START command. Save this output for your own documentation and have it available if you call for support regarding installation problems.

Example **Generating the Console Spool**

The following is a sample console spool. It has been modified to show the most useful system prompts and user responses. User responses are in boldface type, to distinguish them from system prompts.

```
Ready(06005); T=0.01/0.01 16:42:29
def stor 128m
STORAGE = 128M
Storage cleared - system reset.
I CMS
IPLing CMS 19 (XA/XC mode). . .
z/VM V4.3.0 2003-03-18 14:11
Ready; T=0.04/0.05 16:42:45
q set
MSG ON , WNG ON , EMSG ON , ACNT OFF, RUN OFF
LINEDIT ON , TIMER OFF , ISAM OFF, ECMODE ON
ASSIST OFF , PAGEX OFF, AUTOPOLL OFF
IMSG ON , SMSG OFF , AFFINITY NONE , NOTRAN OFF
VMSAVE OFF, 370E OFF
STBYPASS OFF , STMULTI OFF 00/000
MIH OFF , VMCONIO OFF , CPCONIO OFF , SVCACCL OFF , CONCEAL OFF
MACHINE XC , SVC76 CP, NOPDATA OFF, IOASSIST OFF
CCWTRAN ON , 370ACCOM OFF
Ready; T=0.01/0.01 16:43:55
cp term more 0 0 hold off
Ready; T=0.01/0.01 16:44:29
genedavm
>>> SEGMENTS WILL BE LOADED NON-SHARED
Generating EDA Segment, Modules, and Start-up Exec
```

```

Initializing.
>>> SEGMENTS WILL BE LOADED NON-SHARED
Loading the TABLE/REPORT Segment.
>>> CP DEFSEG TRWSEGXA 4000-42FF SR 4300-48FF EW LOADNSHR
HCPNSD440I Saved segment TRWSEGXA was successfully defined in fileid
8323.
    Creating $FOET.
Updating FOET DATA information in the Segment
Saving the TABLE/REPORT Segment.
HCPNSS440I Saved segment TRWSEGXA was successfully saved in fileid 8323.
    Checking whether TRWSEGXA boundaries have been exceeded.
Generation of TABLE/REPORT Segment completed.
Creating EDASTART EXEC with user's Segment name.
GENFS1XA EXEC : execution time is 29.962304 seconds.
Generating HLI saved segment and modules.
GENHS initializing.
    >>> CP DEFSEG HLISEGXA 4900-49FF SR 4A00-50FF EW LOADNSHR
HCPNSD440I Saved segment HLISEGXA was successfully defined in fileid
8324.
Loading the HLI Segment.
Generation of HLI segment HLISEGXA completed.
Creating $HLIET DATA file.
Updating HLIET DATA information in the Segment
Saving the HLI Segment.
HCPNSS440I Saved segment HLISEGXA was successfully saved in fileid 8324.
    Checking whether HLI Segment boundaries have been exceeded.
Creating HLINFO DATA file.
Making IUCVDCSS DATA file.
Genning the IUCVDCSS DATA file for HLI
Creating HLIMAIN module
HLI module HLIMAIN created successfully
Creating IUCVMAIN module
HLI Segment HLISEGXA creation completed
GENHS EXEC : execution time is 11.322804 seconds.
GENDS generating DLL segment
>>> SEGMENTS WILL BE LOADED NON-SHARED
>>> Working - Please Wait 0%
>>> Working - Please Wait 6%
>>> Working - Please Wait 12%
>>> Working - Please Wait 18%
>>> Working - Please Wait 25%
>>> Working - Please Wait 31%
>>> Working - Please Wait 37%
>>> Working - Please Wait 43%
>>> Working - Please Wait 49%
>>> Working - Please Wait 55%
>>> Working - Please Wait 61%
>>> Working - Please Wait 67%

```

Installing the Server

```
>>> Working - Please Wait 74%
>>> Working - Please Wait 80%
>>> Working - Please Wait 86%
>>> Working - Please Wait 92%
>>> Load of SEGMENT DLLSEGXA complete
>>> Saving DLLSEGXA SEGMENT - Please Wait
HCPNSS440I Saved segment DLLSEGXA was successfully saved in fileid 8325.
GENDS EXEC : execution time is 29.197999 seconds.
GENES EXEC : execution time is 0.336687 seconds.
Building of EDA segments completed.
EDAMPM 292 A R/W
EDAMPM 492 C R/W
FOCLIB 121 P R/O
MNT190 190 S R/O
MNT19E 19E Y/S R/O
TCM592 120 Z R/O
Please check the disks accessed. Make sure the EDA Maintenance
disk is accessed as 'A' and the EDA Production disk is accessed
as 'C'; both in Read/Write mode.
Enter YES to proceed. Any other reponse will stop this exec.
yes
====> MANY FILES ARE COPIED <====
Ready; T=10.31/11.85 16:46:56
```

Additional font files must be copied from the maintenance disk to the production disk. To accomplish this, issue the following commands:

```
COPY * AFM A = = C (REPL OLDD TYPE
COPY PSHDR ERRORS A PSHDR ERRORS C (REPL OLDD TYPE
COPY FOCFONT TXT A FOCFONT TXT C (REPL OLDD TYPE
```

Configuring the Server

After you have completed all the installation steps, you are ready to configure the server. The Server Administration manual for VM contains instructions on setting up your server for TCP/IP and data adapters.

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