Oracle® Fusion Middleware

Installing WebGates for Oracle Access Manager

11*g* Release 2 (11.1.2.1.0)

E38922-06

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This book provides the installation and configuration steps for OHS, OTD, IIS, and Apache 11g Release 2 WebGates for Oracle Access Manager. It also includes T2P steps for IHS.

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Oracle Fusion Middleware Installing WebGates for Oracle Access Manager, 11*g* Release 2 (11.1.2.1.0)

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Preface

This Preface provides supporting information for *Oracle Fusion Middleware Installing WebGates for Oracle Access Manager* and includes the following topics:

Audience

The *Oracle Fusion Middleware Installing WebGates for Oracle Access Manager* guide is intended for administrators that are responsible for installing 11*g* WebGates for Oracle Access Manager.

This document assumes you have experience installing enterprise components. Basic knowledge about Oracle Access Manager, WebGates, and Oracle Application Server is recommended.

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Related Documents

For more information, see the following documents in the Oracle Identity and Access Management 11g Release 2 (11.1.2) documentation library:

- *Oracle Fusion Middleware Installation Guide for Oracle Identity and Access Management*
- *Oracle Fusion Middleware Administrator's Guide for Oracle Access Management*
- *Oracle Fusion Middleware Installation Planning Guide*

- *Oracle Fusion Middleware Release Notes*

You can also access Oracle documentation online from the Oracle Technology Network (OTN) Web site at the following URL:

`http://docs.oracle.com/`

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

1 Introduction

A WebGate is a web-server plug-in for Oracle Access Manager (OAM) that intercepts HTTP requests and forwards them to the Access Server for authentication and authorization.

For information about the typical workflow in an environment with a WebGate and Oracle Access Manager, see "About SSO Log In Processing with OAM Agents" in the *Oracle Fusion Middleware Administrator's Guide for Oracle Access Manager with Oracle Security Token Service*.

This document contains the following chapters:

- Installing and Configuring Oracle HTTP Server 11g WebGate for OAM
- Installing and Configuring IHS 11g WebGate for OAM
- Installing and Configuring Apache WebGate for Oracle Access Manager
- Moving an IHS WebGate From a Test to Production Environment

2

Installing and Configuring Oracle HTTP Server 11*g* WebGate for OAM

This chapter describes how to install and configure Oracle HTTP Server 11*g* Release 2 WebGate for Oracle Access Manager. For an introduction to WebGates and an overview of installing WebGates, see Chapter 1.

This chapter contains the following topics:

Note: If you want to integrate Oracle HTTP Server 11g Release 2 WebGate for Oracle Access Manager with other Oracle Identity and Access Management components, follow the instructions in either of the guides listed below:

- *Oracle Fusion Middleware Integration Guide for Oracle Identity Management Suite*
- *Oracle Fusion Middleware Enterprise Deployment Guide for Oracle Identity Management*

2.1 Installation Overview of OHS 11*g* WebGate

Installing OHS 11*g* WebGate for Oracle Access Manager involves the following steps:

1. Installing the OHS web server
2. Installing OHS 11*g* WebGate for Oracle Access Manager
3. Completing the post-installation configuration steps
4. Verifying the OHS 11*g* WebGate installation
5. Registering the new WebGate agent

2.2 Prerequisites for Installing Oracle HTTP Server 11*g* WebGate

This section discusses the following topics:

2.2.1 Oracle Fusion Middleware Certification

The *Oracle Fusion Middleware Supported System Configurations* document provides certification information for Oracle Fusion Middleware, including supported installation types, platforms, operating systems, databases, JDKs, and third-party products related to Oracle Identity and Access Management 11*g* Release 2 (11.1.2.1.0).

You can access the *Oracle Fusion Middleware Supported System Configurations* document by searching the Oracle Technology Network (OTN) web site:

`http://www.oracle.com/technetwork/middleware/ias/downloads/fusion-certification-100350.html`

2.2.2 Installing JRE

You must have Java runtime environment (JRE) 1.6 or higher installed.

2.2.3 Installing and Configuring Oracle HTTP Server 11*g* Web Server

You can download the Installer from the Oracle Technology Network (OTN):

`http://www.oracle.com/technology/software/products/middleware/htdocs/fmw_11_download.html`

Alternatively, you can download the latest Oracle Fusion Middleware 11*g* software from the following website:

`http://edelivery.oracle.com/`

For information about installing and configuring Oracle HTTP Server 11*g* (11.1.1.7.0), see the *Oracle Fusion Middleware Installation Guide for Oracle Web Tier*.

> **Note:** After you install and configure Oracle HTTP Server, a working instance of Oracle HTTP Server is configured in an Instance Home.

2.2.4 Installing and Configuring Oracle Access Manager 11*g*

For information about installing Oracle Access Manager (OAM), see "Installing and Configuring Oracle Identity and Access Management (11.1.2.1.0)" in the *Oracle Fusion Middleware Installation Guide for Oracle Identity and Access Management*.

For information about configuring Oracle Access Manager in a new or existing WebLogic administration domain, see "Configuring Oracle Access Manager" in the *Oracle Fusion Middleware Installation Guide for Oracle Identity and Access Management*.

In addition, see "Securing Communication" in the *Oracle Fusion Middleware Administrator's Guide for Oracle Access Manager* for information about configuring Oracle Access Manager in Open, Simple, or Cert mode.

2.2.5 Prerequisites for 64-Bit Oracle HTTP Server 11*g* WebGates on Windows 2003 and Windows 2008 64-Bit Platforms

If you are using Windows 2003 or Windows 2008 64-bit operating systems, you must install Microsoft Visual C++ 2005 libraries on the machine hosting the Oracle HTTP Server 11*g* WebGate for Oracle Access Manager.

These libraries are included in the Microsoft Visual C++ 2005 SP1 Redistributable Package (x64), which can be downloaded from the following website:

`http://www.microsoft.com/DownLoads/details.aspx?familyid=EB4EBE2D-33C0-4A47-9DD4-B9A6D7BD44DA&displaylang=en`

In addition, install the Microsoft Visual C++ 2005 Service Pack 1 Redistributable Package MFC Security Update, which can be downloaded from the following website:

`http://www.microsoft.com/downloads/en/details.aspx?familyid=fb01abe6-9099-4544-9aec-0ac13f19bc50&displaylang=en`

2.3 Installing Oracle HTTP Server 11*g* WebGate

This section discusses the following topics:

- Obtaining the Software
- Starting the Oracle HTTP Server 11g WebGate Installer
- Installation Flow and Procedure of Oracle HTTP Server 11g WebGate

2.3.1 Obtaining the Software

For information about obtaining the OHS 11.1.2.1.0 WebGate software, see the *Oracle Fusion Middleware Download, Installation, and Configuration ReadMe*.

2.3.2 Starting the Oracle HTTP Server 11*g* WebGate Installer

The installer for Oracle HTTP Server 11*g* WebGate for Oracle Access Manager is included in the `WebGate.zip` file.

To start the installation wizard, perform the following steps:

- **On UNIX**
  1. Extract the contents of the `WebGate.zip` file to a directory. By default, this directory is named `WebGate`.
  2. Go to the `Disk1` directory under the `WebGate` folder.
  3. Run the following command:

     `full_path_to_the_runInstaller_directory` `./runInstaller -jreLoc` *`WebTier_Home`*`/jdk`
- **On Windows**
  1. Extract the contents of the `WebGate.zip` file to a directory. By default, this directory is named `WebGate`.
  2. Go to the `Disk1` directory under the `WebGate` folder.

3. Run the following command:

```
full_path_to_the_setup.exe_directory setup.exe -jreLoc
WebTier_Home\jdk
```

Note: When you install Oracle HTTP Server, the `jdk` directory is created under the *`WebTier_Home`* directory. You must enter the absolute path of the JRE folder located in this JDK when launching the installer. For example, on Windows, if the JDK is located in `D:\oracle\Oracle_WT1\jdk`, then launch the installer from the command prompt as follows:

```
D:\setup.exe -jreLoc D:\oracle\Oracle_WT1\jdk
```

After the Installer starts, the **Welcome** screen is displayed. Proceed with the installation by referring to Section 2.3.3.

2.3.3 Installation Flow and Procedure of Oracle HTTP Server 11*g* WebGate

To install Oracle HTTP Server 11*g* WebGate for Oracle Access Manager, follow the instructions in Table 2–1.

If you need additional help with any of the installation screens, click **Help** to access the online help.

Table 2–1 Installation Flow

No.	Screen	Description and Action Required
1.	Welcome Screen	Click **Next** to continue.
2.	Prerequisite Checks Screen	Click **Next** to continue.
3.	Specify Installation Location Screen	Specify the Middleware Home and Oracle Home locations. Note that the Middleware Home should contain an Oracle home for Oracle Web Tier. Oracle WebLogic Server is not a prerequisite for installing Oracle HTTP Server WebGate. However, Oracle HTTP Server, which is a component of Oracle Web Tier, requires only the directory structure for the Middleware home. For more information about these directories, see "Understanding Oracle Fusion Middleware Concepts and Directory Structure" in the *Oracle Fusion Middleware Installation Planning Guide for Oracle Identity and Access Management*. Click **Next** to continue.
4.	Installation Summary Screen	Verify the information on this screen. Click **Install** to begin the installation.
5.	Installation Progress Screen	If you are installing on a UNIX system, you may be asked to run the *`ORACLE_HOME`*`/oracleRoot.sh` script to set up the proper file and directory permissions. Click **Next** to continue.
6.	Installation Complete Screen	Click **Finish** to dismiss the installer.

2.4 Post-Installation Steps for Oracle HTTP Server 11*g* WebGate

You must complete the following steps after installing Oracle HTTP Server 11*g* WebGate for Oracle Access Manager:

- **On UNIX**

  1. Go to the *WebGate_Home*/webgate/ohs/tools/deployWebGate directory by running the following command:

     ```
     cd WebGate_Home/webgate/ohs/tools/deployWebGate
     ```

  2. Run the following command to copy the required bits of agent from the *WebGate_Home* directory to the *WebGate_Instance* location:

     ```
     ./deployWebGateInstance.sh -w WebGate_Instance_Directory
     -oh WebGate_Oracle_Home
     ```

     In this command:

     – WebGate_Oracle_Home is the directory in which you have installed Oracle HTTP Server WebGate and created it as the Oracle home for WebGate.

       Example:

       MW_HOME/Oracle_OAMWebGate1

     – WebGate_Instance_Directory is the location of WebGate Instance Home, which is same as the Instance Home of Oracle HTTP Server.

       Example:

       MW_HOME/Oracle_WT1/instances/instance1/config/OHS/ohs1

     Note: An Instance home for Oracle HTTP Server is created after you configure Oracle HTTP Server. This configuration is performed after installing Oracle HTTP Server 11.1.1.7.0 or patching to Oracle HTTP Server 11.1.1.7.0.

  3. Run the following command to ensure that the LD_LIBRARY_PATH variable contains *Oracle_Home_for_Oracle_HTTP_Server*/lib:

     ```
     export LD_LIBRARY_PATH=$LD_LIBRARY_PATH:Oracle_Home_for_
     Oracle_HTTP_Server/lib
     ```

  4. From your present working directory, move up one directory level:

     WebGate_Home/webgate/ohs/tools/setup/InstallTools

  5. On the command line, run the following command to copy the apache_WebGate.template from the *WebGate_Home* directory to the WebGate Instance location (re-named to WebGate.conf) and update the httpd.conf file to add one line to include the name of WebGate.conf:

     ```
     ./EditHttpConf -w WebGate_Instance_Directory [-oh WebGate_
     Oracle_Home] [-o output_file]
     ```

     Note: The -oh *WebGate_Oracle_Home* and -o *output_file* parameters are optional.

     In this command:

     – WebGate_Oracle_Home is the directory in which you have installed Oracle HTTP Server WebGate for Oracle Access Manager and created it as the Oracle home for WebGate.

Example:

MW_HOME/Oracle_OAMWebGate1

– WebGate_Instance_Directory is the location of the WebGate Instance home, which is also the Instance home of Oracle HTTP Server.

Example:

MW_HOME/Oracle_WT1/instances/instance1/config/OHS/ohs1

– output_file is the name of the temporary output file used by the tool.

Example:

Edithttpconf.log

- **On Windows**

1. Move to the following directory under your Oracle home for WebGate:

   WebGate_Home\webgate\ohs\tools\deployWebGate

2. Run the following command to copy the required bits of agent from the *WebGate_Home* directory to the *WebGate_Instance* location:

   deployWebGateInstance.bat -w *WebGate_Instance_Directory* -oh *WebGate_Oracle_Home*

   In this command:

   – WebGate_Oracle_Home is the directory where you have installed Oracle HTTP Server WebGate for Oracle Access Manager and created as the Oracle home for WebGate.

   Example:

   MW_HOME\Oracle_OAMWebGate1

   – WebGate_Instance_Directory is the location of WebGate Instance home, which is also the Instance home of Oracle HTTP Server.

   Example:

   MW_HOME\Oracle_WT1\instances\instance1\config\OHS\ohs1

   Note: An Instance home for Oracle HTTP Server is created after you configure Oracle HTTP Server. This configuration is performed after installing Oracle HTTP Server 11.1.1.7.0 or patching to Oracle HTTP Server 11.1.1.7.0.

3. Run the following command to ensure that the LD_LIBRARY_PATH variable contains *Oracle_Home_for_Oracle_HTTP_Server*\lib:

   Set the *WebGate_Installation_Directory*\webgate\ohs\lib location and the *Oracle_Home_for_Oracle_HTTP_Server*\bin location in the PATH environment variable. Add a semicolon (;) followed by this path at the end of the entry for the PATH environment variable.

4. From your present working directory, move up one directory level:

   WebGate_Home\webgate\ohs\tools\EditHttpConf

5. Run the following command to copy the apache_WebGate.template from the *WebGate_Home* directory to the WebGate Instance location (renamed to

WebGate.conf) and update the httpd.conf file to add one line to include the name of WebGate.conf:

```
EditHttpConf.exe -w WebGate_Instance_Directory [-oh
WebGate_Oracle_Home] [-o output_file]
```

Note: The -oh *WebGate_Oracle_Home* and -o *output_file* parameters are optional.

In this command:

– WebGate_Oracle_Home is the directory in which you have installed Oracle HTTP Server WebGate for Oracle Access Manager and created as the Oracle home for WebGate.

  Example:

  MW_HOME\Oracle_OAMWebGate1

– WebGate_Instance_Directory is the location of WebGate Instance home, which is also the Instance home of Oracle HTTP Server.

  Example:

  MW_HOME\Oracle_WT1\instances\instance1\config\OHS\ohs1

– output_file is the name of the temporary output file used by the tool.

  Example:

  Edithttpconf.log

2.5 Verifying the Installation and Configuration of Oracle HTTP Server 11*g* WebGate

After installing Oracle HTTP Server 11*g* WebGate for Oracle Access Manager and completing the post-installation steps, you can examine the *installDATE-TIME_STAMP.out* log file to verify the installation. The default location of the log are as follows:

- **On UNIX**

  WebGate_Home/oraInst.loc

- **On Windows**

  C:\Program Files\Oracle\Inventory\logs

2.6 Getting Started with a New Oracle HTTP Server 11*g* WebGate

Before you can use the new Oracle HTTP Server 11*g* WebGate agent for Oracle Access Manager, you must complete the following tasks:

1. Registering the New Oracle HTTP Server 11g WebGate
2. Copying Generated Files and Artifacts to the Oracle HTTP Server WebGate Instance Location
3. Restarting the Oracle HTTP Server Instance

2.6.1 Registering the New Oracle HTTP Server 11g WebGate

You can register the new WebGate agent with Oracle Access Manager by using the Oracle Access Manager Administration console. For more information, see "Registering an OAM Agent Using the Console" in the *Oracle Fusion Middleware Administrator's Guide for Oracle Access Management*.

Alternatively, you can use the RREG command-line tool to register a new WebGate agent. You can use the tool to run in two modes: **In-Band** and **Out-Of-Band**.

This section contains the following topics:

2.6.1.1 Setting Up the RREG Tool

To set up the RREG tool, complete the following steps:

- **On UNIX**

  1. After installing and configuring Oracle Access Manager, go to the following directory:

     Oracle_IDM2/oam/server/rreg/client

  2. Untar the `RREG.tar.gz` file.

     Example:

     ```
     gunzip RREG.tar.gz
     tar -xvf RREG.tar
     ```

  The tool for registering the agent is located at:

  RREG_Home/bin/oamreg.sh

  > **Note:** *RREG_Home* is the directory in which you extracted the contents of `RREG.tar.gz/rreg`.

- **On Windows**

  1. After installing and configuring Oracle Access Manager, go to the following location:

     Oracle_IDM2\oam\server\rreg\client

  2. Extract the contents of the `RREG.tar.zip` file to a destination of your choice.

The tool for registering the agent is located at:

RREG_Home\bin\oamreg.bat

> **Note:** *RREG_Home* is the directory in which you extracted the contents of `RREG.tar.gz/rreg`.

Set the following environment variables in the `oamreg.sh` script. on UNIX, and `oamreg.bat` script, on Windows:

- `OAM_REG_HOME`

  Set this variable to the absolute path to the directory in which you extracted the contents of `RREG.tar/rreg`.

- `JDK_HOME`

  Set this variable to the absolute path to the directory in which Java or JDK is installed on your machine.

2.6.1.2 Updating the OAM11gRequest.xml File

You must update the agent parameters, such as `agentName`, in the `OAM11GRequest.xml` file in the *`RREG_Home`*`\input` directory on Windows. On UNIX, the file is in the *`RREG_Home`*`/input` directory.

> **Note:** The `OAM11GRequest.xml` file or the short version `OAM11GRequest_short.xml` is used as a template. You can copy this template file and use it.

Modify the following required parameters in the `OAM11GRequest.xml` file or in the `OAM11GRequest_short.xml` file:

- `serverAddress`

  Specify the host and the port of the OAM Administration Server.

- `agentName`

  Specify any custom name for the agent.

- `agentBaseUrl`

  Specify the host and the port of the machine on which Oracle HTTP Server 11*g* WebGate is installed.

- `preferredHost`

  Specify the host and the port of the machine on which Oracle HTTP Server 11*g* WebGate is installed.

- `security`

  Specify the security mode, such as `open`, based on the WebGate installed.

After modifying the file, save and close it.

2.6.1.3 Using the In-Band Mode

If you run the RREG tool once after updating the WebGate parameters in the `OAM11GRequest.xml` file, the files and artifacts required by WebGate are generated in the following directory:

On UNIX:

`RREG_Home``/output/`*`agent_name`*

On Windows:

`RREG_Home``\output\`*`agent_name`*

Note: You can run RREG either on a client machine or on the server. If you are running it on the server, you must manually copy the artifacts back to the client.

Complete the following steps:

1. Open the `OAM11GRequest.xml` file, which is in *`RREG_Home`*`/input/` on UNIX and *`RREG_Home`*`\input` on Windows. *`RREG_Home`* is the directory on which you extracted the contents of `RREG.tar.gz/rreg`.

   Edit the XML file and specify parameters for the new Oracle HTTP Server WebGate for Oracle Access Manager.

2. Run the following command:

   On UNIX:

   ```
   ./RREG_Home/bin/oamreg.sh inband input/OAM11GRequest.xml
   ```

   On Windows:

   ```
   RREG_Home\bin\oamreg.bat inband input\OAM11GRequest.xml
   ```

2.6.1.4 Using the Out-Of-Band Mode

If you are an end user with no access to the server, you can email your updated `OAM11GRequest.xml` file to the system administrator, who can run RREG in the out-of-band mode. You can collect the generated *`AgentID`*`_Response.xml` file from the system administrator and run RREG on this file to obtain the WebGate files and artifacts you require.

After you receive the generated *`AgentID`*`_Response.xml` file from the administrator, you must manually copy the file to the `input` directory on your machine.

- **On UNIX**

  Complete the following steps:

  1. If you are an end user with no access to the server, open the `OAM11GRequest.xml` file, which is in *`RREG_Home`*`/input/`.

     `RREG_Home` is the directory on which you extracted the contents of `RREG.tar.gz/rreg`. Edit this XML file and specify parameters for the new Oracle HTTP Server WebGate for Oracle Access Manager. Send the updated file to your system administrator.

  2. If you are an administrator, copy the updated `OAM11GRequest.xml` file, which is in *`RREG_Home`*`/input/` directory.

     This is the file that you received from the end user. Go to your (administrator's) *`RREG_Hom`*e directory and run the following command:

     ```
     ./RREG_Home/bin/oamreg.sh outofband
     input/OAM11GRequest.xml
     ```

     An *`Agent_ID`*`_Response.xml` file is generated in the `output` directory on the administrator's machine, in the *`RREG_Home`*`/output/` directory. Send this file to the end user who sent you the updated `OAM11GRequest.xml` file.

  3. If you are an end user, copy the generated *`Agent_ID`*`_Response.xml` file, which is in *`RREG_Home`*`/input/`.

This is the file that you received from the administrator. Go to your (client's) RREG home directory and run the following command on the command line:

```
./RREG_Home/bin/oamreg.sh outofband input/Agent_ID_
Response.xml
```

Note: If you register the WebGate agent by using the Oracle Access Manager Administration Console, as described in "Registering an OAM Agent Using the Console" in the *Oracle Fusion Middleware Administrator's Guide for Oracle Access Manager*, you must manually copy the files and artifacts generated after the registration from the server (the machine on which the Oracle Access Manager Administration Console is running) to the client machine. The files and artifacts are generated in the *MW_HOME*/user_projects/domains/*name_of_the_WebLogic_domain_for_OAM*/output/*Agent_ID* directory.

- **On Windows**

  Complete the following steps:

  1. If you are an end user with no access to the server, open the OAM11GRequest.xml file, which is in *RREG_Home*\input\ directory.

     RREG_Home is the directory in which you extracted the contents of RREG.tar.gz/rreg. Edit this XML file, specify parameters for the new Oracle HTTP Server WebGate for Oracle Access Manager, and send the updated file to your system administrator.

  2. If you are an administrator, copy the updated OAM11GRequest.xml file, which is in *RREG_Home*\input\. This is the file you received from the end user. Go to your (administrator's) *RREG_Home* directory and run the following command:

     ```
     RREG_Home\bin\oamreg.bat outofband input\OAM11GRequest.xml
     ```

     An *Agent_ID*_Response.xml file is generated on the administrator's machine in the *RREG_Home*\output\ directory. Send this file to the end user who sent you the updated OAM11GRequest.xml file.

  3. If you are an end user, copy the generated *Agent_ID*_Response.xml file, which is in *RREG_Home*\input\. This is the file you received from the administrator. Go to your (client's) RREG home directory and run the following command:

     ```
     RREG_Home\bin\oamreg.bat outofband input\Agent_ID_
     Response.xml
     ```

Note: If you register the WebGate agent by using the Oracle Access Manager Administration Console, as described in "Registering an OAM Agent Using the Console" in the *Oracle Fusion Middleware Administrator's Guide for Oracle Access Manager*, you must manually copy the files and artifacts generated after the registration from the server (the machine on which the Oracle Access Manager Administration Console is running) to the client machine. The files and artifacts are generated in the *MW_HOME*/user_projects/domains/*name_of_the_WebLogic_domain_for_OAM*/output/*Agent_ID* directory.

2.6.1.5 Files and Artifacts Generated by RREG

Regardless of the method or mode you use to register the new WebGate agent, the following files and artifacts are generated in the *RREG_Home*/output/*Agent_ID* directory:

- cwallet.sso
- ObAccessClient.xml
- In the **SIMPLE** mode, RREG generates:
  - password.xml, which contains the obfuscated global passphrase to encrypt the private key used in SSL. This passphrase can be the same as the passphrase used on the server.
  - aaa_key.pem
  - aaa_cert.pem
- In the **CERT** mode, RREG generates password.xml, which contains the obfuscated global passphrase to encrypt the private key used in SSL. This passphrase can be different than the passphrase used on the server.

Note: You can use these files generated by RREG to generate a certificate request and get it signed by a third-party Certification Authority. To install an existing certificate, you must use the existing aaa_cert.pem and aaa_chain.pem files along with password.xml and aaa_key.pem.

2.6.2 Copying Generated Files and Artifacts to the Oracle HTTP Server WebGate Instance Location

After RREG generates these files and artifacts, you must manually copy them, based on the security mode you are using, from the *RREG_Home*/output/*Agent_ID* directory to the *WebGate_Instance_Home* directory.

Do the following according to the security mode you are using:

- In **OPEN** mode, copy the following files from the *RREG_Home*/output/*Agent_ID* directory to the *WebGate_Instance_Home*/webgate/config directory:
  - ObAccessClient.xml
  - cwallet.sso

- In **SIMPLE** mode, copy the following files from the *RREG_Home*/output/*Agent_ID* directory to the *WebGate_Instance_Home*/webgate/config directory:
  - ObAccessClient.xml
  - cwallet.sso
  - password.xml

  In addition, copy the following files from the *RREG_Home*/output/*Agent_ID* directory to the *WebGate_Instance_Home*/webgate/config/simple directory:
  - aaa_key.pem
  - aaa_cert.pem
- In **CERT** mode, copy the following files from the *RREG_Home*/output/*Agent_ID* directory to the *WebGate_Instance_Home*/webgate/config directory:
  - ObAccessClient.xml
  - cwallet.sso
  - password.xml

Generating a New Certificate

You can generate a new certificate as follows:

1. Go to the *WebGate_Home*/webgate/ohs/tools/openssl directory.
2. Create a certificate request as follows:

   ```
   ./openssl req -utf8 -new -nodes -config openssl_silent_
   ohs11g.cnf -keyout aaa_key.pem -out aaa_req.pem -rand
   WebGate_Home/webgate/ohs/config/random-seed
   ```

3. Self-sign the certificate as follows:

   ```
   ./openssl ca -config openssl_silent_ohs11g.cnf -policy
   policy_anything -batch -out aaa_cert.pem -infiles aaa_req.pem
   ```

4. Copy the following generated certificates to the *WebGate_Instance_Home*/webgate/config directory:
   - aaa_key.pem
   - aaa_cert.pem
   - cacert.pem located in the simpleCA directory

   Note: After copying the cacert.pem file, you must rename the file to aaa_chain.pem.

Migrating an Existing Certificate

If you want to migrate an existing certificate (aaa_key.pem, aaa_cert.pem, and aaa_chain.pem), ensure that you use the same passphrase that you used to encrypt aaa_key.pem. You must enter the same passphrase during the RREG registration process. If you do not use the same passphrase, the password.xml file generated by RREG does not match the passphrase used to encrypt the key.

If you enter the same passphrase, you can copy these certificates as follows:

1. Go to the *WebGate_Instance_Home*/webgate/config directory.
2. Copy the following certificates to the *WebGate_Instance_Home*/webgate/config directory:
   - aaa_key.pem
   - aaa_cert.pem
   - aaa_chain.pem

2.6.3 Restarting the Oracle HTTP Server Instance

You can use the Oracle Process Manager and Notification Server (OPMN) command-line tool to start or stop your Oracle HTTP Server instance. If any instances are running, run the following command on the command-line to stop all running instances:

Oracle_Home_for_Oracle_HTTP_Server/opmn/bin/opmnctl stopall

To restart the Oracle HTTP Server instance, run the following commands on the command line:

1. *Oracle_Home_for_Oracle_HTTP_Server*/opmn/bin/opmnctl start
2. *Oracle_Home_for_Oracle_HTTP_Server*/opmn/bin/opmnctl startproc ias-component=*Oracle_HTTP_Server_Instance_Name*

2.7 Deinstalling Oracle HTTP Server 11*g* WebGate

You should always use the instructions provided in this section for removing the Oracle HTTP Server 11.1.2.1.0 WebGates for Oracle Access Manager. If you try to remove the software manually, you may experience problems when you try to reinstall the software again at a later time. Following the procedures in this section will ensure that the software is properly removed.

To deinstall the WebGate agent, do the following:

1. Go to the *MW_HOME/WebGate_Home*/oui/bin directory on UNIX, and *MW_HOME**WebgGate_home*\oui\bin on Windows.
2. Run the following command:

   On UNIX: ./runInstaller -deinstall

   On Windows: setup.exe -deinstall -jreLoc *JRE_LOCATION*

   Ensure that you specify the absolute path to your *JRE_LOCATION*; relative paths are not supported.

After the deinstaller starts, the **Welcome** screen is displayed. Proceed with the deinstallation by referring to Section 2.7.1.

2.7.1 Deinstallation Screens and Instructions

Follow the instructions in Table 2–2 to complete the deinstallation.

If you need additional help with any of the deinstallation screens, click **Help** to access the online help.

Table 2–2 Deinstallation Flow

Sl. No.	Screen	Description	Action Required
1.	Welcome	Each time the deinstaller starts, the **Welcome** screen is displayed.	Click **Next**.
2.	Deinstall Oracle Home	The **Deinstall Oracle Home** screen shows the Oracle home you are about to deinstall.	Verify the Oracle home you are about to deinstall. Click **Deinstall**. On the Warning screen, select whether or not you want the deinstaller to remove the Oracle home directory in addition to removing the software. Click **Yes** to have the deinstaller remove the software and Oracle home, **No** to remove only the software, or **Cancel** to return to the previous screen. If you select **No**, go to Section 2.7.2 for instructions on how to manually remove your Oracle home directory.
3.	Deinstallation progress	The **Deinstallation Progress** screen shows the progress and status of the deinstallation.	Wait until the **Deinstallation Complete** screen appears.
4.	Deinstallation Complete	The **Deinstallation Complete** screen appears when the deinstallation is complete.	Click **Finish** to dismiss the screen.

2.7.2 Manually Removing the Oracle Home Directory

If you have selected **No** on the warning screen during deinstallation, you must manually remove your *WebGate_Home* directory and any sub-directories. For example: if your Oracle WebGate home directory was `/home/Oracle/Middleware/Oracle_OAMWebGate1`, run the following command:

```
cd /home/Oracle/Middleware/

rm -rf Oracle_OAMWebGate1
```

On Windows, if your Oracle Common home directory was `C:\Oracle\Middleware\Oracle_OAMWebGate1`, then use a file manager window, go to the `C:\Oracle\Middleware` directory, right-click on the `Oracle_OAMWebGate1` folder, and then select **Delete**.

2.8 Silent Installation for OHS 11*g* WebGate

To run the OHS 11*g* WebGate in silent mode, complete the following steps:

1. Set the contents of the `silent.rsp` file. For example:

```
[ENGINE]
#DO NOT CHANGE THIS.
Response File Version=1.0.0.0.0
[GENERIC]
```

```
ORACLE_HOME=/home/MW_HOME/ohs_WebGate_home
MIDDLEWARE_HOME=/home/MW_HOME
[SYSTEM]
[APPLICATIONS]
[RELATIONSHIPS]
```

In the preceding file, the parameters are as follows:

- `ORACLE_HOME`: Provide the Oracle Home location. This is the directory in which you want to install the new OHS WebGate. The location must be an immediate child folder under the specified Middleware Home location. The Oracle Home directory name can contain only alphanumeric, hyphen (-), dot (.), and underscore (_) characters, and must begin with an alphanumeric character. The total length has to be less than or equal to 128 characters. For example, `home/middleware/ohs_webgate`.
- `MIDDLEWARE_HOME`: Specify the full path to your Middleware home directory.

2. Extract the contents of the installer to a directory.
3. Run the following command:

   WebGate_Installer_Directory`/Disk1/runInstaller -jreLoc` *jre_location* `-invPtrLoc` *Absolute_Path_Of_the_oraInst.loc_file* `-silent -response` *Absolute_Path_Of_the_silent.rsp_file*

   In the preceding command:

   - `WebGate_Installer_Directory` is the absolute path to the directory in which you have extracted the contents of the WebGate installer.
   - `jre_location` is the absolute path to the JRE directory.
   - `Absolute_Path_Of_the_oraInst.loc_file` is the absolute path to the `oraInst.loc` file.
   - `Absolute_Path_Of_the_ silent.rsp_file` is the absolute path to the `silent.rsp` file you created.

3

Installing and Configuring IHS 11*g* WebGate for OAM

This chapter describes how to install and configure IBM HTTP Server (IHS) 11*g* WebGate for Oracle Access Manager.

This chapter contains the following sections:

The following table lists the IHS 11g webgates and their supported platforms.

Table 3–1 IHS Versions and Supported Platforms

IHS Version	Supported Platform
IHS 7.X	■ 32-bit AIX ■ 32-bit Linux
IHS 8.x	■ 32-bit Windows ■ 32-bit Linux ■ 64-bit Linux ■ 64-bit Solaris ■ 64-bit AIX

While following the instruction described in this document, ensure that you use the instructions which are appropriate for the platform on which you are installing and configuring the webgate.

3.1 Installation Overview of IHS 11*g* WebGate

Installing IHS 11*g* WebGate for Oracle Access Manager involves the following steps:

1. Installing the IHS web server
2. Installing IHS 11*g* WebGate for Oracle Access Manager
3. Completing the post-installation configuration steps
4. Verifying the IHS 11*g* WebGate installation
5. Registering the new WebGate agent

3.2 Prerequisites for Installing IHS 11*g* WebGate

This section discusses the following topics:

- Oracle Fusion Middleware Certification
- Installing JRE
- Installing and Configuring IHS 7.0 and 8.x
- Installing and Configuring OAM 11g
- Installing 32-bit IHS WebGate on a 64-bit Operating System

3.2.1 Oracle Fusion Middleware Certification

The *Oracle Fusion Middleware Supported System Configurations* document provides certification information for Oracle Fusion Middleware, including supported installation types, platforms, operating systems, databases, JDKs, and third-party products related to Oracle Identity and Access Management 11*g* Release 2 (11.1.2.1.0).

You can access the *Oracle Fusion Middleware Supported System Configurations* document at:

`http://www.oracle.com/technetwork/middleware/ias/downloads/fusion-certification-100350.html`

3.2.2 Installing JRE

You must have Java runtime environment (JRE) 1.6 or higher installed.

If you are installing the Webgate on a 64-bit platform, then ensure that you have a 64-bit JRE.

3.2.3 Installing and Configuring IHS 7.0 and 8.x

For information about installing and configuring IHS, see the IBM HTTP Server product documentation.

3.2.4 Installing and Configuring OAM 11*g*

For information about installing Oracle Access Manager (OAM), see "Installing and Configuring Oracle Identity and Access Management (11.1.2.1.0)" in the *Oracle Fusion Middleware Installation Guide for Oracle Identity and Access Management*.

For information about configuring Oracle Access Manager in a new or existing WebLogic administration domain, see "Configuring Oracle Access Manager" in the *Oracle Fusion Middleware Installation Guide for Oracle Identity and Access Management*.

In addition, see "Securing Communication" in the *Oracle Fusion Middleware Administrator's Guide for Oracle Access Management* for information about configuring Oracle Access Manager in Open, Simple, or Cert mode.

3.2.5 Installing 32-bit IHS WebGate on a 64-bit Operating System

A 32-bit Linux version of IHS WebGate can be installed on most 64-bit Linux platforms, with a 32-bit JDK. To install the 32-bit IHS WebGate on 64-bit AIX system, ensure that you have a 64-bit JRE.

To see which platforms are supported, see the "Oracle Fusion Middleware System Requirements and Specifications for Oracle Fusion Middleware 11g Release 2 (11.1.2)" document, available on the following page:

http://www.oracle.com/technetwork/middleware/ias/downloads/fusion-certification-100350.html

For more information, see the *System Requirements and Supported Platforms for Oracle Fusion Middleware 11g Release 2 (11.1.2)* document, available on the following page:

http://www.oracle.com/technetwork/middleware/ias/downloads/fusion-requirements-100147.html

3.3 Installing IHS 11*g* WebGate

This section contains the following topics:

- Obtaining the Software
- Starting the IHS 11g WebGate Installer
- Installation Flow and Procedure

3.3.1 Obtaining the Software

For information about obtaining the IHS 7.x and 8.x WebGate software, see the *Oracle Fusion Middleware Download, Installation, and Configuration ReadMe*.

Note: There are separate installers for the webgates for IHS 7.x and IHS 8.x. Ensure that you are using the correct installer for the IHS version you require.

3.3.2 Starting the IHS 11*g* WebGate Installer

To start the installation wizard, do the following:

1. Go to the directory in which you extracted the contents of the Installer.
2. Go to the following location:

   ```
   cd Disk1
   ```

3. For IHS 7.0, run the following command:

   - **On Linux 32-bit and AIX systems**

     ```
     ./runInstaller
     ```

   - **On Oracle Enterprise Linux (OEL) 6 system**

     ```
     linux32 bash ./runInstaller -jreLoc JRE_Location
     ```

   For IHS 8.x, run the following command:

   - **On 64-bit Linux, Solaris and AIX systems**

     ```
     ./runInstaller -jreLoc JRE_Location
     ```

- **On Windows, you need to give the 32-bit JRE**

  ```
  setup.exe -jreLoc 32_bit_jre_location
  ```

- **On Linux 32-bit system**

  ```
  linux32 bash ./runInstaller -jreLoc 32_bit_jre_location
  ```

  Note: Launch the installer from the directory `webgate_ihs/Disk1`.

4. Specify the JRE/JDK location when prompted. Ensure that you provide the complete path to a 64-bit JRE/JDK if you are installing on a 64-bit platform and 32-bit JRE/JDK if installing on a 32-bit platform.

After the Installer starts, the **Welcome** screen is displayed. Proceed with the installation by referring to Section 3.3.3.

3.3.3 Installation Flow and Procedure

To install IHS 11*g* WebGate for Oracle Access Manager, follow the instructions in Table 3–2.

If you need additional help with any of the installation screens, click **Help** to access the online help.

Table 3–2 Installation Flow of IHS WebGate

No.	Screen	Description and Action Required
1.	Welcome Screen	Click **Next** to continue.
2.	Prerequisite Checks Screen	Click **Next** to continue.
3.	My Oracle Support for Updates Screen **Note:** This screen is available only for IHS 8.x.	Specify the update option or choose **Skip Software Updates** and click **Next** to continue.
4.	Specify Installation Location Screen	Specify the Middleware Home and Oracle Home locations. For more information about these directories, see "Understanding Oracle Fusion Middleware Concepts and Directory Structure" in *Oracle Fusion Middleware Installation Planning Guide*. Click **Next** to continue.
5.	Installation Summary Screen	Verify the information on this screen. Click **Install** to begin the installation.
6.	Installation Progress Screen	Click **Next** to continue.
7.	Installation Complete Screen	Click **Finish** to dismiss the Installer.

3.4 Post-Installation Steps for IHS 11g WebGate

This section includes the following topics:

- Deploying the IHS WebGate Instance
- Setting the Environment Variables
- Running the EditHttpConf Tool

3.4.1 Deploying the IHS WebGate Instance

Create an IHS WebGate instance by using the `deployWebGateInstance.sh` tool from the WebGate Oracle Home directory. The WebGate instance directory that you are creating or have provided must be empty.

To deploy the WebGate instance, do the following:

1. Go to the *WebGate_Oracle_Home*`/webgate/ihs/tools/deployWebGate` directory by running the following command:

   `cd` *WebGate_Oracle_Home*`/webgate/ihs/tools/deployWebGate`

2. Run the following command:

   `./deployWebGateInstance -w` *WebGate_Instancedir* `-oh` *WebGate_Oracle_Home* `-ws` *WebServer*

   In the preceding command:

   - `WebGate_Instancedir` is the directory in which the new WebGate instances should be created.
   - `WebGate_Oracle_Home` is the WebGate Oracle home directory you specified while installing IHS 11*g* WebGate.
   - `WebServer` is IHS.

   Example:

   ```
   ./deployWebGateInstance -w /home/wg_instance4ihs/ -oh /home/Oracle_
   OAMWebGate1/ -ws ihs
   ```

3.4.2 Setting the Environment Variables

Set the environment variable `LD_LIBRARY_PATH` on Linux, and `LIBPATH` on AIX, to *WebGate_Oracle_Home*`/webgate/ihs/lib`.

Example:

On Windows

```
Add <WebGate_Oracle_Home>/webgaete/ihs/lib to PATH variable
```

On Linux

```
export LD_LIBRARY_PATH=/home/Oracle_OAMWebGate1/webgate/ihs/lib
```

On AIX

```
export LIBPATH=/home/Oracle_OAMWebGate1/webgate/ihs/lib
```

```
export LDR_PRELOAD64=libclntsh.so
```

3.4.3 Running the EditHttpConf Tool

To run the `EditHttpConf` tool, do the following:

1. Go to the *WebGate_Oracle_Home*`/webgate/ihs/tools/setup/InstallTools` directory, by running the following command:

   `cd` *WebGate_Oracle_Home*`/webgate/ihs/tools/setup/InstallTools`

2. Run the following command:

   `./EditHttpConf -f` *path_to_webserver_config_file* `-w` *WebGate_Instance_Dir* `-oh` *WebGate_Oracle_Home* `-ws` *WebServer*

In the preceding command:

- `path_to_webserver_config_file` is the full path of the IHS instance `httpd.conf` file.
- `WebGate_Instance_Dir` is the directory in which the new WebGate instance is created.
- `WebGate_Oracle_Home` is the full path to the WebGate Oracle home.
- `WebServer` is IHS.

Note: The `-oh` parameter is optional and the command runs without any error, even if you do not specify it.

Example:

```
cd /home/OAMWebGate1/webgate/ihs/tools/setup/InstallTools/

./EditHttpConf -f /home/instanceHome1/net-test_ihs1/config/test_
httpd.conf -oh /home/Oracle_OAMWebGate1/ -w /home/Oracle_
OAMWebGate1/wg_instance4ihs/ -ws ihs
```

3.5 Verifying the Installation and Configuration of IHS 11*g* WebGate

After installing IHS 11*g* WebGate for Oracle Access Manager, you can examine the `installDATE-TIME_STAMP.out` log file to verify the installation. The default location of the log is in the following file:

WebGate_Home`/oraInst.loc`

3.6 Getting Started with a New IHS 11*g* WebGate

Before you can use the new IHS 11*g* WebGate agent for Oracle Access Manager, you must complete the following tasks:

1. Registering the New IHS 11g WebGate
2. Copying Generated Files and Artifacts to the IHS WebGate Instance Location

3.6.1 Registering the New IHS 11g WebGate

You can register the new WebGate agent with Oracle Access Manager by using the Oracle Access Manager Administration console. For more information, see "Registering an OAM Agent Using the Console" in the *Oracle Fusion Middleware Administrator's Guide for Oracle Access Management*.

Alternatively, you can use the RREG command-line tool to register a new WebGate agent. You can run the tool in two modes: **In-Band** and **Out-Of-Band**.

This section contains the following topics:

- Setting Up the RREG Tool
- Updating the OAM11gRequest.xml File
- Using the In-Band Mode
- Using the Out-Of-Band Mode
- Files and Artifacts Generated by RREG

3.6.1.1 Setting Up the RREG Tool

To set up the RREG tool, complete the following steps:

1. After installing and configuring Oracle Access Manager, go to the following directory:

   Oracle_IDM2/oam/server/rreg/client

2. Untar the RREG.tar.gz file.

   Example:

   ```
   gunzip RREG.tar.gz
   ```

   ```
   tar -xvf RREG.tar
   ```

The tool for registering the agent is located at:

RREG_Home/bin/oamreg.sh

> **Note:** *RREG_Home* is the directory in which you extracted the contents of RREG.tar.gz/rreg.

Set the following environment variables in the oamreg.sh script:

- OAM_REG_HOME

  Set this variable to the absolute path to the directory in which you extracted the contents of RREG.tar/rreg.

- JDK_HOME

  Set this variable to the absolute path to the directory in which Java or JDK is installed on your machine.

3.6.1.2 Updating the OAM11gRequest.xml File

You must update the agent parameters, such as agentName, in the OAM11GRequest.xml file located in the *RREG_Home*/input directory.

> **Note:** The OAM11GRequest.xml file or the short version OAM11GRequest_short.xml is used as a template. You can copy this template file and use it.

Modify the following required parameters in the OAM11GRequest.xml file or in the OAM11GRequest_short.xml file:

- serverAddress

  Specify the host and the port of the OAM Administration Server.

- agentName

  Specify any custom name for the agent.

- agentBaseUrl

  Specify the host and the port of the machine on which IHS 11*g* WebGate is installed.

- preferredHost

Specify the host and the port of the machine on which IHS 11*g* WebGate is installed.

- `security`

  Specify the security mode, such as `open`, based on the WebGate installed.

- `primaryServerList`

  Specify the host and the port of Managed Server for the Oracle Access Manager proxy, under a *`Server`* container element.

After modifying the file, save and close it.

3.6.1.3 Using the In-Band Mode

If you run the RREG tool once after updating the WebGate parameters in the `OAM11GRequest.xml` file, the files and artifacts required by WebGate are generated in the following directory:

`RREG_Home``/output/`*`agent_name`*

> **Note:** You can run RREG either on a client machine or on the server. If you are running it on the server, you must manually copy the artifacts back to the client.

Complete the following steps:

1. Open the `OAM11GRequest.xml` file, which is in the *`RREG_Home`*`/input/` directory. *`RREG_Home`* is the directory in which you extracted the contents of `RREG.tar.gz/rreg`.

   Edit the XML file and enter parameters for the new IHS WebGate for Oracle Access Manager.

2. Run the following command:

   ```
   ./RREG_Home/bin/oamreg.sh inband input/OAM11GRequest.xml
   ```

3.6.1.4 Using the Out-Of-Band Mode

If you are an enduser with no access to the server, you can email your updated `OAM11GRequest.xml` file to the system administrator, who can run RREG in the out-of-band mode. You can collect the generated *`AgentID`*`_Response.xml` file from the system administrator and run RREG on this file to obtain the WebGate files and artifacts you require.

After you receive the generated *`AgentID`*`_Response.xml` file from the administrator, you must manually copy the file to the `input` directory on your machine.

Complete the following steps:

1. If you are an enduser with no access to the server, open the `OAM11GRequest.xml` file, which is in *`RREG_Home`*`/input/`.

   `RREG_Home` is the directory in which you extracted the contents of `RREG.tar.gz/rreg`. Edit the XML file, specify parameters for the new IHS WebGate for Oracle Access Manager, and send the updated file to your system administrator.

2. If you are an administrator, copy the updated `OAM11GRequest.xml` file, which is in the *`RREG_Home`*`/input/` directory.

This is the file that you received from the enduser. Go to your (administrator's) *RREG_Hom*e directory and run the following command:

```
./RREG_Home/bin/oamreg.sh outofband input/OAM11GRequest.xml
```

An *Agent_ID*_Response.xml file is generated in the output directory on the administrator's machine, in the *RREG_Home*/output/ directory. Send this file to the enduser who sent you the updated OAM11GRequest.xml file.

3. If you are an enduser, copy the generated *Agent_ID*_Response.xml file, which is in the *RREG_Home*/input/ directory.

   This is the file that you received from the administrator. Go to your (client's) RREG home directory and run the following command:

   ```
   ./RREG_Home/bin/oamreg.sh outofband input/Agent_ID_Response.xml
   ```

   Note: If you register the new WebGate agent by using the Oracle Access Manager Administration console, as described in "Registering an OAM Agent Using the Console" in the *Oracle Fusion Middleware Administrator's Guide for Oracle Access Management*, you must manually copy the files and artifacts generated after the registration from the server (the machine on which the Oracle Access Manager Administration Console is running) to the client machine. The files and artifacts are generated in the *MW_HOME*/user_projects/domains/*name_of_the_WebLogic_domain_for_OAM*/output/*Agent_ID* directory.

3.6.1.5 Files and Artifacts Generated by RREG

Regardless of the method or mode you use to register the new WebGate agent, the following files and artifacts are generated in the *RREG_Home*/output/*Agent_ID* directory:

- cwallet.sso
- ObAccessClient.xml
- In the **SIMPLE** mode, RREG generates:
  - password.xml, which contains the obfuscated global passphrase to encrypt the private key used in SSL. This passphrase can be the same as the passphrase used on the server.
  - aaa_key.pem
  - aaa_cert.pem
- In the **CERT** mode, RREG generates password.xml, which contains the obfuscated global passphrase to encrypt the private key used in SSL. This passphrase can be different than the passphrase used on the server.

  Note: You can use these files generated by RREG to generate a certificate request and get it signed by a third-party Certification Authority. To install an existing certificate, you must use the existing aaa_cert.pem and aaa_chain.pem files along with password.xml and aaa_key.pem.

3.6.2 Copying Generated Files and Artifacts to the IHS WebGate Instance Location

After RREG generates these files and artifacts, you must manually copy them, based on the security mode you are using, from the *RREG_Home*/output/*Agent_ID* directory to the *WebGate_Instance_Home* directory.

Do the following according to the security mode you are using:

- In **OPEN** mode, copy the following files from the *RREG_Home*/output/*Agent_ID* directory to the *WebGate_Instance_Home*/webgate/config directory:
  - ObAccessClient.xml
  - cwallet.sso
- In **SIMPLE** mode, copy the following files from the *RREG_Home*/output/*Agent_ID* directory to the *WebGate_Instance_Home*/webgate/config directory:
  - ObAccessClient.xml
  - cwallet.sso
  - password.xml

  In addition, copy the following files from the *RREG_Home*/output/*Agent_ID* directory to the *WebGate_Instance_Home*/webgate/config/simple directory:
  - aaa_key.pem
  - aaa_cert.pem
- In **CERT** mode, copy the following files from the *RREG_Home*/output/*Agent_ID* directory to the *WebGate_Instance_Home*/webgate/config directory:
  - ObAccessClient.xml
  - cwallet.sso
  - password.xml

Generating a New Certificate

You can generate a new certificate as follows:

1. Go to the *WebGate_Home*/webgate/ihs/tools/openssl directory.
2. Create a certificate request as follows:

   ```
   ./openssl req -utf8 -new -nodes -config openssl_silent_ihs11g.cnf
   -keyout aaa_key.pem -out aaa_req.pem -rand WebGate_
   Home/webgate/ihs/config/random-seed
   ```

3. Self-sign the certificate as follows:

   ```
   ./openssl ca -config openssl_silent_ihs11g.cnf -policy policy_anything
   -batch -out aaa_cert.pem -infiles aaa_req.pem
   ```

4. Copy the following generated certificates to the *WebGate_Instance_Home*/webgate/config directory:
   - aaa_key.pem
   - aaa_cert.pem
   - cacert.pem located in the simpleCA directory

Note: After copying the `cacert.pem` file, you must rename the file to `aaa_chain.pem`.

Migrating an Existing Certificate

If you want to migrate an existing certificate (`aaa_key.pem`, `aaa_cert.pem`, and `aaa_chain.pem`), ensure that you use the same passphrase that you used to encrypt `aaa_key.pem`. You must enter the same passphrase during the RREG registration process. If you do not use the same passphrase, the `password.xml` file generated by RREG does not match the passphrase used to encrypt the key.

If you enter the same passphrase, you can copy these certificates as follows:

1. Go to the *`WebGate_Instance_Home`*`/webgate/config` directory.
2. Copy the following certificates to the *`WebGate_Instance_Home`*`/webgate/config` directory:
   - `aaa_key.pem`
   - `aaa_cert.pem`
   - `aaa_chain.pem`

3.7 Starting the IHS Web Server and Accessing the IHS Resource

Before you start the web server, ensure that you have set the environment variable as specified in Section 3.4.2.

To start the IHS web server:

- **On Linux**

  Run the following command:

  ```
  /IBM/HTTPServer/bin/apachectl -k start
  ```

- **On AIX**

  1. Go to the `httpd.conf` file at `/IHS/HTTPServer/conf/httpd.conf`, open it in a text editor, and add the following:

     ```
     ThreadStackSize 2097152
     ```

  2. Run the following command:

     ```
     /IBM/HTTPServer/bin/apachectl -k start
     ```

After you start the IHS Web Server, log in to it by using the following URL:

`http://`*`machine_name.my.company.com:port`*

WebGate intercepts the request and redirects you to the Oracle Access Manager console. Enter the username and password, and you are redirected to the IBM HTTP Server.

3.8 Deinstalling IHS 11*g* Webgate

You should always use the instructions provided in this section for removing the IHS 11g WebGate. If you try to remove the software manually, you may experience problems when you try to reinstall the software again at a later time. Following the procedures in this chapter will ensure that the software is properly removed.

To deinstall the IHS WebGate, do the following:

1. Go to the *MW_HOME/webgate_Home*/oui/bin directory
2. Run the following command:

```
./runInstaller -deinstall
```

After the Installer starts, the **Welcome** screen is displayed. Proceed with the deinstallation by referring to Section 3.8.1.

3.8.1 Deinstallation Screens and Instructions

Follow the instructions in Table 3–3 to deinstall IHS 11*g* WebGate.

If you need additional help with any of the deinstallation screens, click **Help** to access the online help.

Table 3–3 Deinstallation Flow

Sl. No.	Screen	Description	Action Required
1.	Welcome	Each time the deinstaller starts, the **Welcome** screen is displayed.	Click **Next**.
2.	Deinstall Oracle Home	The **Deinstall Oracle Home** screen shows the Oracle home you are about to deinstall.	Verify the Oracle home you are about to deinstall. Click **Deinstall**. On the Warning screen, select whether or not you want the deinstaller to remove the Oracle home directory, in addition to removing the software. Click **Yes** to have the deinstaller remove the software and Oracle home, **No** to remove only the software, or **Cancel** to return to the previous screen. If you select **No**, go to Section 3.8.2 for instructions on how to manually remove your Oracle home directory.
3.	Deinstallation progress	The **Deinstallation Progress** screen shows the progress and status of the deinstallation.	Wait until the **Deinstallation Complete** screen appears.
4.	Deinstallation Complete	The **Deinstallation Complete** screen appears when the deinstallation is complete.	Click **Finish** to dismiss the screen.

3.8.2 Manually Removing the Oracle Home Directory

If you have selected **No** on the warning screen during deinstallation, you must manually remove your *Webgate_Home* directory and any sub-directories. For example: if your Oracle WebGate home directory was `/home/Oracle/Middleware/Oracle_OAMWebGate1`, run the following command:

```
cd /home/Oracle/Middleware/
```

```
rm -rf Oracle_OAMWebGate1
```

3.9 Silent Installation for IHS 11*g* WebGate

To run the IHS 11*g* WebGate in silent mode, complete the following steps:

1. Set the contents of the `silent.rsp` file. For example:

   For IHS 7.x

   ```
   [ENGINE]
   VERSION=1.0.0.0.0
   [GENERIC]
   ORACLE_HOME=/home/MW_HOME/ihs_WebGate_home
   CONFIG_WIZARD_RESPONSE_FILE_LOCATION=0
   [SYSTEM]
   [APPLICATIONS]
   [RELATIONSHIPS]
   ```

   For IHS 8.x

   ```
   [ENGINE]
   VERSION=1.0.0.0.0
   [GENERIC]
   ORACLE_HOME=home/MW_HOME/ihs_WebGate_home
   CONFIG_WIZARD_RESPONSE_FILE_LOCATION=0
   ORACLE HOME FREE SPEACE=0
   SKIP_SOFTWARE_UPDATES=true
   [SYSTEM]
   [APPLICATIONS]
   [RELATIONSHIPS]
   ```

   In the preceding file, the parameters are as follows:

   - `ORACLE_HOME`: Provide the Oracle home location. This is the directory in which you want to install the new IHS WebGate. The location must be an immediate child folder under the specified Middleware Home location. The Oracle home directory name can contain only alphanumeric, hyphen (-), dot (.), and underscore (_) characters, and must begin with an alphanumeric character. The total length must be less than or equal to 128 characters. For example, `home/middleware/ihs_webgate`.
   - `MIDDLEWARE_HOME`: Specify the full path to your Middleware home directory.

2. Extract the contents of the installer to a directory.

3. Run the following command:

   `WebGate_Installer_Directory``/Disk1/runInstaller -jreLoc` *`jre_location`* `-invPtrLoc` *`Absolute_Path_Of_the_oraInst.loc_file`* `-silent -response` *`Absolute_Path_Of_the_silent.rsp_file`*

   In the preceding command:

   - `WebGate_Installer_Directory` is the absolute path to the directory in which you have extracted the contents of the WebGate installer.
   - `jre_location` is the absolute path to the JRE directory.
   - `Absolute_Path_Of_the_oraInst.loc_file` is the absolute path to the `oraInst.loc` file.
   - `Absolute_Path_Of_the_ silent.rsp_file` is the absolute path to the `silent.rsp` file you created.

4

Installing and Configuring Apache WebGate for Oracle Access Manager

This chapter describes how to install and configure Apache (2.2.x) 11*g* Release 2 WebGate for Oracle Access Manager. For an introduction to WebGates and an overview of installing WebGates, see Chapter 1.

This document contains the following sections:

- Section 4.1, "Installation Overview of Apache (2.2.x) 11g WebGate"
- Section 4.2, "Prerequisites for Installing Apache (2.2.x) 11g WebGate"
- Section 4.3, "Installing Apache (2.2.x) 11g WebGate"
- Section 4.4, "Post-Installation Steps for Apache (2.2.x) 11g WebGate"
- Section 4.5, "Verifying the Installation and Configuration of Apache (2.2.x) 11g WebGate"
- Section 4.6, "Getting Started with a New Apache (2.2.x) 11g WebGate"
- Section 4.7, "Starting the Apache (2.2.x) Web Server and Accessing the Apache (2.2.x) Resource"
- Section 4.8, "Deinstalling Apache (2.2.x) 11g WebGate"
- Section 4.9, "Silent Installation for Apache (2.2.x) 11g WebGate"

4.1 Installation Overview of Apache (2.2.x) 11*g* WebGate

Installing Apache (2.2.x) 11*g* WebGate for Oracle Access Manager involves the following steps:

1. Installing the Apache (2.2.x) web server
2. Installing Apache (2.2.x) 11*g* WebGate for Oracle Access Manager
3. Completing the post-installation configuration steps
4. Verifying the Apache (2.2.x) 11*g* WebGate installation
5. Registering the new WebGate agent

4.2 Prerequisites for Installing Apache (2.2.x) 11*g* WebGate

This section contains the following topics:

- "Oracle Fusion Middleware Certification"
- "Installing JRE"

- "Installing and Configuring Apache (2.2.x)"
- "Installing and Configuring Oracle Access Manager 11g"
- "Prerequisites for 64-Bit Apache (2.2.x) 11g WebGates on Windows 2003 and Windows 2008 64-Bit Platforms"

4.2.1 Oracle Fusion Middleware Certification

The Oracle Fusion Middleware Supported System Configurations document provides certification information for Oracle Fusion Middleware, including supported installation types, platforms, operating systems, databases, JDKs, and third-party products related to Oracle Identity and Access Management 11*g* Release 2 (11.1.2.1.0).

You can access the Oracle Fusion Middleware Supported System Configurations document at:

`http://www.oracle.com/technetwork/middleware/ias/downloads/fusion-certification-100350.html`

4.2.2 Installing JRE

You must have Java runtime environment (JRE) 1.6 or higher installed.

If you are installing Apache (2.2.x) 11*g* WebGate on a 64-bit platform, ensure that you have a 64-bit JRE.

4.2.3 Installing and Configuring Apache (2.2.x)

For information about installing and configuring Apache (2.2.x), see the Apache Web Server product documentation.

4.2.4 Installing and Configuring Oracle Access Manager 11*g*

For information about installing Oracle Access Manager (OAM), see "Installing and Configuring Oracle Identity and Access Management (11.1.2.1.0)" in the *Oracle Fusion Middleware Installation Guide for Oracle Identity and Access Management*.

For information about configuring Oracle Access Manager in a new or existing WebLogic administration domain, see "Configuring Oracle Access Manager" in the *Oracle Fusion Middleware Installation Guide for Oracle Identity and Access Management*.

In addition, see "Securing Communication" in the *Oracle Fusion Middleware Administrator's Guide for Oracle Access Manager* for information about configuring Oracle Access Manager in Open, Simple, or Cert mode.

4.2.5 Prerequisites for 64-Bit Apache (2.2.x) 11*g* WebGates on Windows 2003 and Windows 2008 64-Bit Platforms

If you are using Windows 2003 or Windows 2008 64-bit operating systems, you must install Microsoft Visual C++ 2005 libraries on the machine hosting the Apache (2.2.x) 11*g* WebGate for Oracle Access Manager.

These libraries are included in the Microsoft Visual C++ 2005 SP1 Redistributable Package (x64), which can be downloaded from the following website:

`http://www.microsoft.com/DownLoads/details.aspx?familyid=EB4EBE2D-33C0-4A47-9DD4-B9A6D7BD44DA&displaylang=en`

In addition, install the Microsoft Visual C++ 2005 Service Pack 1 Redistributable Package MFC Security Update, which can be downloaded from the following website:

http://www.microsoft.com/downloads/en/details.aspx?familyid=fb01abe6-9099-4544-9aec-0ac13f19bc50&displaylang=en

4.3 Installing Apache (2.2.x) 11*g* WebGate

This section contains the following topics:

- Obtaining the Software
- Starting the Apache (2.2.x) 11g WebGate Installer
- Installation Flow and Procedure

4.3.1 Obtaining the Software

For information about obtaining the Apache (2.2.x) 11*g* WebGate software, see the *Oracle Fusion Middleware Download, Installation, and Configuration ReadMe*.

4.3.2 Starting the Apache (2.2.x) 11*g* WebGate Installer

To start the installation wizard, do the following:

1. Go to the directory in which you extracted the contents of the Installer.
2. Go to the following location:

   ```
   cd Disk1
   ```

3. Run the following command:

   - **On UNIX**

     ```
     ./runInstaller -jreLoc JRE_Location
     ```

   - **On Windows**

     ```
     setup.exe -jreLoc JRE_Location
     ```

4. Specify the JRE/JDK location when prompted. Ensure that you provide the complete path to a 64-bit JRE/JDK if you are installing on a 64-bit platform and 32-bit JRE/JDK if you are installing on a 32-bit platform.

   After the Installer starts, the Welcome screen is displayed. Proceed with the installation by referring to Section 4.3.

4.3.3 Installation Flow and Procedure

To install Apache (2.2.x) 11*g* WebGate for Oracle Access Manager, follow the instructions in Table 4–1.

If you need additional help with any of the installation screens, click **Help** to access the online help.

Table 4–1 Installation Flow of Apache WebGate

No.	Screen	Description and Action Required
1	Welcome Screen	Click **Next** to continue.
2.	My Oracle Support Update Screen	Specify the update option or select **Skip Software Updates**. Click **Next** to continue.
3.	Prerequisite Checks Screen	Click **Next** to continue.
4.	Specify Installation Location Screen	Specify the Oracle home directory locations. For more information about these directories, see "Understanding Oracle Fusion Middleware Concepts and Directory Structure" in the *Oracle Fusion Middleware Installation Planning Guide*. Click **Next** to continue.
5.	Installation Summary Screen	Verify the information on this screen. Click **Install** to begin the installation.
6.	Installation Progress Screen	Click **Next** to continue.
7.	Installation Complete Screen	Click **Finish** to dismiss the Installer.

4.4 Post-Installation Steps for Apache (2.2.x) 11*g* WebGate

This section contains the following topics:

- "Deploying the Apache (2.2.x) 11g WebGate Instance"
- "Setting the Environment Variables"
- "Running the EditHttpConf Tool"

4.4.1 Deploying the Apache (2.2.x) 11*g* WebGate Instance

Create an Apache (2.2.x) 11*g* WebGate instance by using the `deployWebGateInstance.sh` tool from the WebGate Oracle home directory. The WebGate instance directory that you are creating or have provided must be empty.

To deploy the WebGate instance, do the following:

1. Go to the *`WebGate_Oracle_Home`*`/webgate/apache/tools/deployWebGate` directory by running the following command:

   ```
   cd WebGate_Oracle_Home/webgate/apache/tools/deployWebGate
   ```

2. Run the following command:

   ```
   ./deployWebGateInstance -w WebGate_Instancedir -oh WebGate_Oracle_Home -ws WebServer
   ```

   In the preceding command:

   - `WeGate_Instancedir` is the directory in which the new WebGate instances should be created.
   - `WebGate_Oracle_Home` is the WebGate Oracle home directory you specified while installing Apache (2.2.x) 11*g* WebGate.
   - `WebServer` is Apache.

   Example:

```
./deployWebGateInstance -w /home/wg_instance4Apache22 -oh
/home/Oracle_OAMWebGate1/ -ws apache
```

4.4.2 Setting the Environment Variables

Set the environment variable `LD_LIBRARY_PATH` on Linux and Solaris, and `LIBPATH` on AIX to *`WebGate_Oracle_Home`*`/webgate/apache/lib`.

Example:

- **On Linux and Solaris**

  ```
  export LD_LIBRARY_PATH=/home/Oracle_
  OAMWebGate1/webgate/apache/lib
  ```

- **On AIX**

  ```
  export LIBPATH=/home/Oracle_OAMWebGate1/webgate/apache/lib
  ```

- **On Windows 2008 R2 +**

  1. From the **Control Panel**, go to **System and Security**, and then **System**.
  2. Select **Advance system settings** and then select **Environment Variable.**
  3. Update the `Path` System variable with *`WebGate_Oracle_Home`*`/webgate/apache/lib` directory.

4.4.3 Running the EditHttpConf Tool

To run the `EditHttpConf` tool, do the following:

1. Go to the *`WebGate_Oracle_Home`*`/webgate/apache/tools/setup/InstallTools` directory, by running the following command:

   ```
   cd WebGate_Oracle_
   Home/webgate/apache/tools/setup/InstallTools
   ```

2. Run the following command:

   ```
   ./EditHttpConf -f path_to_webserver_config_file -w WebGate_
   Instance_Dir -oh WebGate_Oracle_Home -ws WebServer
   ```

   In the preceding command:

   - `path_to_webserver_config_file` is the full path of the Apache (2.2.x) instance `httpd.conf` file.
   - `WebGate_Instance_Dir` is the directory in which the new WebGate instance is created.
   - `WebGate_Oracle_Home` is the full path to the WebGate Oracle home.
   - `WebServer` is Apache.

Note: The `-oh` parameter is optional and the command runs without any error, even if you do not specify it.

Example:

```
cd /home/OAMWebGate1/webgate/apache/tools/setup/InstallTools/
```

```
./EditHttpConf -f /home/instanceHome1/net-test_
apache/config/test_httpd.conf -oh /home/Oracle_OAMWebGate1/
-w /home/Oracle_OAMWebGate1/wg_instance4Apache/ -ws apache
```

4.5 Verifying the Installation and Configuration of Apache (2.2.x) 11*g* WebGate

After installing Apache (2.2.x) 11*g* WebGate for Oracle Access Manager, you can examine the `installDATE-TIME_STAMP.out` log file to verify the installation. The default log is available in the following location:

WebGate_Home`/oraInst.loc`

4.6 Getting Started with a New Apache (2.2.x) 11*g* WebGate

Before you can use the new Apache (2.2.x) 11*g* WebGate agent for Oracle Access Manager, you must complete the following tasks:

1. "Registering the New Apache (2.2.x) 11g WebGate"
2. "Copying Generated Files and Artifacts to the WebGate Instance Location"

4.6.1 Registering the New Apache (2.2.x) 11*g* WebGate

You can register the new Apache (2.2.x) 11*g* WebGate agent with Oracle Access Manager by using the Oracle Access Manager Administration console. For more information, see "Registering an OAM Agent Using the Console" in the *Oracle Fusion Middleware Administrator's Guide for Oracle Access Management*.

Alternatively, you can use the RREG command-line tool to register a new WebGate agent. You can run the tool in two modes: In-Band and Out-Of-Band.

This section contains the following topics:

- "Setting Up the RREG Tool"
- "Updating the OAM11gRequest.xml File"
- "Using the In-Band Mode"
- "Using the Out-Of-Band Mode"
- "Files and Artifacts Generated by RREG"

4.6.1.1 Setting Up the RREG Tool

To set up the RREG tool, complete the following steps:

1. After installing and configuring Oracle Access Manager, go to the following directory:

   `Oracle_IDM2/oam/server/rreg/client`

2. Untar the `RREG.tar.gz` file.

   Example:

   ```
   gunzip RREG.tar.gz
   ```

   ```
   tar -xvf RREG.tar
   ```

The tool for registering the agent is located at:

`RREG_Home/bin/oamreg.sh`

Note: RREG_Home is the directory in which you extracted the contents of RREG.tar.gz/rreg.

Set the following environment variables in the oamreg.sh script:

- OAM_REG_HOME

  Set this variable to the absolute path to the directory in which you extracted the contents of RREG.tar/rreg.

- JDK_HOME

  Set this variable to the absolute path to the directory in which Java or JDK is installed on your machine.

4.6.1.2 Updating the OAM11gRequest.xml File

You must update the agent parameters, such as agentName, in the OAM11GRequest.xml file in the *RREG_Home*/input directory.

Note: The OAM11GRequest.xml file or the short version OAM11GRequest_short.xml is used as a template. You can copy this template file and use it.

Modify the following required parameters in the OAM11GRequest.xml file or in the OAM11GRequest_short.xml file:

- serverAddress

  Specify the host and the port of the OAM Administration Server.

- agentName

  Specify any custom name for the agent.

- agentBaseUrl

  Specify the host and the port of the machine on which Apache 11*g* WebGate is installed.

- preferredHost

  Specify the host and the port of the machine on which Apache 11*g* WebGate is installed.

- security

  Specify the security mode, such as open, based on the WebGate installed.

- primaryServerList

  Specify the host and the port of Managed Server for the Oracle Access Manager proxy, under a *Server* container element.

After modifying the file, save and close it.

4.6.1.3 Using the In-Band Mode

If you run the RREG tool once after updating the WebGate parameters in the OAM11GRequest.xml file, the files and artifacts required by WebGate are generated in the following directory:

RREG_Home/output/*agent_name*

Note: You can run RREG either on a client machine or on the server. If you are running it on the server, then you must manually copy the artifacts back to the client.

Complete the following steps:

1. Open the OAM11GRequest.xml file, which is in the input directory at *RREG_Home*/input/. *RREG_Home* is the directory where you extracted the contents of RREG.tar.gz/rreg to. Edit the XML file and fill in parameters for the new Apache WebGate for Oracle Access Manager.
2. Run the following command:

   ./*RREG_Home*/bin/oamreg.sh inband input/OAM11GRequest.xml

4.6.1.4 Using the Out-Of-Band Mode

If you are an end-user with no access to the server, then you can email your updated OAM11GRequest.xml file to the system administrator, who can run RREG in the out-of-band mode. You can collect the generated *AgentID*_Response.xml file from the system administrator and run RREG on this file to obtain the WebGate files and artifacts you require.

After you receive the generated *AgentID*_Response.xml file from the administrator, you must manually copy the file to the input directory on your machine.

Complete the following steps:

1. If you are an end-user with no access to the server, open the OAM11GRequest.xml file, which is in *RREG_Home*/input/.

   RREG_Home is the directory in which you extracted the contents of RREG.tar.gz/rreg. Edit this XML file and specify parameters for the new Apache WebGate for Oracle Access Manager. Send the updated file to your system administrator.
2. If you are an administrator, copy the updated OAM11GRequest.xml file, which is in the *RREG_Home*/input/ directory.

   This is the file that you received from the end-user. Go to your (administrator's) RREG_Home directory and run the following command:

   ./*RREG_Home*/bin/oamreg.sh outofband input/OAM11GRequest.xml

   An *Agent_ID*_Response.xml file is generated in the output directory on the administrator's machine, in the *RREG_Home/output/directory*. Send this file to the end user who sent you the updated OAM11GRequest.xml file.
3. If you are an end-user, copy the generated *Agent_ID*_Response.xml file, which is in the *RREG_Home*/input/ directory.

   This is the file that you received from the administrator. Go to your (client's) RREG home directory and run the following command:

   ./*RREG_Home*/bin/oamreg.sh outofband input/*Agent_ID*_Response.xml

Note: If you register the WebGate agent by using the Oracle Access Manager Administration Console, as described in "Registering an OAM Agent Using the Console" in the *Oracle Fusion Middleware Administrator's Guide for Oracle Access Manager*, then you must manually copy the files and artifacts generated after the registration from the server (the machine on which the Oracle Access Manager Administration Console is running) to the client machine. The files and artifacts are generated in the *MW_HOME*/user_projects/domains/*name_of_the_WebLogic_domain_for_OAM*/output/*Agent_ID* directory.

4.6.1.5 Files and Artifacts Generated by RREG

Regardless of the method or mode you use to register the new WebGate agent, the following files and artifacts are generated in the *RREG_Home*/output/*Agent ID* directory:

- cwallet.sso
- ObAccessClient.xml
- In **SIMPLE** mode, RREG generates:
  - password.xml, which contains the obfuscated global passphrase to encrypt the private key used in SSL. This passphrase can be the same as the passphrase used on the server.
  - aaa_key.pem
  - aaa_cert.pem
- In **CERT** mode, RREG generates password.xml file, which contains the obfuscated global passphrase to encrypt the private key used in SSL. This passphrase can be different than the passphrase used on the server.

Note: You can use these files generated by RREG to generate a certificate request and get it signed by a third-party Certification Authority. To install an existing certificate, you must use the existing aaa_cert.pem and aaa_chain.pem files along with password.xml and aaa_key.pem.

4.6.2 Copying Generated Files and Artifacts to the WebGate Instance Location

After RREG generates these files and artifacts, you must manually copy the following files, based on the security mode you are using, from the *RREG_Home*/output/*Agent_ID* directory to the *WebGate_Instance_Home* directory.

Do the following according to the security mode you are using:

- In **OPEN** mode, copy the following files from the *RREG_Home*/output/*Agent_ID* directory to the *WebGate_Instance_Home*/webgate/config directory:
  - ObAccessClient.xml
  - cwallet.sso
- In **SIMPLE** mode, copy the following files from the *RREG_Home*/output/*Agent_ID* directory to the *WebGate_Instance_Home*/webgate/config directory:

  - ObAccessClient.xml
  - cwallet.sso
  - password.xml

  In addition, copy the following files from the *RREG_Home*/output/*Agent_ID* directory to the *WebGate_Instance_Home*/webgate/config/simple directory:

  - aaa_key.pem
  - aaa_cert.pem

- In **CERT** mode, copy the following files from the *RREG_Home*/output/*Agent_ID* directory to the *WebGate_Instance_Home*/webgate/config directory:

  - ObAccessClient.xml
  - cwallet.sso
  - password.xml

After copying the files, you must either generate a new certificate or migrate an existing certificate.

Generating a New Certificate

You can generate a new certificate as follows:

1. Go to the *WebGate_Home*/webgate/apache/tools/openssl directory.
2. Create a certificate request as follows:

   ```
   ./openssl req -utf8 -new -nodes -config openssl_silent_
   ohs11g.cnf -keyout aaa_key.pem -out aaa_req.pem -rand
   WebGate_Home/webgate/apache/config/random-seed
   ```

3. Self-sign the certificate as follows:

   ```
   ./openssl ca -config openssl_silent_ohs11g.cnf -policy
   policy_anything -batch -out aaa_cert.pem -infiles aaa_req.pem
   ```

4. Copy the following generated certificates to the *WebGate_Instance_Home*/webgate/config directory:

   - aaa_key.pem
   - aaa_cert.pem
   - cacert.pem located in the simpleCA directory

   Note: After copying the cacert.pem file, you must rename the file to aaa_chain.pem.

Migrating an Existing Certificate

If you want to migrate an existing certificate (aaa_key.pem, aaa_cert.pem, and aaa_chain.pem), then ensure that you use the same passphrase which you used to encrypt aaa_key.pem. You must enter the same passphrase during the RREG registration process. If you do not use the same passphrase, then the password.xml file generated by RREG will not match the passphrase used to encrypt the key.

If you enter the same passphrase, then you can copy these certificates as follows:

1. Go to the *WebGate_Instance_Home*/webgate/config directory.

2. Copy the following certificates to the *WebGate_Instance_Home*/webgate/config directory:
   - aaa_key.pem
   - aaa_cert.pem
   - aaa_chain.pem

4.7 Starting the Apache (2.2.x) Web Server and Accessing the Apache (2.2.x) Resource

Before you start the web server, ensure that you have set the environment variable as specified in Section 4.2.

To start the Apache (2.2.x) web server, run the following command:

```
/home/Apache/bin/apachectl -k start
```

After you start the Apache (2.2.x) web server, log in by using the following URL:

```
http://machine_name.my.company.com:port
```

WebGate intercepts the request and redirects you to the Oracle Access Manager console. Enter the username and password, and you are redirected to the Apache WebServer.

4.8 Deinstalling Apache (2.2.x) 11g WebGate

You should always use the instructions provided in this section for removing the Apache (2.2.x) 11g WebGate for Oracle Access Manager. If you try to remove the software manually, then you may experience problems when you try to reinstall the software again at a later time. Following the procedures in this section will ensure that the software is properly removed.

To deinstall the WebGate agent, do the following:

1. Go to the *MW_HOME/WebGate_Home*/oui/bin directory on UNIX, and *MW_HOME**Webgate_home*\oui\bin on Windows.
2. Run the following command:
   - **On UNIX**:

     ```
     ./runInstaller -deinstall
     ```

   - **On Windows**:

     ```
     setup.exe -deinstall -jreLoc JRE_LOCATION
     ```

     Ensure that you specify the absolute path to your *JRE_LOCATION*; relative paths are not supported.

After the deinstaller starts, the **Welcome** screen is displayed. Proceed with the deinstallation by referring to Section 4.8.

4.8.1 Deinstallation Screens and Instructions

Follow the instructions in Table 4–2 to complete the deinstallation.

If you need additional help with any of the deinstallation screens, then click **Help** to access the online help.

Table 4–2 Deinstallation Flow

Sl. No.	Screen	Description	Action Required
1.	Welcome	Each time the deinstaller starts, the **Welcome** screen is displayed.	Click **Next**.
2.	Deinstall Oracle Home	The **Deinstall Oracle Home** screen shows the Oracle home you are about to deinstall.	Verify the Oracle home you are about to deinstall. Click **Deinstall**. On the Warning screen, select whether or not you want the deinstaller to remove the Oracle home directory in addition to removing the software. Click **Yes** to have the deinstaller remove the software and Oracle home, **No** to remove only the software, or **Cancel** to return to the previous screen. If you select **No**, see Section 4.8.2 for instructions on how to manually remove your Oracle home directory.
3.	Deinstallation progress	The **Deinstallation Progress** screen shows the progress and status of the deinstallation.	Wait until the **Deinstallation Complete** screen appears.
4.	Deinstallation Complete	The **Deinstallation Complete** screen appears when the deinstallation is complete.	Click **Finish** to dismiss the screen.

4.8.2 Manually Removing the Oracle Home Directory

If you have selected **No** on the warning screen during deinstallation, then you must manually remove your *Webgate_Home* directory and any sub-directories. For example: if your Oracle WebGate home directory was `/home/Oracle/Middleware/Oracle_OAMWebGate1`, run the following command:

```
cd /home/Oracle/Middleware/

rm -rf Oracle_OAMWebGate1
```

On Windows, if your Oracle Common home directory is `C:\Oracle\Middleware\Oracle_OAMWebGate1`, then use a file manager window, go to the `C:\Oracle\Middleware` directory, right-click on the `Oracle_OAMWebGate1` folder, and then select **Delete**.

4.9 Silent Installation for Apache (2.2.x) 11g WebGate

To run the Apache (2.2.x) 11g WebGate in silent mode, complete the following steps:

1. Set the contents of the `silent.rsp` file. For example:

```
[ENGINE]
#DO NOT CHANGE THIS.
Response File Version=1.0.0.0.0
[GENERIC]
```

```
ORACLE_HOME=/home/MW_HOME/Apache_Webgate_home
CONFIG_WIZARD_RESPONSE_FILE_LOCATION=0
ORACLE HOME FREE SPACE=0
SKIP_SOFTWARE_UPDATES=true
[SYSTEM]
[APPLICATIONS]
[RELATIONSHIPS]
```

In the preceding file, the parameters are as follows:

- `ORACLE_HOME`: Provide the Oracle home location. This is the directory in which you want to install the new Apache (2.2.x) 11*g* WebGate. The location must be an immediate child folder under the specified Middleware home location. The Oracle home directory name can contain only alphanumeric, hyphen (-), dot (.), and underscore (_) characters, and must begin with an alphanumeric character. The total length has to be less than or equal to 128 characters. For example, `home/middleware/apache_webgate`.
- `MW_HOME`: Specify the full path to your Middleware home directory.

2. Extract the contents of the installer to a directory.
3. Run the following command:

   `WebGate_Installer_Directory``/Disk1/runInstaller -jreLoc` *`jre_location`* `-invPtrLoc` *`Absolute_Path_Of_the_oraInst.loc_file`* `-silent -response` *`Absolute_Path_Of_the_silent.rsp_file`*

   In the preceding command:

   - `WebGate_Installer_Directory` is the absolute path to the directory in which you have extracted the contents of the WebGate installer.
   - `jre_location` is the absolute path to the JRE directory.
   - `Absolute_Path_Of_the_oraInst.loc_file` is the absolute path to the `oraInst.loc` file.
   - `Absolute_Path_Of_the_silent.rsp_file` is the absolute path to the `silent.rsp` file you created.

5

Installing and Configuring IIS 11*g* WebGate for OAM

This chapter describes how to install and configure Microsoft Server (IIS) 11*g* WebGate for Oracle Access Manager.

This chapter contains the following sections:

5.1 Installation Overview of IIS 11*g* WebGate

Installing IIS 11*g* WebGate for Oracle Access Manager involves the following steps:

1. Installing the IIS 7.x web server
2. Installing IIS 11*g* WebGate for Oracle Access Manager
3. Completing the post-installation configuration steps
4. Verifying the IIS 11*g* WebGate installation
5. Registering the new WebGate agent

5.2 Prerequisites for Installing IIS 11*g* WebGate

This section discusses the following topics:

- Oracle Fusion Middleware Certification
- Installing JRE
- Installing Visual C++ Redistributable for Visual Studio 2012
- Installing and Configuring OAM 11g

5.2.1 Oracle Fusion Middleware Certification

The *Oracle Fusion Middleware Supported System Configurations* document provides certification information for Oracle Fusion Middleware, including supported installation types, platforms, operating systems, databases, JDKs, and third-party products related to Oracle Identity and Access Management 11*g* Release 2 (11.1.2.1.0).

You can access the *Oracle Fusion Middleware Supported System Configurations* document at:

http://www.oracle.com/technetwork/middleware/ias/downloads/fusion-certification-100350.html

5.2.2 Installing JRE

You must have a 64-bit Java runtime environment (JRE), 1.6 or higher installed.

5.2.3 Installing Visual C++ Redistributable for Visual Studio 2012

You must install Visual C++ Redistributable for Visual Studio 2012 Update 4, `vcredist_x64.exe`.

For information about downloading, installing, and configuring, see the Microsoft download page and product documentation.

5.2.4 Installing and Configuring IIS 7.x

For information about installing and configuring IIS, see the Microsoft IIS product documentation.

5.2.5 Installing and Configuring OAM 11*g*

For information about installing Oracle Access Manager (OAM), see "Installing and Configuring Oracle Identity and Access Management (11.1.2.1.0)" in the *Oracle Fusion Middleware Installation Guide for Oracle Identity and Access Management*.

For information about configuring Oracle Access Manager in a new or existing WebLogic administration domain, see "Configuring Oracle Access Manager" in the *Oracle Fusion Middleware Installation Guide for Oracle Identity and Access Management*.

In addition, see "Securing Communication" in the *Oracle Fusion Middleware Administrator's Guide for Oracle Access Management* for information about configuring Oracle Access Manager in Open, Simple, or Cert mode.

5.3 Installing IIS 11*g* WebGate

This section contains the following topics:

- Obtaining the Software
- Starting the IIS 11g WebGate Installer
- Installation Flow and Procedure

5.3.1 Obtaining the Software

For information about obtaining the IIS 11*g* WebGate software, see the *Oracle Fusion Middleware Download, Installation, and Configuration ReadMe*.

5.3.2 Starting the IIS 11*g* WebGate Installer

To start the installation wizard, do the following:

1. Extract the contents of the `WebGate.zip` file to a directory. By default, this directory is named `WebGate`.
2. Go to the `Disk1` directory under the `WebGate` folder.
3. Run the following command:

   ```
   setup.exe -jreLoc 64_bit_jre_location
   ```

After the Installer starts, the **Welcome** screen is displayed. Proceed with the installation by referring to Section 5.3.3.

5.3.3 Installation Flow and Procedure

To install IIS 11*g* WebGate for Oracle Access Manager, follow the instructions in Table 5–1.

If you need additional help with any of the installation screens, click **Help** to access the online help.

Table 5–1 Installation Flow of IIS WebGate

No.	Screen	Description and Action Required
1.	Welcome Screen	Click **Next** to continue.
2.	Prerequisite Checks Screen	Click **Next** to continue.
3.	Specify Installation Location Screen	Specify the Middleware Home and Oracle Home locations. For more information about these directories, see "Understanding Oracle Fusion Middleware Concepts and Directory Structure" in *Oracle Fusion Middleware Installation Planning Guide for Oracle Identity and Access Management*. Click **Next** to continue.
4.	Installation Summary Screen	Verify the information on this screen. Click **Install** to begin the installation.
5.	Installation Progress Screen	Click **Next** to continue.
6.	Installation Complete Screen	Click **Finish** to dismiss the Installer.

5.4 Post-Installation Steps for IIS 11*g* WebGate

This section includes the following topics:

- Deploying the IIS WebGate Instance
- Running the ConfigureIISWebGate.bat Tool

5.4.1 Deploying the IIS WebGate Instance

Create an IIS WebGate instance by using the `deployWebGateInstance.sh` tool from the WebGate Oracle Home directory. The WebGate instance directory that you are creating or have provided must be empty.

To deploy the WebGate instance, do the following:

1. Go to the *`WebGate_Oracle_Home`*`\webgate\iis\tools\deployWebGate` directory by running the following command:

```
cd WebGate_Oracle_Home\webgate\iis\tools\deployWebGate
```

2. Run the following command:

```
deployWebGateInstance.bat -w WebGate_Instancedir -oh WebGate_Oracle_
Home -ws WebServer
```

In the preceding command:

- `WebGate_Instancedir` is the directory in which the new WebGate instances should be created.
- `WebGate_Oracle_Home` is the WebGate Oracle home directory you specified while installing IIS 11*g* WebGate.
- `WebServer` is IIS.

Example:

```
deployWebGateInstance.bat -w home\wg_instance4iis\ -oh \home\Oracle_
OAMWebGate1\ -ws iis
```

5.4.2 Running the ConfigureIISWebGate.bat Tool

To run the `ConfigureIISWebGate.bat` tool, do the following:

1. Go to the following directory:

```
cd WebGate_Home\webgate\iis\tools\ConfigureIISConf
```

2. Run the following command:

```
ConfigureIISWebGate.bat WebGate_Home Webgate_Instancedir SiteName
```

In the preceding command:

- `WebGate_Home` is the full path to the WebGate Oracle home.
- `WebGate_Instance`dir is the directory in which the new WebGate instances are created. This is the same instance directory that you have provided while running the `deployWebGateInstance.bat` command.
- `SiteName` is the IIS WebServer site name.

Example:

```
ConfigureIISWebGate.bat c:\WGHome c:\WGInstance Default Web Site
```

Note: Running the `ConfigureIISWebGate.bat` command also updates the *WebGate_Oracle_Home*`\webgate\iis\lib\webgate.ini` file with IIS Site ID and WebGate Instance Directory.

5.5 Verifying the Installation and Configuration of IIS 11*g* WebGate

After installing IIS 11*g* WebGate for Oracle Access Manager, you can examine the `installDATE-TIME_STAMP.out` log file to verify the installation. The default location of the log is in the following file:

WebGate_Home`\oraInst.loc`

5.6 Getting Started with a New IIS 11*g* WebGate

Before you can use the new IIS 11*g* WebGate agent for Oracle Access Manager, you must complete the following tasks:

1. Registering the New IIS 11g WebGate
2. Copying Generated Files and Artifacts to the IIS WebGate Instance Location

5.6.1 Registering the New IIS 11*g* WebGate

You can register the new WebGate agent with Oracle Access Manager by using the Oracle Access Manager Administration console. For more information, see "Registering an OAM Agent Using the Console" in the *Oracle Fusion Middleware Administrator's Guide for Oracle Access Management*.

Alternatively, you can use the RREG command-line tool to register a new WebGate agent. You can run the tool in two modes: **In-Band** and **Out-Of-Band**.

This section contains the following topics:

- Setting Up the RREG Tool
- Updating the OAM11gRequest.xml File
- Using the In-Band Mode
- Using the Out-Of-Band Mode
- Files and Artifacts Generated by RREG

5.6.1.1 Setting Up the RREG Tool

To set up the RREG tool, complete the following steps:

1. After installing and configuring Oracle Access Manager, go to the following directory:

   Oracle_IDM2\oam\server\rreg\client

2. Untar the `RREG.tar.gz` file.

   Example:

   ```
   gunzip RREG.tar.gz
   ```

   ```
   tar -xvf RREG.tar
   ```

The tool for registering the agent is located at:

RREG_Home\bin\oamreg.sh

> **Note:** *RREG_Home* is the directory in which you extracted the contents of `RREG.tar.gz\rreg`.

Set the following environment variables in the `oamreg.sh` script:

- `OAM_REG_HOME`

  Set this variable to the absolute path to the directory in which you extracted the contents of `RREG.tar\rreg`.

- `JDK_HOME`

Set this variable to the absolute path to the directory in which Java or JDK is installed on your machine.

5.6.1.2 Updating the OAM11gRequest.xml File

You must update the agent parameters, such as `agentName`, in the `OAM11GRequest.xml` file located in the *`RREG_Home`*`\input` directory.

> **Note:** The `OAM11GRequest.xml` file or the short version `OAM11GRequest_short.xml` is used as a template. You can copy this template file and use it.

Modify the following required parameters in the `OAM11GRequest.xml` file or in the `OAM11GRequest_short.xml` file:

- `serverAddress`

  Specify the host and the port of the OAM Administration Server.

- `agentName`

  Specify any custom name for the agent.

- `agentBaseUrl`

  Specify the host and the port of the machine on which IIS 11*g* WebGate is installed.

- `preferredHost`

  Specify the host and the port of the machine on which IIS 11*g* WebGate is installed.

- `security`

  Specify the security mode, such as `open`, based on the WebGate installed.

- `primaryServerList`

  Specify the host and the port of Managed Server for the Oracle Access Manager proxy, under a *`Server`* container element.

After modifying the file, save and close it.

5.6.1.3 Using the In-Band Mode

If you run the RREG tool once after updating the WebGate parameters in the `OAM11GRequest.xml` file, the files and artifacts required by WebGate are generated in the following directory:

`RREG_Home``\output\`*`agent_name`*

> **Note:** You can run RREG either on a client machine or on the server. If you are running it on the server, you must manually copy the artifacts back to the client.

Complete the following steps:

1. Open the `OAM11GRequest.xml` file, which is in the *`RREG_Home`*`\input\` directory. *`RREG_Home`* is the directory in which you extracted the contents of `RREG.tar.gz\rreg`.

   Edit the XML file and enter parameters for the new IIS WebGate for Oracle Access Manager.

2. Run the following command:

   ./*RREG_Home*\bin\oamreg.sh inband input\OAM11GRequest.xml

5.6.1.4 Using the Out-Of-Band Mode

If you are an enduser with no access to the server, you can email your updated OAM11GRequest.xml file to the system administrator, who can run RREG in the out-of-band mode. You can collect the generated *AgentID*_Response.xml file from the system administrator and run RREG on this file to obtain the WebGate files and artifacts you require.

After you receive the generated *AgentID*_Response.xml file from the administrator, you must manually copy the file to the input directory on your machine.

Complete the following steps:

1. If you are an enduser with no access to the server, open the OAM11GRequest.xml file, which is in *RREG_Home*\input\.

   RREG_Home is the directory in which you extracted the contents of RREG.tar.gz\rreg. Edit the XML file, specify parameters for the new IIS WebGate for Oracle Access Manager, and send the updated file to your system administrator.

2. If you are an administrator, copy the updated OAM11GRequest.xml file, which is in the *RREG_Home*\input\ directory.

   This is the file that you received from the enduser. Go to your (administrator's) *RREG_Hom*e directory and run the following command:

   ./*RREG_Home*\bin\oamreg.sh outofband input\OAM11GRequest.xml

   An *Agent_ID*_Response.xml file is generated in the output directory on the administrator's machine, in the *RREG_Home*\output\ directory. Send this file to the enduser who sent you the updated OAM11GRequest.xml file.

3. If you are an enduser, copy the generated *Agent_ID*_Response.xml file, which is in the *RREG_Home*\input\ directory.

   This is the file that you received from the administrator. Go to your (client's) RREG home directory and run the following command:

   ./*RREG_Home*\bin\oamreg.sh outofband input*Agent_ID*_Response.xml

   Note: If you register the new WebGate agent by using the Oracle Access Manager Administration console, as described in "Registering an OAM Agent Using the Console" in the *Oracle Fusion Middleware Administrator's Guide for Oracle Access Management*, you must manually copy the files and artifacts generated after the registration from the server (the machine on which the Oracle Access Manager Administration Console is running) to the client machine. The files and artifacts are generated in the *MW_HOME*\user_projects\domains*name_of_the_WebLogic_domain_for_OAM*\output*Agent_ID* directory.

5.6.1.5 Files and Artifacts Generated by RREG

Regardless of the method or mode you use to register the new WebGate agent, the following files and artifacts are generated in the *RREG_Home*\output*Agent_ID* directory:

- cwallet.sso
- ObAccessClient.xml
- In the **SIMPLE** mode, RREG generates:
  - password.xml, which contains the obfuscated global passphrase to encrypt the private key used in SSL. This passphrase can be the same as the passphrase used on the server.
  - aaa_key.pem
  - aaa_cert.pem
- In the **CERT** mode, RREG generates password.xml, which contains the obfuscated global passphrase to encrypt the private key used in SSL. This passphrase can be different than the passphrase used on the server.

Note: You can use these files generated by RREG to generate a certificate request and get it signed by a third-party Certification Authority. To install an existing certificate, you must use the existing aaa_cert.pem and aaa_chain.pem files along with password.xml and aaa_key.pem.

5.6.2 Copying Generated Files and Artifacts to the IIS WebGate Instance Location

After RREG generates these files and artifacts, you must manually copy them, based on the security mode you are using, from the *RREG_Home*\output*Agent_ID* directory to the *WebGate_Instance_Home* directory.

Do the following according to the security mode you are using:

- In **OPEN** mode, copy the following files from the *RREG_Home*\output*Agent_ID* directory to the *WebGate_Instance_Home*\webgate\config directory:
  - ObAccessClient.xml
  - cwallet.sso
- In **SIMPLE** mode, copy the following files from the *RREG_Home*\output*Agent_ID* directory to the *WebGate_Instance_Home*\webgate\config directory:
  - ObAccessClient.xml
  - cwallet.sso
  - password.xml

  In addition, copy the following files from the *RREG_Home*\output*Agent_ID* directory to the *WebGate_Instance_Home*\webgate\config\simple directory:
  - aaa_key.pem
  - aaa_cert.pem
- In **CERT** mode, copy the following files from the *RREG_Home*\output*Agent_ID* directory to the *WebGate_Instance_Home*\webgate\config directory:
  - ObAccessClient.xml
  - cwallet.sso
  - password.xml

Generating a New Certificate

You can generate a new certificate as follows:

1. Go to the *WebGate_Home*\webgate\iis\tools\openssl directory.
2. Create a certificate request as follows:

```
./openssl req -utf8 -new -nodes -config openssl_silent_iis11g.cnf
-keyout aaa_key.pem -out aaa_req.pem -rand WebGate_
Home\webgate\iis\config\random-seed
```

3. Self-sign the certificate as follows:

```
./openssl ca -config openssl_silent_iis11g.cnf -policy policy_anything
-batch -out aaa_cert.pem -infiles aaa_req.pem
```

4. Copy the following generated certificates to the *WebGate_Instance_Home*\webgate\config directory:
   - aaa_key.pem
   - aaa_cert.pem
   - cacert.pem located in the simpleCA directory

> **Note:** After copying the cacert.pem file, you must rename the file to aaa_chain.pem.

Migrating an Existing Certificate

If you want to migrate an existing certificate (aaa_key.pem, aaa_cert.pem, and aaa_chain.pem), ensure that you use the same passphrase that you used to encrypt aaa_key.pem. You must enter the same passphrase during the RREG registration process. If you do not use the same passphrase, the password.xml file generated by RREG does not match the passphrase used to encrypt the key.

If you enter the same passphrase, you can copy these certificates as follows:

1. Go to the *WebGate_Instance_Home*\webgate\config directory.
2. Copy the following certificates to the *WebGate_Instance_Home*\webgate\config directory:
   - aaa_key.pem
   - aaa_cert.pem
   - aaa_chain.pem

5.7 Starting the IIS Web Server and Accessing the IIS Resource

To start the IIS web server:

1. From the **Start** menu, select **run**, and type **inetmgr**.
2. Select the IIS Site and select **Start** to start the IIS Site.

After you start the IIS Web Server, log in to it by using the following URL:

http://*machine_name.my.company.com:port*

WebGate intercepts the request and redirects you to the Oracle Access Manager console. Enter the username and password, and you are redirected to the Microsoft IIS Server.

5.8 Deinstalling IIS 11*g* Webgate

You should always use the instructions provided in this section for removing the IIS 11g WebGate. If you try to remove the software manually, you may experience problems when you try to reinstall the software again at a later time. Following the procedures in this chapter will ensure that the software is properly removed.

To deinstall the IIS WebGate, do the following:

1. Go to the *MW_HOME**webgate_Home*\oui\bin directory
2. Run the following command:

   ```
   setup.exe -deinstall -jreLoc JRE_LOCATION
   ```

   Ensure that you specify the absolute path to your *JRE_LOCATION*; relative paths are not supported.

After the Installer starts, the **Welcome** screen is displayed. Proceed with the deinstallation by referring to Section 5.8.1.

5.8.1 Deinstallation Screens and Instructions

Follow the instructions in Table 5–2 to deinstall IIS 11*g* WebGate.

If you need additional help with any of the deinstallation screens, click **Help** to access the online help.

Table 5–2 Deinstallation Flow

Sl. No.	Screen	Description	Action Required
1.	Welcome	Each time the deinstaller starts, the **Welcome** screen is displayed.	Click **Next**.
2.	Deinstall Oracle Home	The **Deinstall Oracle Home** screen shows the Oracle home you are about to deinstall.	Verify the Oracle home you are about to deinstall. Click **Deinstall**. On the Warning screen, select whether or not you want the deinstaller to remove the Oracle home directory, in addition to removing the software. Click **Yes** to have the deinstaller remove the software and Oracle home, **No** to remove only the software, or **Cancel** to return to the previous screen. If you select **No**, go to Section 5.8.2 for instructions on how to manually remove your Oracle home directory.
3.	Deinstallation progress	The **Deinstallation Progress** screen shows the progress and status of the deinstallation.	Wait until the **Deinstallation Complete** screen appears.
4.	Deinstallation Complete	The **Deinstallation Complete** screen appears when the deinstallation is complete.	Click **Finish** to dismiss the screen.

5.8.2 Manually Removing the Oracle Home Directory

If you have selected **No** on the warning screen during deinstallation, you must manually remove your *Webgate_Home* directory and any sub-directories. For example, if your Oracle Common home directory is `C:\Oracle\Middleware\Oracle_OAMWebGate1`, then use a file manager window, go to the `C:\Oracle\Middleware` directory, right-click on the `Oracle_OAMWebGate1` folder, and then select **Delete**.

5.9 Silent Installation for IIS 11*g* WebGate

To run the IIS 11*g* WebGate in silent mode, complete the following steps:

1. Set the contents of the `silent.rsp` file. For example:

```
[ENGINE]
#DO NOT CHANGE THIS.
Response File Version=1.0.0.0.0
[GENERIC]
ORACLE_HOME=\home\MW_HOME\iis_WebGate_home
MIDDLEWARE_HOME=\home\MW_HOME
[SYSTEM]
[APPLICATIONS]
[RELATIONSHIPS]
```

   In the preceding file, the parameters are as follows:

   - `ORACLE_HOME`: Provide the Oracle home location. This is the directory in which you want to install the new IIS WebGate. The location must be an immediate child folder under the specified Middleware Home location. The Oracle home directory name can contain only alphanumeric, hyphen (-), dot (.), and underscore (_) characters, and must begin with an alphanumeric character. The total length must be less than or equal to 128 characters. For example, `home\middleware\iis_webgate`.
   - `MIDDLEWARE_HOME`: Specify the full path to your Middleware home directory.

2. Extract the contents of the installer to a directory.

3. Run the following command:

   WebGate_Installer_Directory`\Disk1\runInstaller -jreLoc` *jre_location* `-invPtrLoc` *Absolute_Path_Of_the_oraInst.loc_file* `-silent -response` *Absolute_Path_Of_the_silent.rsp_file*

   In the preceding command:

   - `WebGate_Installer_Directory` is the absolute path to the directory in which you have extracted the contents of the WebGate installer.
   - `jre_location` is the absolute path to the JRE directory.
   - `Absolute_Path_Of_the_oraInst.loc_file` is the absolute path to the `oraInst.loc` file.
   - `Absolute_Path_Of_the_ silent.rsp_file` is the absolute path to the `silent.rsp` file you created.

6

Moving an IHS WebGate From a Test to Production Environment

This chapter describes how to copy a provisioned IBM HTTP Server (IHS) 11*g* WebGate configuration from a test environment to a production environment. These same steps can also be used to copy a production environment to a test environment. This chapter includes the following sections:

6.1 Overview

Copying an IHS 11g WebGate configuration from a test environment to a production environment involves the following steps:

1. Copy the WebGate binary:
   a. Archive the WebGate binary on the test system by using the `copyBinary` command.
   b. Transfer the archive to the production system.
   c. Extract the archive in the production environment by using the `pasteBinary` command.
2. Copy the WebGate configuration information:
   a. Archive the WebGate instances on the test system using the `copyConfig` command.
   b. Transfer the archive to the production system.
   c. (*Optional*.) Edit the file (`moveplan.xml`) that contains the configuration settings used by the `pasteConfig` command in the next step.
   d. Extract the archive in the production environment using the `pasteConfig` command.

6.2 Prerequisites

Before continuing with the steps in this chapter, verify that you have completed the following requirements.

- Configuring the IBM HTTP Server

- Copying the Oracle Access Management (OAM) Server
- Verifying the Transfer to Production Tools
- Verifying the JDK Version

6.2.1 Configuring the IBM HTTP Server

You must install and configure the IBM HTTP Server Web server in the production environment. The version and build numbers in the test and production environments must match.

6.2.2 Copying the Oracle Access Management (OAM) Server

You must copy the OAM Server configuration from the test environment to the production environment. For details, see "Moving Access Manager From a Test to Production Environment on IBM WebSphere" in the *Third-Party Application Server Guide*.

6.2.3 Verifying the Transfer to Production Tools

Verify that the transfer to production (T2P) tools are available. The tools are located here:

WebGate_Oracle_Home/webgate/ihs/tools/WebGateT2P

The required command scripts for UNIX environments are:

- copyBinary.sh
- pasteBinary.sh
- copyConfig.sh
- pasteConfig.sh

Ensure that you have the cloningclientwg.jar file.

6.2.4 Verifying the JDK Version

Ensure that at least a version 1.6 JDK or JRE is installed.

Set the JAVA_HOME environment variable to the location of the JDK/JRE path. For example, export JAVA_HOME=/home/software/jdk1.6.0_34.

Note: You can define a JAVA_HOME environment variable on your systems and use the -javaHome command option when you are running the test-to-production migration commands.

6.3 Replicating the WebGate Binary and Configuration From Test to Production

To copy the WebGate binary and WebGate configuration files, from a test environment to a production environment, do the following:

6.3.1 Replicating the WebGate Binary

To replicate the WebGate binary:

1. In the test environment, create an archive of the binary using the `copybinary.sh` command. The usage is as follows:

   `./copyBinary.sh [-javaHome` *`Java_Home_Path`* `] -archiveLoc` *`Archive_Dir`* `-sourceOHomeLoc` *`Source_WebGate_Oracle_Home`*

2. Move the archive created in the previous step to the production environment using FTP.

   Also copy the `WebGateT2P` directory from the Test environment to the Production environment in preparation for the next step.

3. In the production environment use the `pastebinary.sh` command to extract the archive copied in the previous step. The usage is as follows:

   `./pasteBinary.sh [-javaHome` *`Java_Home_Path`* `] -archiveLoc` *`Archive_Dir`* `-targetOHomeLoc` *`Target_Oracle_Home_Location`*

6.3.2 Replicating the WebGate Configuration

To Replicate the WebGate configuration:

1. In the test environment, create an archive of the WebGate instance (the config) using the `copyConfig.sh` command.

   A file named `Moveplan.xml` will be created at the archive location.

   The `copyConfig` command usage is as follows:

   `./copyConfig.sh [-javaHome` *`Java_Home_Path`* `] -archiveLoc` *`Archive_Dir`* `-sourceInstanceHomeLoc` *`Source_WebGate_Instance_Home`*

2. Move `Moveplan.xml` and the archive created in the previous step to the production environment using FTP.

3. (*Optional.*) Open `moveplan.xml` for editing and update the following parameters. These parameter are used by the `pasteConfig.sh` command to configure the WebGate in the production environment.

Table 6–1 Configuration Parameters and Expected Value

Parameter Name	Expected Value
`primaryOAMServerHost`	Valid OAM server name
`primaryOAMServerPort`	Valid OAM server proxy port
`WGOracleHome`	WebGate Oracle home
`WGInstanceDir`	WebGate instance directory
`WebServerConfigFile`	File path to the Web server config file, for example `httpd.conf` or `obj.conf`.

4. Set the `LD_LIBRARY_PATH` and `LIBPATH` environment variables on the production system before running `pasteConfig.sh`.

5. In the production environment, run the `pasteConfig.sh` command to extract the WebGate archive that you copied in step two. The `pasteConfig.sh` command has two usage modes. Use the following mode if you defined the configuration parameters in the `moveplan.xml` file:

   `./pasteConfig.sh [-javaHome` *`Java_Home_Path`* `] -archiveLoc` *`Archive_Location`* `-movePlanLoc` *`Path_to_the_ moveplan.xml_file`*

Or, to define the configuration parameters at the command line, use the following mode:

```
./pasteConfig.sh [-javaHome Java_Home_Path ] -archiveLoc Archive_
Location -targetOHomeLoc Target_Oracle_home_location
-targetInstanceHomeLoc An_empty_directory -webserverConfPath Web_server_
configuration_path -oamHost OAM_server_host -oamPort OAM_server_port
```