Oracle® Enterprise Manager

Web Site Release Notes

Release 2 (9.0.2) for UNIX

April 2002

Part No. A96638-01

This document summarizes the differences between the Oracle Enterprise Manager Web site and its documented functionality.

> **See Also:** *Oracle9i Application Server Release Notes, Oracle Enterprise Manager Release Notes*

1 Issues and Workarounds for Managing Oracle9*i*AS

The following release notes apply to all the management components and their Enterprise Manager Home Pages.

1.1 Browser Requirements

The following table describes the minimum browser requirements for each supported platform. If your browser does not meet the minimum browser requirement, the Enterprise Manager displays an error message and you must update your browser version before proceeding.

Platform	Minimum Browser Version
Sun Solaris and Apple Macintosh	Netscape Navigator 4.77
	Microsoft Internet Explorer 5.0
Windows NT, Windows 98, and Windows 2000	Netscape Navigator 4.76
	Microsoft Internet Explorer 5.0 and 5.5
Windows XP	Microsoft Internet Explorer 6.0

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1.2 Cookies Must Be Enabled

When you are using the Oracle Enterprise Manager Web Site, you must have cookies enabled for your Web browser. For more information, see the online help for your browser.

1.3 Using Secure Connections

Oracle strongly recommends that you use the Secure Socket Layer (SSL) protocol and HTTPS for all connections to the Oracle Enterprise Manager Web Site in your production environment. For complete instructions about configuring the Oracle Enterprise Manager Web Site for SSL, see the *Oracle9iAS Administrator's Guide*.

1.4 Illegal Argument Error Caused by Wrong Version of JDK

The Oracle Enterprise Manager Web site requires Java Development Kit (JDK) 1.3.1. If you are using an earlier version of the JDK, or if the JDK 1.3.1 is not in the current path, you will notice errors similar to the following example in the Oracle Enterprise Manager Web site error logs:

```
-Xmx128m: illegal argument
usage: java [-options] class
```

To avoid this problem, be sure the location of your JDK 1.3.1 /bin directory is included in the PATH environment variable before starting the Enterpirse Manager Web site.

1.5 Exiting the Browser After Using the Oracle Enterprise Manager Web Site

For security reasons, always exit your browser after you finish using the Oracle Enterprise Manager Web Site. This will ensure that other users cannot access the configuration and administration features provided by Enterprise Manager.

1.6 Setting the DISPLAY Environment Variable

To run the Oracle Enterprise Manager Web Site, you must properly configure the X Server software on your UNIX system.

Specifically, you must define the DISPLAY environment variable. This variable is required for the X Server software.

To set the variable:

1. Log in to the host that is running the Enterprise Manager Web Site.

2. Set the DISPLAY environment variable as follows:

If you are using `ksh` or other Born-shell, issue the following commands:

```
$ DISPLAY=<hostname>:0.0; export DISPLAY
```

If you are using `csh` or `tcsh`, issue the following commands:

```
% setenv DISPLAY <hostname>:0.0
```

In the examples, replace `<hostname>` with the name of a valid host running the X Server software.

3. If necessary, log in to the host you specified in Step 2 and make sure that X Server host you specified will allow remote access.

You allow remote access by entering the following command:

```
% xhost +
```

1.7 Installing Multiple Application Server Instances on a Single Host From Different Accounts

If you install multiple Oracle9*i*AS instances on the same host (for example, if you install an Infrastructure and an application server instance on the same host), you must perform the installations from the same account. Otherwise, the Enterprise Manager Web site will not be able to manage either of the instances.

For example, suppose you log in as `oracle` and install **Instance A**. Later, you log in to the same host as `jsmith` and install **Instance B**.

When you restart the Enterprise Manager Web site and display the instance Home Pages, you will notice that the status of some components is "unknown." In addition, you may receive "permission denied" errors when you try to start or stop the Web site.

To recover from this situation you must log in as `jsmith` and uninstall Instance B, then log in as `oracle` and reinstall Instance B.

1.8 Incorrect Data on Property Pages

Incorrect data may appear on a property page if you do the following:

1. Make changes on a property page and do not apply the changes.

2. Browse to a different page.

3. Return to the page you were editing.

Enterprise Manager shows the unapplied changes rather than the initial property settings. To see the initial configuration settings, click **Revert** at the bottom of the page to revert back to the data in the configuration files.

To refresh the configuration data so it matches the current state of the configuration files, click the **Refresh Data** icon next to the timestamp. For more information, see the topic "Refreshing Pages" in the Oracle Enterprise Manager Web Site online help. (Bug #2185719)

1.9 Unavailable Metrics

Sometimes, when you display the metrics for a component, some of the metrics are unavailable. Most often this occurs just after you start the Oracle Enterprise Web Site or the component you are monitoring. If some metrics appear as unavailable, click the Refresh Data icon next to the time stamp. For more information, see the topic "Refreshing Pages" in the Oracle Enterprise Manager Web Site online help.

1.10 Error When Refreshing a Confirmation Page

If you click the browser's refresh button on a confirmation, warning, or error page, you are prompted by the browser to perform the operation again. For example, Internet Explorer 5.5 displays the following message:

```
This page cannot be refreshed without resending the information. Click
Retry to send the information again, or click Cancel to return to the
page that you were trying to view.
```

If you click **Retry**, the operation you just performed will attempt to execute again, but it should fail with an error. Acknowledge the error and you will be brought back to the page that caused the operation.

If Enterprise Manager displays a confirmation or error page, do not click the browser's refresh button; instead use the browser's back button to return to the previous page.

Also, avoid using the browser's back button to go back to a confirmation, warning, or error page.

1.11 Using Multibyte, Accented, and Special Characters in Input Fields

Do not use multibyte, accented, or special characters when you are entering data into Oracle Enterprise Manager Web Site text input fields, such as those used when you are entering a name for an Oracle Containers for J2EE (OC4J) instance or when you are modifying component configuration fields.

For example, avoid using the following characters in text entry fields:

- Question mark (?)
- Percent symbol (%)
- Space
- Comma (,)
- Semicolon (;)
- Colon (:)

Note in particular that J2EE application names with "`%%`" or "`%<hex digit>`" are problematic.

1.12 Session Expired Message

The Oracle Enterprise Manager Web Site pages are set to expire after 20 minutes. For example, if you display a component Home Page and then leave your computer for more than 20 minutes, Enterprise Manager displays a "Session Expired" message if you attempt to apply any configuration changes. Click **OK** to dismiss the error message and continue working. You will need to reenter any configuration changes that were entered but not applied.

1.13 Timeout-Related Problems

There are situations that can cause the Oracle Enterprise Manager Web site to time out or hang. For example, a timeout can occur if the Enterprise Manager Web site on one of the application server instances in a cluster was shut down improperly with the UNIX `kill` command.

To recover from a timeout or hang situation, stop the Enterprise Manager Web site, make sure that the Distributed Configuration Management (DCM) software for each application server instance is shut down completely, and then restart the Oracle Enterprise Manager Web site.

Note that only one Enterprise Manager Web site runs on each host, but an instance of DCM runs on every application server instance. For example, if you installed Instance A and Instance B on a single host, do the following:

1. Change directory to the following directory in Instance A:

   ```
   cd <instance_A_home>/dcm/bin/
   ```

2. Enter the following command to shut down DCM completely:

   ```
   dcmctl shutdown -force
   ```

3. Change directory to the same directory in Instance B:

```
cd <instance_B_home>/dcm/bin
```

4. Make sure DCM is completely shutdown for Instance B:

```
dcmctl shutdown -force
```

5. Restart the Enterprise Manager Web site for the host.

For more information about starting, stopping, and restarting Oracle9*i*AS components, see the *Oracle9i Application Server Administrator's Guide*.

1.14 Understanding Swap Space Metrics

If you use a UNIX system utility such as top, you may notice that the swap space statistics reported by the top utility do not match those provided on the Host Home Page. This is because some versions of the top utility include not only disk-based swap space, but swap space reserved in your computer's physical memory when they calculate the swap space statistics. In fact, more recent versions of the top utility report swap space values that closely match the values shown on the Host Home Page. You can also obtain similar results using the swap -s command.

1.15 Installing Multiple Application Server Instances on a Single Host

If you install multiple Application Server instances on a host, you should restart the Oracle Enterprise Manager Web site after each consecutive application server installation. This allows the Enterprise Manager Web site to gather information about the new installations.

For example, if you install an Oracle9*i*AS Infrastructure and then install an Application Server installation type on the same host, you should restart the Oracle Enterprise Manager Web site before you redisplay the Home Pages for your site.

1.16 Changing the Single Sign-On Password Requires Manual HTTP Server Restart

If you use the Enterprise Manager Web site to change the orasso schema password, the Oracle HTTP Server will not be restarted automatically. As a result, you will not be able to use the Single Sign-On Home Page.

To fix the problem, use the command line to manually restart the Oracle HTTP Server to update the orasso password.

For more information about starting, stopping, and restarting Oracle9iAS components, see the *Oracle9i Application Server Administrator's Guide*.

1.17 Enterprise Manager Web Site Response Delays

When using the Enterprise Manager Web Site, users may experience delays while pages are being rendered or refreshed under certain conditions. For example, users may experience these delays if the server host resources are being used to near maximum capacity. Be sure to review the minimum system requirements for each installation type described in the *Oracle9i Application Server Installation Guide*.

2 Issues and Workarounds When Using an Oracle9*i*AS Infrastructure

2.1 Restart of Enterprise Manager Web Site Required after Joining a Farm with the Use Infrastructure Link

When you add an Oracle9*i*AS instance to a farm by clicking **Use Infrastructure** on the Oracle9*i*AS Instance Home Page, you must restart the Oracle Enterprise Manager Web site. Otherwise, the Instance Home Page will not indicate that the instance is part of the Oracle9iAS farm.

For more information about associating your Oracle9iAS instance with an Infrastructure, see the *Oracle9i Application Server Administrator's Guide* or the topic "About Using the Oracle9*i*AS Infrastructure" in the Oracle Enterprise Manager Web Site online help.

2.2 Missing Use Infrastructure Link if Use Infrastructure Fails

To associate an application server instance with an Oracle9*i*AS Infrastructure, you use the **Use Infrastructure** link and the Use Infrastructure wizard. If while adding the instance to the Infrastructure, a problem occurs and the Use Infrastructure feature fails, you may end up in a situation where the instance is not associated with an Infrastructure, but the Use Infrastructure command is unavailable.

To redisplay the Use Infrastructure command on the Oracle9*i*AS Instance Home Page, do the following:

1. Locate and edit the file following configuration file:

    ```
    <ORACLE_HOME>/config/ias.properties
    ```

2. Locate the following entry in the file:

```
InfrastructureUse=true
```

3. Change the value of this entry to `false`:

```
InfrastructureUse=false
```

4. Close the file and restart the Oracle Enterprise Manager Web Site.

   The next time you display the Oracle9*i*AS Instance Home Page, the **Use Infrastructure** link should be available on the page.

2.3 Problems After Changing IP Address

If you change the TCP/IP address of the host computer after installing Oracle9iAS, you will likely have trouble restarting the Oracle Enterprise Manager Web site.

If you are using the J22EE and Web Cache install type, without an Infrastructure, you can remedy the problem as follows:

1. Stop the Enterprise Manager Web site, using the following command:

```
emctl stop
```

   The emctl command is located in the `$ORACLE_HOME/bin` directory.

2. Remove the DCM configuration files, using the following commands:

```
rm -rf $ORACLE_HOME/dcm/repository
rm $ORACLE_HOME/dcm/config/dcm.conf
```

3. Restart the Enterprise Manager Web site, using the following command:

```
emctl start
```

   This should create a new `dcm.conf` file with the proper IP address.

3 Issues and Workarounds for Managing Oracle9iAS Clusters

The following release notes apply when you are creating and managing Oracle9iAS clusters.

3.1 Problems Adding an Instance to a Cluster

Using EM you can add an application server instance to a cluster by clicking **Join Cluster** button on the Farm Home Page, or by clicking **Add Instance** button from the Cluster Home Page.

If the instance you are trying to add to a cluster is not clusterable or is incompatible with the cluster, you will receive the following error message:

```
Instance "instance-name" cannot be added to cluster "cluster-name".
Instances containing non-clusterable components cannot be added to any
cluster. The joining instance must have the same components configured
as the cluster. Also, instances containing non-distributable
applications cannot be added to an empty cluster.
```

An instance to be added to a cluster can only have the following types of components configured: HTTP Server, OC4J, WebCache.

To pinpoint the exact reason(s) the instance cannot be added to the cluster, you can use the DCM command line utility (dcmctl) from the instance you are trying to add, as follows:

1. Invoke dcmctl shell from the command line in the instance you are trying to add to a cluster by using the following command:

    ```
    $ORACLE_HOME/dcm/bin/dcmctl shell
    ```

2. If the cluster is empty, use the isClusterable command to see if the instance can be clustered:

    ```
    dcmctl> isClusterable -v -i <instance_name>
    ```

    Include the optional instance name parameter because the user is not necessarily running on the instance that is not clusterable.

3. If the cluster is not empty, use the isCompatible command to see if the instance is compatible with the cluster:

    ```
    dcmctl> isCompatible -v  -cl <clusterName> -i <instance name>
    ```

3.2 Incorrect Data After Adding an Instance to a Cluster

After you add the first application server instance to an Oracle9*i*AS cluster, subsequent instances added to the cluster are modified automatically to match the configuration settings of the original instance. However, configuration settings on the HTTP Server and OC4J component pages may not be updated immediately after you add the instance to the cluster.

To update the configuration settings for the HTTP Server and OC4J component pages, click the **Refresh Data** icon next to the time stamp on the page. For more information about the **Refresh Data** icon, see the topic "Refreshing Pages" in the Oracle Enterprise Manager Web Site online help.

3.3 Incorrect Data for Other Instances in a Cluster

When you make OC4J or HTTP Server configuration changes or you deploy OC4J applications in an Oracle9*i*AS cluster, those changes and actions are automatically applied to the other application server instances in the cluster.

However, in some cases, when you view the configuration settings for one of the other application server instances, you may temporarily see the previous configuration information. To see the updated configuration information, click the **Refresh Data** icon to refresh the data on the page.

3.4 Error Applying Changes to Other Instances in a Cluster

If the Distributed Configuration Management (DCM) software is not running on one or more of the application servers in an Oracle9*i*AS cluster, you will receive the following error if you make changes to one of the application server instances in the cluster or attempt to start, stop, or restart the cluster:

```
The operation failed.. The distributed configuration management daemon
is not running on one of the iAS instances in the cluster. This is
typically run as part of the "Enterprise Management Daemon" or as a
separate DCM daemon.
```

The changes you made to the application server instance will be applied to the other instances in the cluster as soon as the Oracle Enterprise Manager Web site (including DCM) in started successfully on the other instances.

3.5 Using Path Names in Cluster Configuration Fields

When you are configuring an application server instance that is part of a cluster, use relative paths when entering file names and path names in any configuration fields. For example, use paths that are relative to the Oracle Home. This will ensure that the path names will be valid on multiple hosts in the cluster.

3.6 Configure Schema Across Hosts in a Cluster

If you change the schema for an application instance that belongs to a cluster, the new schema connect string will not be applied automatically to the other application server instances in the cluster. You must use the **Configure Schema** link on the Home Page for each instance in the cluster.

4 Issues and Workarounds for Managing OC4J

The following release notes apply specifically to the Oracle Containers for J2EE (OC4J) Home Page and its related pages.

4.1 Errors After Deploying Applications Manually

If you deploy an application manually, by editing the server.xml file on the Advanced Properties page, Enterprise Manager displays errors as the application is deployed. To workaround this problem, acknowledge all the errors, wait for the application to deploy, and then click the **Refresh Data** icon next to the time stamp on the page.

For more information about the **Refresh Data** icon, see the topic "Refreshing Pages" in the Oracle Enterprise Manager Web site online help.

Note: In general, Oracle recommends that you use the Enterprise Manager Web Site to deploy your applications; otherwise, errors will be generated during the deployment.

4.2 Incorrect Data After Redeploying an Application

If you visit the pages of a deployed application, and then redeploy the application using the same name, the data on some of the pages for the application will reflect the condition of the application the first time you deployed it.

To be sure the information displayed reflects the state of the most recently deployed application, close and reopen your browser or click the **Refresh Data** icon next to the time stamp on the page.

For more information about the **Refresh Data** icon, see the topic "Refreshing Pages" in the Oracle Enterprise Manager Web site online help.

4.3 Redeploying an Application Overwrites Changes to the Web Module URL

When you redeploy an application in OC4J, the redeploy action overwrites the existing web module URL mapping with the maping specified in application.xml's <context-root>. As a result, if you change the URL mapping in the deploy wizard, you will have to change it again if you redeploy the application later.

4.4 Absolute Paths Required When Deploying Applications

When you specify the location of required files associated with a J2EE application, you must specify absolute paths when you deploy the application.

For example, if you are selecting an XML user manager in the OC4J Deploy Application Wizard, you must enter an absolute path to the `principals.xml` file; otherwise, you cannot select **Security Role Mappings** later in the wizard.

If you cannot specify an absolute path to the file (for example, if you have included the principals.xml file in your .ear file), you can set the Security Role Mappings later, after you deploy the application, using the Application Security properties page.

For more information about setting security options for your J2EE application, see the topic "Establishing Security Role Mappings for Application Security" in the Oracle Enterprise Manager Web Site online help.

4.5 Security Role Mappings

When you use the OC4J Deploy Application Wizard, only security roles mentioned in `application.xml` can be mapped using the Security Role Mappings page. Security roles defined in `web.xml` or `ejb-jar.xml` cannot be mapped using the Security Role Mappings page.

4.6 Specifying a JAZN-XML User Manager

While choosing to use the JAZN-XML user manager, you must must specify a file that exists and conforms to the jazn-data.xml template. (Bug 2262786)

4.7 OC4J Restart Required When Modifying JAZN-XML User Manager

If you make changes to the users or groups for an application that's using the JAZN-XML user manager, the target OC4J instance needs to be restarted before the changes will take effect.

For more information about starting, stopping, and restarting Oracle9*i*AS components, see the *Oracle9i Application Server Administrator's Guide*.

You do not need to restart the OC4J instance if you are using the Principals user manager (XML user manager).

4.8 Add User Page Shows Incorrect List of Users

If you add users for one OC4J application and then you attempt to add users for a second OC4J application, Enterprise Manager shows a list of users for the first application. The Add User page shows the cached Group Memberships from the first application you modified.

To workaround this problem:

1. Return to the Security page for the application that has the incorrect group membership.

2. Click the Refresh Data icon next to the timestamp.

3. Click **Add User**.

    Enterprise Manager shows the correct group memberships for the second application.

As an alternative, you can also workaround this problem by existing and restarting the the browser or opening a second Web browser before editing the users for another OC4J appication.(Bug 2290349)

4.9 Names of Default OC4J Instances Are Incorrect in the Online Help

The online help topic "About the OC4J Default Instances" does not include the complete set or final names of the OC4J default instances that are installed and configured automatically by the Oracle9iAS installation procedure. For example, the topic describes the "home" instance, which is actually the "OC4J_home" instance.

4.10 Modifying the Port Number When Publishing a Web Service

When publishing a webservice from the deployment wizard, EM displays the Web Service Details page. This page contains a **URL to Service** field that contains the URL of the Web Service. This URL includes the host that OC4J is running on as well as the port that the HTTP Server is listening on. If you have changed the port that the HTTP Server is listening on since you installed Oracle9*i*AS, you should edit the value in this field to contain the correct port.

5 Issues and Workarounds for Managing Oracle HTTP Server

The following release notes apply specifically to the Oracle HTTP Server Home Page and its related pages.

5.1 Problems Starting the HTTP Server

If you attempt to use the Enterprise Manager Web Site to start the HTTP Server, but the HTTP Server does not start, check for troubleshooting information as follows:

1. Navigate to the HTTP Server Home Page.

2. Scroll down to the Performance section of the page.

3. Click **Error Log**.

    Enterprise Manager displays the HTTP Server error log. Review the entries in this file for possible error conditions.

If you need more information to determine why the HTTP Server doesn't start, use the operating system command line to locate and review the contents of the following log file:

```
<ORACLE_HOME>/opmn/logs/HTTP Server.1
```

5.2 Virtual Host Client Access Logs

Access logs for a virtual host should be listed in the Logging section of the Virtual Host Properties page. However, sometimes no access logs are listed on the Virtual Host Properties page.

To check the access log for a virtual host, refer to the access log for the HTTP Server instance. To check the HTTP Server access log, navigate to the Logging section of the HTTP Server Properties page.

5.3 Printing HTTP Server Monitoring Pages

If you have trouble printing the Status Metrics or Response and Load Metrics pages while using Netscape Navigator on a Sun Solaris system, try the following:

1. Choose **Edit Page** from the Navigator **File** menu.

2. Choose **Print** from the **File** menu.

If you still can't print the monitoring pages, try printing to a file instead of the printer.

5.4 Printing the Error Log Using Netscape Navigator for Sun Solaris

You cannot print the Error Log page when using Netscape Navigator for Sun Solaris. To print the Error Log page, you must use a different browser or platform.

5.5 Large Font Issues

Some pages are difficult to use with the default font size of 18. For example, to see the entire contents of the Error Log page, you may have to use two scroll bars. To avoid these types of issues, change the browser's Fixed Width Font Size to a smaller size.

5.6 Memory Usage Statistics

The memory usage statistics displayed for Oracle HTTP Server do not take into account shared memory. If apache has many child processes, the memory usage of apache will be displayed as a much higher number than the actual usage.

To see the actual memory usage, give the memory script `set uid` privileges as follows:

```
chown root  $ORACLE_HOME/sysman/admin/scripts/pmapinfo.ksh
chmod 6750 $ORACLE_HOME/sysman/admin/scripts/pmapinfo.ksh
```

5.7 Problems Editing Large Configuration Files Using Netscape on Sun Solaris

Editing large configuration files such as `httpd.conf`, using the Advanced Properties page, does not work with certain versions of Netscape on Solaris. In some cases, the edit field that should contain the configuration file is empty. As a workaround, try upgrading your version of Netscape or using a different browser to edit the configuration file.

6 Issues and Workarounds for Managing Syndication Server

The following release notes apply to the Oracle Syndication Server Home Page and its related pages.

6.1 Incorrect Data When Managing Multiple Oracle9*i*AS Instances

If you are viewing data on a Syndication Server property page or configuration page, and then you display the same page for a different instance of Oracle9*i*AS, the page data may not be updated correctly. In other words, you may see the data that applies to the first Oracle9*i*AS instance. To see the correct data, click the **Refresh Data** icon next to the time stamp of the page.

For more information about the **Refresh Data** icon, see the topic "Refreshing Pages" in the Oracle Enterprise Manager Web site online help.

7 Issues and Workarounds for Managing JServ

Before using the **Configure Component** link on theOracle9*i*AS Home Page to configure JServ, you must first uncomment the single line that includes `jserv.conf` in Oracle HTTP Server configuration file:

```
<ORACLE_HOME>/Apache/Apache/conf/httpd.conf
```

8 Issues and Workarounds for Managing JAAS

The *Oracle9iAS Containers for J2EE Services Guide* provides instructions for managing JAAS. However, after the Services Guide was published, the user interface screens used for managing JAAS were updated.

Refer to the following instructions for late-breaking information about managing JAAS using the Oracle Enterprise Manager Web site.

8.1 Configuring JAAS

To configure JAAS:

1. Open the following configuration file using your favorite text editor:

   ```
   $ORACLE_HOME/sysman/j2ee/config/jazn.xml
   ```

2. Make sure the `jazn.xml` file includes valid entries for the following properties:

   ```
   <property name="ldap.service" value="ldap://localhost:389"/>
   <property name="ldap.user" value="cn=oracleadmin"/>
   <property name="policymgr.provider" value="LDAP"/>
   ```

3. Modify the `ldap.password` property by entering the password you used for Oracle Internet Directory server login. Be sure to include an exclamation point (!) before the password so it will be encrypted.

4. For example:

   ```
   <property name="ldap.password" value="!manager1234"/>
   ```

8.2 Using the JAAS Security Pages

To access the JAAS provider pages using the Oracle Enterprise Manager Web site:

1. Navigate to the Oracle Internet Directory Home Page.

2. Scroll down to the Related Links section of the page.

3. Click **OJAAS Security**.

Enterprise Manager displays the OJAAS Security page.From this page, you can:

- Search for existing grant entries and view grant entry data

- Delete grant entries

- Create new grant entries by assigning JAAS provider permissions to principals

For more information, see the *Oracle9iAS Containers for J2EE Services Guide.*

8.3 JAAS Known Bugs

- When the OID connection is down, the JAAS GUI Tool doesn't display anyerrormessageandtheoperationsdon'tbeperformedcorrectly.

- When the OID connection is up but the data is corrupted, the JAAS GUI Tool does not detect the error and displays the grant entries with empty entries name.

9 National Language Support (NLS) Issues and Workarounds

When you use the `emctl` command to start the Oracle Enterprise Manager Web Site, you have to configure the environment properly; otherwise, the Web Site may display corrupted multibyte characters as square boxes.

Please follow the steps below to configure the environment properly. The steps below use the Japanese environment as an example:

1. Make sure to set the OS default locale properly by defining the LC_ALL and LANG environment variables:

    If you are using ksh or other Born-shell, issue the following commands:

    ```
    $ LC_ALL=ja; export LC_ALL
    $ LANG=ja; export LANG
    ```

    If you are using csh or tcsh, issue the following commands:

    ```
    % setenv LC_ALL ja
    % setenv LANG ja
    ```

2. Execute the following command to confirm the OS default locale setting:

    ```
    % locale
    LANG=ja
    LC_CTYPE="ja"
    ```

```
LC_NUMERIC="ja"
LC_TIME="ja"
LC_COLLATE="ja"
LC_MONETARY="ja"
LC_MESSAGES="ja"
LC_ALL=ja
```

(Bug #2218514)

10 Accessibility Issues

Some of the data provided by the Enterprise Manager Web site is presented in graphical charts. Often, however, these graphical charts cannot be read by users of assistive technology, such as screen readers.

To accommodate the use of screen readers, the Enterprise Manager Web site can be configured to display an equivalent text-based table of data for each chart.

To generate text-based tables for the graphical charts:

1. Open the following configuration file using your favorite text editor:

    ```
    $ORACLE_HOME/sysman/webapps/emd/WEB-INF/web.xml
    ```

2. Uncomment the following section of the web.xml file:

    ```
    <context-param>
    <param-name>enableChartDescription</param-name>
    <param-value>true</param-value>
    </context-param>
    ```