

Configuration Oracle OSE / Apache / Jserv

Purpose

This dokument supplies the publication „Oracle Servlet Engine“ by K. Seematter Akadia Ltd. and describes the configuration steps for:

- the Oracle Servlet Engine
- the Oracle HTTP-Server (Apache) with Jserv and MOD_OSE
- the different examples

Summary of examples

| # | Description |
|---|--|
| 1 | Direct access from a HTTP client to the OSE, calling a static HTML page in the OS filesystem. |
| 2 | Direct access from a HTTP client to a servlet in the OSE. The servlet reads the EMP table using the internal KPRB JDBC driver. |
| 3 | Calling a servlet in the servlet zone of the Oracle HTTP server (Apache) |
| 4 | Calling a servlet in the OSE over the Oracle HTTP server. The servlet reads the EMP table using the internal KPRB JDBC driver. (Same servlet as used in example 2) |

Notice:

A link to source code for the above examples is shown when you run the appropriate example.

Platform

These examples have been installed and configured on the following platform:

Server:

- OS RedHat Linux 6.2 (kernel-2.2.14-5.0)
- Oracle Oracle8i Enterprise Edition Release 8.1.7.0.1
JServer Release 8.1.7.0.1 – Production

Remarks:

We tried to use RedHat Linux 7.0 without success. e.g. we could not run the session shell tool „sess_sh“.

Client:

- OS Windows 2000
- Oracle 8.1.7 Client
- HTTP-Browser MS-Explorer 5.0

Windows 2000

We also installed, configured and succesfully tested the whole application on a Win 2K PC.

Requirements

- JServer installed in the Oracle database server.
Installscrips:
ORACLE_HOME\javavm\install\initjvm.sql

- Oracle HTTP server (is part of Oracle 8i Release 3) installed under:
ORACLE_HOME/Apache

Installation

Install Oracle Servlet Engine (OSE)

- Start installation script:
ORACLE_HOME\javavm\install\init_jis.sql
- Check and change if necessary the INIT-ORA-Parameter ,mts_dispatchers'

```
mts_dispatchers="(PROTOCOL=tcp)"
```

DB-Restart (if changes occurred)

- Check and grant if necessary

```
GRANT JAVAUSERPRIV TO SCOTT;
```

Further Information

Additional information for the Java environment is provided under:
\$ORACLE_HOME/javavm/readme.txt

Examples

Configuration steps for all examples

Please take note of:

```
> Unixprompt
$ Prompt sess_sh tool
```

Enable a Web service within the OSE

- Invoke the session shell tool on the database server

```
> sess_sh -u sys/manager -s jdbc:oracle:thin:@<your_host>:<your_port>:<your_sid>
```
- Create a Web service and a root directory in the JNDI namespace

```
$ createwebservice -root /SougDemoRoot SougDemo
```
- Change the owners from SYS to SCOTT

```
$ chown -R SCOTT /SougDemoRoot
```
- Define access rights

```
$ chmod -R +rwx SCOTT /SougDemoRoot
```

Example 1

Direct access from a HTTP client to the OSE, calling a static HTML page in the OS filesystem.

- Create an OS directory e.g.
/u01/users/kse/SougDemo/StaticPages/
- Invoke the session shell tool

```
> sess_sh -u sys/manager -s
jdbc:oracle:thin:@<your_host>:<your_port>:<your_sid>
```

- Create a Web domain. The option `-docroot` defines the path of static HTML pages.

```
$ createwebdomain -docroot /u01/users/kse/SougDemo/StaticPages
/SougDemoRoot
```
- Create a context within the Web domain.

```
$ createcontext -virtualpath /SougDemo -docroot
/u01/users/kse/SougDemo/StaticPages /SougDemoRoot SougDemoContext
```
- Add a new endpoint to the listener

```
addendpoint -port 7778 -register SougDemo SougEndpt01
```
- Setup access rights for the new objects:

```
$ chmod -R +rwx SCOTT /SougDemoRoot
$ exit
```
- Invoke SQL*Plus

```
SQL> exec
dbms_java.grant_permission('SCOTT','SYS:java.io.FilePermission','/u01/
users/kse/SougDemo/StaticPages/example_1.html','read');
commit;
```

Test example 1 with the URL:

`http://<your_host>:7778/SougDemo/example_1.html`

Example 2

Direct access from a HTTP client to a servlet in the OSE. The servlet reads the EMP table using the internal KPRB JDBC driver.

- Create and compile a Java servlet e.g `ReadEmployees.java`.
- Load servlet in to the database

```
> loadjava -verbose -u SCOTT/tiger ReadEmployees.class
```
- Publish the servlet within the Web service
 Invoke the session shell tool:

```
> sess_sh -u sys/manager -s jdbc:oracle:thin:@<your_host>:<your_port>:<your_sid>
```

```
$ publishservlet -virtualpath /Emp
/SougDemoRoot/contexts/SougDemoContext ReadEmployees
SCOTT:ReadEmployees
```

```
$ chmod -R +rwx SCOTT /SougDemoRoot
```

```
$ exit
```

Test example 2 with the URL

`http://<your_host>:7778/SougDemo/Emp`

Example 3

Calling a servlet in the servlet zone of the Oracle HTTP server.

Configure Apache/Jserv

Check and change if necessary:

- File `$ORACLE_HOME/Apache/Apache/conf/httpd.conf`

```
include "/opt/oracle/product/8.1.7/Apache/Jserv/etc/jserv.conf"
# This port is used when starting without SSL
```

Port 7777

- `$ORACLE_HOME/Apache/Jserv/etc/jserv.conf`
`ApJServMount /SougdemoJserv /SougdemoJserv`
- `$ORACLE_HOME/Apache/Jserv/etc/jserv.properties`
`# Servlet Zones parameters`
`#####`
`zones=SougdemoJserv`
`...`
`SougdemoJserv.properties=<your_path>`
`/Jserv/sougdemojserv.properties`
- Create a new configuration file `sougdemojserv.properties` by using:
`$ORACLE_HOME/Apache/Jserv/etc/zone.properties`
as a template file and save it as:
`<your_path>/Jserv/sougdemojserv.properties`
List of Repositories
`#####`
`repositories==<your_path>/Jserv`

Create Servlet

Create and compile a Java servlet e.g. `HelloAkadia.java` and save it as
`<your_path>/Jserv/`

Start, stop resp. restart Oracle HTTP server

`$ORACLE_HOME/Apache/Apache/bin/`
`> ./apachectl [start,stop,restart,...]`

Test example 3 with the URL

`http://<your_host>:7777/SougdemoJserv/HelloAkadia`

Example 4

Calling a servlet in the OSE over the Oracle HTTP Server (Apache). The servlet reads the EMP table using the internal KPRB JDBC driver.

For this example the same servlet is used as for example 2.

Configure Apache/OSE

Apache configurationfiles
(Check and change if necessary)

- `/opt/oracle/product/8.1.7/Apache/Apache/conf/httpd.conf`
`...`
`Port 7777`
`...`
`# Include the Oracle configuration file for custom settings`
`include "/opt/oracle/product/8.1.7/Apache/Apache/conf/oracle_apache.conf"`

- **/opt/oracle/product/8.1.7/Apache/Apache/conf/oracle_apache.conf**
...
include "/opt/oracle/product/8.1.7/Apache/Apache/conf/mod__ose.conf"
...
- **/opt/oracle/product/8.1.7/Apache/Apache/conf/mod__ose.conf**

```
LoadModule ose_module      libexec/libjipa8i.so

#
# Apache configuration
# Domain: /webdomains
#
# o/p generated by
# exportwebdomain -format apache -netSERVICE AuroraSrv1 -nodocS -
# nodefault /webdomains
#

<IfModule mod_ose.c>

AuroraService AuroraSrv1

#
# Context for VPATH /SougDemo/
#

<Location /SougDemo/ >
AddHandler aurora-server snoop
</Location>

# SougDemo
# * ==>    all Servlets under /SougDemo
<Location /SougDemo/* >
SetHandler aurora-server
</Location>

</IfModule>
```

Start stop resp. restart Oracle HTTP server

```
$ORACLE_HOME/Apache/Apache/bin/
> ./apachectl [start,stop,restart,...]
```

Tnsnames.ora

add the following entry to tnsnames.ora:

```
AuroraSrv1.world
  (DESCRIPTION = (ADDRESS = (COMMUNITY = tcp.world)
    (PROTOCOL = TCP) (Host = <your_host> ) (Port = 1522))
    (CONNECT_DATA = (SID = <your_SID>)
      (GLOBAL_NAME = <your_SID>.world)
      (PRESENTATION = http://SougDemo)
      (SERVER = SHARED)))
```

Restart listener resp. reload config-file

```
> lsnrctl
> reload <your_listener>
> exit
```

Add a new endpoint for the connection from Oracle HTTP Server to the OSE.

- Invoke the session shell tool

```
> sess_sh -u sys/manager -s
jdbc:oracle:thin:@<your_host>:<your_port>:<your_sid>

% addendpoint -net8 -register SougDemo SougNet8Endpt01
```

Test example 4 with the URL

http://<your_host>:7777/SougDemo/Emp

Notice that instead of port 7778 (direct access to the OSE)
port 7777 (access to the Oracle HTTP server) is used.