

> Essbase® 11.1.1 for IBM i
Administrator's Guide



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Preface

Welcome to the *Essbase 11.1.1 for IBM i Administrator's Guide*. This guide discusses the administration and maintenance of Essbase for IBM i. For installation information, see the *Essbase 11.1.1 for IBM i Installation Guide*.

This preface provides the following information:

- What is included in this guide
- Where to find additional information
- How to contact the SPSS team to provide feedback about this guide

Adobe Acrobat (.pdf) versions of the guides are available on the SPSS Support Web site. Viewing and printing the documents requires Adobe Acrobat Reader. If necessary, you can download it at no cost from www.adobe.com. Use the Adobe Acrobat Reader online Help for answers to your questions about viewing and navigating the documents.

About This Guide

Chapter 1, "Technical Support," contains contact information.

Chapter 2, "Starting and Stopping the Servers," explains how to start and stop the Essbase for IBM i servers.

Chapter 3, "Configuring and Connecting to Server Components," explains how to access the Essbase for IBM i servers with client applications. It also explains how to set up Essbase Integration Services and Hybrid Analysis.

Chapter 4, "Managing Performance," explains how to manage performance to ensure successful deployment.

Chapter 5, "Essbase Server Maintenance," explains how to use and maintain your Essbase for IBM i library. If you are familiar with Essbase on other platforms, we recommend reading this chapter to understand how Essbase differs on the iSeries platform.

Appendix A, "Commands," describes commands used to maintain Essbase for IBM i libraries.

Appendix B, "Log Files," describes the log files created during installation, configuration, and usage of Essbase for IBM i.

Appendix C, "Troubleshooting," describes different ways of troubleshooting problems that may occur when you are installing and using Essbase for IBM i.

Additional Resources

- See the online Help in each application.

- See the documentation guides on the SPSS Support Web site at <http://support.spss.com>. To access documentation, log in to Support and set up a customized Product View for the Essbase, Analyzer (Web Analysis), and ShowCase products. Once your Product View is setup, click a product name to access documentation for that particular product.
- For information on getting started and installation instructions, see the *Essbase 11.1.1 for IBM i Installation Guide*.
- For information about upgrading to Essbase 11.1.1 for IBM i, see Appendix A in the *Essbase 11.1.1 for IBM i Installation Guide*.
- For the latest updates regarding Essbase 11.1.1 for IBM i, see the ReadMe at <http://support.spss.com>. After you log on to the SPSS Technical Support site, click Essbase and then Documentation.

Finding Documentation Online

You can view and download Essbase for IBM i documentation from the SPSS Technical Support site at <http://support.spss.com>. You can access Oracle's extensive Essbase documentation from the Oracle Web site at http://download.oracle.com/docs/cd/E12825_01/index.htm.

Customer Service

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Send Us Your Comments

Your comments are important. Please let us know about your experiences with SPSS Inc. products. You can send e-mail to suggest@spss.com, or write to SPSS Inc., Attn: Director of Product Planning, 233 South Wacker Drive, 11th Floor, Chicago IL 60606-6412.

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Technical Support

Contacting SPSS Technical Support

Internet. Submit and track the status of your questions and requests on the SPSS Technical Support Web site at <http://support.spss.com>. You can also use the site to find documentation, search resolutions, download patches, and open a case. See “Technical Support Web Site” below.

Phone, Fax, and E-Mail. To report problems or ask questions via telephone, fax, or e-mail, first visit the “Contact Us” page on the Technical Support Web Site at <http://support.spss.com/default.asp?refpage=contactus.asp>. After answering a few basic questions, you will be provided with the most current technical support phone numbers, e-mail addresses, and fax numbers for North America, Europe, and Japan/Asia Pacific. As a reminder, when you contact Technical Support, always identify yourself with your name, company, phone, and e-mail address.

Technical Support Web Site

Customers who are current on maintenance can apply for a personalized ID for the SPSS Technical Support Web site. If you do not already have an ID, access the SPSS Technical Support Web site at <http://support.spss.com> and apply for an ID. Once you log in to Support, set up a customized Product View for the Essbase, Analyzer (Web Analysis), and ShowCase products. Once your Product View is setup, click a product name to access information such as the following:

Troubleshooting. Search for a resolution, view frequently used resolutions, open a technical support case, and view the status of your cases.

Documentation. Read technical support policies, browse the technical support newsletters for technical issues, or view and download the latest product documentation.

Supported Platforms. Find supported software versions, release dates, end dates, iSeries and PC operating systems, and Web browsers.

Upgrade Info. Order an upgrade and view upgrade information pertinent to each release.

Patches. Download patches for all supported products.

My Corporate Info and My Personal Info. View your agreements, cases, and other information.

Contact Us. Find the most current technical support phone numbers, e-mail addresses, and fax numbers for North America, Europe, and Japan/Asia Pacific. You can also open a case here.

Other Links. Find information about products, training, and upcoming events.

Starting and Stopping the Servers

This chapter describes how to start and stop the Essbase for IBM i servers.

Before You Begin

If this is the first time starting the Essbase Analytic Server, you will be prompted for the following information when you start the server:

- **Enter your company name.** Enter your company name. This information is displayed in the registration message when you start Essbase. The name must be at least three characters long.
- **Enter your name (that is, the username to be used as an Essbase administrative ID).** Enter an Essbase administrator ID. The ID is used for initial security administration and ending the server. This ID is not the same as an OS/400 user ID. It does not need to match an existing OS/400 user profile, although you may choose a name that corresponds to an iSeries user ID. The Essbase user ID must be at least three characters long. Write down the user ID.
- **Enter the system password.** Enter the password for the Essbase administrator's initial user ID. The password must be at least six characters long and different from the user ID. Write down the password; it cannot be retrieved if you forget it.

Note: If you performed an Essbase Custom Configuration before starting the Essbase Analytic Server for the first time, the fields above will be automatically set to:

Company name:Oracle

Username:admin

Password:password

Starting the Servers

Ensure that iSeries TCP/IP (STRTCP) is running before starting any servers.

- ▶ Log on with *SECOFR or equivalent authority (*ALLOBJ, *IOSYSCFG, *SAVSYS, *JOBCTL, and *SECADM special authorities are needed).
- ▶ Before starting EAS or the Provider Services server, verify that the Shared Services server has started successfully. Likewise, if an Essbase Custom Configuration has been performed for the Essbase Analytic Server, the Shared Services server needs to be started before the Essbase Analytic Server is started. For more information about configuring your installation, see Chapter 4 in the *Essbase for IBM i Installation Guide*.

Note: The GRTESSAUT command allows a user who lacks the proper authority to start or stop the servers. Refer to *Commands* on p. 57 for GRTESSAUT restrictions.

To start all Hyperion servers:

1. Type `STRQSH` at the menu screen and press Enter.
2. Change your current directory to `/<esslib>/hyperion/Products/bin`.
3. Type `./start.sh` and press Enter.

Note: The first time you start Essbase Server, it will run in interactive mode. You will be prompted for the company name, administrative user, and administrative password.

To start the Shared Services server (option 1):

1. Type `STRQSH` at the menu screen and press Enter.
2. Change your current directory to `/<esslib>/hyperion/deployments/WebSphere6/bin`.
3. Type `start$(Shared_services_server_name)` and press Enter, where `$(Shared_services_server_name)` is the name assigned to the Shared Services server. For example, `startSharedServices9` if your Shared Services server name is `SharedServices9`.

Note: If you want to start Shared Services in background mode, type `start$(Shared_services_server_name) &` and press Enter.

To start the Shared Services server (option 2):

4. Type `STRQSH` at the menu screen and press Enter.
5. Change your current directory to `/<esslib>/hyperion/Products/Foundation/bin`.
6. Type `./start &` and press Enter.

To start the Essbase Administration Server:

Administration Services consists of a Java middle-tier server, called the **Essbase Administration Server**. The Essbase Administration Server provides business logic to support cross-server operations, persistence of user preferences, and access to Essbase servers. The Administration Server enables communication between individual Essbase servers and the Administration Services Console.

1. Type `STRQSH` at the menu screen and press Enter.
2. Change your current directory to `/<esslib>/hyperion/deployments/WebSphere6/bin`.
3. Type `start$(EAS_server_name)` and press Enter, where `$(EAS_server_name)` is the name assigned to the EAS server. For example, `starteas` if your EAS server name is `eas`.

Note: If you want to start EAS Server in background mode, type `start$(EAS_server_name) &` and press Enter

To start the Essbase Integration Server:

Essbase Integration Server—an optional component—provides a metadata-driven environment to bridge the gap between data stored in Essbase databases and detailed data stored in relational databases.

1. Type `CALL QP2TERM` at the menu screen and press Enter.
2. Change your current directory to `/<esslib>/hyperion/products/essbase11/eis/server`.
3. Type `./ais_start &` and press Enter.

If the EIS server is started successfully, you will see the following message:
 Essbase Integration Services Server - 11.1.1.1.0 (Build versionstr)
 Copyright(c) 1991, 2008, Oracle Corporation
 All rights reserved.

To start the Essbase Analytic Server:

Essbase—a multi-threaded OLAP database software that takes advantage of symmetric multiprocessing hardware platforms—is based on Web-deployable, thin-client architecture. The server acts as a shared resource, handling all data storage, caching, calculations, and data security. The Essbase Server client needs only to retrieve and view data that resides on a server. All Essbase application components, including database outlines and calculation scripts, application control, and multidimensional database information, reside on a server. Essbase requires a server to run a multi-threaded operating system so a server can efficiently manage simultaneous requests. A server also runs a server agent process that acts as a traffic coordinator for all user requests to applications.

Note: If a custom Essbase configuration is not done during configuration, then the first time you start Essbase Server, it will run in interactive mode, even if the `-b` option is used. You will be prompted for the company name, administrative user, and administrative password. Thereafter, the server can be started with the `-b` option to run in the background.

1. Type `CALL QP2TERM` at the menu screen and press Enter.
2. Change your current directory to `/<esslib>/hyperion/products/Essbase11/EssbaseServer/bin`, where `<esslib>` is the name of your Essbase server installation library.
3. Type `startEssbase.sh -b` and press Enter. If you do not include the `-b` option, then the PASE window needs to remain open while the server is running. Closing the window stops the server.

Note: For instructions about starting Analytic Server from Administration Services, see “Starting Essbase Server Remotely from Administration Services Console” below.

To start the Provider Services Server:

1. Type `STRQSH` at the menu screen and press Enter.
2. Change your current directory to `/<esslib>/hyperion/deployments/WebSphere6/bin`.
3. Type `start$(Provider_services_server_name)` and press Enter, where `$(Provider_services_server_name)` is the name assigned to your Provider Services server. For example, `startaps` if your Provider Services server name is `aps`.

Note: If you want to start Provider Services server in background mode, type `start$(Provider_services_server_name) &` and press Enter.

Starting Essbase Server Remotely from Administration Services Console

You can start the Essbase Analytic Server remotely from the Enterprise View tree in the Administration Services Console. To enable this functionality, you configure and start Remote Start Server on the Essbase Server computer. Remote Start Server then handles requests from Administration Services to start Essbase Server.

Each Essbase Server installation includes all files necessary to configure and start Remote Start Server. To start different Essbase Servers from Administration Services Console, you must configure and start a Remote Start Server instance for each Essbase Server.

Configuring Remote Start Server

Before starting Remote Start Server, you must configure it if any of the following conditions apply:

- Essbase Server is configured to run on a non-default port.
- Environment variables must be set when Essbase Server is started.
- The default port used for Remote Start Server (9010) is being used by another program.
- More than one instance of Essbase Server is installed on one computer.

If none of these conditions apply, you are ready to start Remote Start Server. For more information, see the topic “Starting and Stopping Remote Start Server” on p. 8. To configure Remote Start Server, see the following topics.

About the *Server.Properties* Configuration File

Each Essbase Server installation contains a configuration file, *server.properties*, in the *ESSBASEPATH/bin* directory, which you can use to configure Remote Start Server.

The default configuration file contains the following lines:

```
Server1=localhost
localhostExecutable=PathToStartEssbase.sh
```

Where *PathToStartEssbase.sh* is the location of the Essbase Server start script file (for example, */<esslib>/hyperion/products/essbase11/essbaseserver/bin/startEssbase.sh*).

When editing the configuration file, keep in mind the following information:

- You can edit the file in any text editor.
- The structure of each line in the file:

```
key=keyValue
```

- The value for the *Server1* key may be any one of the following:

```
localhost
machineName
machineName:port
```

If you change the value of `Server1` to `machineName`, you must use `machineName` in place of `localhost` as the key prefix for any rows you add to the file. For example:

```
Server1=jdoe2
jdoe2Executable=/Essbase11/hyperion/products/Essbase11/EssbaseServer/bin/startEssbase.sh
```

- You can set a non-default port for Remote Start Server to use. The following sample configuration file sets the Essbase Server port to 4050 (instead of the default port 1423); sets the `ARBORPATH` environment variable; and sets the Remote Start Server port to 9030:

```
Server1=jdoe2:4050
Server1EnvRows=1
Server1Env1=ARBORPATH=/Essbase11/hyperion/products/Essbase11/EssbaseServer
Server1Executable=/Essbase11/hyperion/products/Essbase11/EssbaseServer/bin/StartEssbase.sh
ServerPort=9030
```

Specifying a Non-Default Essbase Server Port

In the configuration file for Remote Start Server, you must specify the port number being used for Essbase Server if Essbase Server is configured to run on a non-default port.

To specify a non-default Essbase Server port:

1. On the Essbase Server machine, open the *server.properties* configuration file. For example: *ESSBASEPATH/bin/server.properties*
2. Change the following lines from:

```
Server1=localhost
localhostExecutable=PathToStartEssbase.sh
```

to

```
Server1=MachineName:Port
Server1Executable=PathToStartEssbase.sh
```

For example,

```
Server1=jdoe2:4050
Server1Executable=/Essbase11/hyperion/products/Essbase11/EssbaseServer/bin/StartEssbase.sh
```

Specifying a Non-Default Remote Start Server Port

By default, Remote Start Server is configured to run on port 9010. If this port is being used by another program, you must specify a different port number before you start Remote Start Server. The port number must be specified in the Remote Start Server configuration file on the Essbase Server computer and in a configuration file on the Essbase Administration Server computer.

To specify a nondefault Remote Start Server port:

1. On the Essbase Server computer, open the configuration file. For example: *ESSBASEPATH/bin/server.properties*
2. Add the following line:

```
ServerPort=PortNumber
```

For example:

```
ServerPort=9030
```

3. On the Essbase Administration Server computer, open the following configuration file:
EASPATH\server\olapadmin.properties

4. Add one of the following lines:

- ▶ If you want Remote Start Server to use a specific port for a specific Essbase Server, add the following line:

```
EssbaseServerName.REMOTE_START_SERVER=PortNumber
```

For example:

```
jdoe2.REMOTE_START_SERVER=9030
```

- ▶ If you want Remote Start Server to use the same, non-default port for all Essbase Servers, add the following line:

```
REMOTE_START_SERVER=PortNumber
```

For example:

```
REMOTE_START_SERVER=9030
```

Starting and Stopping Remote Start Server

After Remote Start Server is started, you can start Essbase Server.

To start Remote Start Server:

- ▶ Launch *ESSBASEPATH/bin/remotesvr*.

To stop Remote Start Server:

- ▶ Launch *ESSBASEPATH/bin/stopsvr*.

Starting Essbase Server from Administration Services Console

After starting Remote Start Server, you can start the Essbase Analytic Server from Enterprise View in the Administration Services Console. Before you start Administration Services, ensure that the Essbase Servers you want to manage are started. First start Essbase Administration Server, and then start the Administration Services Console. To start Administration Services, see “Starting the Servers” on p. 3.

To start Essbase Server from Enterprise View:

1. From Enterprise View, select the Essbase Server node that you want to start.
2. Right-click and choose Start.
3. When prompted, enter the password for Essbase Server.

The request is sent to Remote Start Server, which then starts Essbase Server. If Remote Start Server is not running, an error message is displayed in Administration Services Console. *Note:* Essbase Server starts in the background on all platforms, with the password hidden.

For more details, see the *Oracle Essbase Database Administrator's Guide* at http://download.oracle.com/docs/cd/E12825_01/epm.111/esb_dbag/frameset.htm?dagent.htm#dagent1052654.

To stop Essbase Server from Enterprise View:

1. From Enterprise View, select the Essbase Server node that you want to start.
2. Right-click and choose Stop. When stopping a server, the password for Essbase Server is not required.

Stopping the Servers

There are three methods described below to stop the Essbase Analytic Server. When the Essbase Analytic Server is started in interactive mode, you can stop the server using any of the three methods: ESSCMD, MaxL, or QP2TERM. When the Essbase Analytic Server is started in batch mode (with the `-b` option), you can stop the server using ESSCMD or MaxL only.

Note: An administrative username and password are required to stop the Analytic Server using ESSCMD and MaxL.

To stop all Hyperion servers:

1. Type `STRQSH` at the menu screen and press Enter.
2. Change your current directory to `/<esslib>/hyperion/Products/bin`.
3. Type `./stop.sh` and press Enter.

Note: To stop Essbase Server, you need to provide your username and password.

To stop the Essbase Analytic Server (using ESSCMD):

1. Type `CALL QP2TERM` at the menu screen and press Enter.
2. Change your current directory to `/<esslib>/hyperion/products/Essbase11/EssbaseServer/bin`.
3. Type `./startEsscmd.sh` and press Enter.
4. Use the `LOGIN` command to login to the Essbase server that you want to shut down. For example:
`LOGIN servername username password`
5. Use the `SHUTDOWNSERVER` command to shut down the Essbase server. For example:
`SHUTDOWNSERVER servername username password`
6. Type `EXIT` and press Enter to close the ESSCMD session.

To stop the Essbase Analytic Server (using MaxL):

1. Type `CALL QP2TERM` at the menu screen and press Enter.

2. Change your current directory to `/<esslib>/hyperion/products/Essbase11/EssbaseServer/bin`.
3. Type `startMaxL.sh` and press Enter.
4. Use the `LOGIN` command to login to the Essbase server that you want to shut down. For example:

```
LOGIN username password on servername;
```

5. Use the following command to shut down the Essbase server:

```
alter system shutdown;
```

6. Type `exit;` and press Enter to close the MaxL session.

To stop the Essbase Analytic Server (in QP2TERM):

This method only applies if the server was started in interactive mode.

1. Type `EXIT` in the QP2TERM session where Essbase server was started.
2. If any Essbase application server is running, you will be prompted with the following message:

```
Stop all applications and exit Essbase [1=yes, 2=no]?
```

3. Type 1 and press Enter.

The Essbase Analytic Server and all loaded applications will shut down. *Note:* In order to quit from the QP2TERM session, first stop the Essbase server, then use the F3 function key; otherwise if you directly quit from the QP2TERM session, it will stop the Essbase Agent but all of the running Server processes will not be stopped, causing corruption.

To stop the Essbase Administration Server:

1. Type `STRQSH` at the menu screen and press Enter.
2. Change your current directory to `/<esslib>/hyperion/deployments/WebSphere6/bin`.
3. Type `stop$(EAS_server_name)` and press Enter. For example, `stopeas` if your EAS server name is `eas`.

To stop the Essbase Integration Server:

1. Type `CALL QP2TERM` at the menu screen and press Enter.
2. Change your current directory to `/<esslib>/hyperion/products/essbase11/eis/server`.
3. Type `./ais_stop` and press Enter.

To stop the Essbase Integration Server (using OLAPICMD):

1. Type `CALL QP2TERM` at the menu screen and press Enter.
2. Change your current directory to `/<esslib>/hyperion/products/essbase11/eis/server`.
3. Type `./olapicmd_start` and press Enter.

4. Use the `LOGIN` command to login to the EIS server that you want to shut down. For example:

```
LOGIN servername[:portnumber]
```

5. Type `SHUTDOWN` and press Enter to shut down the EIS server.

To stop the Shared Services Server (option 1):

1. Type `STRQSH` at the menu screen and press Enter.
2. Change your current directory to `/<esslib>/hyperion/deployments/WebSphere6/bin`.
3. Type `stop$(Shared_services_server_name)` and press Enter, where `$(Shared_services_server_name)` is the name assigned to the Shared Services server. For example, `stopSharedService9` if your Shared Services server name is `SharedService9`.

To stop the Shared Services Server (option 2):

1. Type `STRQSH` at the menu screen and press Enter.
2. Change your current directory to `/<esslib>/hyperion/Products/Foundation/bin`.
3. Type `./stop` and press Enter.

To stop the Provider Services Server:

1. Type `STRQSH` at the menu screen and press Enter.
2. Change your current directory to `/<esslib>/hyperion/deployments/WebSphere6/bin`.
3. Type `stop$(Provider_services_server_name)` and press Enter, where `$(Provider_services_server_name)` is the name assigned to your Provider Services server. For example, `stopaps` if your Provider Services server name is `aps`.

Verifying Server Status

You can use the `WRKACTJOB` command to verify which Essbase servers are running. The **Analytic Server** job will have a job type of `BCI` and a function of `PGM-ESSBASE`.

The **EIS Server** job will have a job type of `BCI` and a function of `PGM-olapisvr`. The **EAS Server** job will have a job type of `BCH` and a function of `PGM-jvmStartPa`.

Verifying Status of EAS, Shared Services, and APS

The status of these servers can be checked in the following ways:

Accessing server links. Check if the following links are accessible for the respective servers:

- Shared Services: `http://<host>:<port>/interop`. For example, `http://myhost:28080/interop` (default port for Shared Services is 28080)

- EAS: Open the Administration Console via the Windows Start menu (Programs > Oracle EPM System > Essbase > Administration Services > Start Administration Services Console). At the login dialog box, enter the Essbase installation server name. Enter the default username (admin) and the default password (password).
- Provider Services: *http://<host>:<port>/aps/APS*. For example, *http://myhost:13080/aps/APS* (default port is 13080)

Checking job status with WRKACTJOB command. Run the iSeries command `WRKACTJOB` to check active jobs. To see the status of servers, check the jobs under the QWAS61 sub-system. The following are the default names of servers:

- Shared Services: *SHAREDSEVICES9*
- EAS: *EAS*
- Provider Services: *APS*

WebSphere-related Information

Hyperion servers Shared Services, EAS, and APS are deployed as separate server instances in a WebSphere profile. A new WebSphere profile is created for every Hyperion installation. The default name of the profile is *hyslProfile*. If a profile with name *hyslProfile* already exists, the configurator prompts the user to enter a new profile name and starting port number for the new profile to be created during configuration. Each profile has a default server instance with its name the same as its profile name (for example, for *hyslProfile* it is *hyslProfile/hyslProfile*). This default server instance must be running to deploy and undeploy Hyperion services into this profile. You can see all server instances running under this profile by using the HTTP administration console on your iSeries machine. The link to access the HTTP administration console is: *http://<host>:2001/HTTPAdmin*.

Note: Starting and/or stopping Shared Services takes care of any starting or stopping of the Websphere profiles without any other commands necessary.

Configuring and Connecting to Server Components

Logging into the Administration Services Console

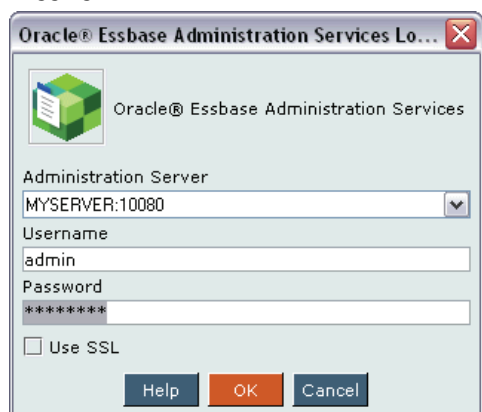
The Administration Services Console is a client interface for managing the servers. Administrators should use the Console to connect to the Administration Server, add EAS users, and define the Analytic Servers that users can see and access. On the iSeries, EAS 11.1.1 for IBM i can connect to the ShowCase Essbase 7.1 Analytic Server but some newer features may not be available.

Before logging in and connecting to the servers, use the `WRKACTJOB` command to verify that the Analytic and Administration servers are running. For more information, see the topic “Verifying Server Status” in Chapter 2 on p. 11. For instructions on starting the servers, see Chapter 2.

To log into the Administration Services Console:

1. Open the Administration Console via the Windows Start menu (Programs > Oracle EPM System > Essbase > Administration Services > Start Administration Services Console).
2. At the login dialog box, enter the Essbase installation server name. If connecting for the first time after installation, enter the default username (admin) and the default password (password). For security reasons, the default password should be changed for this account.

Figure 3-1
Logging into the Administration Console



Note: When prompted for a server name, users can optionally specify the port number after the server name, separated by a colon (:). For example,

MYSERVER:10080 (where MYSERVER is the server name and 10080 is the EAS port number)

If no port is specified, 10080 is used by default.

3. If you cannot log in, see .

Before other users can begin using Administration Services to manage Essbase, they must be added to the Administration Server, and each user's view populated with the appropriate Analytic Server information. For instructions, see the *Oracle Essbase Administration Services Installation Guide*, section titled "Working with Administration Services."

Connecting to Integration Services

Instructions for connecting to the Essbase Integration Server (EIS) are located in the *Oracle Essbase Integration Services Installation Guide*. The following sections contain important notes for using EIS on the iSeries.

Before connecting to the EIS Server, use the `WRKACTJOB` command to verify the server is running. The server job will have a job type of `BCI`, and a function of `PGM-olapisvr`. For instructions on starting the server, see Chapter 2.

Integration Services ODBC Data Source Name

You do not need to configure an ODBC data source on your client PC to use EIS. The EIS Server offers support for DB2 iSeries relational databases, along with Oracle 10g and Microsoft SQL Server 2000/2005 running on the Windows platform. The EIS server ODBC-JDBC bridge is used to connect to relational database system. You can configure the required relational database by adding a DSN (Data Source Name) entry in *ExternalDataSources.cfg* from iSeries. By default, this file is present in the `/<esslib>/hyperion/common/JDBC/DataDirect/3.7` folder, where `<esslib>` is the name of your Essbase server installation library.

Note: EIS often uses the OLAP metadata catalog and ODBC data source interchangeably.

Integration Services Quick Setup

1. Create a new user profile (or modify an existing one) that will use this job description during EIS startup. This user profile must have the authority required to start the server (see Chapter 2). In the following command, `EISADMIN` is the new user profile and `EISPASSWORD` is the new password:

```
CRTUSRPRF USRPRF(EISADMIN) PASSWORD(EISPASSWORD) USRCLS(*SECOFR)
JOB(QGPL/EISJOB)
```

2. Update the *ExternalDataSources.cfg* file from the `/<esslib>/hyperion/common/JDBC/DataDirect/3.7` folder to add the DSN (Data Source Name) to access the relational database. For examples of data source definitions, see "Loading Data from SQL Data Sources" on p. 38.
3. Sign on to the iSeries with the new profile, and start the EIS Server:

Start the PASE shell (with the command `CALL QP2TERM`), change to the `/<esslib>/hyperion/products/essbase11/eis/server` folder and then type `./ais_start` and press Enter.

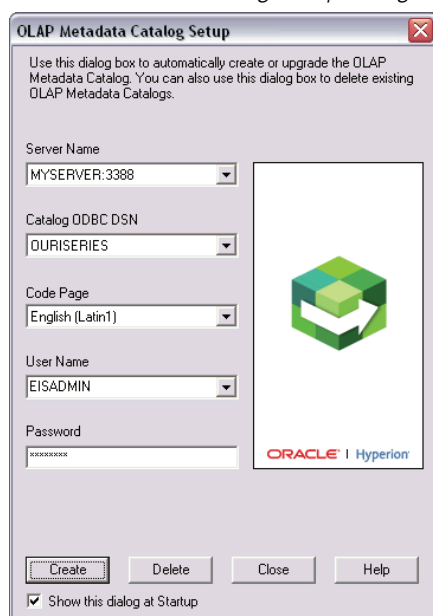
4. From a client PC, open the Integration Services console (via the Start menu) and create the OLAP metadata catalog, using the guidelines in the following section (“Creating the Metadata Catalog”). Until the metadata catalog is created, attempts to login will return errors. Additional instructions for creating the catalog are in the *Oracle Essbase Integration Services Installation Guide*.
5. Once the catalog is created, you may connect to the EIS Server. To enter the correct login information, follow the guidelines in “Logging into Integration Services” on p. 16.

You are now ready to create your model and metaoutline. You may want to create a sample application to see EIS in action. Follow the instructions in “Creating the Integration Services Sample Application” on p. 17.

Creating the Metadata Catalog

The EIS Server manages access to OLAP metadata catalogs and relational data sources. An **OLAP metadata catalog** stores the OLAP models and metaoutlines you create. You only have to create the catalog once. The catalog setup dialog box may display when you open the EIS Console. If it does not, from the Tools menu, choose Create Catalog.

Figure 3-2
OLAP Metadata Catalog Setup dialog box



When creating catalogs for use on the iSeries, enter the following information:

Server Name. Enter the Essbase installation server name (and optionally the EIS port number after the server name, separated by a colon). If no port is specified, 3388 is used by default.

Catalog ODBC DSN. Once you enter the server name, the EIS Server returns all DSN (Data Source Names) entries found in the *ExternalDataSources.cfg* file from `/<esslib>/hyperion/common/JDBC/DataDirect/3.7` (you can also type a name in this box). Each of these entries is considered an ODBC data source. Select a data source name that has the database system information where you want to create the catalog.

Code Page. Select the code page that corresponds to the code page of the source database used as the OLAP Metadata Catalog. The code page is a portion of the locale, which identifies the local language and cultural conventions such as the formatting of currency and dates and the sort order of data.

Note: If you want to create a Unicode OLAP Metadata Catalog, you must manually create it by running the provided scripts, as described in the chapter on OLAP Metadata Catalog setup in the *Oracle Essbase Integration Services Installation Guide*. This release does not support the automatic creation of a Unicode catalog.

User Name and Password. Specify a valid database username and password for the EIS connection. You do not have to create a separate EIS username and password. For a DB2 database running on iSeries, it is recommended that you use the profile created for the EIS startup (for example, EISADMIN). You can also use the same user profile by which the EIS server is started.

Note: All the catalog tables are created in the database system used in the selected DSN (Data Source Name). Only one catalog per server installation can exist on the iSeries.

Logging into Integration Services

To create an OLAP model or a metaoutline, first connect to the EIS Server. Connection instructions are in the *Oracle Essbase Integration Services Installation Guide*. When connecting to the server, use the EIS Login dialog box, as shown in the following figure.

Figure 3-3
EIS Login dialog box

When connecting to EIS for use on the iSeries, use the following information:

Server. Enter the Essbase server name (and optionally the port number, separated by a colon). The EIS Server uses the same server name as the Analytic Server.

OLAP Metadata Catalog. Once you enter the server name, the EIS Server returns all DSN (Data Source Names) entries found in the *ExternalDataSources.cfg* file from */<esslib>/hyperion/common/JDBC/DataDirect/3.7*. Each of these entries is considered an ODBC data source. Select a data source name that has the database system information where you want to create the catalog.

Note: EIS often uses the terms *OLAP metadata catalog* and *ODBC data source* interchangeably.

Code Page. Select the code page of the language to use during the current EIS Console session. For a list of supported code pages, refer to your IBM documentation.

User Name and Password. Specify a valid database username and password for the EIS connection. You do not have to create a separate EIS username and password. For a DB2 database running on iSeries, it is recommended that you use the profile created for the EIS startup (for example, EISADMIN). You can also use the same user profile by which the EIS server is started.

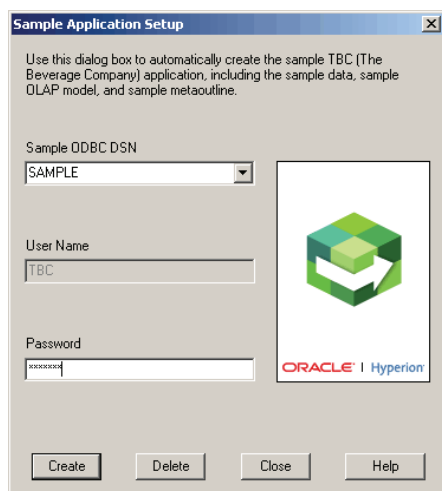
Note: When connecting to the Analytic Server (using the right side of the dialog box), you must also provide a valid Essbase username. For instructions on using your OS/400 user profile and password to log into the Analytic Server, refer to the Integrated Security topic in Chapter 5.

Creating the Integration Services Sample Application

EIS provides a sample application that is based on a fictitious company, The Beverage Company (TBC). Creating the sample application is not required, but it may provide valuable insight for novice users. Instructions for setting up the sample application are located in the *Oracle Essbase Integration Services Installation Guide*.

Before you begin the setup, if you are using a DB2 database from iSeries, then the system administrator must create an OS/400 user profile called TBC for sample application maintenance. If you are using an Oracle or Microsoft SQL Server database from a Windows machine, then your database administrator must create a username and database schema called TBC. This is the only username that is allowed to create or delete the sample application. When you open the Essbase Integration Services console's Sample Application Setup dialog box (from the Tools menu), you will notice the username (TBC) is read-only and cannot be changed. See the following figure.

Figure 3-4
Sample Application Setup dialog box



Use the following guidelines when creating the sample application:

- The Sample ODBC DSN is the database where you created the TBC username and database schema.
- The sample application setup process performs several tasks. It places sample data in various tables in the TBC schema (the tables are normalized). It also creates an EIS model and EIS metaoutline. You may later use this metaoutline to create your Essbase application database.

Verifying and Adding a DSN Using the ODBCConfig Utility

1. Log on to the server machine that runs Integration Server as the user who started the Integration Server software.
2. Start the ODBCConfig utility by executing the `<esslib>/hyperion/products/Essbase11/eis/server/ais_ODBCConfig` script. Verify that the environment settings displayed by the ODBCConfig utility are correct. To edit and test the DSN entries, the available options are: List, Add, Delete, Test, and Exit. The main menu is displayed as below:
 1. List
 2. Add
 3. Delete
 4. Test
 5. Exit
3. To list available DSNs, type 1 and press Enter. Verify that the required DSN exists. If necessary, proceed to step 4 to add the DSN.
4. If the required DSN does not exist, add it by completing the following steps: At main menu, type 2 and press Enter. Selecting this option displays a submenu allowing you to select the database type as one of the following:
 1. iSeries DB2

2. Oracle
3. SQL Server
4. Main Menu

Selecting option 4 goes back to the main menu. Selecting one of the other options prompts you for the DSN name, host name/IP address, schema name, database port, IASP usage (Yes/No), and database name. Finally, select the type of driver such as:

1. Native
2. Network

To verify the addition of the DSN, type 1 on the main menu and press Enter. Verify that the DSN you just added is included in the list.

5. Type 5 and press Enter to exit the utility.

Note: You can delete a DSN by typing 3 at the starting ODBCConfig utility window. Use the List option (1) to verify that the DSN has been deleted.

Testing an ODBC Connection by Using the ODBCConfig Utility

1. Log on to the server machine that runs Integration Server as the user who started the Integration Server software.
2. Start the ODBCConfig utility by executing the `<esslib>/hyperion/products/Essbase11/eis/server/ais_ODBCConfig` script. The utility lists the available options:
 1. List
 2. Add
 3. Delete
 4. Test
 5. Exit
3. To test the ODBC connection, type 4 and press Enter.
4. At the prompts, type a data source name, user name, and password. If no errors are returned, the connection is valid. In the event of errors, proceed to Step 5 to add corrected DSN information.
5. To add a DSN, type 2 at the starting ODBCConfig utility window. The ODBCConfig utility does not permit editing of DSN information. You must add new DSN entries and delete any incorrect entries. After entering 2, a submenu displays, allowing you to select the database type as one of the following:
 1. iSeries DB2
 2. Oracle
 3. SQL Server
 4. Main Menu

Selecting option 4 returns you to the main menu. Selecting one of the other options prompts you for the DSN name, host name/IP address, schema name, database port, IASP usage (Yes/No), and database name. Finally, select the type of driver such as:

1. Native
2. Network
6. On the main menu, type 1 and press Enter to list DSNs and verify that the DSN you just added is included in the list.
7. Type 4 and enter the newly added DSN name. Press Enter to test the new ODBC connection. If no errors are returned, the connection is valid.
8. Repeat the steps in this section until the connection tests return no errors.
9. Type 5 and press Enter to exit the utility.

Inspecting the ExternalDataSources.cfg File

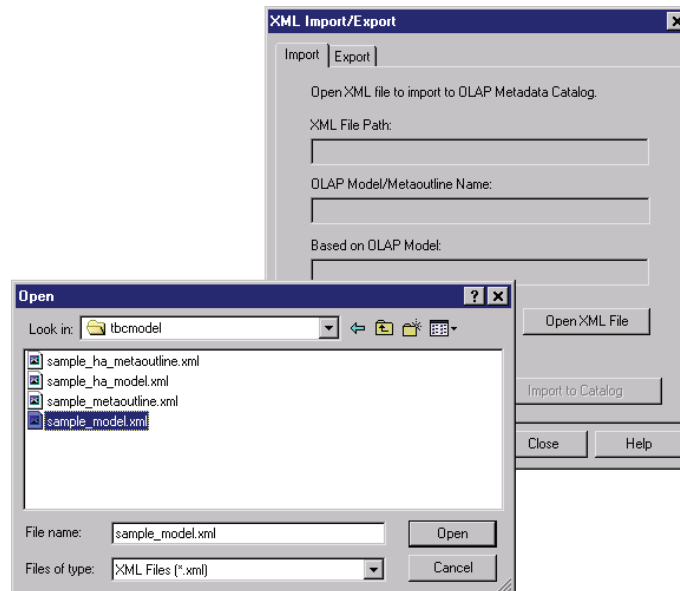
1. Log on to the server machine that runs Integration Server as the user who started the Integration Server software.
2. Check that the name of the data sources you are using with Integration Services are listed in the *ExternalDataSources.cfg* file in the `<esslib>/hyperion/common/JDBC/DataDirect/3.7` directory. For examples of data source definitions, see “Loading Data from SQL Data Sources” on p. 38.
3. Within the section for each data source, verify that the database name, server machine name, and other required information are specified.

Importing or Exporting XML Files

To import an XML file to an OLAP model or metaoutline, or export a model or metaoutline to an XML file, follow the instructions in the Essbase Integration Services online Help, using the following iSeries-specific hints. The following example demonstrates importing.

1. To import an XML file, in the XML Import/Export dialog box, click Open XML File and navigate to the appropriate XML file.

Figure 3-5
Importing an XML file



2. The samples are located in the Essbase installation library. Navigate to the following directory: $L:\langle\text{esslib}\rangle\backslash\text{hyperion}\backslash\text{products}\backslash\text{Essbase11}\backslash\text{eis}\backslash\text{server}\backslash\text{samples}\backslash\text{tbcmodel}$, where L is a drive mapped to the integrated file system (IFS) root directory and $\langle\text{esslib}\rangle$ is the name of your installation library.
3. Select the XML file to import, and click OK.
4. Continue using the Oracle Essbase instructions.

Note: When exporting an XML file, navigate to the mapped IFS drive and save the file there. Do not save the file to your local (C) drive.

Managing Performance

This chapter provides insight into performance planning and tuning of Essbase databases.

Optimizing Performance

It is important to optimize performance for:

- Essbase Analytic Server
- iSeries system on which the server is running

Tuning Performance

Load, calculation, and retrieval performance are critical to a successful Essbase implementation. Performance varies based on the relationships between the source data, the amount of data, the configuration of the outline, the size and complexity of retrievals, and the tuning applied to the database settings.

Note: It is important that you understand the concepts in the *Oracle Essbase Database Administrator's Guide* and in the documentation provided by IBM regarding work management.

Designing an Optimized SQL Data Load Plan

To optimize an Essbase data load:

1. Sort your input records so that the same sparse member combinations are grouped consecutively. In addition, sort your input records so that the sparse dimensions appear in the same order as the sparse dimensions in the outline. Sorting data on the sparse dimension members minimizes the number of times an Essbase data block must be read from disk, decompressed, enlarged, recompressed, and written back to disk. To sort your input data, specify the appropriate `ORDER BY` clause on the SQL statement in your rule file.
2. Load the data from a data source on the server. If the data is not on the source, moving it to the server will improve load times since the data does not have to be transported over the network at load time.

See the *Oracle Essbase Database Administrator's Guide* for additional information and other optimization tips.

Optimizing the Essbase Calculation Process

Calculating an Essbase model is CPU-intensive, and decisions you make about the calculation process can affect performance. See the *Oracle Essbase Database Administrator's Guide* for more information about optimizing Essbase calculations.

Tuning iSeries Performance

Performance can change depending on the system resources available to Essbase (CPU, number and type of disk units, and main memory), the number of users accessing the data, and other concurrent activities on the system. For more information on tuning your iSeries, see the documentation provided by IBM regarding work management.

Once you understand your requirements, examine your implementation environment to determine the limits placed on your solution. The following sections introduce items to consider before continuing with the next implementation phase.

Balancing Priority between Essbase and other Server Jobs

If you attempt to run other server jobs while running Essbase servers, the jobs will all compete for system resources. This is especially true if you are running on a single-processor system.

For example, Warehouse Builder distributions typically run at a default priority of 20. If you start the Analytic Server as a typical batch job, it runs at a default batch priority of 50. Both of these tasks are iSeries resource-intensive. Since Warehouse Builder jobs run at a higher priority, your Essbase operations (load, calculations, retrievals) will run very slowly.

Note: To prevent slow Essbase operations, set identical tuning priorities for your server and data distributions. For example, if you run the server at priority 50, set the data distribution to priority 50 as well. In addition, set your time slice under 25 milliseconds to prevent job atrophy.

Controlling Memory Allocations

Essbase performance is largely affected by the amount of memory it is allowed to use. You can manipulate the standard OS/400 work management techniques to control memory allocations. On the iSeries, memory is allocated to various memory pools by OS/400. For example, memory can be allocated to the *BASE pool, *INTERACTIVE pool, or other user-defined pools. For more information on memory pools, consult the documentation provided by IBM regarding work management.

Essbase can run under the *BASE pool or under a dedicated memory pool. Use a sufficiently large memory pool that does not compete excessively with other applications running on the iSeries. It is recommended you start with a memory pool of 256 megabytes (MB) for small databases accessed by a limited number of users. As you increase the number of databases, the size of the databases, or the number of users, consider increasing the amount of memory available for Essbase.

Because every database is unique, we cannot recommend specific system size and memory requirements.

Grouping Databases into Applications

A typical installation will run many Essbase databases on a single iSeries. While you can group several databases into a single application, a single application and database for each business problem is usually the best choice to simplify administrative tasks.

Symmetric Multiprocessing

Symmetric multiprocessing (SMP) refers to a system with more than one main processor. For example, some iSeries models can be equipped with two, four, eight, or more processors. In this case, SMP is a feature of the hardware. Multiple processors let the system simultaneously process more than one task.

Essbase takes advantage of hardware SMP by using multiple threads to spread end-user retrievals across multiple processors. This applies to retrievals submitted using the spreadsheet add-ins, Analyzer, or user-written report scripts. As multiple users run simultaneous retrievals, Essbase uses multiple threads to process the retrievals (calculations, however, are processed in a single thread).

There are two methods for calculating with multiple processors:

Using multiple processors for multiple databases. By default, the Essbase database calculation process is single-threaded and uses only one processor. Since each database is calculated under a separate thread, you can use multiple processors when calculating more than one database at the same time. Performance will vary depending on other system activity or iSeries resources such as the available memory and the performance of the server's disk units.

Using multiple processors for a single database. Parallel calculation enables multiple processor calculations. This feature requires modification of the *Essbase.cfg* file. For more information on parallel calculation, see the chapter on optimizing calculations in the *Oracle Essbase Database Administrator's Guide*.

If you have a single-processor system, limited memory, or limited I/O capacity (few disk arms), you will achieve better results by calculating only one database at a time.

On the iSeries, SMP can also mean a DB2 iSeries software offering that improves DB2 query performance regardless of the number of system processors. This software offering enables OS/400 to process a query in several simultaneous steps, run in separate jobs, and can assist in Essbase SQL builds and loads when heavy SQL is processed.

Essbase Query Optimization Tips

This section contains tips for improving the performance of your Essbase queries. Many of these Essbase query optimization features can be found in the Essbase Options dialog box in Query and Report Writer.

Limiting Rows

If you have created a complex Essbase query or one that may return a large quantity of data, test the query first by limiting the number of rows returned. By doing so, the query returns only a specified number of rows, indicating that the query runs correctly. To limit rows, you can use any of the following three options:

- **Top/bottom sorting.** Use top/bottom sorting to return an exact number of top- or bottom-ranked values in your report. For example, if your database contains 2,000 cities and you want to sort sales by city and display only the top 10 cities by sales, you can apply top/bottom sorting to one column per report. To apply top/bottom sorting, see “Applying top/bottom sorting” in the Query or Report Writer online Help index.
- **Suppressing rows that are missing all values.** Use this option to exclude rows containing only #MISSING values from the result data. #MISSING means that the data in a given cell does not exist. This may be because the member combination is not meaningful (for example, a given company does not sell toboggans in Miami) or has never been entered. This option can be useful if you have many rows with no values. To activate this option, from the Query menu choose Essbase Options, and then in the Essbase Options dialog box, select Suppress Rows that are Missing All Values.
- **Suppressing rows that are all zeros.** Use this option to exclude rows containing only zeros from the result data. To activate this option, from the Query menu choose Essbase Options, and then in the Essbase Options dialog box, select Suppress Rows that are All Zeros.

Suppressing Duplicate Shared Members

Suppress Duplicate Shared Members is an Essbase command that suppresses the display of duplicate shared members, reducing the amount of returned output data. Use this option to remove duplicate rows from the result data by excluding duplicate shared members from the query. To activate this option, from the Query menu choose Essbase Options, and then in the Essbase Options dialog box, select Suppress Duplicate Shared Members. For more information about shared members, see “Suppress Duplicate Shared Members” in the Query or Report Writer online Help index.

Essbase Server Maintenance

This chapter discusses maintenance procedures and operating considerations for Essbase for IBM i servers.

Administering the Essbase Analytic Server

iSeries users can administer the Essbase Analytic Server from a command line using MaxL/400. Traditionally, ESSCMD/400 has provided functionality that is consistent with the client ESSCMD (ESSCMD and ESSCMDW). You may want to consider transitioning from ESSCMD/400 to MaxL/400 if you have not already done so.

While ESSCMD/400 continues to be supported, many Essbase features are accessible only through the MaxL/400 interface. Thus, we recommend using MaxL/400 to automate and maintain your Analytic Server. The following sections explain how to use MaxL/400 with Essbase and with existing ESSCMD/400 automation. Since Essbase for IBM i fully supports the MaxL language, see the *Oracle Essbase MaxL User's Guide* for more information.

MaxL/400 and ESSCMD/400 uses standard iSeries input, output, and error devices to retrieve input, write output, and write errors, respectively. MaxL/400 uses IFS files exclusively for its input/output files. ESSCMD/400 uses the QSYS.LIB physical or source physical files for input/output files. Using parameters from the respective commands, these files can be switched from using the device interface to using a file on the iSeries. An administrator can script and run a sequence of Essbase commands. From this point forward, we will refer to running MaxL/400 or ESSCMD/400 commands with an input file as the *scripted interface* and running commands without an input file as the *nonscripted interface* or *command line*.

An alternative to ESSCMD/400 is the ESSCMD API, which provides OS/400 command interfaces and OS/400 error handling for all ESSCMD/400 operations. For more information, see the topic “Using the ESSCMD API” on p. 33.

Command Interface

Commands can be run in script mode, interactive mode, or command mode.

Script mode. Use a scripting language, such as CL, along with commands to automate processing. No shell is invoked, and commands are processed from an input file.

Interactive mode. Enter statements and receive responses on the MaxL/400 or ESSCMD/400 shell or command line. This mode is effective for day-to-day administrative tasks, error/syntax checking, determining status, or checking information quickly. In ESSCMD/400, interactive and command modes are very similar.

Command mode. Pass MaxL or ESSCMD statements to the respective interpreter and eventually to Essbase. Use the respective command with parameters to pass the statement and use iSeries commands to specify the statement, output file, and escape message level.

Using an Input Script File

To use the script interface, place the commands in an input file and specify an output or error file, depending on the script's intent. If you are running a short script or testing a script, you can run the script interactively while directing the output and error information to the workstation. This allows a properly coded script to display what the script did or did not do. While running scripts in this manner is useful for testing, script information is usually directed to a file. This allows you to start scripts, let them run unattended, and verify later that they finished correctly. When an output or error file is specified, the output or error information that is normally displayed on the screen is written to the specified file.

A script file may contain ESSCMD/400 and MaxL/400 commands. The ESSCMD/400 and/or MaxL/400 session must be initiated with the LOGIN command.

MaxL/400 Scripts (ESSMSH Command)

All filenames referenced in the ESSMSH parameters must reside in IFS and be in ASCII format. Create the appropriate input files in the IFS before specifying them in the command.

The syntax for running a script file with the MaxL/400 shell interpreter specifies an input file, an output file, and up to 32 arguments:

```
esslib/ESSMSH INFILE(infile)OUTFILE(outfile) ARG(argument1 argument2)
```

where:

- *esslib* is the Essbase installation library.
- *infile* is the input script file that contains the input script.
- *outfile* is the file that will contain the command output. The output file is optional.
- *argument1* and *argument2* are values to be passed to the script.

Following is an example ESSMSH command:

```
esslib/ESSMSH INFILE('/ESSBASE/essmsh/mshvariabl.mxl') ARG(USER1 PASSWORD)
```

where:

- *mshvariable.mxl* is a script file containing MaxL commands.
- *USER1* and *PASSWORD* are values to be passed to the script.

There is a 32-variable limit, from \$1 to \$32, and variables must be no larger than 64 bytes. Variables are assigned values based on their list order in the ARG parameter. Following is an example of the *mshvariable.mxl* script, using the above ESSMSH command to call variables:

```
LOGIN $1 $2 ON 172.1.1.1;
```

```
DISPLAY USER $1;
```

LOGOUT;

where:

- \$1 is assigned the USER1 value.
- \$2 is assigned the PASSWORD value.

Note: To run a Max/L 400 script, your job CCSID must be set to 37 or another non-hex CCSID.

ESSCMD/400 Scripts (STRESSCMD)

To create ESSCMD/400 script files, create an iSeries *QSYS.LIB* file and member to contain the Essbase commands. The file can be created as a physical or source physical file. Set the record size between 80 and 240 characters to allow easy iSeries-based editing and viewing. Once the file and member are created, update the file to contain the Essbase commands that ESSCMD/400 will run.

The syntax for running ESSCMD/400 with an input, output, and error file is:

```
esslib/STRESSCMD INFILE(inlibrary/infile) INMBR(inmember)
OUTFILE(outlibrary/outfile) OUTMBR(outmember)
ERRFILE(errlibrary/errfile) ERRMBR(errmember)
```

where:

- `esslib` is the Essbase installation library.
- `inlibrary` is the library in which the input script file is located.
- `infile` is the input script file containing the input script file member.
- `inmember` is the input script file member containing valid Essbase commands.
- `outlibrary` is the library in which the output file is located.
- `outfile` is the file containing the output file member.
- `outmember` is the output member where ESSCMD/400 screen output is written.
- `errlibrary` is the library in which the error file is located.
- `errfile` is the file containing the error file member.
- `errmember` is the error file member where ESSCMD/400 error information is written.

Specifying ESSCMD/400 Output and Error Files in ESSCMD/400 Script Files

When creating ESSCMD/400 scripts, several ESSCMD commands let you specify input, output, and error files for a given command. If a command you are running requires a filename as a parameter, enter the filename in a syntax that Essbase understands.

If you specify a file in the QSYS.LIB file system as shown in the example, the library and file must exist before running ESSCMD/400. ESSCMD/400 does not create the library and file. ESSCMD/400 will create the specified member if it does not exist. If the member does not exist, verify that the `MAXMBRS` setting on the file will allow the creation of a new member. If the `MAXMBRS` limit has been reached, the new member cannot be created.

The files can be created as physical or source physical files. We recommend a record size between 80 and 240 characters for easy iSeries-based editing and viewing. If the ESSCMD/400 output file is not created in advance, the file is created as a source physical file with a data field of 254 characters. The size of the data field makes it difficult to view or edit the output. If the record size is not large enough to store the ESSCMD/400 output record, the output record is truncated. Ensure the file is created with a record size large enough to accommodate the error messages and any failing input records that are logged to the file.

When using the `BUILDDIM` or `IMPORT` commands, you can specify a filename to use for recording errors found during the operation. You must enter an IFS path name. You may store the file in the root file system or the `QSYS.LIB` file system.

The following example stores the information in a library named `MYLIB`, a file named `MYFILE`, and a member named `MYMEMBER` in the `QSYS.LIB` file system:

```
/qsys.lib/MYLIB.lib/MYFILE.file/MYMEMBER.mbr
```

The following example stores the information in the `DIMBUILD.ERR` file in the `Essbase` directory for the `Sample Basic` application database of the root file system:

```
/<esslib>/hyperion/products/ESSBASE11/EssbaseServer/app/Sample/Basic/dimbuild.err
```

When a root file system path is specified, the directories must exist before running `ESSCMD/400`. The file will be created automatically if it does not exist. If the file exists, it is overwritten.

Using the Command Line Interface

To run commands from a command line interface, issue the respective commands from an `OS/400` command line. Do not specify any parameters. The respective command interpreter will start.

MaxL/400 (RUNMAXLSTM)

Issue `RUNMAXLSTM` from an `OS/400` command line. `F1` command Help explains the possible values for each parameter. The syntax is as follows:

```
esslib/RUNMAXLSTM COMMAND(command)
OUTPUT(outfile) ESCLEVEL(escllevel)
```

where:

- `esslib` is the `Essbase` installation library.
- `command` is the `MaxL/400` command.
- `outfile` is the file that contains the output file.
- `escllevel` specifies the level of the messages that are returned. `F1` Help lists the parameter values.

ESSCMD/400 (STRESSCMD)

Issue the `STRESSCMD` command from an `OS/400` command line. Do not specify any parameters. The `ESSCMD/400` interpreter shell starts.

ESSCMD/400 File Differences

ESSCMD/400 provides nearly identical support for the PC ESSCMD commands. Although the interface that ESSCMD/400 provides is very similar to the interfaces provided by ESSCMD utilities on other platforms, there are differences in coding an ESSCMD/400 script file.

Creating ESSCMD/400 Output and Error Files

Before creating or viewing a QSYS.LIB file that holds error records, determine the EBCDIC CCSID value that corresponds to your EPM 11.1.1 installation. On single-byte systems, you should use the same EBCDIC CCSID value as specified in the Coded character set identifier attribute of the System i profile you used to install EPM 11.1.1 for IBM i. Refer to the section “Selecting Native DB2 for Database Configuration” in the *Essbase for IBM i Installation Guide* for additional information.

Note: If you installed using a double-byte CCSID, you need to use single-byte CCSID associated with that double-byte CCSID. Use the table shown below to determine the single-byte CCSID to use for a particular double-byte CCSID. Refer to IBM documentation for further details.

Double-byte	Single byte
5035	1027
935	836
937	28709
933	833

- Create the source file in the QSYS.LIB file system with the following command:

```
CRTSRCPF FILE(mylib/filename) RCDLEN(length) CCSID(value)
```

where:

- *mylib* is the QSYS.LIB library name.
- *filename* is the QSYS.LIB filename.
- *length* is the record length. Specify a length long enough to handle the longest rejected record. Tab characters are expanded to spaces at a ratio of eight spaces per tab character.
- *value* is the single-byte CCSID that Essbase uses. On servers using double-byte character sets, *value* must be the single-byte CCSID associated with the mixed CCSID of the Essbase Analytic Server.

Viewing Output and Error Files

If you wrote the error file to the root file system and want to view the error file, use the iSeries command DSPF. For example:

```
DSPF STMF('/path/filename')
```

where:

- `path` is the location of the file.
- `filename` is the name of the output or error file to view.

If you wrote the error file to the QSYS.LIB file system and want to view the error file, use the iSeries command `DSPF`. For example:

```
DSPF FILE(mylib/filename) MBR ESSBASE
```

where:

- `mylib` is the QSYS.LIB library name.
- `filename` is the name of the output or error file to view.

Output Command

ESSCMD/400. The `OUTPUT` command directs process information output from the session to an iSeries file.

```
OUTPUT lib/file(member)
```

where `lib/file(member)` is the library and filename of the output file.

MaxL/400. The `OUTPUT` command directs process information output from the session to a text file.

```
OUTPUT ('/path/file.ext')
```

where `'/path/file.ext'` is the path and filename of the output text file.

Reloading Rejected Records

You can specify an error file that receives rejected records if a dimension build or data load error occurs. This file can reside in either the root file system or the QSYS.LIB file system. To use the error file to reload rejected records, direct it to a stream file in the root file system. To display only the error file, store the file in the QSYS.LIB file system. Tabs in the file are expanded to spaces, making the file easier to read.

If you direct the error file to the root file system, you can use the `CPYFRMSTMF` command to copy the error file to the QSYS.LIB file system to read:

1. Create a source physical file using the previously described `CRTSRCPF` command.
2. Copy the file from the root file system to the QSYS.LIB file system using the command:

```
CPYFRMSTMF FROMSTMF('file name')  
TOMBR('/QSYS.LIB/mylib.lib/pf.file/member.mbr') TABEXPN(*NO)
```

where:

- `file name` is the full path and filename in the root file system in which the error records were originally logged (for example, `<esslib>/hyperion/products/ESSBASE11/EssbaseServer/app/smstbc/dbcs/dimerr.txt`).
- `mylib` is the QSYS.LIB library name.

- `pf` is the QSYS.LIB filename.
- `member` is the name of the member to create in the QSYS.LIB file system (for example, `dimerr.mbr`).

Getting Help with ESSCMD or MaxL Commands

Oracle-Hyperion documentation is installed with the product. For MaxL/400 or ESSCMD/400 command Help, see the Oracle Essbase documentation. To view this Help on your PC, from the Windows Start menu choose:

```
Programs
  Oracle EPM System
    Essbase
```

Using the ESSCMD API

The ESSCMD API provides OS/400 command interfaces and OS/400 error handling for all the ESSCMD/400 operations. The ESSCMD API is enabled automatically and sits atop the ESSCMD/400 function, transforming the script-based interface of ESSCMD/400 into an OS/400 command interface.

Use the ESSCMD API to open and maintain an ESSCMD/400 session across multiple OS/400 commands. You can intersperse ESSCMD/400 commands with other OS/400 commands. You can also code your CL program to respond to errors reported by Essbase on a command-by-command basis, using standard OS/400 error- and message-handling mechanisms.

The *Oracle Essbase Technical Reference* includes ESSCMD information (http://download.oracle.com/docs/cd/E12825_01/epm.111/esb_techref/frameset.htm?launch.htm). For details about individual ESSCMD API commands, see the iSeries online Help. To use the Help, enter an ESSCMD API command, press F4, and then press F1 for Help on a parameter.

Command Structure

The ESSCMD API consists of four base OS/400 commands and many supplemental commands (discussed later). OS/400 command-level Help is available for each of the base and supplemental commands. The four base commands are:

- LOGINESS
- RUNESSCMD
- LOGOUTESS
- RTVSSSTS

Note: The `STRESSCMD` command is not an ESSCMD API command. `STRESSCMD` acts independently from the ESSCMD API commands.

LOGINESS Command

Issue the `LOGINESS` command before running other `ESSCMD` API commands. After issuing the `LOGINESS` command, `RUNESSCMD` (or a supplemental command) interacts with the Analytic Server under the session opened by the `LOGINESS` command. Multiple logons with `LOGINESS` are not allowed.

RUNESSCMD Command

`RUNESSCMD` lets you run any `ESSCMD` command directly from the OS/400 command line or from within a CL or other program. With `RUNESSCMD`, type the underlying `ESSCMD/400` command as follows:

```
RUNESSCMD COMMAND('UNLOADAPP MYAPP')
```

Typically, you will use the `LOGINESS` command to initiate the session before using `RUNESSCMD`.

LOGOUTESS Command

`LOGOUTESS` ends the connection and closes the `ESSCMD` API session by issuing the `ESSCMD EXIT` command within the regular `ESSCMD` interface.

RTVESSSTS Command

From within a CL program, `RTVESSSTS` can retrieve information about a previous `ESSCMD` API command if the session associated with that command has not been closed. The following information can be retrieved:

- Essbase message number
- Essbase message severity
- Essbase message text

See the online command Help for more information about the variable data types and the possible return values.

Auto-logoff Considerations

When using `ESSCMD` API commands within another program, consider how Essbase's auto-logoff feature will affect the program. Essbase is installed with a default 60-minute auto-logoff time (this may be reduced). This may be a problem in a program such as the following:

```
LOGIN SVRUSR(userid) SVRPW(password)
ENDESSAPP APPNAME(mycube)
SAVLIB DEV(TAP01) ...
STRESSAPP APPNAME(mycube)
```

The `SAVLIB` operation may take a long time, particularly if loading or changing a tape is required to complete the operation. If the time between the completion of the `ENDESSAPP` and start of the `STRESSAPP` command is longer than the auto-logoff setting, `STRESSAPP` will fail.

The auto-logout setting applies to all users, so you cannot adjust it for a specific user ID. If you prefer not to change the time-out for all Essbase users (it can be set to no auto-logout), run LOGOUTESS and LOGINESS again wherever a problem might occur. For example:

```
LOGIN SVRUSR(userid) SVRPW(password)
ENDESSAPP APPNAME(mycube)
LOGOUTESS SAVLIB DEV(TAP01) ...
LOGINESS userid password
STRESSAPP APPNAME(mycube)
```

Supplemental ESSCMD Commands

In addition to the previously described commands, the ESSCMD API provides alternative commands to RUNESSCMD. There is no need to remember the ESSCMD command syntax. The underlying ESSCMD syntax is mapped to OS/400 command keywords.

Each supplemental command corresponds to an ESSCMD/400 command. For example, the ESSCMD API command STRESSAPP corresponds to the ESSCMD/400 LOADAPP command. These OS/400 commands have the look and feel of standard OS/400 commands, complete with prompted keywords, Help, and so on. For ESSCMD/400 commands with no corresponding ESSCMD API command, use RUNESSCMD.

With ESSCMD/400, choose an application and database using the SELECT command so that subsequent commands (that do not specify an application or database) can operate on the selected database. The ESSCMD API supplemental commands require that you specify the application and database on the command itself. The appropriate SELECT command is implicitly issued for you.

Most supplemental commands let you use the full power of the underlying ESSCMD/400 commands. This list contains all of the Essbase ESSCMD API supplemental commands and indicates the corresponding ESSCMD command issued. For more information about each ESSCMD command, see the ESSCMD documentation in the *Oracle Essbase Technical Reference*.

Note: The IMPESSSQL and BLDESSDIM commands do not permit all forms of their respective ESSCMD commands to be issued. In each case, only the SQL form with a server-based rule file is supported, since this is the most common usage. To handle other cases, use RUNESSCMD.

Table 5-1
ESSCMD API supplemental commands

ESSCMD/400 API command	ESSCMD/400 command
ADDESSGRPU	ADDUSER
BLDESSDIM	BUILDDIM
CLCESSDFT	CALCDEFAULT
CPYESSAPP	COPYAPP
CPYESSDB	COPYDB
CRTESSAPP	CREATEAPP
CRTESSDB	CREATEDB
CRTESSGRP	CREATEGROUP
CRTESSUSR	CREATEUSER
CRTESSVAR	CREATEVARIABLE
DISESSLGN	DISABLELOGIN
DLTESSAPP	DELETEAPP
DLTESSDB	DELETEDB

ESSCMD/400 API command	ESSCMD/400 command
DLTESSGRP	DELETEGROUP
DLTESSUSR	DELETEUSER
DLTESSVAR	DELETEVARIABLE
ENBESSLGN	ENABLELOGIN
GETESSAPP	GETAPPSTATE
IMPESSSQL	IMPORT
STRESSAPP	LOADAPP
LOGINESS	LOGIN
LOGOUTESS	EXIT
LSTESSAPP	LISTAPP
LSTESSDB	LISTDB
LSTESSGRPS	LISTGROUPS
LSTESSGRPU	LISTGROUPUSERS
LSTESSUSR	LISTUSERS
LSTESSVAR	LISTVARIABLES
CLRESSDB	RESETDB
RNMESSAPP	RENAMEAPP
RNMESSDB	RENAMEDB
RNMESSUSR	RENAMEUSER
RMVESSGRPU	REMOVEUSER
RUNESSCLC	RUNCALC
ENDESSVR	SHUTDOWNSERVER
ENDESSAPP	UNLOADAPP
UPDESSVAR	UPDATEVARIABLE

Output Processing

RUNESSCMD and other ESSCMD/400 API commands each have an `OUTFILE` keyword. This keyword follows normal OS/400 `OUTFILE` conventions. If the file does not exist, it is created with a record length of 240 characters.

Controlling Error Handling When Programming

The Essbase messaging mechanism defines five message severity levels:

- Informational
- Warning
- Error
- Serious
- Fatal

If Essbase returns only informational and/or warning messages, by default an ESSCMD/400 API command will end with a normal OS/400 completion message. If Essbase returns an error, serious, or fatal message, the ESSCMD/400 API command issues an OS/400 escape message.

To override this behavior, use the optional `ESCLEVEL` keyword on most `ESSCMD/400` API commands. For example, you can use the following sequence of commands to delete an existing application and then re-create it by copying another application:

```
LOGINESS myuserid mypassword
DLTESSAPP myapp ESCLEVEL(*SERIOUS)
CPYESSAPP yourapp myapp ESCLEVEL(*ALL)
LOGOUTESS
```

When `DLTESSAPP` uses `ESCLEVEL(*SERIOUS)` the sometimes expected error message does not cause the program to fail:

```
(1051030) ERROR: Application myapp does not exist.
```

Note: In the previous example, the Essbase `ERROR` level message will behave the same way, resulting in an OS/400 completion message. Serious and fatal messages will still result in an OS/400 escape message.

In the previous `ESCLEVEL` example, the `CPYESSAPP` command uses `ESCLEVEL(*ALL)` because the copy should always work after successfully deleting the application. `CPYESSAPP` does not return any Essbase messages (not even an informational one). By using `*ALL`, the program will fail if anything other than what is expected (no messages) occurs. See the iSeries online Help for more information about the `ESCLEVEL` keyword.

In addition to the `ESCLEVEL` keyword, you can use the `RTVSSSTS` command within your program to retrieve status information regarding the most recent Essbase message issued. This lets you programmatically retrieve the message level (for example, informational, warning), the Essbase message number, and the message text. For example, the following message:

```
(1051030) ERROR: Application myapp does not exist.
```

would return 1051030 for the `STATUS` (message number), “ERROR” for the `MSGLEVEL`, and “Application myapp does not exist.” for the `MESSAGE`.

See the iSeries online Help for `RTVSSSTS` for more information about the types and sizes of the keywords for `RTVSSSTS`.

Debugging ESSCMD API

It is possible to see the commands that the `ESSCMD/400` API passes to the `ESSCMD/400` engine. To log each `ESSCMD/400` command, issue the following command in the job under which `ESSCMD/400` is running. This command also logs the password.

```
ADDENVVAR ENVVAR(ESSBASE_CMDAPI_LOG) VALUE('your_library/your_file')
```

Once the environment variable is set, turn off logging with the next command:

```
CHGENVVAR ENVVAR(ESSBASE_CMDAPI_LOG) VALUE(*NULL)
```

Logging can be turned on and off again with the `CHGENVVAR` command.

You can use all of the standard OS/400 built-in debugging support for your CL program, RPG program, or other programs that uses the `ESSCMD/400` API.

To more easily debug CL programs that use the ESSCMD API, you may want to create your CL program to log CL program commands:

```
CRTCLPGM ... LOG(*YES)
```

In addition, change your job to not log CL program commands by issuing:

```
CHGJOB LOGCLPGM(*NO)
```

The combination of these changes results in a job log (using `DSPJOBLOG`) showing only the commands issued directly by your CL program and not those issued internally by product software.

OLAPICMD Scripts (OLAPICMD Command)

All filenames referenced in the `OLAPICMD` parameters must be in IFS format. The input and output files are IFS files and in ASCII format. Create the input files in the IFS before specifying them in the command.

The syntax for running a script file with the shell interpreter specifies an input and output file:

```
esslib/OLAPICMD INFILE(infile)OUTFILE(outfile)
```

where:

- `esslib` is the Essbase installation library.
- `infile` is the input script file containing the input script file member.
- `outfile` is the file containing the output file member.

Loading Data from SQL Data Sources

Essbase data load and dimension build operations work most efficiently when using SQL. SQL support is shipped as part of the base Essbase package; you do not need to install a separate SQL module as long as only `*LOCAL` connections are used. In addition to iSeries data sources, you can load data into your cube from SQL data sources located on other platforms. Supported platforms include Microsoft SQL and Oracle. The corresponding DataDirect ODBC-JDBC drivers are installed with the Essbase server.

Prerequisites

1. Navigate to the `/<esslib>/hyperion/common/JDBC/DataDirect/3.7/bin` directory, where `<esslib>` is the name of the installation library. Using a text editor (such as Notepad), open the `ExternalDataSources.cfg` file for editing.
2. Using the examples shown below and in the `ExternalDataSources.cfg` file, create a “definition” for each non-iSeries data source. The definition must consist of the following elements, separated by spaces:
 - Data source name
 - JDBC driver name
 - URL of the relational database to be used as data

Native DB2 Example

Format: <Data_Source_Name> com.ibm.db2.jdbc.app.DB2Driver
jdbc:db2://<Database_Name>/<Schema_Name>;translate binary=true

Example: To configure a URL to connect to the local DB2 Server data source *MY_DSN*, schema *ESSQA*, located on an iSeries machine, the entry would be:

MY_DSN com.ibm.db2.jdbc.app.DB2Driver jdbc:db2://*LOCAL/ESSQA;translate binary=true

Native IASP Example

Format: <Data_Source_Name> com.ibm.db2.jdbc.app.DB2Driver
jdbc:db2://<Database_Name>/<Schema_Name>;translate binary=true

Example: To configure a URL to connect to the local DB2 Server data source *NATIVE_IASP*, schema *IASPQA*, located on an iSeries machine, the entry would be:

NATIVE_IASP com.ibm.db2.jdbc.app.DB2Driver jdbc:db2://PRIMARY/IASPQA;translate binary=true

Microsoft SQL Example

Format: <Data_Source_Name> spss.jdbc.sqlserver.SQLServerDriver
jdbc:merant:sqlserver://<SQL_Server_Name>:<SQL_Server_Port_Number>;
DatabaseName=<Database_Name>;SelectMethod=cursor

Example: To configure a URL to connect to SQL Server data source *DS1*, database *TBC*, located on a Windows server named *WinSQLSrv*, and listening on the default port, the entry would be:

DS1 spss.jdbc.sqlserver.SQLServerDriver
jdbc:merant:sqlserver://WinSQLSrv:1433;DatabaseName=TBC;SelectMethod=cursor

Oracle Example

Format: <Oracle_Datasource_Name> spss.jdbc.oracle.OracleDriver
jdbc:merant:oracle://<Oracle_PC_Name>:<Oracle_Port>;SID=<Your_SID>

Example: To configure a URL to connect to Oracle data source *ORACLESOURCE* on an Oracle server named *ORACLESRV* with port 1521 and SID *MYSID*, the entry would be:

ORACLESOURCE spss.jdbc.oracle.OracleDriver jdbc:merant:oracle://ORACLESRV:1521;SID=MYSID

3. Save the file with your new definitions. As an administrator, you can create or edit this *ExternalDataSources.cfg* file when needed. However, the file name must always be *ExternalDataSources.cfg*.
4. When you create a rule file or load data in the EAS Console, the non-iSeries data sources are listed along with the iSeries data sources. The name listed will match the data source name in your *ExternalDataSources.cfg* definition.

Loading Data Using SQL

1. Using the Administration Services Console, open or create a rules file.

2. From the File menu choose Open SQL.
3. In the Select Database box, select your server, application, and database and click OK.
4. In the Open SQL Data Sources selection box, the DNS entries from *ExternalDataSources.cfg* will be shown. The Connect information should *not* be filled in.
5. Specify the Select, From, and/or Where clause information to load data into the Data Prep Editor. In the From box, enter the names of the tables in the SQL naming convention (as opposed to the iSeries naming convention). In the SQL naming convention, you can directly use the name of the table or you can specify the schema name along with table name, separated by a period (.). For example:

```
TBC.Sales
```

You cannot specify a specific OS/400 database file member name in this interface.

6. If you want to add GROUP BY or ORDER BY clauses, you can do so in the Where box.
7. Click OK/Retrieve.

Substitution Variables in Rule File SQL Statements

Essbase substitution variables can be used in calculation scripts, report scripts, and spreadsheets. With Essbase for IBM i, you can also use substitution variables in the SQL statement specified in a Data Load or Dimension Build rule file. This allows for easy reuse of rule files for multiple data files of the same format or for retargeting loads for test-versus-production libraries. Modify the value of substitution variables as needed; this modifies the behavior of the scripts and rule files that use the variables.

To use substitution variables in the SQL statement, simply specify the variable prefixed with an ampersand (&). If a variable is used in the Where box and the result of the entire WHERE clause after all variables are substituted is all blanks or an empty string, the entire WHERE clause is omitted from the SQL statement.

Note: If a variable reference does not have a value assigned to it, no substitution occurs and the original variable name along with the ampersand are passed in as part of the SQL statement.

The following is an example of the message that is logged if the variable reference is not assigned a value:

```
Local/Apname/Dbname/Userid/Info(1012042) Substitution variable <xy> doesn't exist.
```

Substitution variables can be managed by double-clicking Variables under the server in Administration Services Console or through the ESSCMD commands: CREATEVARIABLE, UPDATEVARIABLE, and DELETEVARIABLE. See the Oracle Essbase documentation for more information regarding substitution variables.

Flat File Support

Many non-iSeries systems support character-delimited files, also known as flat files. Flat files often use a delimiter character such as a tab or a space to separate individual fields within a record.

Essbase can load flat files stored in the IFS application/database directory with a *.txt* extension. ESSCMD/400 can also read from flat files in the IFS. The recommended way to load data is to use a load rule with an SQL statement. To load data from DB2 files, specify the appropriate SQL statement to select the fields that you want to load. You can load a flat file using the same technique. In this case, the standard OS/400 database file contains a single character field. This field is used to hold character-delimited data.

For example, suppose you have a tab-delimited text file on a PC. You can load data directly into Essbase from this file using ESSCMD on the PC. Alternatively, you can copy this file to the iSeries and load the data using SQL. Use the following steps:

1. Create a database file on the iSeries using the appropriate record length:

```
CRTPF FILE(MYLIB/FILE) RCDLEN(132)
```

2. Using the FTP PUT command, copy the data from the PC to the iSeries:

```
put c:\pcdata.txt mylib/file.file
```

3. The file MYLIB/FILE now contains the tab-delimited data. Using the Administration Services Console, create or edit the load rule to read this data by using the following select statement:

```
SELECT * FROM MYLIB.FILE
```

4. From the Options menu, choose Data source properties. In the dialog box, use the Delimiter tab to set the appropriate delimiter.

Using Warehouse Builder with Essbase

Using Warehouse Builder, you can perform several operations against an Essbase for IBM i database (for example, clear a database, build dimensions, load a database, calculate a database). When using Warehouse Builder to build dimensions or load data, Essbase uses SQL to read records and load them into the database. Essbase validates each record as it is processed and may reject records if it encounters an error.

Dimension Build and Data Load Rejected Records

The member names identified by each record must match the member names specified in the outline. If they do not match, Essbase rejects the record. In this situation, if the Essbase build plan defined in Warehouse Builder is set to *Continue on Error*, Warehouse Builder logs the rejected record in the *JOBMSG*s table and continues processing.

The records causing an error are logged with a *MSG_ID* of 'TXT0208' (for a data load) or 'TXT0207' (for a dimension build). The record itself is logged in the *MSG_HELP* field. The object ID for the Essbase build plan is stored in the *OBJECTID* field. The sequence number of the Essbase build plan identifies the Essbase operations within the build plan and is stored in *SEQ_NUMBER*.

Reloading Rejected Records

After fixing the Essbase outline, it is possible to reprocess only the rejected records (instead of reprocessing all data). To reprocess the rejected records, use the Administration Services Console to create a dimension build or data load rule that points to the `JOBMSG` table. The following is an example of an SQL statement that reprocesses the rejected records of an Essbase build plan whose object ID is 101 and whose sequence number is 1:

```
SELECT MSG_HELP FROM SCSEVER.JOBMSGS
WHERE MSG_ID = 'TXT0208' AND OBJECTID = 101 AND SEQ_NUMBER =1
```

Note: To reprocess the rejected records for a dimension build, the `MSG_ID` value is 'TXT0207'.

To determine the correct object ID and sequence number to use, run the queries (*.dbq*) shipped with Warehouse Builder against the `JOBMSG` table. The queries are located in the *Reports* folder where Warehouse Builder is installed.

Naming the Essbase Server in Warehouse Builder

When using Warehouse Builder with Essbase, the value you specify for the Essbase Analytic Server in the Build Plan dialog box must be a numeric IP address or a valid name on the iSeries control server. (If the Essbase Analytic Server port number was changed from the default of 1423, the port number should be added too, separated by a colon. To look up the port number, check the `AGENTPORT` value in the file `/<esslib>/hyperion/products/Essbase11/EssbaseServer/bin/essbase.cfg`.) To check whether a name is valid, enter the iSeries command `CFGTCP` from an iSeries session on the iSeries control server and choose option 10. Verify that the name associated with the TCP/IP address for the Essbase Analytic Server is the same as the name defined on your PC.

Refer to the Warehouse Builder online Help for additional information on using Warehouse Builder with Essbase.

After Changing a Password: SCCHKPWD Command

If a user's password changes or expires, the user can update the applicable control table settings with the `SCCHKPWD` command. This command searches and/or updates the necessary control table settings with the new password.

Security

Essbase for IBM i supports all Oracle Essbase security functions; however, individual data files reside in the OS/400 IFS and may be accessible through other OS/400 interfaces. You should verify that these files are properly secured with respect to the iSeries-defined security mechanisms. In particular, the Essbase security file `ESSBASE.SEC` is stored in the integrated file system.

ALLOBJ Authority

A profile with *ALLOBJ authority has full iSeries access, including all databases, programs, folders, and files. If you want a user profile to have access to certain iSeries objects but do not want to assign *ALLOBJ authority, you can grant the authority needed to access only certain objects. For example, a profile at the *USER level can be granted access to library ABC but not to library XYZ.

Using a profile that has been assigned the *SECOFR class is the easy way to start the servers. However, to enable a user to run Essbase with anything less than *ALLOBJ authority, follow these steps:

1. Create a user profile with the desired security class to be dedicated to starting Essbase. Ensure that Essbase will always be started with this user profile.

Type the command `GRTESSAUT` to grant the user profile all the necessary authorities to start Essbase and press Enter. (For `GRTESSAUT` restrictions, see *Commands*.)

2. Type `CHGESSENV` and press Enter.
3. Change the Run with All Object Authority field to *NO.
4. To verify a user profile is authorized to start Essbase, run the `CHKESSAUT` command.

About Integrated Security

Essbase for IBM i provides support for integrated security. With OS/400 security controls, you can control who has access to Essbase. As a result, your security scheme for Essbase for IBM i is greatly simplified.

Warning: If you are setting up integrated security for Essbase, create at least one Essbase superuser profile that is not an OS/400 user, and ensure this user profile is not deleted or demoted. If an Essbase system supervisor ID is the same as another Essbase ID, you may lose your supervisory status.

Once you set up the integrated security environment between Essbase and OS/400, OS/400 user profile operations are applied to Essbase security. You can then perform most routine Essbase user security changes from OS/400 security interfaces or from Warehouse Manager Client. You will no longer need to add or remove users or change group memberships using the Essbase security interfaces. However, you will still use Essbase security interfaces to establish which applications and databases a group can access.

If you choose *not* to use the integrated security feature, no action is required. By default, Essbase runs with its security system independent of OS/400 security.

Note: Whether or not integrated security is enabled, access to DB2 iSeries for data loading and dimension building requires OS/400 authorization information to be entered.

Setting Up Essbase Integrated Security

To set up Essbase integrated security, you should be familiar with basic Essbase and OS/400 security, including OS/400's group profile support. This includes experience creating Essbase users and groups and OS/400 profiles using Warehouse Manager Client. See Warehouse Manager documentation for information on creating iSeries profiles using Warehouse Manager Client. You also should be familiar with editing the Essbase configuration file.

For detailed information regarding basic Essbase and OS/400 security, see the *Oracle Essbase Analytic Services Database Administrator's Guide* and the IBM security documentation. For more information regarding Warehouse Manager Client, see the Warehouse Manager Client online Help.

Essbase requires actual Essbase user IDs to be defined for many operations. For example, locks on objects such as outlines, rule files, or calculation scripts must be associated with an Essbase user ID. For this reason, the integrated security feature automatically creates and deletes Essbase user IDs in response to OS/400 user profile creations, deletions, and other operations.

To implement integrated security

Step 1. Start the Essbase Analytic Server.

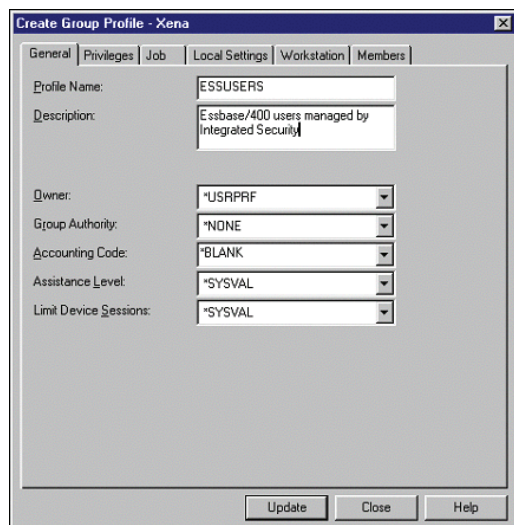
Decide which OS/400 user profiles should have access to Essbase. You can give *all* valid OS/400 user profiles (both existing profiles and those created in the future) access to Essbase, or you can give a *subset* of OS/400 users access to Essbase. Regardless of your choice, you are able to give non-OS/400 users access to Essbase.

To give *all* current and future OS/400 users access to Essbase, skip to step 6. To give only a *subset* of OS/400 users access to Essbase, continue with step 2.

Step 2. Create an OS/400 group. To add a group user profile, follow these steps:

1. Open Warehouse Manager Client.
2. In the Explorer, connect to the iSeries on which you want to create the profile.
3. From the Manage menu, choose Profile, and then choose Create Group. The Create Group Profile dialog box displays.
4. Enter a name and description for the profile. The name for the group profile can be anything. In this guide, we will assume you are using the name `ESSUSERS`.

Figure 5-1
Warehouse Manager Create Group Profile dialog box



5. Define any other settings on the other tabs. When setting up integrated security, you can accept the defaults displayed on these tabs. No special authorities are required.
6. Click Update to update the iSeries and refresh the profiles list in Explorer; then click Close.

You have created a group user profile (ESSUSERS) that identifies OS/400 users with access to Essbase. Next, you will update the Essbase configuration file to indicate that the members of this group have Essbase access. You will need to create a corresponding Essbase group later.

Step 3. Without stopping the server, type the following line in the Essbase configuration file, located at `<esslib>/Hyperion/products/Essbase11/EssbaseServer/bin/essbase.cfg`. (For information about editing the configuration file, see the Oracle Essbase documentation.)

```
OS400USERSGROUP ESSUSERS
```

where ESSUSERS refers to the name of the OS/400 group you just created.

Step 4. You can now add OS/400 users to your new group, ESSUSERS. Each OS/400 user profile can be associated with one *primary* group user profile and several *supplemental* group user profiles. By establishing ESSUSERS as either the primary or supplemental group for an OS/400 user, you indicate that the user has access to Essbase.

Note: ESSUSERS can be either the primary *or* supplemental group for any of your users. For example, it could be the primary group for Joe and the supplemental group for Bob.

Step 5. Use Warehouse Manager Client to add users to the ESSUSERS group. How you do this depends on whether ESSUSERS is a primary or supplemental user group.

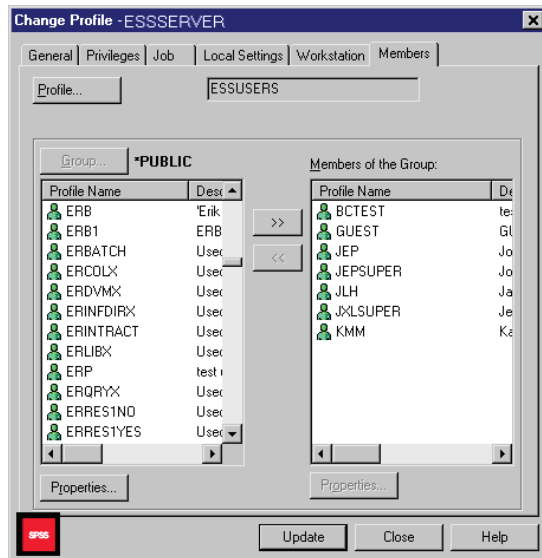
To make ESSUSERS the primary group for users (those who *do not* already have a primary group):

1. Find ESSUSERS in the Explorer view. Right-click and choose Change.

- The Change Profile dialog box displays. Click the Members tab and add all necessary members, as in the following figure.

Figure 5-2

Warehouse Manager Change Profile dialog box, Members tab



- When finished, click Update.

To make `ESSUSERS` a supplemental group for users (those who *do* have a primary group), you must add the users individually using the Change Profile dialog box:

- Find the user in the Explorer view. Right-click and choose Change.
- The Change Profile dialog box displays. Click the Group tab.
- From the list of all groups, choose `ESSUSERS`, and then click the double-arrow button to add the group to the user's list of current supplemental groups.
- Click Update. Repeat this for as many users as necessary.

Step 6. If you have completed steps 2–5, skip to step 7.

You have chosen to allow all valid OS/400 users access to Essbase.

To provide all valid OS/400 users access to Essbase, *without* stopping the server, add the following line to the Essbase configuration file (for information about editing the configuration file, see the Oracle Essbase documentation).

```
OS400UsersGroup *ALL ESSUSERS
```

where `ESSUSERS` is the group name for all users who have access to Essbase.

Note: Be sure to choose a group name *not* currently in use by Essbase.

Step 7. At this point, you have specified the OS/400 users who have access to Essbase (either all, or a subset of all). Now, using the Essbase Administration Services Console, create the Essbase group (which was specified in the configuration file in step 3 or 6) using the steps below. *Note:*

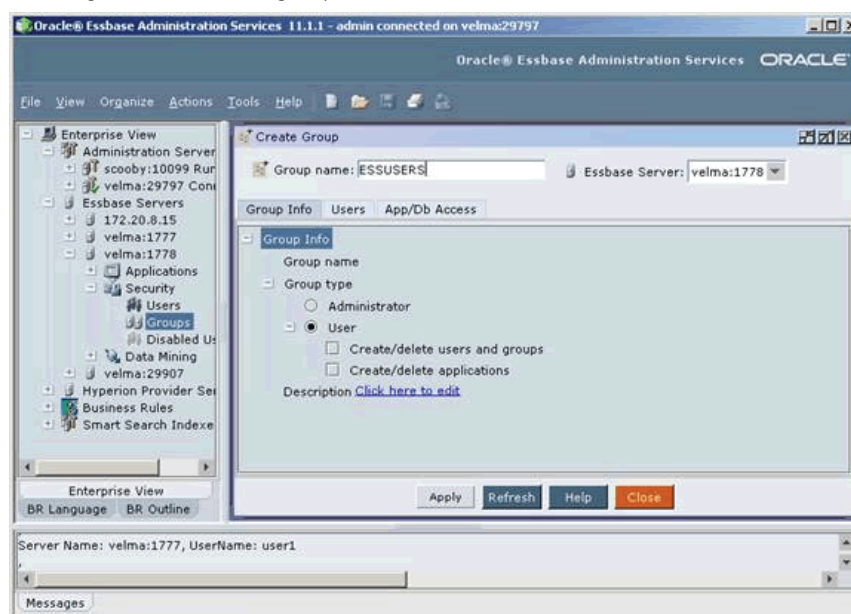
If Essbase is in Shared Services security mode, you need to use the Shared Services Console instead of the Administration Services Console”.

1. Open the Administration Services Console on your PC. Connect to the Analytic Server.

Note: If you cannot connect, verify that the Analytic Server is running.

2. Expand the Analytic server and the Security node. Right-click on Groups and select Create Group.
3. Create an Essbase group that matches the group name specified in the OS400UsersGroup configuration file entry (in this case, ESSUSERS). Specify the group type as User.

Figure 5-3
Creating a new Essbase group in Administration Console



4. Click OK. The new Essbase group is added.

Note: Implementing integrated security shifts user management to OS/400 and Warehouse Manager Client. As a result, you will no longer add users to Essbase using Administration (or Shared) Services Console. You should only create the Essbase group; after that, any user maintenance (for example, adding or deleting users) should be done through OS/400.

Step 8. Stop and restart the Essbase Analytic Server. Integrated security is now in effect.

Step 9. In the Administration Services Console, right-click your Analytic Server and select View log. Scroll to the bottom of the log to ensure there are no errors related to integrated security. If you restarted the server before completing the necessary steps (such as creating the OS/400 or Essbase groups), you may see some error messages. All necessary groups must be created before stopping the server.

Now, as users log on to Essbase, it will verify that the user ID is an eligible integrated security OS/400 user and will validate the password against the OS/400 user password. If the OS/400 user is deleted, the Essbase user is automatically deleted. If the OS/400 user is disabled, the Essbase

user is disabled. Likewise, if the OS/400 password expires, the Essbase password expires. In addition, the OS/400 user profile description is reflected in the Essbase user description.

At this point, all integrated security users can access only the Essbase applications and databases to which the `ESSUSERS` group has access. For instructions on controlling which OS/400 users have access to which applications and databases, see the following section (“Setting Up Group-Level Control”).

Note: If all Essbase users will have the same level of access, you may choose to modify the rights of the `ESSUSERS` group so that as each integrated security user is added automatically to Essbase, the appropriate rights are granted through the `ESSUSERS` group. See the *Oracle Essbase Analytic Services Database Administrator's Guide* for more information. If you want to have different levels of access for different groups, do not give `ESSUSERS` any additional access; instead, continue with the following section.

Setting Up Group-Level Control

Integrated security provides even more control by enabling you to assign group-level access to applications and databases. For example, members of the Sales group can see the Sales database, while members of the Human Resources group can see the Human Resources database.

Note: To implement group-level security, you must define an `OS400USERSGROUP` in the Essbase configuration file (such as `ESSUSERS`). If you have not done that, see “Setting Up Essbase Integrated Security” on p. 44.

You may already have OS/400 group profiles established for different departments or roles in your company. For example, you may have different OS/400 group profiles for access to sales data, accounting information, or HR data. If these group profiles provide an appropriate method of defining access to Essbase applications, you can modify integrated security so that as users are added or removed from the OS/400 groups, access to Essbase applications and databases are adjusted accordingly. If you already have these groups defined, skip the Step 1. Remember that members of these OS/400 groups must also be members of OS/400 group `ESSUSERS` (or the equivalent) to participate in Essbase integrated security.

Step 1: Define OS/400 Groups

Using Warehouse Manager Client, create OS/400 groups for your Essbase application and database security requirements. The group profile name can be anything. In this guide, we will assume you are using the name `ESSUSERS`. To add a group:

1. Open Warehouse Manager Client.
2. In the Explorer, connect to the iSeries system on which you want to create the profile.
3. From the Manage menu, choose Profile, and then choose Create Group. The Create Group Profile dialog box displays.
4. Enter a profile name and description. The name for the group profile is your choice. In this section, we will assume you are creating two new groups, Sales and HR.

5. Define any other settings on the General through Workstation tabs. These settings do not affect Essbase usage rights. Generally, you can accept the defaults.
6. Click Update to refresh the profiles list in Explorer. Then click Close.
7. Repeat the previous steps for each group you want to create.
8. You can add users to these groups now or later. For users who do not have a primary group, find `ESSUSERS` in the Explorer view. Right-click and choose Change. The Create Group Profile dialog box displays. Click the Members tab and add all the necessary members. When you are finished, click Update. Remember that members in these groups must also be members of `ESSUSERS` or the equivalent.

Step 2: Create Essbase Groups

At this point, you have created group profiles (Sales and HR) identifying users who can access the Sales and HR applications and databases. You will now create these groups in Essbase:

1. Open Administration Services Console on your PC and connect to the Essbase Analytic Server.

Note: If you cannot connect to the Analytic Server, verify that it is running.

2. Expand the Analytic server and the Security node. Right-click on Groups and select Create Group.
3. Create an Essbase group that matches the group name you just created in Warehouse Manager (in this case, `Sales`). Specify the group type as User.
4. Click OK. The new Essbase group is added.
5. Repeat these steps to create the HR group.

Step 3: Specify Application and Database Access

Adjust the application and database access as needed for each group. For example, the Sales group should have access to the Sales database and the HR group should have access to the HR database.

1. In the Administration Services Console, right-click on the Security node, and select Display groups table.
2. Select a group and click Edit. This opens the Group Properties dialog box.
3. From the Group Info tab, on the Group Type node, select User.
4. To specify the group's application access, select the App/Db Access tab.
5. Choose an application and right-click to grant access to the group.
6. Expand the application to set access for databases.
7. When you are finished, click Apply and close the dialog box.
8. Repeat these steps for each group for which you want to set access.

Step 4: Add Entries to ESSBASE.CFG

Add entries to the Essbase configuration file that tell Essbase which groups are participating in integrated security. Without stopping the server, add one line, as shown below, to the Essbase configuration file for each group you have defined (for information about editing the configuration file, see the Oracle Essbase documentation).

```
OS400COMMONGROUP GROUPNAME
```

where `GROUPNAME` refers to the Essbase group name you just created (for example, `Sales` or `HR`).

Step 5: Stop and Restart the Essbase Analytic Server

For instructions, see Chapter 2.

Step 6: View Messages

In the Administration Services Console, right-click your Analytic Server and select View log. Scroll to the bottom of the log to ensure there are no errors related to integrated security. If you restarted the server before completing the necessary steps (such as creating the OS/400 or Essbase groups), you may see some error messages. All necessary groups must be created before stopping the server.

You have completed the setup for integrated security.

For users who are members of the `OS400USERSGROUP` (that is, `ESSUSERS`), membership in the “common” Essbase groups (for example, `Sales` and `HR`) is dynamically synchronized with the current membership status in the corresponding OS/400 common group.

Automatic creation of an Essbase user occurs when the user first logs on to Essbase. Automatic deletion of users (if required) and synchronization of group memberships occurs at every logon, at Essbase startup, and when the Security dialog box in the Administration Services Console is opened.

Automatically Deleting Essbase Users

Essbase users are deleted automatically in two ways:

- If you specified only a group name (for example, `ESSUSERS`) in the `OS400UsersGroup` configuration entry (that is, you did not specify `*ALL`), then any user in the Essbase group specified on the configuration entry who is not a member of the OS/400 group is automatically deleted from Essbase. This ensures that when an OS/400 user is deleted, the Essbase user is also deleted.
- If you have specified `*ALL` on the `OS400UsersGroup` entry, automatic deletion will occur when the OS/400 user profile is deleted.

What about Passwords?

Passwords for Essbase user IDs created by the integrated security feature must be changed by changing the OS/400 password using either the CHGPWD or CHGUSRPRF command. Some Essbase for IBM i client programs (including Administration Services Console and Spreadsheet Add-ins) will allow the end user to change a password at Essbase logon time if the password has expired. For an integrated security user, this will change the OS/400 password as well.

Note: Changing a password using the Administration Services Console security node or using ESSCMD will not affect the OS/400 password.

Essbase normally requires passwords to be at least six characters long. OS/400 allows a wide variety of password rules to be optionally enforced and even allows a user exit for password screening. When using the integrated security feature, the normal Essbase requirement of six-character passwords is no longer enforced. This allows existing OS/400 users with shorter passwords to use Essbase without needing a new password. Any rules or exits defined under OS/400 will also apply to integrated security users when they attempt to change an expired password using an Essbase interface.

Essbase for IBM i adheres to the rules defined by the OS/400 system value QPWLVL. When using Integrated Security, the password adheres to the rules defined by the OS/400 system value. For more details, see your IBM documentation. For non-Integrated Security users, refer to the Oracle documentation for password policies and restrictions.

Renaming Users and Groups

When integrated security is enabled, the special-purpose groups specified in the Essbase configuration file entries for OS400UsersGroup and OS400CommonGroup cannot be renamed. In addition, Essbase integrated users cannot be renamed. These restrictions prevent inconsistencies in the integrated security configuration.

Backing Up EPM 11.1.1 for IBM i

For instructions on backing up EPM System components, see the *Oracle EPM Backup and Recovery Guide* at http://download.oracle.com/docs/cd/E12825_01/epm.111/epm_backup_recovery_11111.pdf. The Oracle guide contains the following chapters with detailed information and procedures about backing up EPM components:

- Chapter 1, “About Backup and Recovery”
- Chapter 2, “Common Backup Tasks”
- Chapter 3, “Foundation Services,” including Shared Services and SmartView
- Chapter 4, “Essbase Components,” including Essbase, Integration Services, and Provider Services

The sections below provide additional information about backing up EPM components.

Essbase Analytics Security File

Backing Up the Security File

Each time you successfully start Essbase Server, two backup copies of the security file are created—*essbase.bak* and *essbase.bak_startup*.

The *essbase.bak_startup* file is updated only at Essbase Server startup. You cannot update it any other time, but Essbase updates the *essbase.bak* security backup file if it does not match the *essbase.sec* security file. By default, Essbase compares the security backup file to the security file at specified intervals instead of only when Essbase Server starts.

In the event that the *essbase.bak* file is destroyed or lost, you can restore the security file using the *essbase.bak_startup* file by copying *essbase.bak_startup* to the security file (*essbase.sec*).

Important! If Essbase stops running unexpectedly for any reason, such as a freeze or crash, or as the result of terminating a process, do not restart Essbase Server until you copy the backup file (*essbase.bak*) to the security file (*essbase.sec*). If you do not perform the copy first, when Essbase Server starts, Essbase notes that *essbase.sec* is corrupt, creates an empty security file, and copies it to *essbase.bak*, thus destroying the backup of your security information. For more details, please visit Oracle's Essbase Hyperion documentation at http://download.oracle.com/docs/cd/E12825_01/epm.111/esb_dbag/frameset.htm?dsemain.htm#dsemain1094789.

Updating the Security Backup File

The backup procedure for Essbase security information depends on whether Essbase Server is in native security mode or Essbase is in Shared Services security mode.

Related commands through MaxL: `alter system sync security_backup;`

To manually update the security backup file:

1. From Enterprise View or a custom view, select the Security node under the appropriate Essbase Server.
2. Right-click and choose Update security backup file for <EssbaseServerName>.
3. At the confirmation prompt, click Yes.

Essbase compares the security backup file (*essbase.bak*) with the security file (*essbase.sec*) and updates the backup file if necessary.

To specify how often Essbase checks for differences between the security file and the security backup file (updating the security backup file, if needed):

1. From Enterprise View or a custom view, select the Essbase Server.
2. Right-click and choose Edit Properties from the pop-up menu.
3. In the Essbase Server Properties window, select the Security tab.
4. Expand the Auto logoff node.

5. For the Check every option, specify how often Essbase should compare the security file with the security backup file, in minutes. *Note:* This setting also controls how often user inactivity is checked.
6. Click Apply.

Shared Services

Shared Services backups must be synchronized with product backups to preserve provisioning data. For additional provisioning information, see the *Oracle Hyperion Enterprise Performance Management System Security Administration Guide* at http://download.oracle.com/docs/cd/E12825_01/epm.111/epm_security_11111.pdf.

Backing Up and Restoring the Relational Database

Using RDBMS tools, perform a full backup of the Shared Services relational database, which contains the Oracle's Hyperion Shared Services Registry. Perform this backup at the same time as the Native Directory database backup. See "Database Backup" on page 11 in the *Oracle EPM Backup and Recovery Guide* at http://download.oracle.com/docs/cd/E12825_01/epm.111/epm_backup_recovery_11111.pdf for recommended backup types and frequencies.

Backing Up the Database Schema

Execute the following commands to back up the database schema:

```
CRTLIB YourLIB  
CRTSAVF FILE(YourLIB/ESSDB)  
SAVLIB LIB(ESSDB) DEV(*SAVF) SAVF(YourLIB/ESSDB)
```

Where `YourLIB` is any library and `ESSDB` is the database schema.

Restoring the Database Schema

Execute the following command to restore the database schema:

```
RSTLIB SAVLIB(ESSDB) DEV(*SAVF) SAVF(YourLIB/ESSDB)
```

Note: While restoring, the database name should be the same as the original database name.

Backing Up and Restoring File System Components

To back up the Shared Services and OpenLDAP file system components, please follow the instructions in the "Shared Services" section of Chapter 3 in the *Oracle EPM Backup and Recovery Guide* at http://download.oracle.com/docs/cd/E12825_01/epm.111/epm_backup_recovery_11111.pdf.

Essbase

Regular Essbase backups, which should be integrated into production server maintenance, are key to database maintenance. Backup frequency should be determined by the volatility of the database and server environment and the need for rapid database restoration (should a server interruption occur).

Restore refers to the process of returning a database to the state it was in when a backup was performed. For block storage databases, you can use the automated Essbase backup and restore feature or using manual procedures. For aggregate storage databases, you must use manual backup and restore features.

Recover refers to the process of returning a database to a post-backup state that includes transactions that occurred after the backup was performed. To recover a database, you must use the automated backup and restore and the automated transaction logging and replay features.

For detailed instructions about backing up Essbase, see Chapter 4, “Essbase Components” in the *Oracle EPM Backup and Recovery Guide* at http://download.oracle.com/docs/cd/E12825_01/epm.111/epm_backup_recovery_11111.pdf.

Integration Services

To back up Integration Services:

1. Perform a complete backup of the Oracle Essbase Integration Services catalog repository.
2. *Optional:* Export all models and metaoutlines into XML files.
3. Create and save a list of all source Open Database Connectivity (ODBC) Data Source Names (DSNs) that were set up.
4. Keep a current copy of installed software, along with all property files such as *ais.cfg*.

To recover Integration Services:

- ▶ If Integration Services installation files are lost because of hardware failure, you must reinstall Integration Services.
- ▶ If the database containing the catalog is corrupted, you must restore it and then create an ODBC DSN to the catalog and use it to retrieve models and metaoutlines.
- ▶ If the backup catalog database is also corrupted, then, from Oracle Essbase Integration Services Console, create an empty catalog and import each model and metaoutline using XML files.

Provider Services

Back up these files and folders:

- `<esslib>/Hyperion/products/Essbase/aps/bin/datasources.xml` file—Contains all data source connection information for the various providers.

- *<esslib>/Hyperion/products/Essbase/aps/data* folder—Contains all Smart Slice definitions managed centrally by Oracle Hyperion Provider Services. Back up the entire folder, including subfolders.
- *APS_HOME/bin/essbase.properties* file

See Chapter 2, “Common Backup Tasks” in the *Oracle EPM Backup and Recovery Guide* at http://download.oracle.com/docs/cd/E12825_01/epm.111/epm_backup_recovery_11111.pdf for more information.

You can restore the backed up files and folders by returning them to their original locations.

Commands

Overview

This appendix lists the iSeries and Essbase for IBM i commands needed to maintain the software.

iSeries Commands

The following table lists the common iSeries commands for maintaining server libraries.

Table A-1
Common iSeries commands

Command	Description	Usage
ADDLIBLE	Add a library to your library list.	To add a Warehouse Manager Server or Essbase Server library to the library list when you need to run a server command from the iSeries command line.
CFGTCP	Configure TCP/IP.	To configure iSeries TCP/IP.
DSPPTF	Display PTFs.	To find the latest PTFs installed on your system.
DSPSYSVAL	Find system information.	To find system information, such as model and serial number. For example, to find the model number, enter <code>DSPSYSVAL SYSVAL (QMODEL)</code> ; to find the serial number, use <code>QSRLNBR</code> for the system value.
DSPUSRPRF	Display user profile.	To display a user's profile.
EDTF	Edit file.	To display or edit iSeries files.
WRKACTJOB	View active jobs.	To see if the Warehouse Manager Server or Essbase servers are running or to view active jobs.
WRKOBJLCK	Check for active jobs against a Warehouse Manager library.	To check for iSeries jobs that may be active against a Warehouse Manager Server or Essbase Server library; in particular, to check for TCP/IP jobs. Useful when installing over the top of an existing Warehouse Manager library or debugging system-related problems (for example, when TCP/IP connections fail).
WRKSRVTBLE	View port numbers already in use.	To find an available port number when configuring TCP/IP.

Essbase for IBM i Commands

The following table lists commands for maintaining an Essbase for IBM i library.

Note: Before using the following commands, add your Essbase library to your iSeries library list and make sure you have only one Essbase library in your library list. Run the command `ADDLIBLE ESSBASE`, where `ESSBASE` is the name of the Essbase library with which you want to work.

Table A-2
Essbase for IBM i commands

Command	Description	Usage
ESSMSH	Start MaxL/400 or run MaxL statements.	To start the MaxL/400 shell or to run MaxL statements from a script.
OLAPICMD	Access the Essbase Integration Server from an OS/400 session.	To allow users access to the Essbase Integration Server from an OS/400 session.
RUNMAXLSTM	Run MaxL statements with return codes.	To run MaxL statements and receive return codes (completion status) that you can use in another program.
STRESSCMD	Start the ESSCMD command processor.	To run any Essbase command or to run scripts.

Essbase for IBM i Configuration File Settings

The following table lists configuration file settings for tasks such as implementing integrated security and specifying how many days of log records to preserve. These keywords are added to the Essbase for IBM i configuration file, located at *<esslib>/Hyperion/products/Essbase11/EssbaseServer/bin/essbase.cfg*.

Table A-3
Essbase for IBM i configuration file settings

Setting	Description	Usage
OS400AutoDelete	Enable automatic deletion of Essbase users.	When setting up integrated security, this setting automatically deletes all users in the auto-delete group each time the Analytic Server is started.
OS400CommonGroup	Assign OS/400 user profiles to Essbase groups.	When setting up integrated security, as OS/400 users are added or removed from OS/400 groups, they are automatically added or removed from the corresponding Essbase group.
OS400UsersGroup	Enable all OS/400 users or a subset of OS/400 users to access Essbase.	When setting up integrated security, this setting provides Essbase access to all users or to a specified group of users.

Log Files

Overview

This appendix describes log files for the installation, configuration, and applications. The appendix contains these sections:

- “Installation Log Files” on p. 59.
- “Configuration Log Files” on p. 63.
- “Application Log Files” on p. 67.
- “Setting Log Levels” on p. 68.

Log files for most EPM System products are created in `<esslib>/Hyperion/logs/<product>`. For example, Shared Services logs are created in `<esslib>/Hyperion/logs/SharedServices9`. Some products may write log files to both common and other folders. For more information about log files, see the *Oracle Hyperion Enterprise Performance Management System Installation and Configuration Troubleshooting Guide* at http://download.oracle.com/docs/cd/E12825_01/epm.111/epm_install_troubleshooting_11111.pdf.

Installation Log Files

Shared Services

- ▶ **File:** `<esslib>/Hyperion/logs/install/hss-install.log`

This file logs the status messages of copying all Shared Services files and folders to the installation location.

Start installation: The following message indicates that the installation of HSS started: Start sharedServices. ASCII file `<esslib>/Hyperion/products/Foundation/AppServer/InstallableApps/common/CMS.properties` does not exist and will be created.

Stop installation: The following message indicates that the installation of HSS completed successfully: Writing product audit XML for foundation: 9.5.0.0.

Exceptions/errors: The log file may contain these exceptions that can be ignored:

- `java.io.IOException: entry 89c2bdc7a7a66e9008e1837d2b49c28e/writeProductInfo_defaultConfig does not exist in <HIT_INSTALLER>/assemblies/sharedServices/9.5.0.0/assembly.dat.`
- `java.io.IOException: entry 89c2bdc7a7a66e9008e1837d2b49c28e/writeProductInfo_dependencyFile does not exist in <HIT_INSTALLER>/assemblies/sharedServices/9.5.0.0/assembly.dat.`

If any other exception or error is present, then the installation may have not completed successfully.

Administration Services

- ▶ **File:** `<esslib>/Hyperion/logs/install/eas-install.log`

This file logs the status messages of copying all EAS files and folders to the installation location.

Start installation: The following message indicates that the installation of EAS started: Start `essbase_administration_services_webapp`. Start installing `easMigrationFiles`. Unzipping files for `outputDir: <esslib>/Hyperion/products/Essbase11/eas/server/migrationutility`.

Ignore messages: Ignore messages starting with `Can not find feature with id=...`

Stop installation: The following message indicates that the installation of EAS completed successfully: Copying upgrade scripts to the `<esslib>/Hyperion/upgrades/eas`. Stop `analytic_services_provider_webapp`. Writing product audit XML for `eas: 9.5.0.0`.

Exceptions/errors: The log file should not contain any exceptions or errors. If any exceptions or errors are present, then the installation may have not completed successfully.

Integration Services

- ▶ **File:** `<esslib>/Hyperion/logs/install/eis-install.log`

This file logs the status messages of copying all EIS files and folders to the installation location.

Start installation: The following message indicates that the installation of EIS started: Start `essbase_integration_services`. Directory `<esslib>/Hyperion/products/Essbase11/eis/server/eis_readme_files` does not exist.

Ignore messages: Ignore messages starting with `Can not find feature with id=...`

Stop installation: The following message indicates that the installation of EIS completed successfully: Writing product audit XML for `eis: 9.5.0.0`.

Exceptions/errors: The log file may contain these exceptions that can be ignored:

- `Install, com.installshield.wizardx.actions.ExecWizardAction, err, java.lang.NullPointerException`
`STACK_TRACE: 10`
- `java.lang.NullPointerException`
at `java.lang.Throwable.<init>(Throwable.java:181)`
at `java.lang.Exception.<init>(Exception.java:29)`
at `java.lang.RuntimeException.<init>(RuntimeException.java:32)`
at `java.lang.NullPointerException.<init>(NullPointerException.java:36)`
at `com.installshield.util.ProcessExec.executeProcess(Unknown Source)`
at `com.installshield.wizardx.actions.ExecWizardAction.executeProcess(Unknown Source)`
at `com.installshield.wizardx.actions.ExecWizardAction.run(Unknown Source)`
at `java.lang.Thread.run(Thread.java:595)`

If any other exception or error is present, then the installation may have not completed successfully.

Analytic Services

- ▶ **File:** `<esslib>/Hyperion/logs/install/essbaseserver-install.log`
This file logs the status messages of copying all EssbaseServer files and folders to the installation location.
Start installation: The following message indicates that the installation of Essbase Server started:
Start essbase_services. Start installing bid_essbaseApi_common. Unzipping files for outputDir:
`<esslib>/Hyperion/products/Essbase11/EssbaseServer/docs.`
Ignore messages:
 - Ignore messages starting with Can not find feature with id=....
 - bid_essbaseApi_common skipped: no files to unzip.**Stop installation:** The following message indicates that the installation of Essbase Server completed successfully: Writing product audit XML for EssbaseServer: 9.5.0.0.
Exceptions/errors: The log file should not contain any exceptions or errors. If any exceptions or errors are present, then the installation may have not completed successfully.

- ▶ **File:** `<esslib>/Hyperion/logs/install/essbaseadditional-install.log`
This file logs the status messages of copying all additional files and folders for Essbase Additional to the installation location.
Start installation: The following message indicates that the installation of Essbase Additional started: Running ActivateProductFeatures... Start essbaseAddins.
Stop installation: The following message indicates that the installation of Essbase Additional completed successfully: Stop essbaseAddins.
Exceptions/errors: The log file should not contain any exceptions or errors. If any exceptions or errors are present, then the installation may have not completed successfully.

- ▶ **File:** `<esslib>/Hyperion/logs/install/essbaseclient-install.log`
This file logs the status messages of copying all Essbase Client files and folders to the installation location.
Start installation: The following message indicates that the installation of Essbase Client started:
Start essbase_client. Trying to init MappingTreeHelper with `<esslib>/Hyperion.`
Ignore messages: Ignore messages starting with Can not find feature with id=...
Stop installation: The following message indicates that the installation of Essbase Client completed successfully: Writing product audit XML for essbase: 9.5.0.0.
Exceptions/errors: The log file should not contain any exceptions or errors. If any exceptions or errors are present, then the installation may have not completed successfully.

Provider Services

- ▶ **File:** `<esslib>/Hyperion/logs/install/aps-install.log`
This file logs the status messages of copying all APS files and folders to the installation location.

Start installation: The following message indicates that the installation of APS started: Start analytic_services_provider_webapp. Start installing bid_APSbinFiles8. Unzipping files for outputDir: /<esslib>/Hyperion/products/Essbase11/aps/bin.

Stop installation: The following message indicates that the installation of APS completed successfully: Copying upgrade scripts to the /<esslib>/Hyperion/upgrades/aps. Stop analytic_services_provider_webapp. Writing product audit XML for aps: 9.5.0.0.

Exceptions/errors: The log file should not contain any exceptions or errors. If any exceptions or errors are present, then the installation may have not completed successfully.

Common Components

- ▶ **File:** /<esslib>/Hyperion/logs/install/common-install.log
This file logs the status messages of copying all products related documents/help files and folders to the installation location.

Start installation: The following message indicates that the installation of Common Components started: Start commonComponents. Start installing ant1_6_0RuntimeFiles. Unzipping files for outputDir: /<esslib>/Hyperion/common/utilities/Ant/1.6.0.

Ignore messages:

- Those starting with Can not find feature with id= ...
- Skipped: No files to unzip.

Stop installation: The following message indicates that the installation of Common Components completed successfully: Finish installing epmstageFiles1. Stop commonComponents.

Exceptions/errors: The log file should not contain any exceptions or errors. If any exceptions or errors are present, then the installation may have not completed successfully.

- ▶ **File:** /<esslib>/Hyperion/logs/install/common-product-install.log
This file logs the status messages of copying all common components for products such as OpenLDAP and so on to the installation location.

Start installation: The following message indicates that the installation of Common Product started: Start essbaseProductCommonComponents. Unzipping files for outputDir: /<esslib>/Hyperion/common/CLS/9.5.0.0.

Ignore messages: Skipped: no files to unzip.

Stop installation: The following message indicates that the installation of Common Product completed successfully: Stop productCommonComponents. Writing product audit XML for foundation: 9.5.0.0.

Exceptions/errors: The log file should not contain any exceptions or errors. If any exceptions or errors are present, then the installation may have not completed successfully.

- ▶ **File:** /<esslib>/Hyperion/logs/install/common-essbase-product-install.log
This file logs copies documents/help files to the installation location.

Start installation: The following message indicates that the installation of Common Essbase Product started: Start essbaseProductCommonComponents. Start installing essbaseJavaApiFiles. Unzipping files for outputDir: /<esslib>/Hyperion/common/EssbaseJavaAPI/9.5.0.0.

Ignore messages: Skipped: no files to unzip.

Stop installation: The following message indicates that the installation of Common Essbase Product completed successfully: Finish installing EssbaseRtcAixFiles3. Stop essbaseProductCommonComponents.

Exceptions/errors: The log file should not contain any exceptions or errors. If any exceptions or errors are present, then the installation may have not completed successfully.

Tools Log Files

- ▶ **File:** /<esslib>/Hyperion/logs/install/tools-install.log
This file logs the status messages of copying all third-party component files and folders such as JDBC, JAXP, and JAXM the installation location.

Start installation: The following message indicates that the installation of Tools started: Start installing configToolFiles. Unzipping files for outputDir: /<esslib>/Hyperion/common/config/9.5.0.0.

Stop installation: The following message indicates that the installation of Tools completed successfully: Stop tools. Writing product audit XML for foundation: 9.5.0.0.

Exceptions/errors: The log file should not contain any exceptions or errors. If any exceptions or errors are present, then the installation may have not completed successfully.

Other Log Files

- ▶ **File:** /<esslib>/Hyperion/logs/install/installTool-install-stderr.log

Logs error messages thrown during installation.

Ignore messages: java.io.FileNotFoundException: No such path or directory. /QIBM/InstallTool.properties.

- ▶ **File:** /<esslib>/Hyperion/logs/install/installTool-install-stdout.log

Logs installation status of all the components.

The log file should not contain any exceptions or errors. If any exceptions or errors are present, then the installation may have not completed successfully.

Configuration Log Files

- ▶ **File:** /<esslib>/Hyperion/logs/config/configtool.log

This file logs the configuration status messages for all of the components.

Shared Services

HSS configuration includes configuration of the database, common setting, and application deployment.

- ▶ **File:** `<esslib>/Hyperion/logs/config/configtool.log`
This file logs the configuration status messages for all of the components.

Database

Start configuration: The following messages indicate that Shared Services database configuration started: JDBC driver class is com.ibm.db2.jdbc.app.DB2Driver [If iSeriesDB2 is selected]. Connection URL: jdbc:db2:*LOCAL/\$SchemaName. validate CREATE_NEW, no registry DB exists, create it. validate CREATE_NEW, no registry DB exists, done with create [i.e created tables for new installation]

Ignore messages:

- Ignore messages starting with Product hmb not selected
- DB component doesn't exist for product

Stop configuration: The following message indicates that Shared Services database configuration completed successfully: Successfully created registry. Committing registry settings to Foundation xml...

Exceptions/errors: The log file may contain these exceptions that can be ignored: Query has failed, at least one of the two 9.5 tables SMA_APPLICATION_CONFIG_MAP and SMA_GLOBAL_SETTING does not exist.

If any other exception or error is present, then Shared Services database configuration may have not completed successfully.

Common Setting

Start configuration: The following message indicates that common setting configuration started: Enable SSL:<Value entered by user> [True or false]

Stop configuration: The following message indicates that common setting configuration completed successfully: Value of "enable_windows_services" property: false

Exceptions/errors: If any exception or error is present, then common setting configuration may have not completed successfully.

Application Deployment

Start configuration: The following messages indicate that Shared Services deployment configuration started: Websphere6: Creating server... Deployment dir: `<esslib>/Hyperion/deployments/WebSphere6` Websphere6: Server created. Installation of interop started.

Ignore messages: Not Setting JVM args for server: Foundation

Stop configuration: The following message indicates that Shared Services deployment completed successfully: Application interop installed successfully. Websphere6: deploying archive file done. Executing: `sh <esslib>/Hyperion/deployments/WebSphere6/bin/start$HSSServerName SharedServices9 server is up.`

Exceptions/errors: If any exception or error is present, then Shared Services application deployment may have not completed successfully.

Administration Services

EAS configuration includes configuration of database, registration with Shared Services, and application deployment.

- **File:** `/<esslib>/Hyperion/logs/config/configtool.log`
This file logs the configuration status messages for all of the components.

Database

Start configuration: The following messages indicate that registration of EAS with Shared Services started: Authenticate admin user to CSS. user admin authenticated. EasHubConfigurator constructed. Registering the application, *LOCAL.

Stop configuration: The following messages indicate that registration of EAS with Shared Services completed successfully: Successfully registered the application, *LOCAL.

Exceptions/errors: If any exception or error is present, then registration of EAS with Shared Services may have not completed successfully.

Registration with Shared Services

Start configuration: The following messages indicate that registration of EAS with Shared Services started: Authenticate admin user to CSS user admin authenticated EasHubConfigurator constructed Registering the application, *LOCAL

Stop configuration: The following messages indicate that registration of EAS with Shared Services completed successfully: Successfully registered the application, *LOCAL

Exceptions/errors: If any exception or error is present, then registration of EAS with Shared Services may have not completed successfully.

Application Deployment

Start configuration: The following messages indicate that EAS deployment configuration started: Websphere6: Creating server... Deployment dir: `/<esslib>/Hyperion/deployments/WebSphere6` Websphere6: Server created. Installation of eas started.

Stop configuration: The following message indicates that EAS deployment completed successfully: Application eas installed successfully. Websphere6: deploying archive file done. Executing: `sh /<esslib>/Hyperion/deployments/WebSphere6/bin/start$EasServerName`.

Exceptions/errors: If any exception or error is present, then EAS deployment may have not completed successfully.

Analytic Services

Essbase Analytic Services configuration includes registration with shared services and custom configuration.

- **File:** `/<esslib>/Hyperion/logs/config/configtool.log`
This file logs the configuration status messages for all of the components.

Registration with Shared Services

Shared Services must be up and running for registration.

Start configuration: The following messages indicate that registration of Essbase Services with Shared Services started: Authenticate admin user to CSS. user admin authenticated. EasHubConfigurator constructed. Loading audit info from '<esslib>/Hyperion/common/config/9.5.0.0/product/essbaseserver/9.5.0.0/essbaseserver_1_audit.xml' file.

Stop configuration: The following message indicates that registration of Essbase Services with Shared Services completed successfully: Server being config'd for HSS mode.

Exceptions/errors: If any exception or error is present, then registration of Essbase Services with Shared Services may have not completed successfully.

Custom Configuration

Start configuration: The following messages indicate that custom configuration started: Successfully processed '<esslib>/Hyperion/products/Essbase11/EssbaseServer/bin/essbase.cfg' file! Agent Port is : <Value of Essbase Port>

Ignore messages: java.io.IOException: A connection with a remote socket was reset by that socket.

Stop configuration: The following messages indicate that custom configuration completed successfully: MAXL Process ended with exitValue: 0. Exiting EssbaseAgentTaskProcessor.execute().

Exceptions/errors: If any exception or error is present, then custom configuration may have not completed successfully.

Provider Services

- ▶ **File:** '<esslib>/Hyperion/logs/config/configtool.log'
This file logs the configuration status messages for all of the components.

Registration with Shared Services

Start configuration: Shared Services must be up and running for registration. The following messages indicate that registration of APS with Shared Services started: Authenticate admin user to CSS. user admin authenticated. APS HubConfigurator constructed. Registering the product, APS-9.5.0.

Stop configuration: The following messages indicate that registration of APS with Shared Services completed successfully: Successfully registered the product. APS-9.5.0 Loading '<esslib>/Hyperion/products/Essbase11/aps/data/APS.instance' file content... Content has been loaded successfully!

Exceptions/errors: If any exception or error is present, then registration of APS with Shared Services may have not completed successfully.

Application Deployment

Start configuration: The following messages indicate that APS deployment configuration started: APS Application Server Configuration. Deployment dir: /<esslib>/Hyperion/deployments/WebSphere6 Websphere6: Server created. Installation of aps started.

Stop configuration: The following message indicates that APS deployment completed successfully: Application aps installed successfully. Websphere6: deploying archive file done. Executing: sh /<esslib>/Hyperion/deployments/WebSphere6/bin/start\$APSServerName

Exceptions/errors: If any exceptions or errors are present, then APS deployment may have not completed successfully.

Application Log Files

Shared Services

- ▶ **File:** /<esslib>/Hyperion/deployments/WebSphere6/profile/logs/SharedServices9/SystemOut.log
This file logs all messages, including start and stop sequences, of the Shared Services server.
- ▶ **File:** /<esslib>/Hyperion/deployments/WebSphere6/profile/logs/SharedServices9/stopServer.log
This log file tracks the events and messages generated during shutdown sequence of the Shared Services server.

Ignore messages: com.hyperion.eie.common.cms.CMSException: error.generalSaveModel at com.hyperion.eie.common.cms.CMSFacade.saveProductPublishedModel (Unknown Source).

- ▶ **Files:** The following log files contain application-specific messages. The level of detail depends on the log level set.

```

/<esslib>/Hyperion/logs/registry/registry.log
/<esslib>/Hyperion/logs/SharedServices9/SharedServices_Admin.log
/<esslib>/Hyperion/logs/SharedServices9/SharedServices_Audit.log
/<esslib>/Hyperion/logs/SharedServices9/SharedServices_Hub.log
/<esslib>/Hyperion/logs/SharedServices9/SharedServices_LCM.log
/<esslib>/Hyperion/logs/SharedServices9/SharedServices_Memory_Profiler.log
/<esslib>/Hyperion/logs/SharedServices9/SharedServices_Metadata.log
/<esslib>/Hyperion/logs/SharedServices9/SharedServices_Security.log
/<esslib>/Hyperion/logs/SharedServices9/SharedServices_Security_Upgrade.log
/<esslib>/Hyperion/logs/SharedServices9/SharedServices_SyncOpenLDAP.log
/<esslib>/Hyperion/logs/SharedServices9/SharedServices_Taskflow.log
/<esslib>/Hyperion/logs/SharedServices9/SharedServices_Taskflow_CMDExecute.log
/<esslib>/Hyperion/logs/SharedServices9/SharedServices_Taskflow_Optimize.log

```

Administration Services

- ▶ **File:** /<esslib>/Hyperion/deployments/WebSphere6/profile/logs/eas/SystemOut.log
This file logs all messages, including start and stop sequences, of the EAS server.
- ▶ **File:** /<esslib>/Hyperion/deployments/WebSphere6/profile/logs/eas/stopServer.log

This log file tracks the events and messages generated during the shutdown sequence of the EAS server.

- ▶ **File:** `/<esslib>/Hyperion/logs/eas/easserver.log`
This log file contains messages that are sent and received by the EAS server from the EAS client.
- ▶ **File:** `/<esslib>/Hyperion/logs/eas/hbrserver.log`
This log file contains messages specific to business rules.

Provider Services

- ▶ **File:** `/<esslib>/Hyperion/deployments/WebSphere6/profile/logs/aps/SystemOut.log`
This file logs all messages, including start and stop sequences, of the APS server.
- ▶ **File:** `/<esslib>/Hyperion/deployments/WebSphere6/profile/logs/aps/stopServer.log`
This log file tracks the events and messages generated during shutdown sequence of the APS server.

Integration Services

- ▶ **File:** `/<esslib>/Hyperion/logs/eis/olapisvr.log`

Analytic Services

- ▶ **Files:** `/<esslib>/Hyperion/logs/Essbase/ESSBASE.LOG`
`/<esslib>/Hyperion/logs/Essbase/essbase_service.log`
`/<esslib>/Hyperion/logs/Essbase/SharedServices_Security_Client.log`
`/<esslib>/Hyperion/logs/Essbase/app/$ApplicationName.log`

Other Log Files

- ▶ **Files:** `/<esslib>/Hyperion/deployments/WebSphere6/logs/execStartaps.log`
`/<esslib>/Hyperion/deployments/WebSphere6/logs/execStarteas.log`
`/<esslib>/Hyperion/deployments/WebSphere6/logs/execStartSharedServices9.log`
`/<esslib>/Hyperion/deployments/WebSphere6/profile/logs/ffdc/eas_exception.log`
`/<esslib>/Hyperion/deployments/WebSphere6/profile/logs/ffdc/server1_exception.log`
`/<esslib>/Hyperion/deployments/WebSphere6/profile/logs/ffdc/SharedServices9_exception.log`

Setting Log Levels

You can specify the kinds of messages that are written to the logs, such as DEBUG, ERROR, or WARN. A higher level of reporting, such as DEBUG, can assist in resolving issues but can also increase file size and reduce overall system performance. Consequently, Oracle recommends that you use the least verbose logging level required. Revert to the original log levels after troubleshooting is complete to avoid using too much disk space and negatively affecting performance. You can modify the files described here to configure the log-level settings for Essbase for IBM i.

EPM System Configurator

File: `<esslib>/Hyperion/common/config/9.5.0.0/log4j.properties`

Modifications required: Change value of WARN to DEBUG to log all messages.

Shared Services

File: `<esslib>/Hyperion/deployments/websphere6/sharedservices9/config/CSS.xml`

Modifications required: Change value of WARN to DEBUG (within `<priority>` tags) to log all messages.

File: `<esslib>/Hyperion/deployments/websphere6/sharedservices9/config/DBPool.properties`

Modifications required: Set the trace value to true and change traceLocation (for example, `hss.trace` and `hss.traceLocation`).

File: `<esslib>/Hyperion/deployments/websphere6/sharedservices9/config/Domain-Migration.xml`

Modifications required: Set the value of `logger-level` to 7 to log all messages. See the table below for the log-level settings.

Log level	Setting
EMERGENCY	0
CRITICAL	1
ERROR	2
WARNING	4
INFO	6
DEBUG	7

File: `<esslib>/Hyperion/deployments/websphere6/sharedservices9/config/Domain.xml`

Modifications required: Set the value of `logger-level` to 7 to log all messages. See the table below for the log-level settings.

Log level	Setting
EMERGENCY	0
CRITICAL	1
ERROR	2
WARNING	4
INFO	6
DEBUG	7

File: `<esslib>/Hyperion/deployments/websphere6/sharedservices9/config/HSSLogger.properties`

Modifications required: Change value of WARN to DEBUG to log all messages.

File: `<esslib>/Hyperion/deployments/websphere6/sharedservices9/config/log.xml`

Modifications required: Change param `name="Threshold" value="info"` to param `name="Threshold" value="debug"` (two occurrences) and `priority value="info"` to `priority value="debug"` to log all messages.

File: `<esslib>/Hyperion/deployments/websphere6/sharedservices9/config/slide.properties`

Modifications required: Change `org.apache.slide.debug` from `false` to `true` to log all messages.

File:

`/<esslib>/Hyperion/deployments/websphere6/sharedservices9/config/WorkflowEngine.properties`

Modifications required: Change `workflowEngine.ces.logPerformanceStatus=` from `FALSE` to `TRUE` to log all messages.

Administration Services

File: `/<esslib>/hyperion/products/Essbase11/eas/server/OlapAdmin.properties`

Modifications required: Change `LogLevel` from `5000` to `9999` to log everything. See the table below for the log-level settings.

Log level	Setting
EVERYTHING	9999
XML_TRACE	9000
TRACE	6000
INFO	5000
EXCEPTION	4000
WARNING	3000
ERROR	2000
NONE	0
CRITICAL	1000

File: `/<esslib>/Hyperion/products/Essbase11/eas/HBRClient.properties`

Modifications required: Change the value of `log4j.logger.com.hyperion.hbr` from `WARN` to `DEBUG` to log all messages.

File:

`/<esslib>/Hyperion/deployments/WebSphere6/profile/installedApps/hyslCell/eas.ear/easconsole.war/HBRClient.prop`

Modifications required: Change the value of `log4j.logger.com.hyperion.hbr` from `WARN` to `DEBUG` to log all messages.

Provider Services

File: `/<esslib>/Hyperion/products/Essbase11/aps/bin/essbase.properties`

Modifications required: Change the value of `system.log.level` from `WARN` to `DEBUG` and change the value of `system.log.trace.enable` from `FALSE` to `TRUE` to log all messages.

Analytic Services

File: `/<esslib>/Hyperion/products/Essbase11/EssbaseServer/bin/essbase.cfg`

Modifications required: To get detailed log information, add the following parameters to the file above.

`LOGMESSAGELEVEL INFO`

CRASHDUMP TRUE
AGENTLOGMESSAGELEVEL INFO
DISPLAYMESSAGELEVEL INFO
AGENTDISPLAYMESSAGELEVEL INFO

Troubleshooting

Overview

This appendix describes different ways of troubleshooting problems that may occur when installing, configuring, starting and stopping servers, connecting to servers, and working with Integrated Security.

For the latest release notes, see the *Essbase for IBM i ReadMe (essreadme.htm)*, located on the SPSS Technical Support Web site at <http://support.spss.com>.

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