

Getting Started with Oracle Autonomous Database in the Cloud

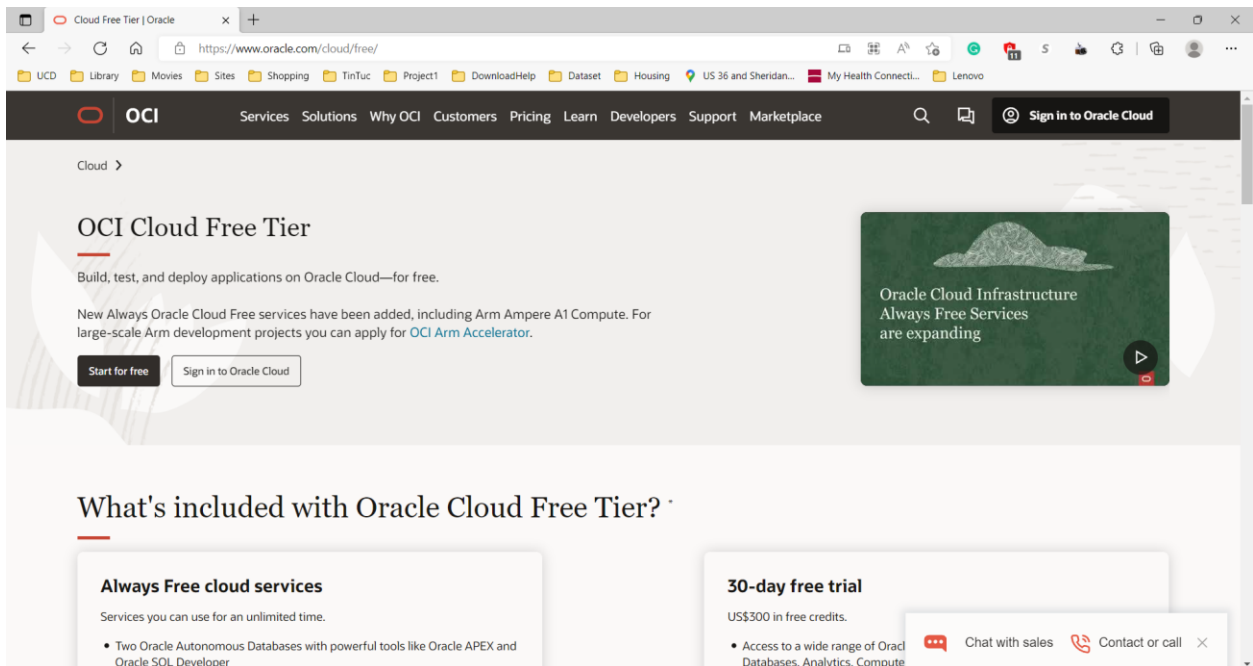
Introduction

This tutorial provides instructions to set up a free Oracle Cloud account and create a free Autonomous Database instance. While the Oracle Cloud account and most of the basic services are free to use, a credit card (or similar payment method) is required to verify your identity. You will also need a cell phone capable of receiving text messages.

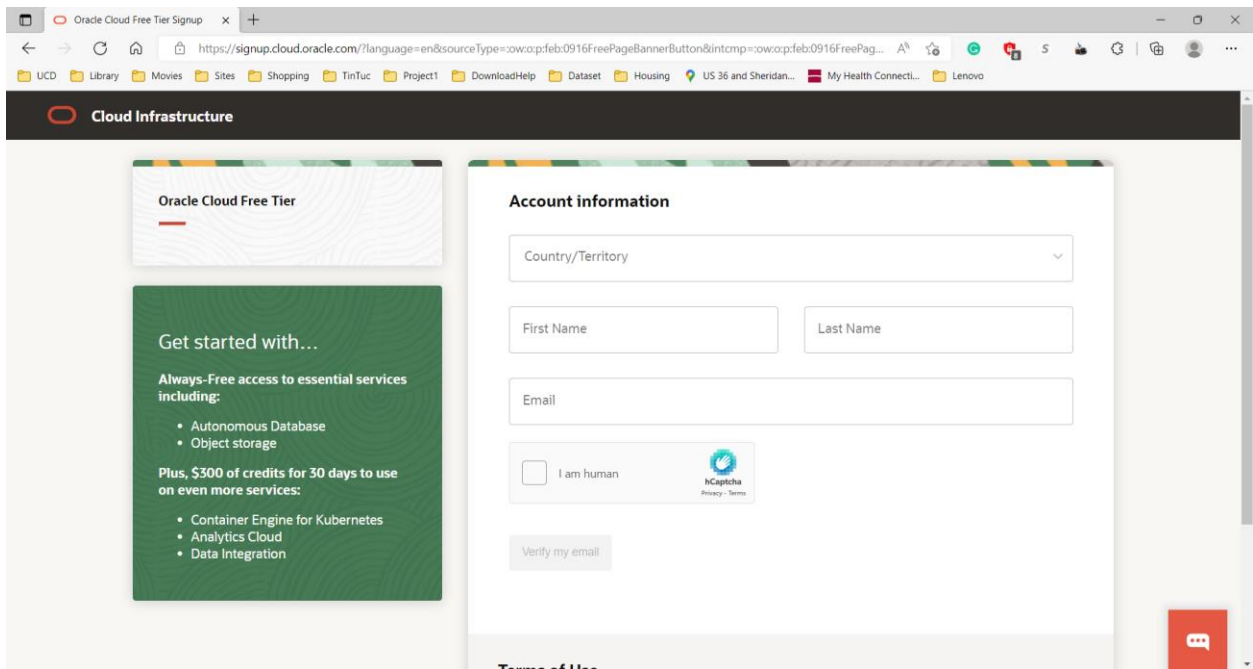
Once the Autonomous Database is created, you can use several different tools to work with your data including Oracle SQL Developer, Oracle APEX and other tools. You may wish to download and install Oracle SQL Developer on your own computer. The Oracle SQL Developer has versions for Windows, Mac OS, and Linux.

Sign up Oracle Cloud

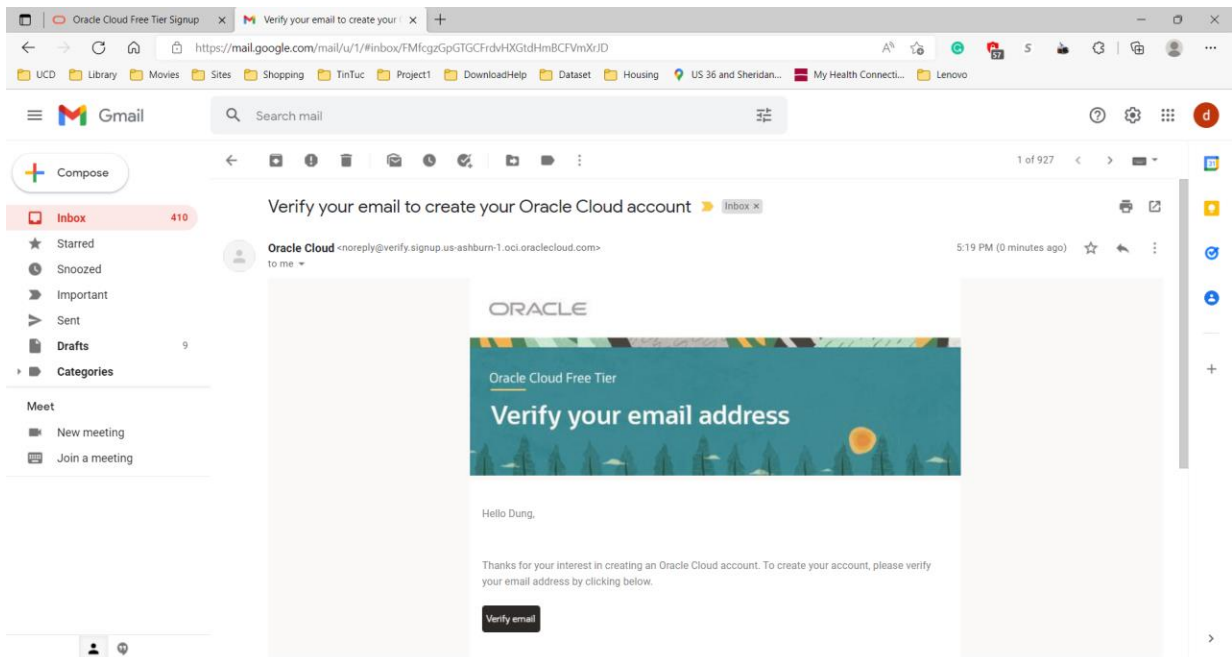
The first step involves creation of a new Oracle Cloud account. To get started, visit the Oracle web site with the URL: <https://www.oracle.com/cloud/free/>



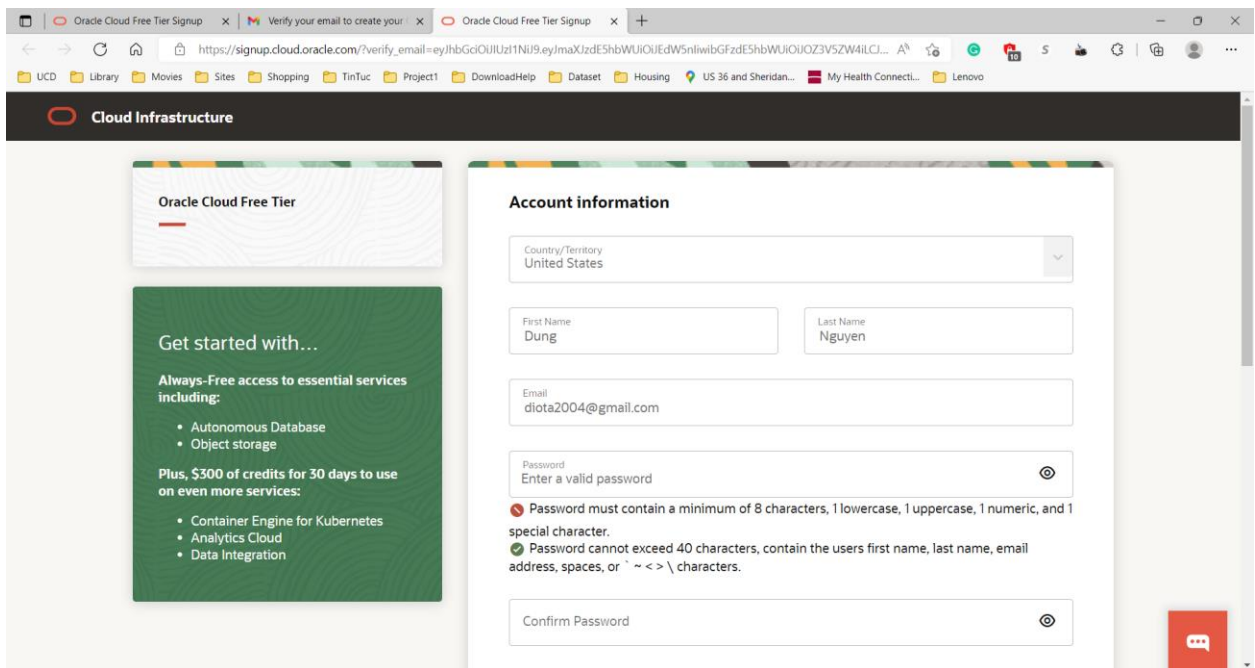
Click on the **Start for Free** button.

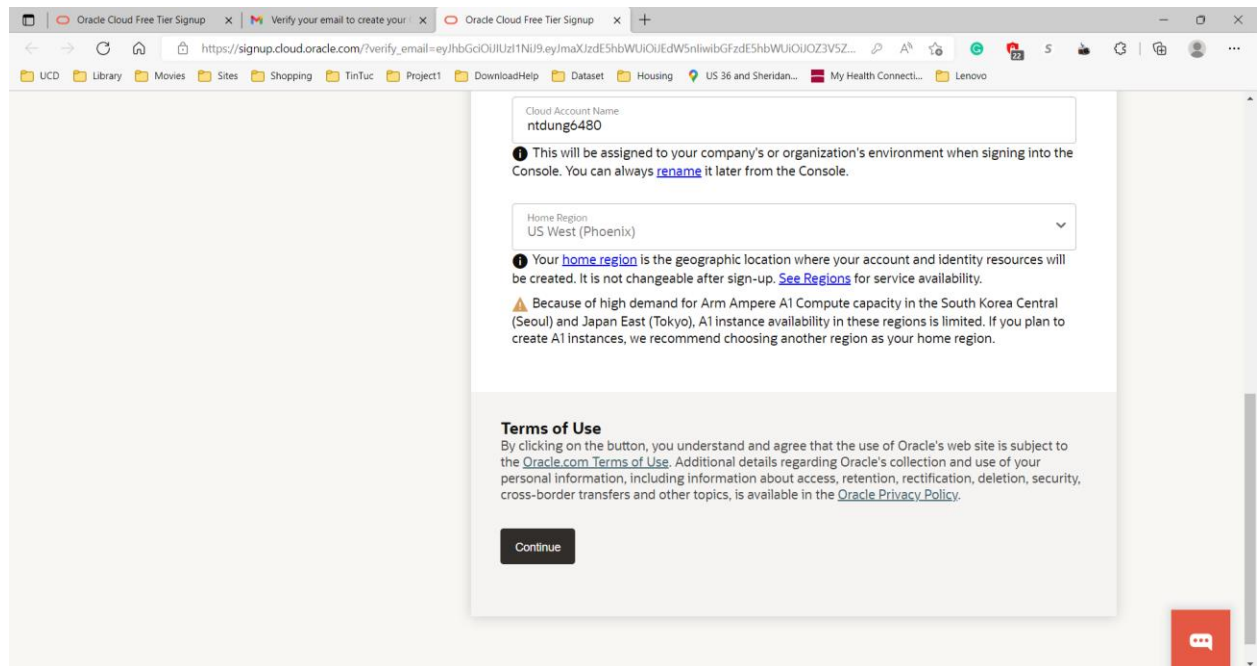


Fill in first name, last name, and e-mail address. Read the Oracle Terms of Use and other policies and then click the **Verify my email** button when you are ready. Oracle will send an email to verify your email.



Open your email and click Verify email.





The screenshot shows a web browser window with the Oracle Cloud Free Tier Signup page. The browser's address bar displays a long URL for email verification. The page content includes a form with the following fields and instructions:

- Cloud Account Name:** A text input field containing the value "ntdung6480". Below it, a note states: "This will be assigned to your company's or organization's environment when signing into the Console. You can always [rename](#) it later from the Console."
- Home Region:** A dropdown menu showing "US West (Phoenix)". Below it, a note explains: "Your [home region](#) is the geographic location where your account and identity resources will be created. It is not changeable after sign-up. [See Regions](#) for service availability." A warning icon and text follow: "Because of high demand for Arm Ampere A1 Compute capacity in the South Korea Central (Seoul) and Japan East (Tokyo), A1 instance availability in these regions is limited. If you plan to create A1 instances, we recommend choosing another region as your home region."
- Terms of Use:** A section with the heading "Terms of Use" and a paragraph stating that clicking the button indicates agreement to Oracle's Terms of Use and Privacy Policy.
- Continue:** A dark button at the bottom of the form.

Create a new password for your Oracle Cloud account following the password rules provided and fill in cloud account name. Cloud Account Name should contain letters only with no spaces or other punctuation. Keep in mind this will be your Oracle Cloud account (not the database account – that will be created later). Then, choose your region. After providing these details, click the **Continue** button.

The screenshot shows the Oracle Cloud Free Tier sign-up page. On the left, a summary box displays the following information:

- Country/Territory: United States
- Username: diota2004@gmail.com
- Cloud Account Name: ntdung6480
- Home Region: US West (Phoenix)

The main form is titled "Address information" and contains the following fields:

- Address Line 1: Enter your address. A red error message below the field states: "A value for Address Line 1 is required."
- Address Line 2: Optional
- City
- State: A dropdown menu.
- Zip/Postal Code
- Phone Number: A field with a dropdown for the country code (currently set to +1).

Below the phone number field, a note states: "Trunk prefix/codes are not used when entering your mobile number (only use 123... instead of *0*123... or *1*123...). Enter numbers without spaces and special characters included."


Fill in your address (street, city, state, zip code) and cell phone number. Check your cell phone for a text message from Oracle to see the code number.

Verify Your Mobile Number

[Cancel](#)


Verify the code which we have sent to mobile number *****

Code *

 A value for Verification Code is required.

[Verify Code](#)

[Resend Code](#)

 If you don't receive the mobile verification code in **01:15** minutes, then you may request another code.

Need help? Contact [Chat Support](#)

Type in the code number on the Oracle website when prompted and click the **Verify** button.

The screenshot shows the Oracle Cloud Free Tier sign-up page. On the left, a sidebar displays account details: Country/Territory (United States), Username (diota2004@gmail.com), Cloud Account Name (ntdung6480), and Home Region (US West (Phoenix)). The main content area is divided into two sections: 'Address information' and 'Payment verification'. The 'Payment verification' section includes a notice that the user won't be charged unless they elect to upgrade, and a button labeled 'Add payment verification method'. Below this, there is an 'Agreement' section with a checkbox for terms and conditions.

On the next screen, you need to verify your payment. Read over the notice from Oracle regarding payment information. Click the **Add payment verification method**, then click **Credit Card**.

This screenshot shows the same Oracle Cloud Free Tier sign-up page as before, but with a modal dialog box open in the center. The dialog is titled 'Pay' and contains the text 'Oracle Cloud Free Tier' and 'Verification Method'. A red 'Required' label is next to the 'Verification Method' text. Below the text is a button labeled 'Credit Card'. The background of the page is dimmed, showing the same account information and payment verification sections.






On the next screen, fill in your credit card information. Click the **Finish** button when done.

Remember that if you use the “Always Free” services your payment method will not be charged.

Payment Method

Payment Details

Card Type *


<input type="radio"/>		Visa	<input type="radio"/>		Mastercard
<input type="radio"/>		Amex	<input type="radio"/>		Discover
<input type="radio"/>		Diners			

Card Number *

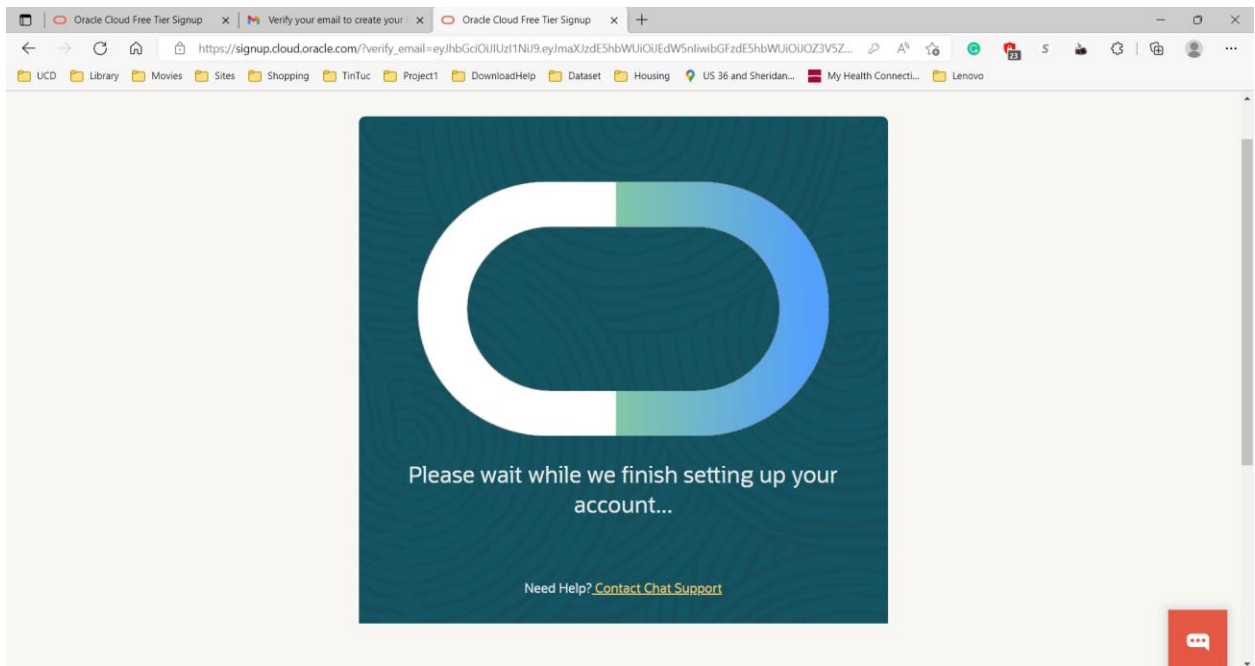
Expiration Date *

CVN *

This code is a three or four digit number printed on the back or front of credit cards.



At this point the new Oracle Cloud account is created. This may take up to 5 minutes to complete. In some rare cases, if there is any issue verifying your payment information, you may be contact via e-mail to provide additional information.

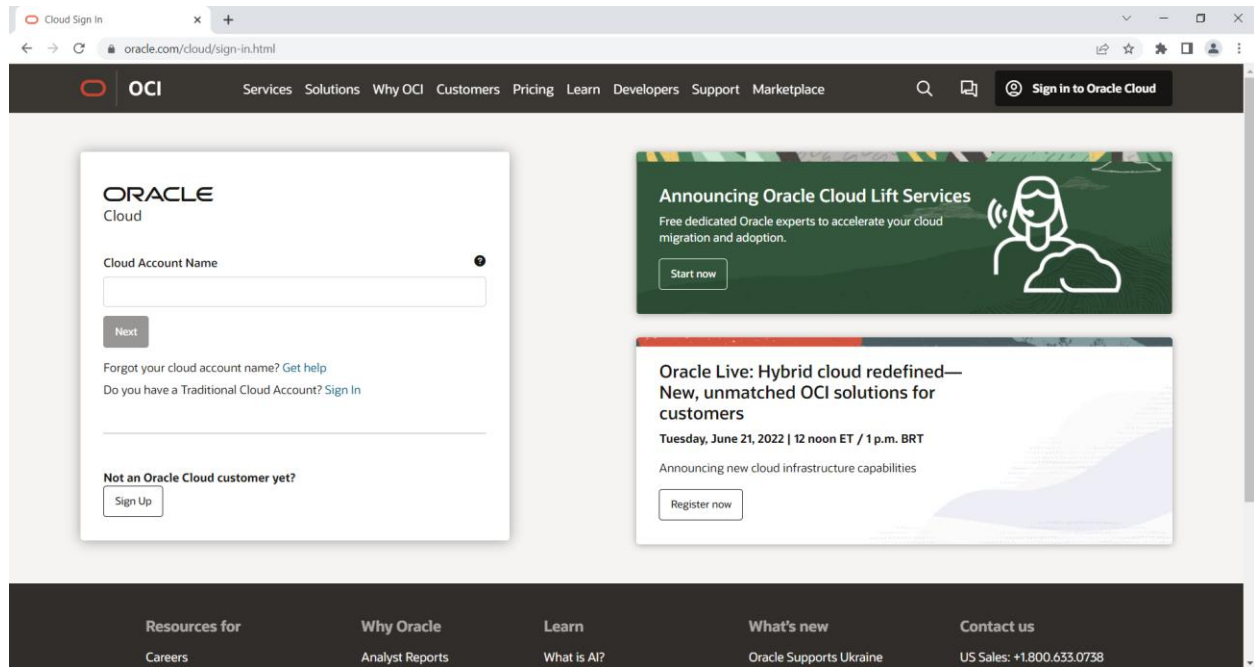


Once the account has been created the web browser should re-direct to the login page. Fill in your Oracle Cloud Account username and password as provided in the prior steps and click on the **Sign-In** button.

A screenshot of the Oracle Cloud Infrastructure Sign In page. The page has a blue header with the 'ORACLE' logo in red and 'Cloud Infrastructure' in black. Below the header is a large blue banner with a white circle containing a blue cloud icon. To the right of the icon, the text 'SIGN IN' is displayed in white. Below the banner, there is a section for signing in to a cloud tenant. It includes a line of asterisks '*****' and a link 'Change tenant'. Below this, the text 'Signing in to cloud tenant:' is followed by another line of asterisks '*****'. The main section is titled 'Sign in with your Oracle Cloud Infrastructure credentials'. It contains two input fields: 'USER NAME' and 'PASSWORD'. The 'PASSWORD' field is masked with asterisks. At the bottom, there is a blue 'Sign In' button and a link 'Forgot password?'.

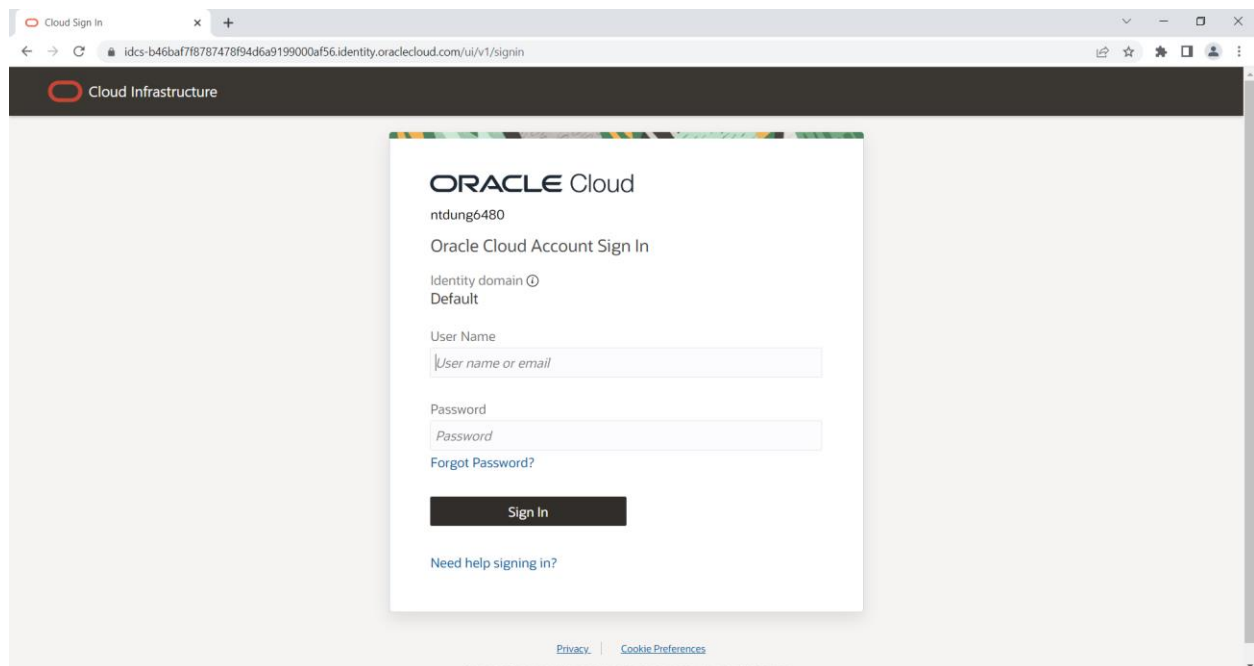
Create Autonomous Database Instance

To login your Oracle cloud, visit: <https://www.oracle.com/cloud/sign-in.html>



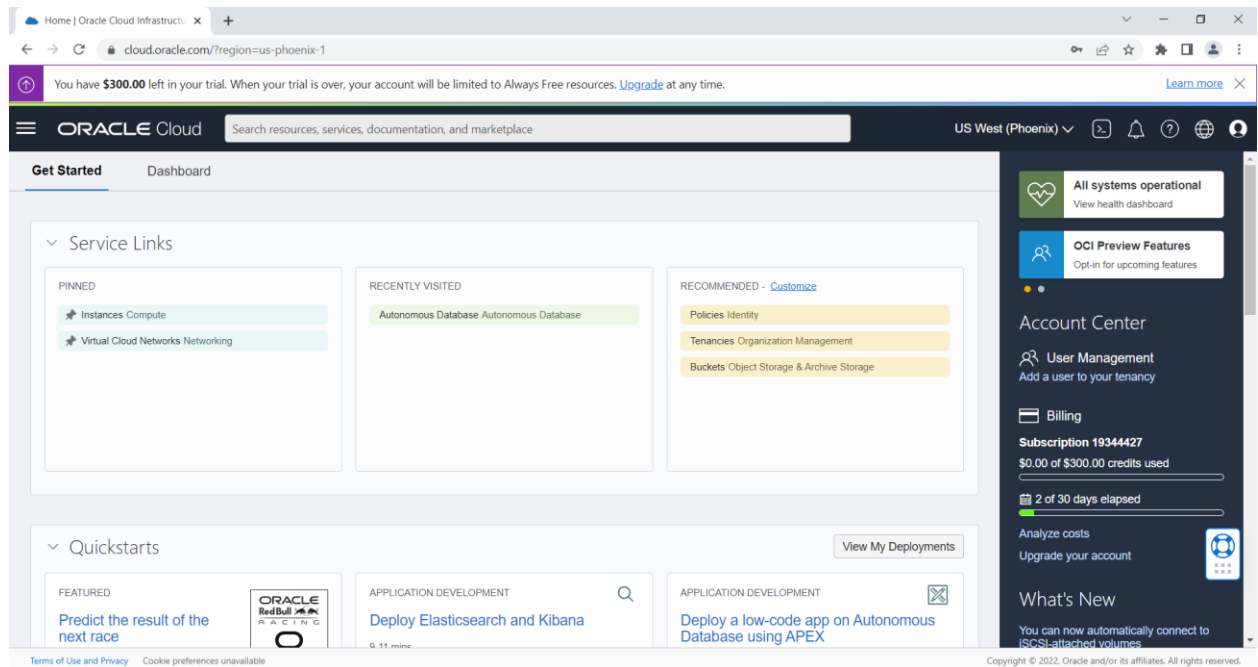
The screenshot shows the Oracle Cloud sign-in page. The header includes the OCI logo and navigation links: Services, Solutions, Why OCI, Customers, Pricing, Learn, Developers, Support, and Marketplace. A search icon and a 'Sign in to Oracle Cloud' button are also present. The main content area features a sign-in form on the left with a 'Cloud Account Name' input field, a 'Next' button, and links for 'Forgot your cloud account name?' and 'Do you have a Traditional Cloud Account? Sign In'. Below the form is a 'Sign Up' button for non-customer users. On the right, there are two promotional banners: 'Announcing Oracle Cloud Lift Services' with a 'Start now' button, and 'Oracle Live: Hybrid cloud redefined—New, unmatched OCI solutions for customers' with a 'Register now' button. The footer contains links for Resources for Careers, Why Oracle Analyst Reports, Learn What is AI?, What's new Oracle Supports Ukraine, and Contact us US Sales: +1.800.633.0738.

Enter your cloud account name and click Next.

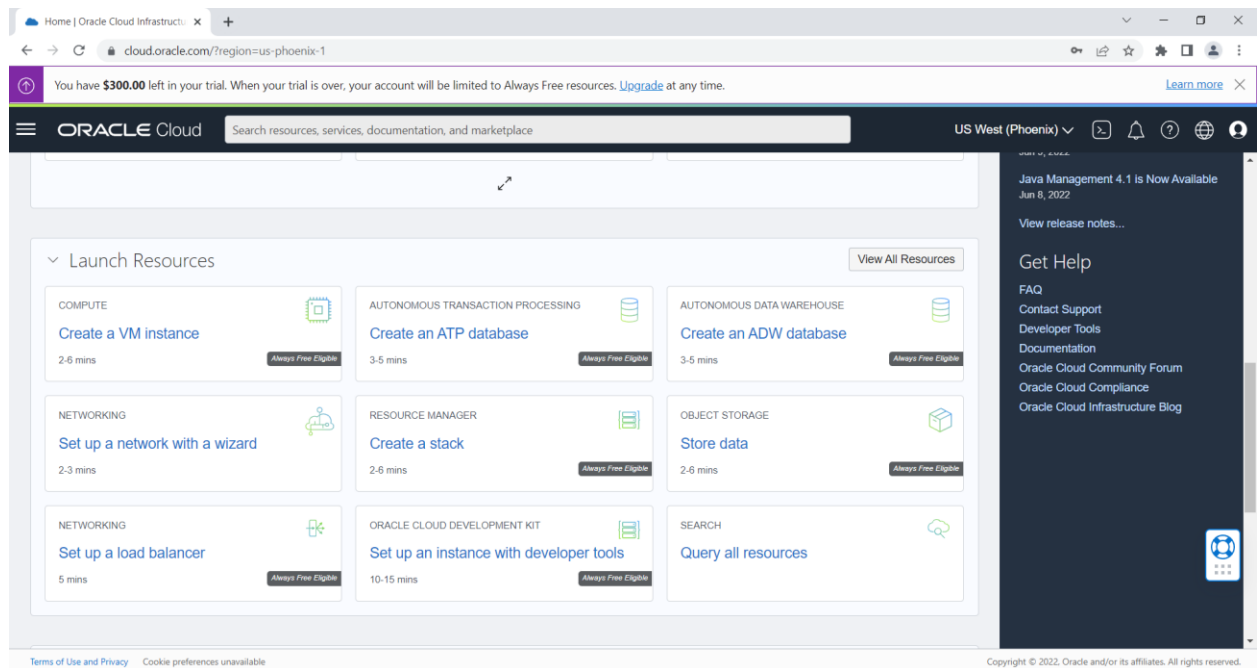


The screenshot shows the Oracle Cloud Account Sign In page. The header includes the 'Cloud Infrastructure' logo. The main content area features a sign-in form with the following fields: 'User Name' (with a placeholder 'User name or email') and 'Password' (with a placeholder 'Password'). There is a 'Forgot Password?' link and a 'Sign In' button. Below the form is a link for 'Need help signing in?'. The footer includes links for 'Privacy' and 'Cookie Preferences'.

Enter your username and password, and click Sign In. Once logged in, the Oracle Cloud home page appears.



Scroll down to **Launch Resource**



Make note of the different services and the ones that are marked with **Always Free Eligible**. The “Always Free” services can be used without accruing charges. Click **Create an ATP database**.

Oracle Cloud Infrastructure

cloud.oracle.com/db/atp/create?region=us-phoenix-1

ORACLE Cloud

Search resources, services, documentation, and marketplace

US West (Phoenix)

Create Autonomous Database

Provide basic information for the Autonomous Database

Compartment

ntdung6480 (root)

Display name

A user-friendly name to help you easily identify the resource.

Database name

The name must contain only letters and numbers, starting with a letter. Maximum of 30 characters.

Required

Choose a workload type

Data Warehouse

Built for decision support and data warehouse workloads. Fast queries over large volumes of data.

Transaction Processing

Built for transactional workloads. High concurrency for short-running queries and transactions.

JSON

Built for JSON-centric application development. Developer-friendly document APIs and native JSON storage.

APEX

Built for Oracle APEX application development. Creation and deployment of low-code applications, with database included.

Create Autonomous Database Cancel

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Choose a Compartment (typically the cloud account name you entered when setting up the account), then provide the Display name and Database name. Note that the Database name cannot contain punctuation or spaces. Scroll down.

Oracle Cloud Infrastructure

cloud.oracle.com/db/atp/create?region=us-phoenix-1

ORACLE Cloud

Search resources, services, documentation, and marketplace

US West (Phoenix)

Profile Help

Create Autonomous Database

Data Warehouse
Built for decision support and data warehouse workloads. Fast queries over large volumes of data.

Transaction Processing
Built for transactional workloads. High concurrency for short-running queries and transactions. ✓

JSON
Built for JSON-centric application development. Developer-friendly document APIs and native JSON storage.

APEX
Built for Oracle APEX application development. Creation and deployment of low-code applications, with database included.

Choose a deployment type

Shared Infrastructure
Run Autonomous Database on shared Exadata infrastructure. ✓

Dedicated Infrastructure
Run Autonomous Database on dedicated Exadata infrastructure.

Configure the database

Always Free ⓘ
☒ Show only Always Free configuration options

Choose database version
19c

OCPU count
1

☒ OCPU auto scaling
Allows system to use up to three times the number of cores specified by the OCPU count

Create Autonomous Database Cancel

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Select the Transaction Processing workload type and choose the Shared Infrastructure as shown above.

Under the **Configure the Database** heading, select the **Always Free** option. By selecting this option, a basic database with 20 GB of disk space and one virtual CPU will be created. No charges will accrue in your account for this database.

Configure the database

Always Free ⓘ
☒ Show only Always Free configuration options

OCPU Count
1
Always Free Autonomous Databases can utilize up to 1 core. The CPU core count cannot be adjusted.

Storage (TB)
0.02
Always Free Autonomous Databases can utilize up to 0.02 TB (20 GB) of storage. The storage size cannot be adjusted.

☐ Auto scaling
Allows system to use up to three times the provisioned number of cores as the workload increases. [Learn more.](#)

Supply a new password for the database administrator. The default database administrator username will be **ADMIN**. Keep in mind that this will be the username and password for the ATP Database you are creating. This is different from your Oracle Cloud account.



The screenshot shows a web form titled "Create administrator credentials" with an information icon. It contains three input fields: "Username" (labeled "READ-ONLY") with the value "ADMIN", "Password", and "Confirm password", both of which are masked with dots.

The next step is to choose network access. By default, the new database will be accessible from anywhere on the internet. If you would like to restrict access to this database to hosts or clients on a more limited range of addresses, check the **Configure Access Control Rules** box and then follow the prompts to add allowable IP addresses or CIDR blocks.

For this example, we will leave the access open.

Finally, select the **License Included** option and then click the **Create Autonomous Database** button.

Choose network access

☐ Configure access control rules ⓘ


Choose a license type

Bring Your Own License (BYOL)

Bring my organization's Oracle Database software licenses to the Database service.
[Learn more](#)

License Included

Subscribe to new Oracle Database software licenses and the Database service. ✓

 [Show Advanced Options](#)

Create Autonomous Database

Note that it may take up to 5 minutes for the new database to be *provisioned*.

Autonomous Database | Oracle | x

cloud.oracle.com/db/adbs/ocid1.autonomousdatabase.oc1.phx.anyhqjtwqijziaz5bg7oaoxd3j2vna6zfnj4qskx5khrq2hce2nhzyf4ia?region=us-phoenix-1

ORACLE Cloud Search resources, services, documentation, and marketplace US West (Phoenix) v

ISGM6480 Always Free

Database Actions DB Connection Performance Hub Service Console More Actions

Autonomous Database Information Tools Tags

General Information

Database Name: ISGM6480
Workload Type: Transaction Processing
Compartment: ntdung6480 (root)
OCID: ...zyf4ia [Show](#) [Copy](#)
Created: Tue, Jun 14, 2022, 01:56:20 UTC
OCPU count: 1
OCPU auto scaling: Disabled ⓘ
Storage: 20 GB
Storage auto scaling: Disabled ⓘ
License Type: License Included
Database Version: 19c
Lifecycle State: Provisioning
Instance Type: Free [Upgrade to Paid](#)
Mode: Read/Write [Edit](#)

Infrastructure

Dedicated Infrastructure: No

Autonomous Data Guard ⓘ

Status: Disabled ⓘ

Backup

Last Automatic Backup: No active backups exist for this database.
Manual Backup Store: Not Configured

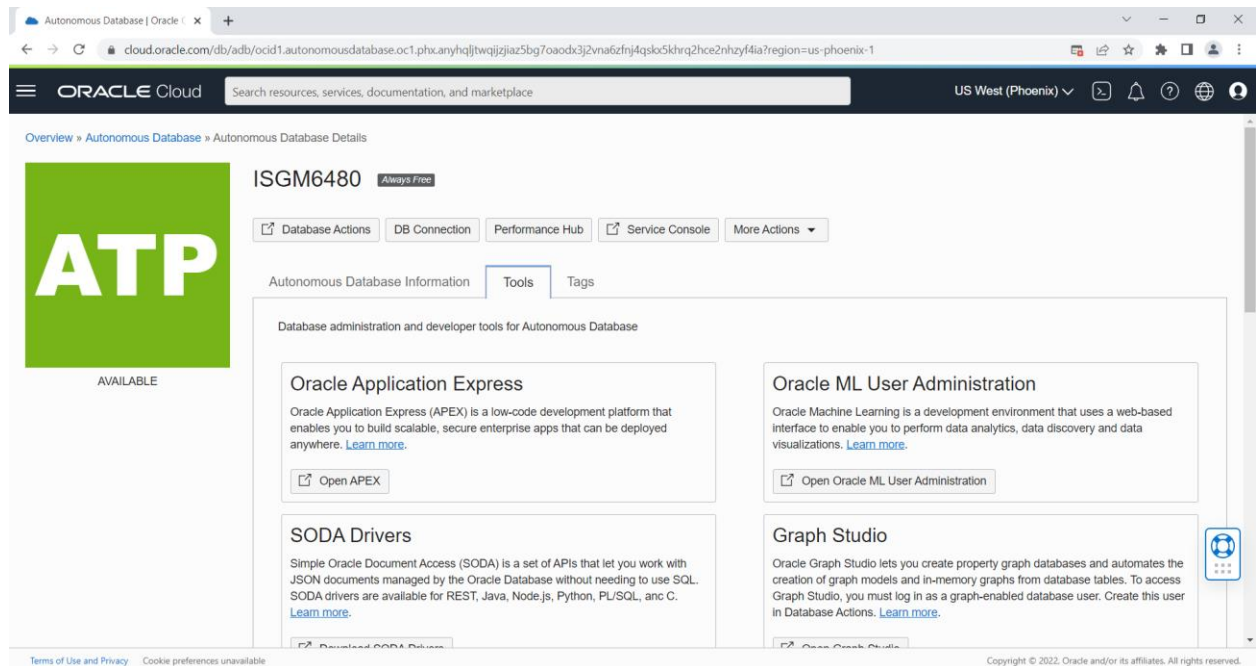
Network

Access Type: Allow secure access from everywhere
Access Control List: Disabled [Edit](#)
Mutual TLS (mTLS) Authentication: Required [Edit](#) ⓘ

ATP
PROVISIONING

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Once the new database has been provisioned it should become *available*. Click on the **Tools** tab to view different tools to be used for accessing the database.

Note that this management page will be used should you ever need to re-start your ATP database. Check under the **More Actions...** button for these features. Inactive Always Free Autonomous Databases are automatically stopped after 7 days. When your database is turned off, you must access the management page and turn on your database under **More Actions**.

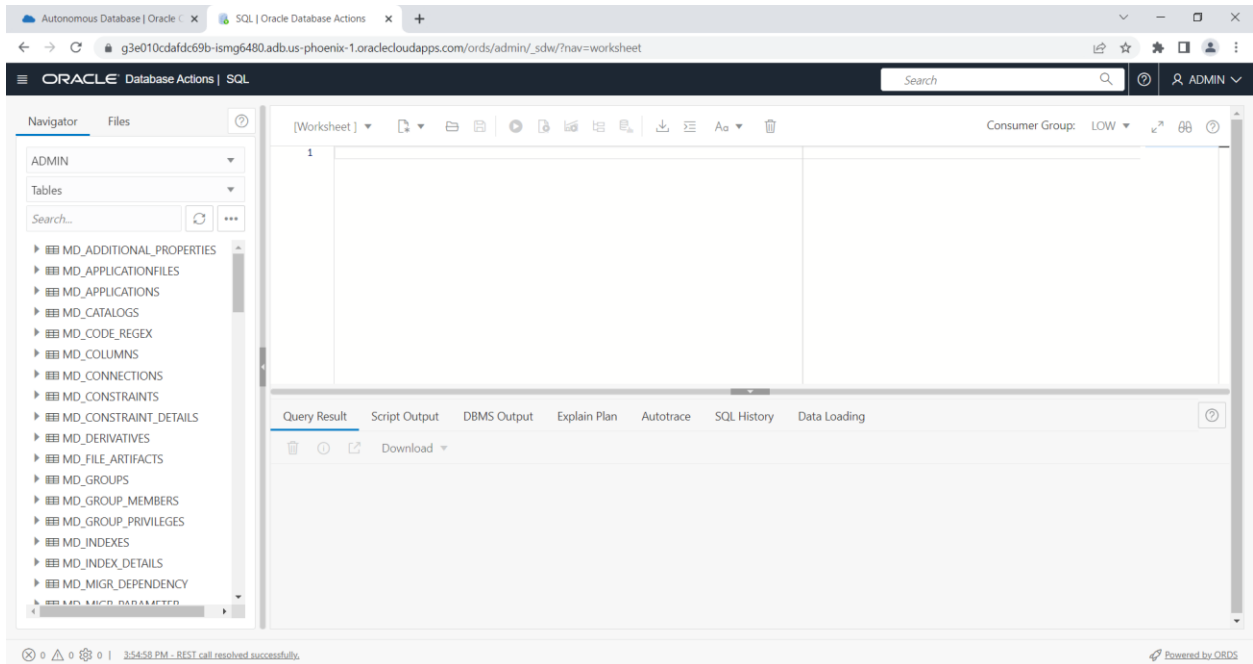
Access Database Instance

The quickest way to access the new database is by using the Oracle SQL Developer Web interface. Click on the **Database Action** button.

The screenshot shows the Oracle Cloud console interface. At the top, there's a navigation bar with the Oracle Cloud logo and a search bar. Below the navigation bar, the page title is "Autonomous Database Details". The main content area features a large green "ATP" logo on the left, indicating the database is "AVAILABLE". To the right of the logo, the database name "ISGM6480" is displayed with a "Always Free" tag. Below the name, there are tabs for "Database Actions", "DB Connection", "Performance Hub", "Service Console", and "More Actions". The "Database Actions" tab is selected, showing "Autonomous Database Information". This section is divided into "General Information" and "Infrastructure". The "General Information" section includes details such as Database Name (ISGM6480), Workload Type (Transaction Processing), Compartment (ntdung6480 (root)), OCID, Creation time, OCPU count, OCPU auto scaling status, Storage, Storage auto scaling status, License Type, Database Version, and Lifecycle State. The "Infrastructure" section includes Dedicated Infrastructure status, Autonomous Data Guard status, Backup information (Last Automatic Backup and Manual Backup Store), Network settings (Access Type and Access Control List), and a "More Actions" dropdown.

Click on the SQL button.

The screenshot shows the Oracle Database Actions Launchpad interface. The top navigation bar includes the Oracle logo and a search bar. The main content area is divided into several sections: "Development", "Data Tools", "Administration", and "Monitoring". The "Development" section contains buttons for SQL, REST, JSON, SCHEDULING, and APEX. The "Data Tools" section contains buttons for DATA MODELER, LIQUIBASE, CHARTS, ORACLE MACHINE LEARNING, DATA PUMP, CATALOG, DATA ANALYSIS, DATA LOAD, and DATA INSIGHTS. The "Administration" section contains buttons for REST, JSON, SCHEDULING, and APEX. The "Monitoring" section contains buttons for DATA PUMP, CATALOG, DATA ANALYSIS, DATA LOAD, and DATA INSIGHTS. On the right side, there is a "Getting Started" sidebar with links to Charts, RESTful Web Services, Load Data, JSON, and Need Help? The "Need Help?" section includes links to Documentation, SQL Developer Community Forum, and SQL Developer on Twitter.



Once logged in, the SQL Developer Web worksheet will appear. There are three main sections.

Schemas (users) and their objects (tables, views etc.) are displayed in the left-hand window

under **Navigator**. SQL Statements can be typed in using the Worksheet section. Query results and other feedback are provided in the window to the lower right.

The Oracle Sales History (SH) sample schema is available in the database so it can be used to easily test queries as shown below.

The screenshot displays the Oracle SQL Developer web interface. The top navigation bar includes 'Autonomous Database | Oracle' and 'SQL | Oracle Database Actions'. The main workspace shows a SQL script with the query: `SELECT * FROM sh.customers;`. Below the script, the 'Query Result' tab is active, displaying a table of customer data. The table has 10 columns: CUST_ID, CUST_LAST_NAME, CUST_FIRST_NAME, CUST_EMAIL, CUST_PHONE, CUST_FAX, CUST_ADDRESS, CUST_CITY, CUST_STATE_PROV, and CUST_POSTAL_CODE. The data is sorted by CUST_ID in ascending order. The first few rows are visible, showing customers like Archibald, Grigsby, and Kingman. The status bar at the bottom indicates 'Elapsed: 00:00:00.269' and 'Only 1000 rows currently supported in Script Output.'

CUST_ID	CUST_LAST_NAME	CUST_FIRST_NAME	CUST_EMAIL	CUST_PHONE	CUST_FAX	CUST_ADDRESS	CUST_CITY	CUST_STATE_PROV	CUST_POSTAL_CODE
7685	Archibald	Grigsby	M	1976	married	47 East San Bernardino Road	64852	Helmond	Warstein
11248	Archibald	Grigsby	M	1952		57 Grand View Drive	82598		
14796	Archibald	Grigsby	M	1958	single	57 North Tulare Drive	75917		
18351	Archibald	Grigsby	M	1968	married	67 West Kingman Avenue	61835		
4335	Archibald	Grigsby	M	1971		7 South Alameda Circle	39318		
21986	Archibald	Grigsby	M	1953		77 East Alameda Avenue	67843		
25463	Archibald	Grigsby	M	1974	single	77 South Meriwether Avenue	63736		
29818	Archibald	Grigsby	M	1956	married	87 North Brown Avenue	38432		

Connecting to the Oracle Cloud Database using SQL Developer

The client Oracle SQL Developer has more features than the Web version. The Oracle SQL Developer has versions for Windows, Mac OS, and Linux. For download of the Oracle SQL Developer, search using “SQL Developer download”. If you do not have the Java Development Kit installed, choose the version with the current JDK included.

After installing the SQL Developer, you can download the Oracle Cloud Wallet credentials from the Oracle Cloud database instance and use those to connect to your Cloud database. From the Autonomous Database home screen, click on the **DB Connection** button.

The screenshot shows the Oracle Cloud console interface. The top navigation bar includes the Oracle Cloud logo, a search bar, and the region "US West (Phoenix)". The main content area displays the details for an Autonomous Database instance named "ISMG6480", which is marked as "Always Free". The instance is in the "AVAILABLE" state. The "General Information" section lists the following details:

- Database Name: ISMG6480
- Workload Type: Transaction Processing
- Compartment: ntdung6480 (root)
- OCID: ...zyf4ia
- Created: Tue, Jun 14, 2022, 01:56:20 UTC
- OCPU count: 1
- OCPU auto scaling: Disabled
- Storage: 20 GB
- Storage auto scaling: Disabled
- License Type: License included
- Database Version: 19c
- Lifecycle State: Available

The "Infrastructure" section shows "Dedicated Infrastructure: No". The "Autonomous Data Guard" section shows "Status: Disabled". The "Backup" section shows "Last Automatic Backup: Mon, Jun 20, 2022, 10:30:33 UTC" and "Manual Backup Store: Not Configured". The "Network" section shows "Access Type: Allow secure access from everywhere" and "Access Control List: Disabled".

Connecting to a cloud database requires both a Wallet and a connection string. Click on the button to download the wallet.

The screenshot shows the Oracle Cloud console interface with the "Database Connection" dialog box open. The dialog box contains the following information:

- Connections to your Autonomous Database are secured, and can be authorized using TLS or mTLS authentication options.** TLS authentication is easier to use, provides better connection latency, and does not require you to download client credentials (wallet) if any of these is true for your connections:
 - You are using a JDBC Thin Client Driver with JDK8 or higher.
 - You are using an Oracle Call Interface client
 - Version 19.13 only on Linux x64.
 - Version 19.14 or higher and 21.5 or higher on all platforms.[Learn more](#) about TLS authentication and how to enable it.

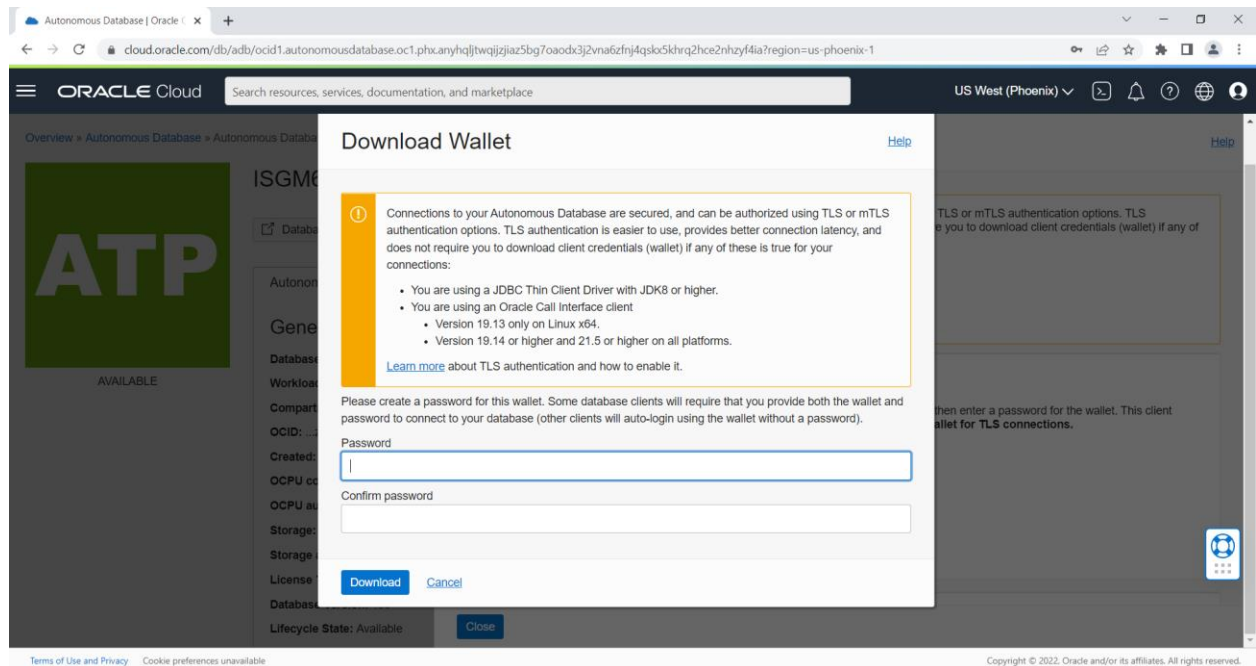
- Download client credentials (Wallet)**

To download your client credentials, select the wallet type, and click **Download wallet**. You then enter a password for the wallet. This client credential download only contains information for mTLS connections. **You do not need a wallet for TLS connections.**

Wallet type:

Wallet last rotated: -

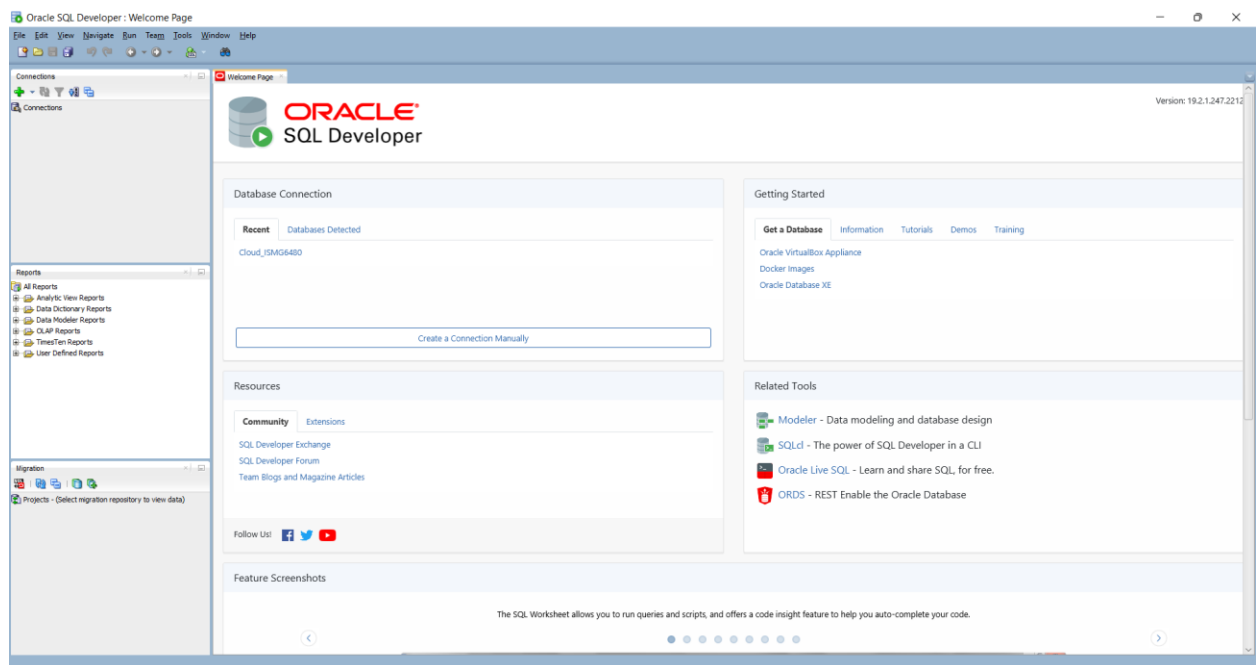
Provide a new password for the wallet and then click on the **Download** button.



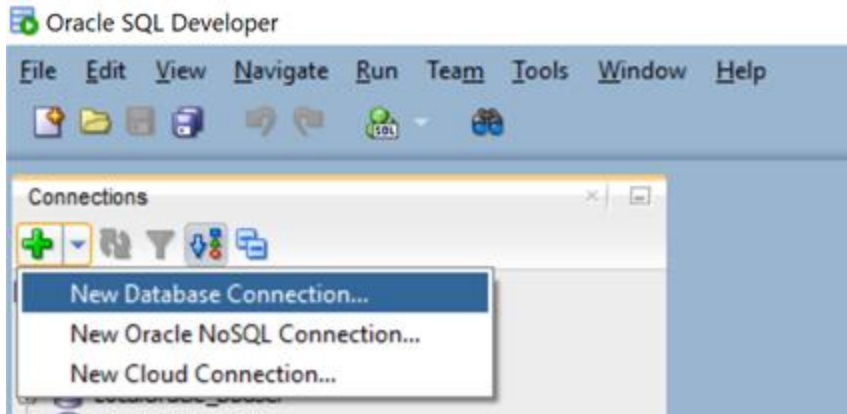
Be sure to store the wallet file in a secure location.

Creating a new Database Connection from SQL Developer

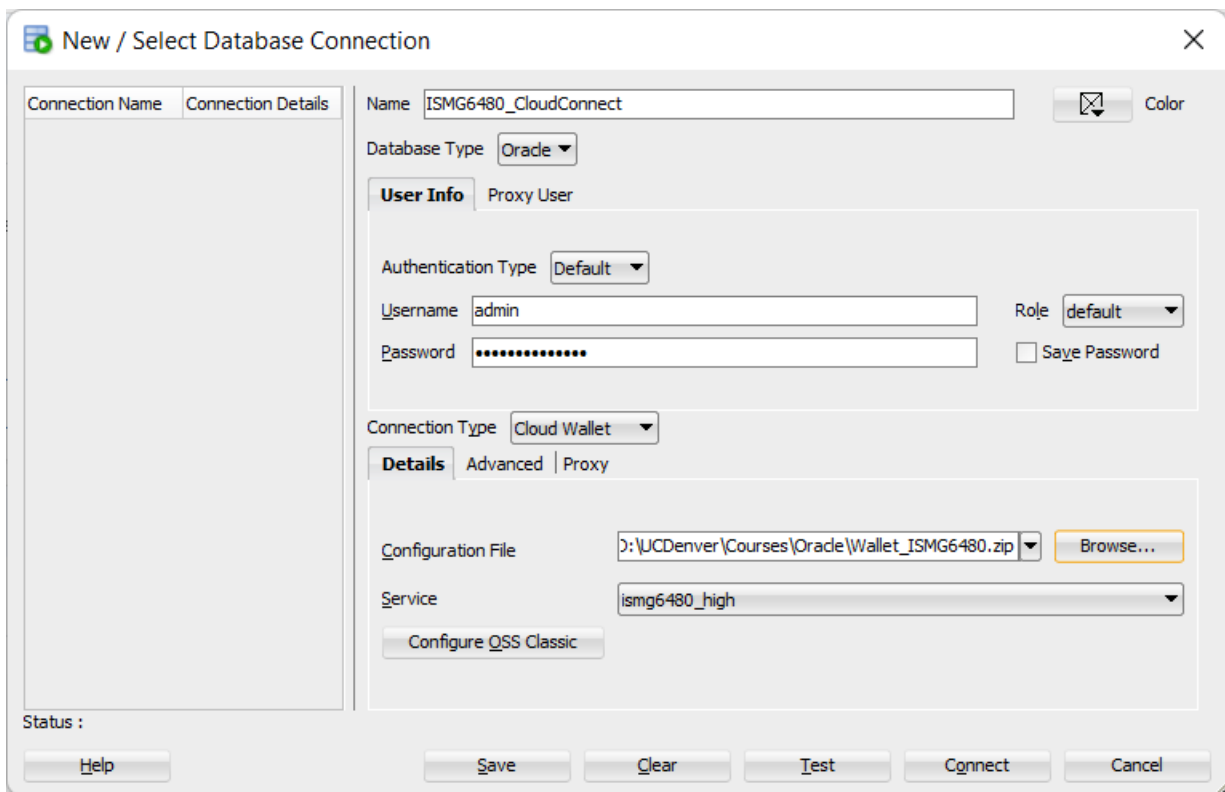
After starting the SQL Developer, the following window appears.



In Oracle SQL Developer, click the green plus sign to create a New Database Connection.



Give the new database connection a name and supply the ADMIN username and associated password. Change the **Connection Type** to **Cloud Wallet**. Click the **Browse...** button, navigate to the folder with your cloud wallet and select that file.



Click the **Test** button to make sure the connection is working. If the connection succeeds, “Success” appears beside Status.

New / Select Database Connection

Connection Name: ISMG6480_CloudConnect

Database Type: Oracle

User Info Proxy User

Authentication Type: Default

Username: admin Role: default

Password: ***** ☐ Save Password

Connection Type: Cloud Wallet

Details Advanced Proxy

Configuration File: D:\UCDenver\Courses\Oracle\Wallet_ISMG6480.zip

Service: ismg6480_high

Status: Success

Finally click the **Save** button to save this connection and then click the **Connect** button to connect to the cloud database.

Once connected, a new worksheet will open where SQL Statements can be entered.

Oracle SQL Developer: ISMG6480_CloudConnect

Query Result: 50 rows in 0.116 seconds

	CUST_ID	CUST_FIRST_NAME	CUST_LAST_NAME	CUST_GENDER	CUST_YEAR_OF_BIRTH	CUST_MARITAL_STATUS	CUST_STREET_ADDRESS	CUST_POSTAL_CODE	CUST_CITY	CUST_STATE_PROVINCE	CUST_STATE_PROVINCE
1	49471	Abigail	Ruddy	M	1976	married	27 North Sagadahoc Boulevard	60332	Edo	51442 Gelderland	51
2	5229	Abigail	Ruddy	M	1944	(null)	37 West Geneva Street	55406	Rooftdorp	51449 Noord-Holland	52
3	4753	Abigail	Ruddy	M	1940	single	47 New Alta Road	34077	Schommert	52297 Limburg	52
4	10339	Abigail	Ruddy	M	1977	married	47 South Hanabec Road	72996	Scheveningen	52294 Zuid-Holland	52
5	13594	Abigail	Ruddy	M	1949	(null)	57 North 3rd Drive	67644	Joazeville	51693 Santa Catarina	52
6	17449	Abigail	Ruddy	M	1950	single	47 East McIntosh Avenue	83786	Wagaya	51971 Aichi	52
7	21005	Abigail	Ruddy	M	1946	married	77 Bradford Avenue	52773	Santon	52293 Sao Paulo	52
8	24561	Abigail	Ruddy	M	1978	(null)	77 North Packard Avenue	37400	Tobchama	52526 Nanagawa	52
9	20116	Abigail	Ruddy	M	1949	single	87 West Onabotton Avenue	71349	Baellem	51444 Noord-Holland	52
10	31971	Abigail	Ruddy	M	1951	married	97 Sagadahoc Avenue	55056	Bolton	51205 England - Greater Manchester	52
11	35227	Abigail	Ruddy	M	1940	(null)	97 South Geneva Avenue	61402	Leijetad	51793 Flevovolder	52
12	36117	Abner	Everett	M	1954	(null)	107 Covington Avenue	80841	Wolverhampton	52514 England - West Midlands	52
13	39472	Abner	Everett	M	1975	married	107 North Sagache Avenue	34214	Munaa	51934 Bayern	52
14	43229	Abner	Everett	M	1957	married	117 West Gloucester Avenue	72059	Los Angeles	51074 CA	52
15	25470	Abner	Everett	M	1946	single	17 West McKenzie Court	64773	Stoutpart	52331 Baden-Wuerttemberg	52
16	47006	Abner	Everett	M	1985	(null)	27 East Beaton Boulevard	55787	Montara	51919 CA	52
17	50561	Abner	Everett	M	1940	married	27 South Page Boulevard	55446	Heuss	51978 Nordrhein-Westfalen	52

Note that this connection was done with the ADMIN user. Any new database development work should be done with a separate database user account. The next section shows steps to create a new Oracle database user to use for your work in the course.

Creating a New Oracle Database User

The ADMIN user of the Cloud Database has the necessary permissions to create additional database users and grant them the necessary privileges. SQL Developer can be used to create a new database user. The following statement shows the most basic SQL syntax to create a new user in Oracle.

```
CREATE USER username IDENTIFIED BY password;
```

There are many more optional parts to the CREATE USER statement but by leaving them off the defaults will be used. Note: Please pick a different password than this example. The Oracle user password should contain a mix of upper- and lower-case letters and numbers. For this example, we will create a new user named “StoreSalesDBA”.

Some permissions need to be granted to connect to the database and create objects such as tables and views. Use this list of GRANT statements to provide necessary permissions.

```
GRANT CONNECT, RESOURCE TO StoreSalesDBA;
```

```
GRANT CREATE TABLE TO StoreSalesDBA;
```

```
GRANT CREATE SEQUENCE TO StoreSalesDBA;
```

```
GRANT CREATE VIEW TO StoreSalesDBA;
```

```
GRANT CREATE SESSION TO StoreSalesDBA;
```

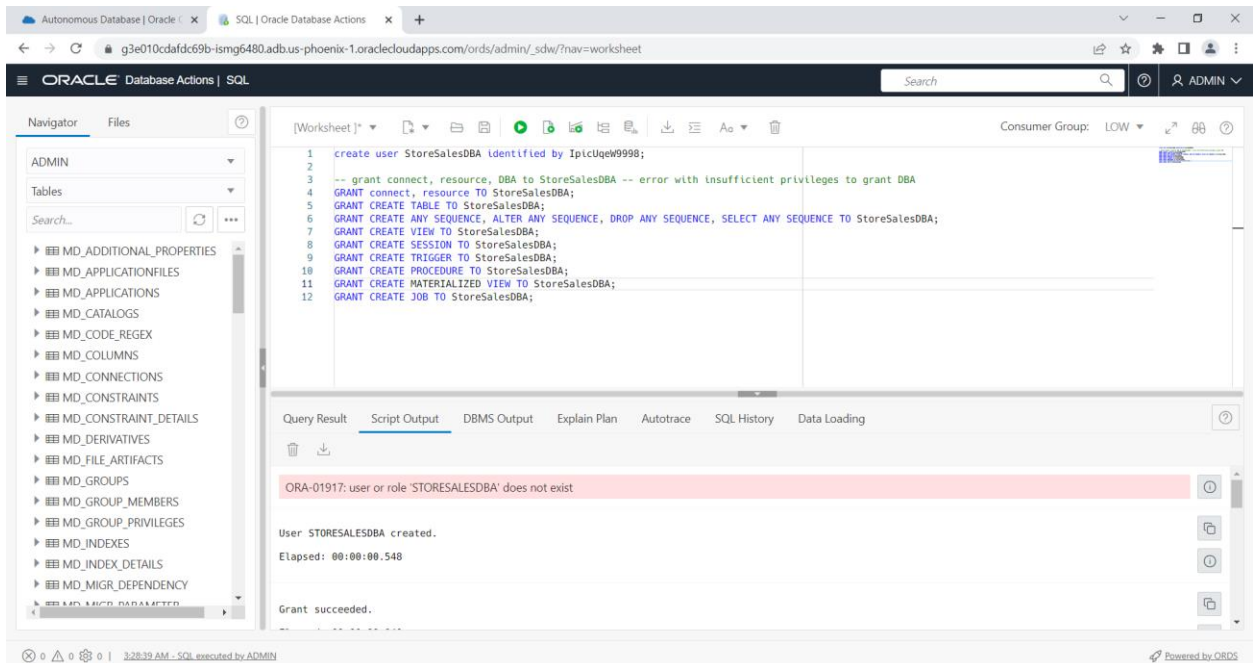
```
GRANT CREATE PROCEDURE TO StoreSalesDBA;
```

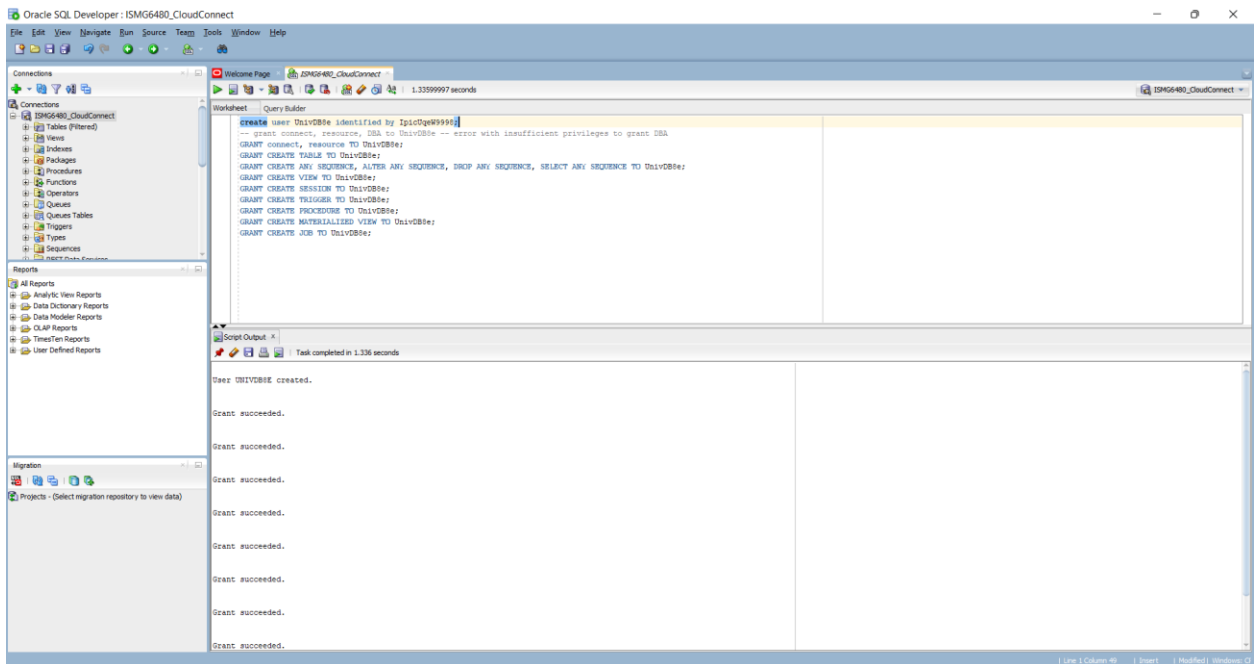
```
GRANT CREATE MATERIALIZED VIEW TO StoreSalesDBA;
```

```
GRANT UNLIMITED TABLESPACE to StoreSalesDBA;
```

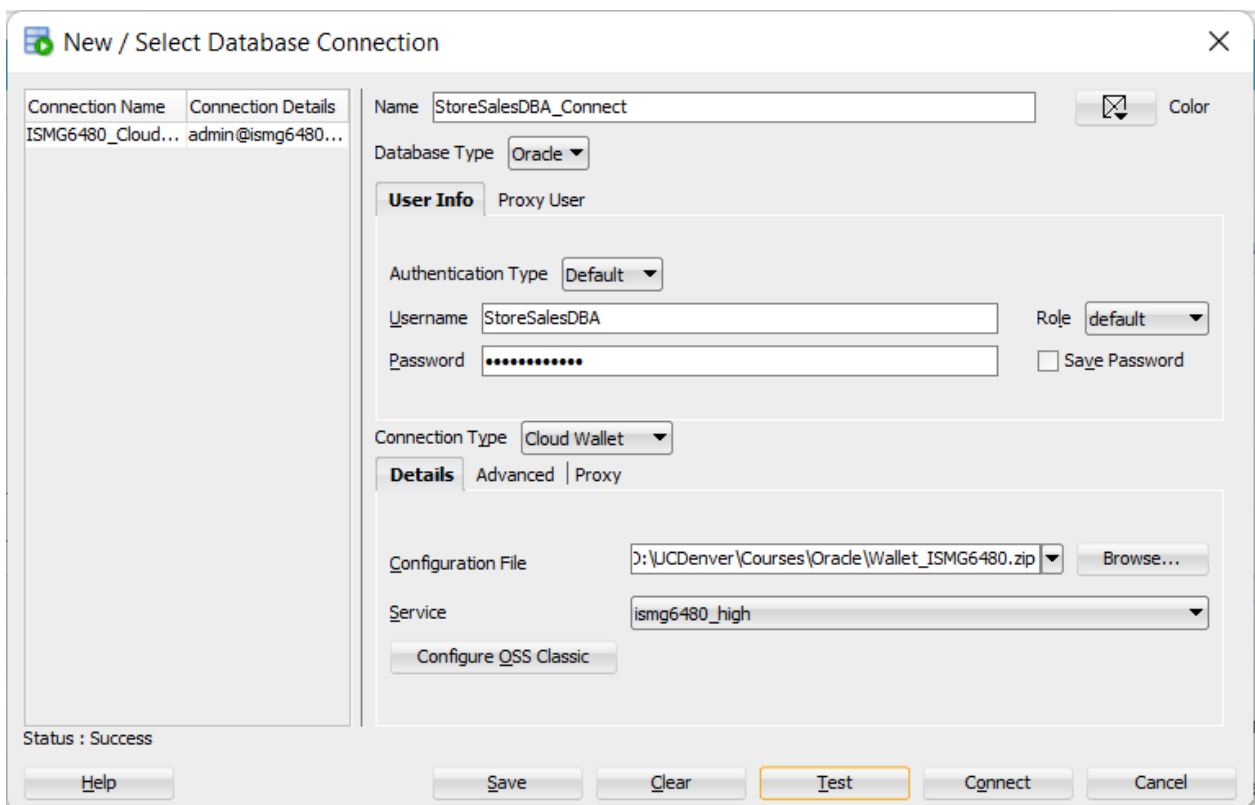

Now that the new user created and assigned the appropriate permissions, we can create a new connection to the database with this user's credentials. Then same wallet will be used.

You can execute SQL statements using the StoreSalesDBA connection. Alternatively, you can use the SQL Developer Web.



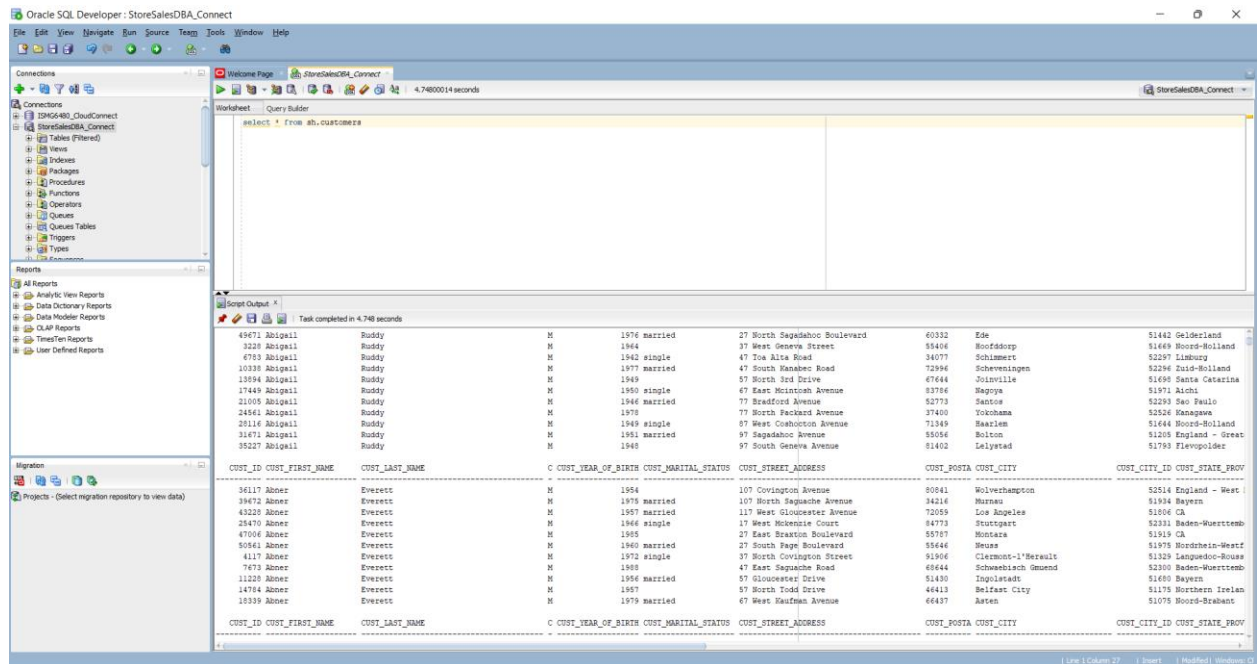


After a new user is created, you can create a connection from that user. To create a connect to ISMG6480 database, please refer to steps in previous part “**Connecting to the Oracle Cloud Database using SQL Developer software**”.



Click the Test button to make sure the connection is working. Then save the connection and finally click the Connect button to connect to the database using this new username.

Once the connection is established, SQL statements can be entered and executed.



For more details about using the SQL Developer, search using “SQL Developer tutorials”. You can find Web tutorials and video instructions. Oracle provides excellent resources.

Holowczak.com also provides an excellent tutorial using an older version of SQL Developer although most details easy transfer to the current version.

<https://www.oracle.com/database/sqldeveloper/>

<http://holowczak.com/getting-started-with-oracle-sql-developer/>