

**Practices for Lesson 6:  
Perform Database Operations  
for an Oracle SOA Suite on  
Marketplace Instance**

## Overview

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In these practices, you will create a data source for an Oracle ATP Database. You will utilize the download script to download the ATP wallet files to the VM. And then create the data source via WLS Admin Console.

## Practice 6-1: Create a Data Source for an Oracle ATP Database

### Overview

In this practice, you will download the ATP Wallet and configure a data source for an ATP Database in WebLogic Server Administration Console.

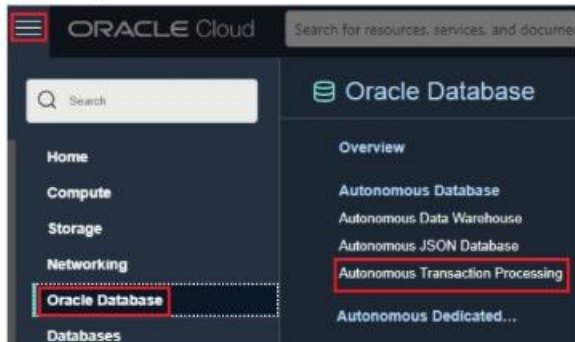
### Assumptions

- You have completed the previous practices successfully.

### Tasks

#### Download the ATP Wallet using Console:

- In the OCI Console, expand **Menu**. Click **Oracle Database** → **Autonomous Transaction Processing**.



- Select the compartment that is assigned to you.

The screenshot shows a 'List Scope' filter panel. It contains a 'Compartment' dropdown menu with 'C02' selected and a list of available compartments: 'awsocshmgf-0awu/C02'. Below this, there is a 'Filters' section with two dropdown menus: 'Workload Type' set to 'Transaction Processing' and 'State' set to 'Any state'.

3. Select your ATP instance, i.e., ATPSOA\_02, from the list of instances.

#### Autonomous Databases in C02 Compartment

Autonomous Database delivers fast performance and requires no database administration. It performs all routine database maintenance tasks while the system is running, without human intervention. Autonomous Database located in the Oracle Cloud can run on dedicated or shared infrastructure. [Learn More](#)

Display Name	State	Created	OCPU	Storage (TB)	Workload Type	Autonomous Data Guard	Created
ATPSOA_01	Available	No	1	1	Transaction Processing	—	Mon, Jun 16, 2021, 10:55:07 UTC
ATPSOA_02	Available	No	1	1	Transaction Processing	—	Thu, Jun 3, 2021, 17:18:50 UTC

4. Make a note of ATP OCID from the details page.

Overview > Autonomous Database > Autonomous Database Details



ATPSOA\_02

DB Connection Performance Hub Service Console Scale Up/Down More Actions

Autonomous Database Information Tools Tips

#### General Information

Database Name: ATPSOA02OCID2

Workload Type: Transaction Processing

Compartment: ocpntrng1/prod/US

OCID: **ocid1**

Created: Thu, Jun 3, 2021, 17:18:50 UTC

OCPU Count: 1

Auto Scaling: Enabled

Storage: 1 TB

License Type: 1 license included

#### Infrastructure

Dedicated Infrastructure: No

Autonomous Data Guard

Status: Disabled

#### Backup

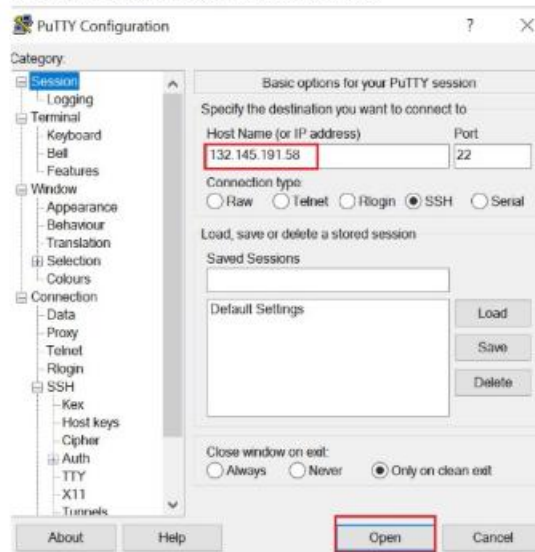
Last Automatic Backup: Thu, Jun 17, 2021, 10:56:50 UTC

Manual Backup Store: Not Configured

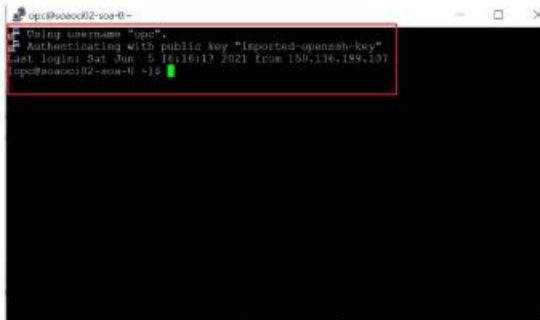
#### Download the ATP Wallet:

1. Open **Putty** application from your local Windows system and perform the following steps to establish a command-line connection to your VM:
  - a. Enter public IP address in the **Host Name** field.
  - b. From the left-side menu, navigate to **Connection** → **Data**. Enter **opc** in the Auto-login username field.
  - c. From the left-side menu, navigate to **Connections** → **SSH** → **Auth** → **Credentials**. Under **Private Key file for authentication**, click **browse** to select and upload your private key. In this example, it is **my-OCI-key.ppk** file.

- d. Click **Open** to open the connection to the VM.



2. You will be prompted to Administration Server or Managed Server VM (based on the Host IP provided). When the VM command line appears, you can use any resource accessible from the VM.



To run the download script (download\_atp\_wallet.sh), you need to access the VM as `opc` user. The scripts are located in `/opt/scripts/utls` and can only be run as the `oracle` user.

3. Use the below command to change to the **oracle** user.

```
[opc@soaoci02-soa-0 ~] sudo su - oracle
```

```
[opc@soaoci02-soa-0 ~]$ sudo useraddi soauser
[opc@soaoci02-soa-0 ~]$ sudo su - oracle
Last login: Thu Jun 17 13:04:12 GMT 2021
oracle@soaoci02-soa-0 ~]$
```

4. Run the below command to download the ATP Wallet.

**Syntax:**

```
/opt/scripts/utlis/download_atp_wallet.sh <<atp_database_ocid>> <<atp_wallet_password>> <<path_to_extract_wallet_files>>
```

**Example:**

```
[oracle@soaoci02-soa-0 ~] /opt/scripts/utlis/download_atp_wallet.sh
ocid1.autonomousdatabase.oc1.iad.abuwcljtyj3ijrtqgehxsatw25ib4asaxkylq7f
rglqdbwb6pbc4ecda Wwelcome#123 /u01/data/domains/servicename_domain/config/atp
```

In this example,

- ATP OCID (copied earlier) –  
ocid1.autonomousdatabase.oc1.iad.abuwcljtyj3ijrtqgehxsatw25ib4asaxkylq7f  
rglqdbwb6pbc4ecda
- ATP Wallet Password - Wwelcome#123
- Path for Wallet extraction - /u01/data/domains/servicename\_domain/config/atp

```

oracle@soaoci02-soa-0:~$
Using username "opc".
Authenticating with public key "imported-openssh-key"
Last login: Fri Jun 18 04:48:31 2021 from 157.47.61.32
[opc@soaoci02-soa-0 ~]$ sudo su - oracle
su: user - does not exist
[opc@soaoci02-soa-0 ~]$ sudo su - oracle
Last login: Fri Jun 18 04:49:03 GMT 2021 on pts/1
oracle@soaoci02-soa-0 ~]$ /opt/scripts/utills/download_atp_wallet.sh ocid1.autonomousdatabase.oc1.iad.abuwcljtynj3ijrtqgehxshsatw25ib4asaxkylq7frrglqdbwb6pbc4ecda
Welcome!123 /u01/data/domains/servicename_domain/config/atp
/usr/lib/python2.7/site-packages/oci/_vendor/httpsig_cffi/sign.py:10: CryptographyDeprecationWarning: Python 2 is no longer supported by the Python core team. Support for it is now deprecated in cryptography, and will be removed in a future release.
  from cryptography.hazmat.backends import default_backend
/usr/lib/python2.7/site-packages/oci/_vendor/httpsig_cffi/sign.py:10: CryptographyDeprecationWarning: Python 2 is no longer supported by the Python core team. Support for it is now deprecated in cryptography, and will be removed in a future release.
  from cryptography.hazmat.backends import default_backend
Jun 18, 2021 06:58:59 AM GMT> <INFO> <oci api util> <(host:soaoci02-soa-0,subp:soaoci02.soaoci02vcn.oraclecn.com) - <WISC-VM-INFO-0157> : ATP Wallet downloaded>
Archive: /tmp/atp_wallet.zip

```

The download script creates a subdirectory in the path you provided. Make a note of Extract path. Files such as cwallet.sso, sqlnet.ora, tnsnames.ora, keystore.jks, ojdbc.properties are extracted to this directory.

1. Switch to the extract path. Access the **tnsnames.ora** file and make a note of database details such as host, port, service name.

Syntax:

```
cd <<Extract Path>>/<ATPOCID>
```

```

[oracle@soaoci02-soa-0 ~] cd
/u01/data/autonomous
database.oc1.iad.abuwcljtynj3ijrtqgehxshsatw25ib4asaxkylq7frrglqdbwb6pbc4ecda
[oracle@soaoci02-soa-0 ~] cat tnsnames.ora

```

```

atpsoacrac102_high = (description= (retry_count=20) (retry_delay=3) (address=(protocol=tcp) (port=1522)
(host=adb.us-ashburn-1.oraclecloud.com)) (connect_data=(service_name=xef609e3f5gfr4ei_atpsoacrac102_h
igh.adb.oraclecloud.com)) (security=(ssl_server_cert_dn="CN=adwc.uscom-east-1.oraclecloud.com, OU=Ora
cle BMC5 US, O=Oracle Corporation, L=Redwood City, ST=California, C=US"))

atpsoacrac102_low = (description= (retry_count=20) (retry_delay=3) (address=(protocol=tcp) (port=1522)
(host=adb.us-ashburn-1.oraclecloud.com)) (connect_data=(service_name=xef609e3f5gfr4ei_atpsoacrac102_lo
w.adb.oraclecloud.com)) (security=(ssl_server_cert_dn="CN=adwc.uscom-east-1.oraclecloud.com, OU=Ora
cle BMC5 US, O=Oracle Corporation, L=Redwood City, ST=California, C=US"))

atpsoacrac102_medium = (description= (retry_count=20) (retry_delay=3) (address=(protocol=tcp) (port=15
22) (host=adb.us-ashburn-1.oraclecloud.com)) (connect_data=(service_name=xef609e3f5gfr4ei_atpsoacrac102
_medium.adb.oraclecloud.com)) (security=(ssl_server_cert_dn="CN=adwc.uscom-east-1.oraclecloud.com, OU
=Oracle BMC5 US, O=Oracle Corporation, L=Redwood City, ST=California, C=US"))

atpsoacrac102_tp = (description= (retry_count=20) (retry_delay=3) (address=(protocol=tcp) (port=1522) (
host=adb.us-ashburn-1.oraclecloud.com)) (connect_data=(service_name=xef609e3f5gfr4ei_atpsoacrac102_tp.
adb.oraclecloud.com)) (security=(ssl_server_cert_dn="CN=adwc.uscom-east-1.oraclecloud.com, OU=Oracle
BMC5 US, O=Oracle Corporation, L=Redwood City, ST=California, C=US"))

atpsoacrac102_turgent = (description= (retry_count=20) (retry_delay=3) (address=(protocol=tcp) (port=
1522) (host=adb.us-ashburn-1.oraclecloud.com)) (connect_data=(service_name=xef609e3f5gfr4ei_atpsoacrac1
02_turgent.adb.oraclecloud.com)) (security=(ssl_server_cert_dn="CN=adwc.uscom-east-1.oraclecloud.com
, OU=Oracle BMC5 US, O=Oracle Corporation, L=Redwood City, ST=California, C=US"))

```

## Create a Data Source for an Oracle Autonomous Transaction Processing Database:

1. Log in to WebLogic console. From the home page, click **Lock & Edit**



2. From Domain Structure, click **Data Sources** under **Services**.





- It displays the list of data sources as shown below.

**Data Sources (Filtered - More Columns Exist)**

Showing 1 to 10 of 13 Previous Next

Name	Type	JNDI Name	Targets	Scope	Domain Partitions
<input type="checkbox"/> jdbcDataSource	Generic	jdbc/JDBCDataSource	SOACCI2_cluster	Global	
<input type="checkbox"/> jdbcLocalDataSource	Generic	jdbc/JDBCLocalDataSource	SOACCI2_cluster	Global	
<input type="checkbox"/> jdbcLocalDataSource	Generic	jdbc/JDBCLocalDataSource	SOACCI2_adminserver	Global	
<input type="checkbox"/> jdbcSource	Generic	jdbc/jdbcSource	SOACCI2_adminserver, SOACCI2_cluster	Global	
<input type="checkbox"/> jdbcSource	Generic	jdbc/jdbcSource	SOACCI2_adminserver, SOACCI2_cluster	Global	
<input type="checkbox"/> jdbcSource	Generic	jdbc/jdbcSource	SOACCI2_adminserver, SOACCI2_cluster	Global	
<input type="checkbox"/> jdbcSource	Generic	jdbc/jdbcSource	SOACCI2_adminserver, SOACCI2_cluster	Global	
<input type="checkbox"/> jdbcSource	Generic	jdbc/jdbcSource	SOACCI2_adminserver, SOACCI2_cluster	Global	
<input type="checkbox"/> jdbcSource	Generic	jdbc/jdbcSource	SOACCI2_adminserver, SOACCI2_cluster	Global	
<input type="checkbox"/> jdbcSource	Generic	jdbc/jdbcSource	SOACCI2_adminserver, SOACCI2_cluster	Global	

- Click option **New** and select **Generic Data Source**.

**Summary of JDBC Data Sources**

**Configuration** Monitoring

A JDBC data source is an object bound to the JNDI tree that provides database connectivity through a pool of JDBC connections. Applications can look up a data source on the JNDI tree and then borrow a database connection from a data source.

This page summarizes the JDBC data source objects that have been created in this domain.

Customize this table

**Data Sources (Filtered - More Columns Exist)**

Showing 1 to 10 of 13 Previous Next

Name	Type	JNDI Name	Targets	Scope	Domain Partitions
<input type="checkbox"/> Generic Data Source	Generic	jdbc/JDBCDataSource	testSOA_cluster	Global	
<input type="checkbox"/> Generic Data Source	Generic	jdbc/JDBCDataSource	testSOA_cluster	Global	
<input type="checkbox"/> Generic Data Source	Generic	jdbc/JDBCDataSource	testSOA_adminserver	Global	
<input type="checkbox"/> Generic Data Source	Generic	jdbc/JDBCDataSource	testSOA_adminserver, testSOA_cluster	Global	

- Create a new JDBC Data Source; enter the following fields and click **Next**.

- Name: Enter **ATPSOADatasource**
- Scope: select **Global**
- JNDI Name : **jdbc/ATPSOADatasource**
- Database Type: select **Oracle**.

[Back](#) [Next](#) [Finish](#) [Cancel](#)

#### JDBC Data Source Properties

The following properties will be used to identify your new JDBC data source.

\* Indicates required fields

What would you like to name your new JDBC data source?

**Name:**

What scope do you want to create your data source in ?

**Scope:**

JNDI Name:

What database type would you like to select?

Database Type:

6. Select the Database Driver as **Oracle's Driver (Thin) for Service connections; Versions: Any** and click **Next**.

Create a New JDBC Data Source

JDBC Data Source Properties

The following properties will be used to identify your new JDBC data source.

Database Type:

What database driver would you like to use to create database connections? Note: \* indicates that the driver is explicitly supported by Oracle WebLogic Server.

Database Driver:

7. Leave the default selections and click **Next**.
8. Enter the following details (fetched from **tnsnames.ora**):
- Database Name: **atpsaoraci02\_low**
  - Host Name: Enter **adb.us-ashburn-1.oraclecloud.com**
  - Port: Enter **1522**
  - Database User Name: Enter **admin**
  - Password: Enter the admin password and confirm that, for Example: **Wwelcome#123**
  - Click **Next**.

**Connection Properties**  
Define Connection Properties.

What is the name of the database you would like to connect to?

Database Name:

What is the name or IP address of the database server?

Host Name:

What is the port on the database server used to connect to the database?

Port:

What database account user name do you want to use to create database connections?

Database User Name:

What is the database account password to use to create database connections?

Password:

Confirm Password:

Additional Connection Properties:

oracle.jdbc.fanEnabled:

[Back](#) [Next](#) [Finish](#) [Cancel](#)

9. Change the URL as `jdbc:oracle:thin:@atpsoaorac102_low` (`atpsoaorac102_low` is the service name)
10. Set the properties as below:  
Syntax:

```

oracle.net.tns_admin=<PATH-where the files were extracted>
oracle.net.ssl_version=1.2
javax.net.ssl.trustStore=<PATH- where the files were extracted>/truststore.jks
oracle.net.ssl_server_dn_match=true
user=admin
javax.net.ssl.keyStoreType=JKS
javax.net.ssl.trustStoreType=JKS
javax.net.ssl.keyStore=<PATH- where the files were extracted>/keystore.jks
javax.net.ssl.keyStorePassword=<WalletPassword>
javax.net.ssl.trustStorePassword=<WalletPassword>
oracle.jdbc.fanEnabled=false

```

Example:

```

oracle.net.tns_admin=/u01/data/domains/servicename_domain/config/atp/ocid1.autonomousdatabase.oc1.iad.abuwcljtynj3ijrtqgehxsatw25ib4asaxkylq7frglqdbwb6pbc4ecda

```

```
oracle.net.ssl_version=1.2
javax.net.ssl.trustStore=/u01/data/domains/service_name_domain/config/atp/ocid1.autonomousdatabase.oc1.iad.abuwcljtynj3jrtqgehxsatw25ib4asaxkylq7frglqdbwb6pbc4ecda/truststore.jks
oracle.net.ssl_server_dn_match=true
user=admin
javax.net.ssl.keyStoreType=JKS
javax.net.ssl.trustStoreType=JKS
javax.net.ssl.keyStore=/u01/data/domains/service_name_domain/config/atp/ocid1.autonomousdatabase.oc1.iad.abuwcljtynj3jrtqgehxsatw25ib4asaxkylq7frglqdbwb6pbc4ecda/keystore.jks
javax.net.ssl.keyStorePassword=Wwelcome#123
javax.net.ssl.trustStorePassword=Wwelcome#123
oracle.jdbc.fanEnabled=false
```

#### Test Database Connection

Test the database availability and the connection properties you provided.

What is the full package name of JDBC driver class used to create database connections in the connection pool?

(Note that this driver class must be in the classpath of any server to which it is deployed.)

Driver Class Name:

What is the URL of the database to connect to? The format of the URL varies by JDBC driver.

URL:

What database account user name do you want to use to create database connections?

Database User Name:

What is the database account password to use to create database connections?

(Note: for secure password management, enter the password in the Password field instead of the Properties field below.)

Password:

Confirm Password:

What are the properties to pass to the JDBC driver when creating database connections?

Properties:  
user=ADMIN

**Properties:**

```

oracle.net.tns_admin=/u01/data/domains/s
ervicename_domain/config/atp/ocid1.auton
omousdatabase.oc1.iad.abumc1jtyj3l3jrtq
gehxshtatu251b4asaxkyiq77f91qdbwb6pbc4ec
da
oracle.net.ssl_version=1.2

```

The set of driver properties whose values are derived at runtime from the named system property.

**System Properties:**

What table name or SQL statement would you like to use to test database connections?

**Test Table Name:**

SQL ISVALID

**Test Configuration** Back Next Finish Cancel

11. Click **Test Configuration**. It displays **Connection test succeeded** message.

**ORACLE** WebLogic Server Administrator Console 12c

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**Home - Summary of WLS Data Sources**

**Test Results**

☒ Connection test successful

Create a new data source instance

Test Configuration Back Next Finish Cancel

**Test Database Connection**

Test the database availability and the connection properties provided.

What is the full package name of JDBC driver class used to create database connections in the connection pool?  
(Make sure this driver class must be in the classpath of any server to which it is connected.)

**Driver Class Name:** oracle.jdbc.OracleDriver

What is the URL of the database to connect to? The format of the URL varies by JDBC driver.  
(Make sure this driver class must be in the classpath of any server to which it is connected.)

**URL:** jdbc:oracle:thin:@mydomain123\_jira

What database account user name do you want to use to create database connections?

**Database User Name:** admin

What is the database account password to use to create database connections?

12. Click **Next**.

13. Select the targets as admin server and Cluster. Click **Finish**.

The screenshot shows the 'Create a New XDR Data Source' wizard in Symantec Endpoint Protection. The 'Select Targets' step is active, displaying two sections: 'Servers' and 'Clients'. In the 'Servers' section, 'SMB00T03\_adminserver' is selected. In the 'Clients' section, 'SMB00T03\_client' is selected, and its sub-items 'All servers in this cluster' and 'Part of this cluster' (which includes 'SMB00T03\_server\_1') are also selected. The 'Next' button at the bottom is highlighted with a red box.

14. It displays the new data source, i.e., ATPSOADatasource, in the data source list.

[illegible]

15. Click **Activate Changes**.



The screenshot shows the Oracle WebLogic Server Administration Console. The 'Configure' tab is selected for the 'JDBC Data Sources' section. The 'New' button is highlighted with a red box. The console displays the 'Summary of JDBC Data Sources' and the 'Configuration' tab is selected. The 'New' button is located in the 'Actions' column of the table.

This completes the task of downloading the ATP Wallet and configuring a data source for an ATP Database in WebLogic Administration Console.