**Document for configuring Oracle Apex listener on EC2 instance by creating an oracle RDS**

**Step1:**

1. Create an option group.
2. Select the engine and version same as your RDS.
3. Add two options to the created option group.
4. APEX
5. APEX-DEV
6. Select the version of APEX option group whichever you want to install.

**Step 2:**

1. Create an Oracle RDS instance.
2. Associate the created option group with your RDS.
3. Add Oracle RDS port 1521 to the security group.

**Step 3**:

1. Create an EC2 instance.
2. Choose a Linux AMI.
3. Add SSH port number 22 to the security group.
4. Also add a listener port for Apex e.g. 8080 to the security group.

**Step 4:**

1. Use putty to connect to the EC2 instance.
2. You can connect to the EC2 instance using your EC2 DNS and the downloaded .pem key. Enter name of the user as ec2-user as we are using Linux.
3. Once connected successfully begin with the next steps.

**Step 5:**

1. Go into the root by executing the command sudo –i
2. Do the following installations in the root-
3. Run the yum update command

[root@<ec2-container>]# yum update

1. Install java

root@<ec2-container>]# yum install java

1. Install perl

root@<ec2-container>]# yum install perl-libwww-perl.noarch

**Step 6:**

1. Create an apexuser by executing below commands.

[root@<ec2-container>]# useradd -d /home/apexuser apexuser

[root@<ec2-container>]# passwd apexuser

1. Enter the password for apexuser.

**Step 7:**

1. Now we need to login in the putty session by using our apexuser instead of ec2-user.
2. Before that we need to give the apexuser all the necessary keys and permissions to connect.
3. In the root or ec2 instance execute the below command and enter the password for apexuser if asked:

su – apexuser

1. So then you will be logged into [apexuser@<ec2-container>]$
2. Execute the below commands:
3. [apexuser@<ec2-container]$ cd ~
4. [apexuser@<ec2-container>]$ mkdir .ssh
5. [apexuser@<ec2-container>]$ chmod 700 .ssh
6. [apexuser@<ec2-container>]$ touch .ssh/authorized\_keys
7. [apexuser@<ec2-container>]$ chmod 600 .ssh/authorized\_keys
8. [apexuser@<ec2-container>]$ GET [http://169.254.169.254/latest/meta-data/public-keys/0/openssh-key>.ssh/authorized\_keys](http://169.254.169.254/latest/meta-data/public-keys/0/openssh-key%3e.ssh/authorized_keys)
9. To check of the ssh key has been properly installed or not execute the below command:
10. vi .ssh/authorized\_keys
11. Now edit your putty session. Add user as apexuser instead of ec2-user.
12. If all is fine it should get connected.
13. Now after logging in apexuser successfully we need to install sqlcl, apex and ords.
14. Download the setup for sqlcl and upload it in apexuser.
15. Run the following command for installation.
16. unzip sqlcl-<version>.zip

**Step 8:**

1. Now we need to connect to our RDS by using sqlcl.
2. Execute the below commands

[apexuser@<ec2-container>]$ export JAVA\_HOME=${HOME}/java/latest

[apexuser@<ec2-container>]$ alias sql="${HOME}/sqlcl/bin/sql"

[apexuser@<ec2-container>]$ sql /nolog

1. Now connect by using the below connection string:

SQL> conn “Master username”/“Database password“@//”RDS endpoint”:”Port number”/”Service Name or SID”

1. Then you will be connected to your database.
2. You can also connect to your database by using tnsnames
3. Execute the below commands on the database
4. Unlocking the public user account

alter user APEX\_PUBLIC\_USER identified by new\_password;

alter user APEX\_PUBLIC\_USER account unlock;

1. Setting passwords for apex listener and apex rest public user.

exec rdsadmin.rdsadmin\_run\_apex\_rest\_config('apex\_listener\_password', 'apex\_rest\_public\_user\_password');

**Step 9:**

1. Installing oracle apex.
2. Make sure that the version of the apex that was in option groups and the one which you are installing is same.
3. Execute the below step:

[apexuser@<ec2-container>]$ unzip apex\_<version>.zip

**Step 10:**

1. Installing ORDS
2. Run below steps in [apexuser@<ec2-container>]$

mkdir /home/apexuser/ORDS

cd /home/apexuser/ORDS

unzip ../ords.*<version>*.zip

1. Execute below commands on the database:
2. exec rdsadmin.rdsadmin\_util.grant\_sys\_object('DBA\_OBJECTS', '*master\_user*', 'SELECT', true);
3. exec rdsadmin.rdsadmin\_util.grant\_sys\_object('DBA\_ROLE\_PRIVS', '*master\_user*', 'SELECT', true);
4. exec rdsadmin.rdsadmin\_util.grant\_sys\_object('DBA\_TAB\_COLUMNS', '*master\_user*', 'SELECT', true);
5. exec rdsadmin.rdsadmin\_util.grant\_sys\_object('USER\_CONS\_COLUMNS', '*master\_user*', 'SELECT', true);
6. exec rdsadmin.rdsadmin\_util.grant\_sys\_object('USER\_CONSTRAINTS', '*master\_user*', 'SELECT', true);
7. exec rdsadmin.rdsadmin\_util.grant\_sys\_object('USER\_OBJECTS', '*master\_user*', 'SELECT', true);
8. exec rdsadmin.rdsadmin\_util.grant\_sys\_object('USER\_PROCEDURES', '*master\_user*', 'SELECT', true);
9. exec rdsadmin.rdsadmin\_util.grant\_sys\_object('USER\_TAB\_COLUMNS', '*master\_user*', 'SELECT', true);
10. exec rdsadmin.rdsadmin\_util.grant\_sys\_object('USER\_TABLES', '*master\_user*', 'SELECT', true);
11. exec rdsadmin.rdsadmin\_util.grant\_sys\_object('USER\_VIEWS', '*master\_user*', 'SELECT', true);
12. exec rdsadmin.rdsadmin\_util.grant\_sys\_object('WPIUTL', '*master\_user*', 'EXECUTE', true);
13. exec rdsadmin.rdsadmin\_util.grant\_sys\_object('DBMS\_SESSION', '*master\_user*', 'EXECUTE', true);
14. exec rdsadmin.rdsadmin\_util.grant\_sys\_object('DBMS\_UTILITY', 'master\_user', 'EXECUTE', true);
15. Run the following:
16. Navigate to ORDS folder

[apexuser@<ec2-container>]$ cd /home/apexuser/ORDS

1. Do the ords.war setup

[apexuser@<ec2-container>]$ java -jar ords.war setup

1. The program prompts you for the following information. The default values are in brackets.
2. The location to store configuration data

* Enter /home/apexuser/ORDS.

1. The name of the database server [localhost]: DB\_instance\_endpoint

* Choose the default or enter the correct value.

1. The database listen port [1521]: DB\_instance\_port

* Choose the default or enter the correct value.

1. Database service name or database SID [1]

* Choose 1 to specify the database service name, or choose 2 to specify the database SID.

1. Database SID [xe]

* Choose the default or enter the correct value.

1. Verify or install Oracle REST Data Services schema or skip this step [1]

* Choose 1.

1. Enter the database password for ORDS\_PUBLIC\_USER, and then confirm the password.
2. Log in with administrator privileges to verify the Oracle REST Data Services schema.

* Enter the administrator user name: master\_user
* Enter the database password for master\_user: master\_user\_password
* Confirm the password: master\_user\_password

1. Enter the default tablespace for ORDS\_METADATA [SYSAUX].

* Enter the temporary tablespace for ORDS\_METADATA [TEMP].
* Enter the default tablespace for ORDS\_PUBLIC\_USER [USERS].
* Enter the temporary tablespace for ORDS\_PUBLIC\_USER [TEMP].
* Enter 1 if you want to use PL/SQL Gateway or 2 to skip this step.

1. If you're using Oracle Application Express or migrating from mod\_plsql, you must enter 1 [1].

* Choose the default.

1. PL/SQL Gateway database user name [APEX\_PUBLIC\_USER]

* Choose the default.

1. Database password for APEX\_PUBLIC\_USER

* Enter the password.

1. Specify passwords for Application Express RESTful Services database users (APEX\_LISTENER, APEX\_REST\_PUBLIC\_USER) or skip this step [1]

* Choose 2 for APEX 4.1.1.V1; choose 1 for all other APEX versions.

1. [Not needed for APEX 4.1.1.v1] Database password for APEX\_LISTENER

* Enter the password (if required).

1. [Not needed for APEX 4.1.1.v1] Database password for APEX\_REST\_PUBLIC\_USER

* Enter the password (if required).

**Step 11:**

1. Set a password for the APEX admin user. Execute below commands on database.

EXEC rdsadmin.rdsadmin\_util.grant\_apex\_admin\_role;

grant APEX\_ADMINISTRATOR\_ROLE to master username;

@/home/apexuser/apex/apxchpwd.sql

**Step 12:**

1. Execute the following:

apexuser@<ec2-container>]$ cd /home/apexuser/ORDS

java -jar ords.war

1. Enter 1 if you wish to start in standalone mode or 2 to exit [1]:1
2. Enter the APEX static resources location:/home/apexuser/apex/images
3. Enter 1 if using HTTP or 2 if using HTTPS [1]:

After above installation you can access oracle apex on

<http://”ec2-dns”:”port> no”/ords/