

# Oracle® Plug-in for Microsoft IIS

Configuration and User's Guide

Release 1.0.2 for Windows

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**ORACLE®**

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Oracle Plug-in for Microsoft IIS Configuration and User's Guide, Release 1.0.2 for Windows

Part No. A87355-01

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## **Oracle Plug-in for Microsoft IIS Configuration and User's Guide, Release 1.0.2 for Windows Part No. A87355-01**

Oracle Corporation welcomes your comments and suggestions on the quality and usefulness of this document. Your input is an important part of the information used for revision.

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# Preface

This manual describes how to configure and use Oracle Plug-in for Microsoft IIS.

This preface contains these topics:

- [Audience](#)
- [Organization](#)
- [Related Documentation](#)
- [Conventions](#)

## Audience

*Oracle Plug-in for Microsoft IIS Configuration and User's Guide* is intended for users who want to access PL/SQL and Java Web components, within the Oracle database, from Microsoft Internet Information Server (IIS).

To use this document, you need to be familiar with the following:

- Windows NT, and have installed and tested it on your computer system
- Oracle databases
- PL/SQL
- Java
- Object-relational database management concepts
- Microsoft IIS, the Web server built-in with Windows NT
- Technologies and programming languages used in middle-tier environments
- Apache's PL/SQL Gateway (`mod_plsql`) and `mod_ose` concepts

## Organization

This document contains:

### **Chapter 1, "Oracle Plug-in for Microsoft IIS Overview"**

This chapter provides an overview of Oracle Plug-in for Microsoft IIS and describes the supported transaction types for PL/SQL and Java Web components.

### **Chapter 2, "Configuring Oracle Plug-in for Microsoft IIS"**

This chapter describes how to register and load Oracle Plug-in for Microsoft IIS and how to access PL/SQL and Java Web components.

### **Chapter 3, "How to Use Oracle Plug-in for Microsoft IIS"**

This chapter describes how to create PL/SQL Web components and trace component requests.



## Related Documentation

For more information, see these Oracle resources:

- *Oracle8i Concepts*
- *Using the PL/SQL Gateway* (describes Apache's mod\_plsql)
- *Oracle8i Oracle Servlet Engine User's Guide* (describes Apache's mod\_ose)
- *Oracle8i Application Developer's Guide - Fundamentals*
- *Oracle JavaServer Pages Developer's Guide and Reference*
- *Oracle8i Java Developer's Guide*
- *Oracle8i Java Tools Reference*

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# Conventions

This section describes the conventions used in the text and code examples of this documentation set. It describes:

- [Conventions in Text](#)
- [Conventions in Code Examples](#)
- [Conventions for Windows Operating Systems](#)

## Conventions in Text

We use various conventions in text to help you more quickly identify special terms. The following table describes those conventions and provides examples of their use.

Convention	Meaning	Example
<b>Bold</b>	Bold typeface indicates terms that are defined in the text or terms that appear in a glossary, or both.	The C datatypes such as <b>ub4</b> , <b>sword</b> , or <b>OCINumber</b> are valid. When you specify this clause, you create an <b>index-organized table</b> .
<i>Italics</i>	Italic typeface indicates book titles, emphasis, syntax clauses, or placeholders.	<i>Oracle8i Concepts</i> You can specify the <i>parallel_clause</i> . Run <i>Uold_release</i> .SQL where <i>old_release</i> refers to the release you installed prior to upgrading.
UPPERCASE monospace (fixed-width font)	Uppercase monospace typeface indicates elements supplied by the system. Such elements include parameters, privileges, datatypes, RMAN keywords, SQL keywords, SQL*Plus or utility commands, packages and methods, as well as system-supplied column names, database objects and structures, user names, and roles.	You can specify this clause only for a NUMBER column. You can back up the database using the BACKUP command. Query the TABLE_NAME column in the USER_TABLES data dictionary view. Specify the ROLLBACK_SEGMENTS parameter. Use the DBMS_STATS.GENERATE_STATS procedure.

Convention	Meaning	Example
lowercase monospace (fixed-width font)	Lowercase monospace typeface indicates executables and sample user-supplied elements. Such elements include computer and database names, net service names, and connect identifiers, as well as user-supplied database objects and structures, column names, packages and classes, user names and roles, program units, and parameter values.	Enter <code>sqlplus</code> to open SQL*Plus. The <code>department_id</code> , <code>department_name</code> , and <code>location_id</code> columns are in the <code>hr.departments</code> table. Set the <code>QUERY_REWRITE_ENABLED</code> initialization parameter to <code>true</code> . Connect as <code>oe</code> user.

### Conventions in Code Examples

Code examples illustrate SQL, PL/SQL, SQL\*Plus, or other command-line statements. They are displayed in a monospace (fixed-width) font and separated from normal text as shown in this example:

```
SELECT username FROM dba_users WHERE username = 'MIGRATE';
```

The following table describes typographic conventions used in code examples and provides examples of their use.

Convention	Meaning	Example
[ ]	Brackets enclose one or more optional items. Do not enter the brackets.	<code>DECIMAL (digits [ , precision ])</code>
{ }	Braces enclose two or more items, one of which is required. Do not enter the braces.	<code>{ENABLE   DISABLE}</code>
	A vertical bar represents a choice of two or more options within brackets or braces. Enter one of the options. Do not enter the vertical bar.	<code>{ENABLE   DISABLE}</code> <code>[COMPRESS   NOCOMPRESS]</code>
...	Horizontal ellipsis points indicate either: <ul style="list-style-type: none"> <li>That we have omitted parts of the code that are not directly related to the example</li> <li>That you can repeat a portion of the code</li> </ul>	<code>CREATE TABLE ... AS subquery;</code>  <code>SELECT col1, col2, ... , coln FROM employees;</code>
.	Vertical ellipsis points indicate that we have omitted several lines of code not directly related to the example.	

Convention	Meaning	Example
Other notation	You must enter symbols other than brackets, braces, vertical bars, and ellipsis points as it is shown.	acctbal NUMBER(11,2); acct CONSTANT NUMBER(4) := 3;
<i>Italics</i>	Italicized text indicates variables for which you must supply particular values.	CONNECT SYSTEM/ <i>system_password</i>
UPPERCASE	Uppercase typeface indicates elements supplied by the system. We show these terms in uppercase in order to distinguish them from terms you define. Unless terms appear in brackets, enter them in the order and with the spelling shown. However, because these terms are not case sensitive, you can enter them in lowercase.	SELECT last_name, employee_id FROM employees; SELECT * FROM USER_TABLES; DROP TABLE hr.employees;
lowercase	Lowercase typeface indicates programmatic elements that you supply. For example, lowercase indicates names of tables, columns, or files.	SELECT last_name, employee_id FROM employees; sqlplus hr/hr

## Conventions for Windows Operating Systems

The following table describes conventions for Windows operating systems and provides examples of their use.

Convention	Meaning	Example
Choose Start >	How to start a program. For example, to start Net8 Assistant, you must click the Start button on the taskbar and then choose Programs > Oracle - <i>HOME_NAME</i> > Network Administration > Net8 Assistant.	Choose Start > Programs > Oracle - <i>HOME_NAME</i> > Network Administration > Net8 Assistant
C:\>	Represents the Windows command prompt of the current hard disk drive. Your prompt reflects the subdirectory in which you are working. Referred to as the command prompt in this guide.	C:\oracle\oradata>
<i>HOME_NAME</i>	Represents the Oracle home name. The home name can be up to sixteen alphanumeric characters. The only special character allowed in the home name is the underscore.	Oracle <i>HOME_NAME</i> TNSListener

Convention	Meaning	Example
<i>ORACLE_HOME</i> and <i>ORACLE_BASE</i>	<p>In releases prior to 8.1, when you installed Oracle, all subdirectories were located under a top level <i>ORACLE_HOME</i> directory that by default was:</p> <ul style="list-style-type: none"> <li>■ C:\orant for Windows NT</li> <li>■ C:\orawin95 for Windows 95</li> <li>■ C:\orawin98 for Windows 98</li> </ul> <p>or whatever you called your Oracle home.</p> <p>In this Optimal Flexible Architecture (OFA)-compliant release, all subdirectories are not under a top level <i>ORACLE_HOME</i> directory. There is a top level directory called <i>ORACLE_BASE</i> that by default is C:\oracle. If you install <i>Oracle8i</i> release 9.0 on a clean computer (that is, there is no other Oracle software on the computer), the default setting for the first Oracle home directory is C:\oracle\ora90. The Oracle home directory is located directly under <i>ORACLE_BASE</i>.</p> <p>All directory path examples in this guide follow OFA conventions.</p> <p>See <i>Oracle8i Administrator's Guide for Windows</i> for additional information on OFA compliances and for information on installing Oracle products in non-OFA compliant directories. This manual is available from Oracle Technology Network (OTN). See "<a href="#">Related Documentation</a>" on page ix for information on how to access OTN.</p>	Go to the <i>ORACLE_BASE\ORACLE_HOME\rdms\admin</i> directory.



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# Oracle Plug-in for Microsoft IIS Overview

This chapter provides an overview of Oracle Plug-in for Microsoft IIS and describes access for PL/SQL and Java Web components.

This chapter contains these topics:

- [What Is Oracle Plug-in for Microsoft IIS?](#)
- [PL/SQL Web Component Access](#)
- [Java Web Component Access](#)

## What Is Oracle Plug-in for Microsoft IIS?

Oracle Plug-in for Microsoft IIS enables you to use Microsoft Internet Information Server (IIS), the Web server included with Windows NT, to directly access PL/SQL and Java Web components stored in the Oracle database server. This plug-in provides a fast and integrated method of accessing PL/SQL and Java Web components running in the IIS environment.

Oracle Plug-in for Microsoft IIS provides functionality similar to Apache's PL/SQL Gateway (`mod_plsql`) and Apache's `mod_ose` in the IIS environment.

Web components are accessed in one of two ways:

- Passing a preconfigured virtual directory prefix (PL/SQL access)
- Passing a predefined file extension and virtual directory prefixes which are stored in the Java configuration file (Java access)

## PL/SQL Web Component Access

Oracle Plug-in for Microsoft IIS supports accessing PL/SQL Web components stored inside the Oracle database in the IIS environment. PL/SQL Web component access is limited to PL/SQL stored procedures written using Oracle PL/SQL Web Toolkit and PL/SQL server pages.

PL/SQL requests are filtered using a predefined prefix and then are executed using pooled database connections. Users have the ability to configure PL/SQL component access from multiple databases.

**See Also:** ["PL/SQL Web Component Access"](#) on page 2-10 for more information about configuring PL/SQL Web component access

## Java Web Component Access

Oracle Plug-in for Microsoft IIS supports accessing Java Web components stored inside the Oracle database in the IIS environment. Java requests are filtered using a Java configuration file. Java Web component access is limited to JavaServer Pages (JSP) and servlets.

**See Also:** ["Java Web Component Access"](#) on page 2-13 for more information about configuring Java Web component access



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# Configuring Oracle Plug-in for Microsoft IIS

This chapter describes how to register and load Oracle Plug-in for Microsoft IIS and how to configure access to PL/SQL and Java Web components.

This chapter contains these topics:

- [Prerequisites](#)
- [Registering Oracle Plug-in for Microsoft IIS for Web Component Access](#)
- [Loading Oracle Plug-in for Microsoft IIS](#)
- [Stateless Versus Stateful Transactions](#)
- [PL/SQL Web Component Access](#)
- [Java Web Component Access](#)

## Prerequisites

Enabling PL/SQL and Java Web component usage requires the following:

- **Client Configuration:** You have installed Oracle Plug-in for Microsoft IIS on the same computer as IIS. For installation details, see the installation guide for your product.
- **Back-end Database Configuration:** You have installed Oracle8i release 8.1.7 database server. Oracle Servlet Engine (OSE) server resides within the Oracle database.
- You have developed and published your PL/SQL and Java Web components.

## Software Requirements

The following are the software requirements for Oracle Plug-in for Microsoft IIS.

<b>Software</b>	<b>Version</b>
Operating System	Microsoft Windows NT 4.0 with Service Pack 3.0 and above
Web server	Microsoft Internet Information Server (IIS) 4.0 and above
Web browsers	<ul style="list-style-type: none"><li>■ Netscape 4.0.8 and above</li><li>■ Microsoft Internet Explorer 4.0.1 with Service Pack 1 and above</li></ul>

## Registering Oracle Plug-in for Microsoft IIS for Web Component Access

To access PL/SQL and Java Web components in the IIS environment, you must configure an Internet Server Application Programming Interface (ISAPI) filter that is triggered when each HTTP request is processed.

ISAPI filters use Dynamic Link Libraries (DLLs) to redirect client HTTP requests passed to the Web server. The filter is executed within the IIS process. ISAPI loads a single instance of the DLL in the IIS memory space and remains in memory, where it can carry out additional requests, until IIS is stopped or restarted.

After the filter is loaded within the IIS process, it redirects all HTTP requests to the filter which checks for PL/SQL and Java Web component configuration information. If the configuration parameters are present, then the filter rewrites the request for the ISAPI extension and the extension executes the request. Otherwise, the request is passed back to IIS for processing.

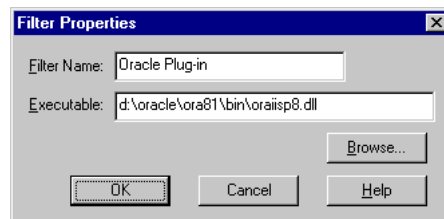
This section describes the tasks to register Oracle Plug-in for Microsoft IIS.

- [Task 1: Creating a New ISAPI Filter](#)
- [Task 2: Creating a New Virtual Directory](#)
- [Task 3: Setting the Directory Security](#)

### Task 1: Creating a New ISAPI Filter

1. From Microsoft Management Console (MMC), right-click the Web site where you are configuring the Oracle Plug-in for Microsoft IIS filter and select Properties.
2. Select the ISAPI Filters tab and choose Add.

The Filter Properties dialog box appears.



3. Enter the following information for Oracle Plug-in for Microsoft IIS ISAPI filter:
  - Filter Name: (enter any name)
  - Executable: `x:\ORACLE_BASE\ORACLE_HOME\bin\oraiisp8.dll`  
where `x` is the hard drive and `\ORACLE_BASE\ORACLE_HOME\` is the root directory of the Oracle Plug-in for Microsoft IIS installation.
4. Choose OK, and then Apply.

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**Note:** If other ISAPI filters are also installed, then make sure there is no conflict in functionality between the filters. Consult your Microsoft documentation for more information.

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## Task 2: Creating a New Virtual Directory

1. From MMC, right-click the Web site where you are enabling the filter and select New > Virtual Directory.

The New Virtual Directory Wizard appears.



2. Enter *OraclePlugin* as the alias for the new virtual directory.

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---

**Note:** The virtual directory name is not case-sensitive but must be one word and called *OraclePlugin*.

---

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3. Choose Next.



4. Enter the physical path such as `x:\ORACLE_BASE\ORACLE_HOME\bin`.

5. Choose Next.



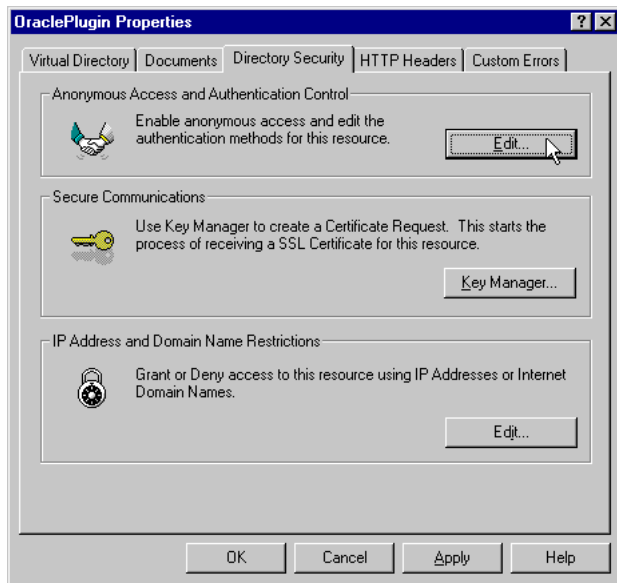
6. Accept the default settings, Allow Read Access and Allow Script Access, and then select Allow Execute Access (includes Script Access).

7. Choose Finish.

### Task 3: Setting the Directory Security

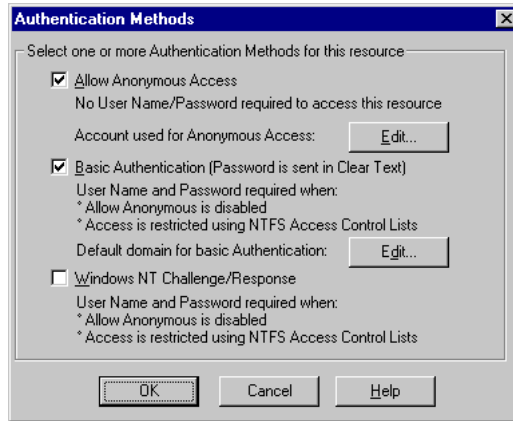
1. From MMC, right-click the virtual directory you just created and select Properties.

The OraclePlugin Properties dialog box appears.



2. Select the Directory Security tab.

3. Choose Edit in the Anonymous Access and Authentication Control section. The Authentication Methods dialog box appears.



4. Deselect Windows NT Challenge/Response.
5. Select Basic Authentication (Password is sent in Clear Text).
6. Choose OK.

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**Note:** HTTPS is supported for additional security.

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## Loading Oracle Plug-in for Microsoft IIS

This section provides information about the following:

- [Starting and Stopping the Web Service](#)
- [Verifying Oracle Plug-in for Microsoft IIS Status](#)

### Starting and Stopping the Web Service

The Web site where Oracle Plug-in for Microsoft IIS is configured must be stopped and restarted to load the plug-in's ISAPI filter.

1. From MMC, right-click the Web site where Oracle Plug-in for Microsoft IIS is configured and select Stop.

The Web service is stopped.

2. Right-click the Web site where Oracle Plug-in for Microsoft IIS is configured and select Start.

The Web service is restarted.

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**Note:** You may have to reboot IIS in order to load Oracle Plug-in for Microsoft IIS.

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### Verifying Oracle Plug-in for Microsoft IIS Status

Before you can access PL/SQL and Java Web components, the Oracle Plug-in for Microsoft IIS must be registered and loaded within IIS.

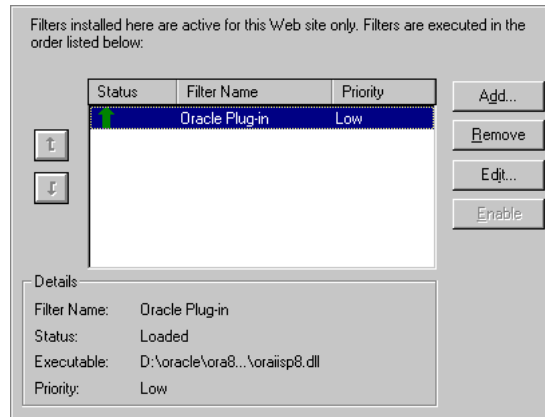
**To check the status of Oracle Plug-in for Microsoft IIS, perform the following steps:**

1. From MMC, right-click the Web site where Oracle Plug-in for Microsoft IIS is configured and select Properties.
2. Choose the ISAPI Filters tab.



3. Select *Oracle Plug-in* from the list box.

In the details information box, the filter status should be *Loaded*.



---

**Note:** If the Oracle Plug-in for Microsoft IIS filter is not loaded, then reboot your computer.

---

## Stateless Versus Stateful Transactions

Oracle Plug-in for Microsoft IIS provides support for building and deploying the following:

- Stateless PL/SQL stored procedures
- Stateless PL/SQL Server Pages
- Stateful and stateless JavaServer Pages
- Stateful and stateless Java servlet

Web components can retrieve data from database tables and generate HTTP responses to display in a Web browser.

In a stateless environment, each HTTP request from a client maps to a new database session. Application state is typically maintained in HTTP cookies or database tables. Transaction state cannot span across requests. If a Web component executes successfully, an implicit commit is performed. If it executes with an error, an implicit rollback is performed.

In a stateful environment, each HTTP request from a client maps to the same database session. A transaction can span across requests because no implicit commits or rollbacks are performed.

## PL/SQL Web Component Access

PL/SQL Web components are PL/SQL stored procedures written using the PL/SQL Web Toolkit and PL/SQL Server Pages.

Access to PL/SQL Web components stored in the Oracle database requires Database Access Descriptors (DADs). Typical DADs store the connection information of the Oracle database (the connect string which is also known as the network service name) containing the stored procedures that you want to execute. Also, DADs contain optional information such as authentication mode, connection pooling, and username and password information.

Oracle Plug-in for Microsoft IIS uses Apache's PL/SQL Gateway Configuration Menu (`mod_plsql`) Web page to configure DADs.

Oracle Plug-in for Microsoft IIS supports only stateless PL/SQL Web components. However, a component can contain state information in a common store such as a database or browser cookie.

### See Also:

- ["Creating Web Components"](#) on page 3-2 for information about the PL/SQL Web Toolkit
- *Using the PL/SQL Gateway* for detailed information about DAD settings and the Gateway Configuration Menu

## Setting up Web Access

This section provides information about the following:

- [Accessing the PL/SQL Gateway Configuration Menu](#)
- [Configuring PL/SQL Web Component Access](#)

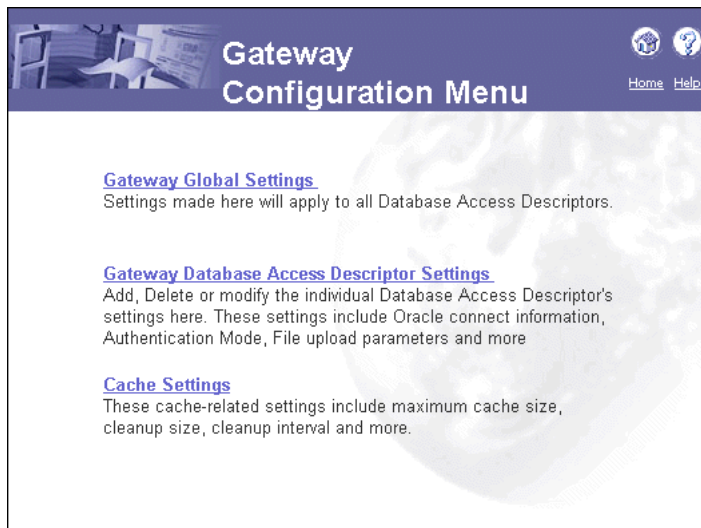
### Accessing the PL/SQL Gateway Configuration Menu

Enter the following URL in your Web browser to display the Gateway configuration Menu:

```
http://hostname[:port]/prefix/admin_path/
```

<b>Where...</b>	<b>Specifies...</b>
<i>hostname</i>	The computer where IIS is running.
<i>port</i>	The port at which IIS is listening for Web components. If omitted, port 80 is assumed.
<i>prefix</i>	The virtual path mapped to Oracle Plug-in for Microsoft IIS. This setting must be <code>pls</code>
<i>admin_path</i>	The URL path element that identifies an administration page. The default is <code>admin_</code>

[Figure 2-1](#) on page 2-12 shows the Gateway Configuration Menu.

**Figure 2–1 Configuring PL/SQL Web Component Access**

## Configuring PL/SQL Web Component Access

PL/SQL Web component access is determined by DADs configured from the Gateway Configuration Menu. From the Gateway Configuration Menu choose the Gateway Database Access Descriptor Settings link. See [Figure 2–1](#) on page 2-12.

**See Also:** *Using the PL/SQL Gateway* for detailed information about DAD settings, the Gateway Configuration Menu, and sample URLs for accessing PL/SQL Web components.

When configuring DADs, leave the Session State set to *No* because Oracle Plug-in for Microsoft IIS does not support stateful PL/SQL Web components.

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**Note:** Each DAD Session State must be set to *No*.

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## Java Web Component Access

Before accessing Java Web components you must:

1. Publish your Java components in the Oracle Servlet Engine (OSE) server. OSE is a built-in Web server running inside the Oracle8i release 8.1.7 database which supports Java Web components. JavaServer Pages (JSP) and Servlets are executed under a Java Virtual Machine (JVM) in the OSE server.
2. Connect to the OSE server and generate the Web domain information. This information must be stored in the Java configuration file, `oraiisjp.cfg`, and the file must be saved in the `\ORACLE_BASE\ORACLE_HOME\iisplugin` directory. Create the Java configuration file using the session shell tool (`sess_sh`), a Java Web management and publishing tool, which creates the configuration file in the format required by IIS.

The Java configuration file stores the virtual paths that map to a stateless or stateful mode and whether a specific file extension is required. Oracle Plug-in for Microsoft IIS supports stateful and stateless Java Web component access.

### See Also:

- *Oracle9i Oracle Servlet Engine User's Guide* for complete information about publishing components, mapping virtual paths, and an overview of session shell tool commands.
- *Oracle9i Java Tools Reference* for a complete description of the session shell tool commands

## Creating the Java Component Configuration File

1. From the command prompt, enter the following command to invoke the session shell:

```
sess_sh -s transportURL/ -u user -p password
```

Where...	Specifies...
<i>transportURL</i>	Any of these supported URLs: <ul style="list-style-type: none"> <li>▪ <code>jdbc:oracle:type:spec</code> The Java Database Connection (JDBC) URL that connects to the database using JDBC.</li> <li>▪ <code>http://hostname:port</code> The HTTP URL indicating the host and port used to connect to the administrative Web server preinstalled in the database.</li> <li>▪ <code>sess_iiop://hostname:port[:sid]</code> The SESS_IIOB URL indicating the host, port, and SID for the GIOP listener on the server.</li> </ul>
<i>user</i>	The login name for the database session.
<i>password</i>	The password during login.

2. From the session shell prompt, enter the following information:

```
exportwebdomain -format iis -netservice TNS_connect_string \  
webdomain &> \ORACLE_BASE\ORACLE_HOME\iisplugin\oraiisjp.cfg
```

Where...	Specifies...
<i>TNS_connect_string</i>	How to connect to the OSE server. This connect string information is stored in the configuration file.
<i>webdomain</i>	The Sun Java Naming and Directory Interface (JNDI) location of the Web domain to export. The JNDI namespace is an API storing the OSE server information and contents, and provides naming and directory functionality to applications written in the Java programming language.
	<code>\ORACLE_BASE\ORACLE_HOME\</code> The fully qualified name of the configuration file. <code>iisplugin\oraiisjp.cfg</code>

---



---

**Note:** Your Java component configuration file must be copied to the `\iisplugin` directory and be named `oraiisjp.cfg`.

---



---

Java Web components are now accessible.

To see how OSE server connection strings look, see [Example 2-1](#). Note that the OSE server is differentiated by the presentation type.

**See Also:** *Net8 Administrator's Guide* for detailed information about connection strings. This manual is available from OTN. See "[Related Documentation](#)" on page ix for information on how to access OTN.

**Example 2-1 Sample Database Connection String for the OSE Server**

```
test.world=(Description=(Address=(Port=1521)(host=test-pc)(Protocol=tcp))
  (Connect_Data=
    (Service_name=test.us.oracle.com)
    (Presentation=http://admin)
  )
)
```

The `oraiisjp.cfg` file stores the TNS connect string information which specifies how Java Web components connect to the OSE server. In [Example 2-2](#), `AuroraService` is the OSE server name and `test.world` is the HTTP connection name.

The `oraiisjp.cfg` file consists of three columns.

Column Heading	Description
Virtual Path	The location of the published Java Web components within the OSE server.
Type	The Java Web component state. Stateful and stateless Java component access and stateful Java-based applications are supported.
Extension	The Java Web component file extension to execute on the OSE server.

**Example 2–2 Sample oraisjp.cfg File**

```
#
# IIS configuration
# Domain: /admin_
# Virtual Path          Type          Extension
#
#                               AuroraService  test.world
#                               Maxworkers     100
#
# Context for VPATH /
#
/admin/shell             Stateful
/errors/internal        Stateless    snoop
/examples/counter      Stateful
/examples/snoop        Stateful

#
# End of configuration
#
```

Using the preceding example, [Example 2–2](#), incoming requests use the `test.world` connection string to connect to the OSE server as follows:

- For all incoming requests containing the virtual path `/errors/internal/`, Oracle Plug-in for Microsoft IIS sends the request with the `.snoop` extension in stateless mode. Requests without the `.snoop` extension are returned to IIS for processing.
- For all incoming requests containing the virtual path `/admin/shell`, Oracle Plug-in for Microsoft IIS sends all requests in stateful mode regardless of extension.



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# How to Use Oracle Plug-in for Microsoft IIS

This chapter describes how to create Web components and trace component requests.

This chapter contains these topics:

- [Creating Web Components](#)
- [Invoking Web Components](#)
- [Performance Tuning](#)
- [Creating a Trace File](#)

## Creating Web Components

PL/SQL Web components are PL/SQL stored procedures written using the PL/SQL Web Toolkit and PL/SQL Server Pages.

Java Web Components are JavaServer Pages and Java Servlets.

<b>For Information About...</b>	<b>See...</b>
Installing the PL/SQL Web Toolkit	<i>Using the PL/SQL Gateway</i>
Using the PL/SQL Web Toolkit	<i>Using the PL/SQL Gateway</i>
Creating and Loading PL/SQL stored procedures into the database	<i>Using the PL/SQL Gateway</i>
PL/SQL Gateway Tutorial	<i>Using the PL/SQL Gateway</i>
Developing PL/SQL stored procedures and PL/SQL Server Pages	<i>Oracle8i Application Developer's Guide - Fundamentals</i> This manual is available from OTN. See " <a href="#">Related Documentation</a> " on page ix for information on how to access OTN.
Running Java in the database	<i>Oracle8i Java Developer's Guide</i>
Writing, installing, and deploying Java applications within the database	<i>Oracle8i Java Developer's Guide</i>
Creating and running JSPs in the Oracle Servlet Engine	<i>Oracle JavaServer Pages Developer's Guide and Reference</i>
Publishing and invoking JSPs and Servlets in the Oracle Servlet Engine. Overview of Session Shell Tool commands and mapping virtual paths.	<i>Oracle8i Oracle Servlet Engine User's Guide</i>
Session Shell Tool commands	<i>Oracle8i Java Tools Reference</i>

## Invoking Web Components

This section provides information about the following:

- [Invoking PL/SQL Web Components](#)
- [Invoking Java Web Components](#)

### Invoking PL/SQL Web Components

**To invoke PL/SQL Web components in a Web browser, the URL is typically in the following format:**

```
protocol://hostname[:port]/prefix/DAD/[[!][schema.][package.]  
proc_name[?query_string]]
```

<b>Where...</b>	<b>Specifies...</b>
<i>protocol</i>	Either http or https. For SSL, use https.
<i>hostname</i>	The computer where IIS is running.
<i>port</i>	The port at which the IIS is listening for Web components. If omitted, port 80 is assumed.
<i>prefix</i>	The virtual path mapped to Oracle Plug-in for Microsoft IIS. This setting must be <code>pls</code>
<i>DAD</i>	The DAD entry to be used for this URL.
<i>schema</i>	The database schema name. If omitted, name resolution for <code>package.proc_name</code> occurs based on the database user that the URL request is processed as.
<i>package</i>	The package that contains the PL/SQL stored procedure. If omitted, the procedure is stand alone.
<i>proc_name</i>	The PL/SQL stored procedure to run. This must be a procedure and not a function.
<i>?query_string</i>	The parameters for the stored procedure. The string follows the format of the GET method.

## Invoking Java Web Components

To invoke Java Web components in a Web browser, the URL is typically in the following format:

```
http://hostname[:port]/servlet-context/a.snoop
```

Where...	Specifies...
<i>hostname</i>	The computer where IIS is running.
<i>port</i>	The port at which IIS is listening for HTTP requests. If omitted, port 80 is assumed.
<i>servlet-context</i>	The virtual path where the Java Web components are stored inside the Oracle database.
<i>a.snoop</i>	The Java servlet to execute.

## Performance Tuning

Under a heavy load, performance may improve by fine tuning the individual Web component configurations. For Java components, increase the number of `Maxworkers` in your Java configuration file. For PL/SQL components, change the Connection Pool Parameters from the Edit Database Access Descriptor Web page.

### See Also:

- ["Setting the Maxworkers Parameter"](#) to set the `Maxworkers` parameter
- *Using the PL/SQL Gateway* for more information about the Edit Database Access Descriptor Web page

## Setting the Maxworkers Parameter

Optionally, add the `Maxworkers` parameter to the Java configuration file to increase Java Web component performance of concurrent requests handled by the OSE server. [Figure 2-2](#) on page 2-16 implements the `Maxworkers` parameter. The default number of `Maxworkers` is 50.

## Creating a Trace File

Oracle Plug-in for Microsoft IIS Trace option allows you to collect data about all the Oracle Plug-in for Microsoft IIS transactions executing against a database. The trace file shows HTTP requests and responses. Use any text editor to view the trace file.

**To set the Trace option, perform the following steps:**

1. From the Windows Registry Editor, right-click HKEY\_LOCAL\_MACHINE\SOFTWARE\ORACLE and select New > DWORD Value.
2. Enter ORA\_IISPLUGIN\_TRACE as the Value Name.
3. Right-click ORA\_IISPLUGIN\_TRACE and select Modify.
4. To turn the Trace option on, enter 1 as the Value data.

When tracing is enabled, the `pluginiisPID.trc` file is stored in the `\ORACLE_BASE\ORACLE_HOME\iisplugin` directory, where `iisPID` refers to the process ID of IIS.

If you require further assistance, contact Oracle Support Services.



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