

# Oracle Autonomous Database Tools

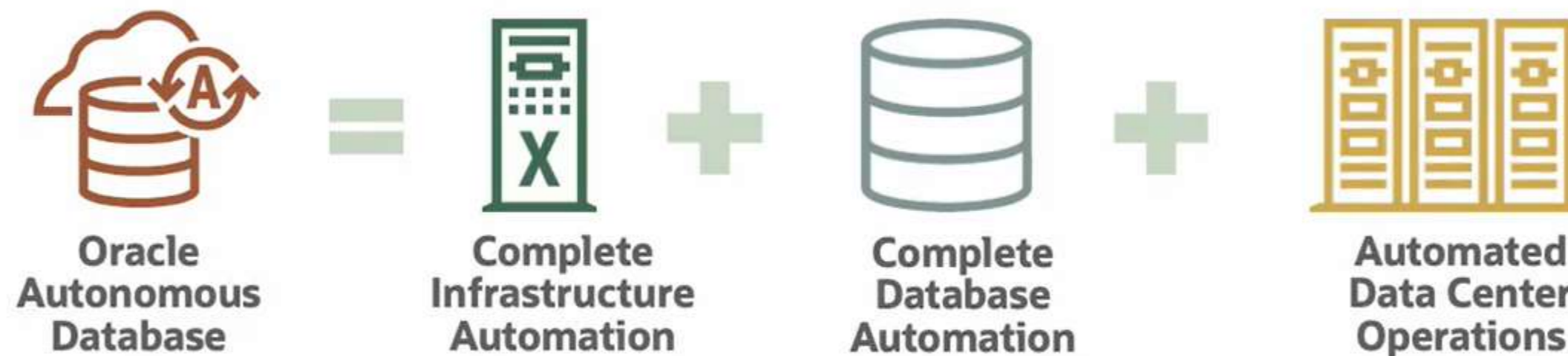
## Autonomous Database Tools Overview

**Hope Fisher**

PRODUCT MANAGER, DB CLOUD TECHNICAL SVCS & USER ASSISTANCE  
ORACLE

# Oracle Autonomous Database

Using the Cloud to eliminate the complexity of data management



## Autonomous Database

- Oracle Database reimagined for the Cloud
- Completely automating the full database management lifecycle
- Supporting mission-critical databases
- Enabling you to innovate more, pay less, and ensure data security

# Data Studio Tools

The screenshot displays the Oracle Data Studio interface. At the top, a dark header bar contains the Oracle logo, 'Database Actions | Launchpad', and a search bar labeled 'Search Database (⌘+K)'. Below the header, a navigation bar includes tabs for 'Pinned & Recently Visited', 'Development' (which is active), 'Data Studio', 'Administration', 'Downloads', 'Monitoring', and 'Related Services'. On the left side of the 'Development' tab, a sidebar lists various tools: SQL, Data Modeler, REST, Liquibase, JSON, Charts, Scheduling, Oracle Machine Learning, and APEX. The main workspace is titled 'SQL' and contains a description: 'The SQL worksheet is where most of your work will be performed. Running SQL queries and scripts, creating and browsing objects, loading data, exporting data to CSV or JSON, and so much more. Your day will often start and end in the SQL interface.' Below this description is a code editor showing a SQL script. The script includes dropping a table and a materialized view, creating a new table with columns for ID, name, and salary, and inserting a record for 'martin'. Below the code editor, there are tabs for 'Query Result', 'Script Output', 'DMS Output', 'Explain Plan', 'Autotrace', and 'SQL History'. The 'Query Result' tab is active, displaying a table with two rows of data. At the bottom of the interface, a status bar shows the current session information.

ORACLE Database Actions | Launchpad Search Database (⌘+K)

Pinned & Recently Visited Development Data Studio Administration Downloads Monitoring Related Services

SQL

The SQL worksheet is where most of your work will be performed. Running SQL queries and scripts, creating and browsing objects, loading data, exporting data to CSV or JSON, and so much more. Your day will often start and end in the SQL interface.

```
1 drop table demo_emps;
2 drop materialized view demo_emps_mv;
3
4 create table demo_emps (
5     id number primary key,
6     name varchar2(255),
7     sal number
8 );
9
10 insert into demo_emps values(1, 'martin', 100);
11
```

ID	NAME	SAL
1	MARTIN	100
2	KALLY	200

Elapsed: 00:00:09.004  
2 rows selected.

# Autonomous as a Development Environment

## Developer Tools out of the box with Autonomous

### SQL Developer Web



- Execute SQL and PL/SQL
- Build Data Models, generate DDL statements
- Monitor and manage the DB

### APEX



- Web-based Function rich, low code development env
- No client software needed

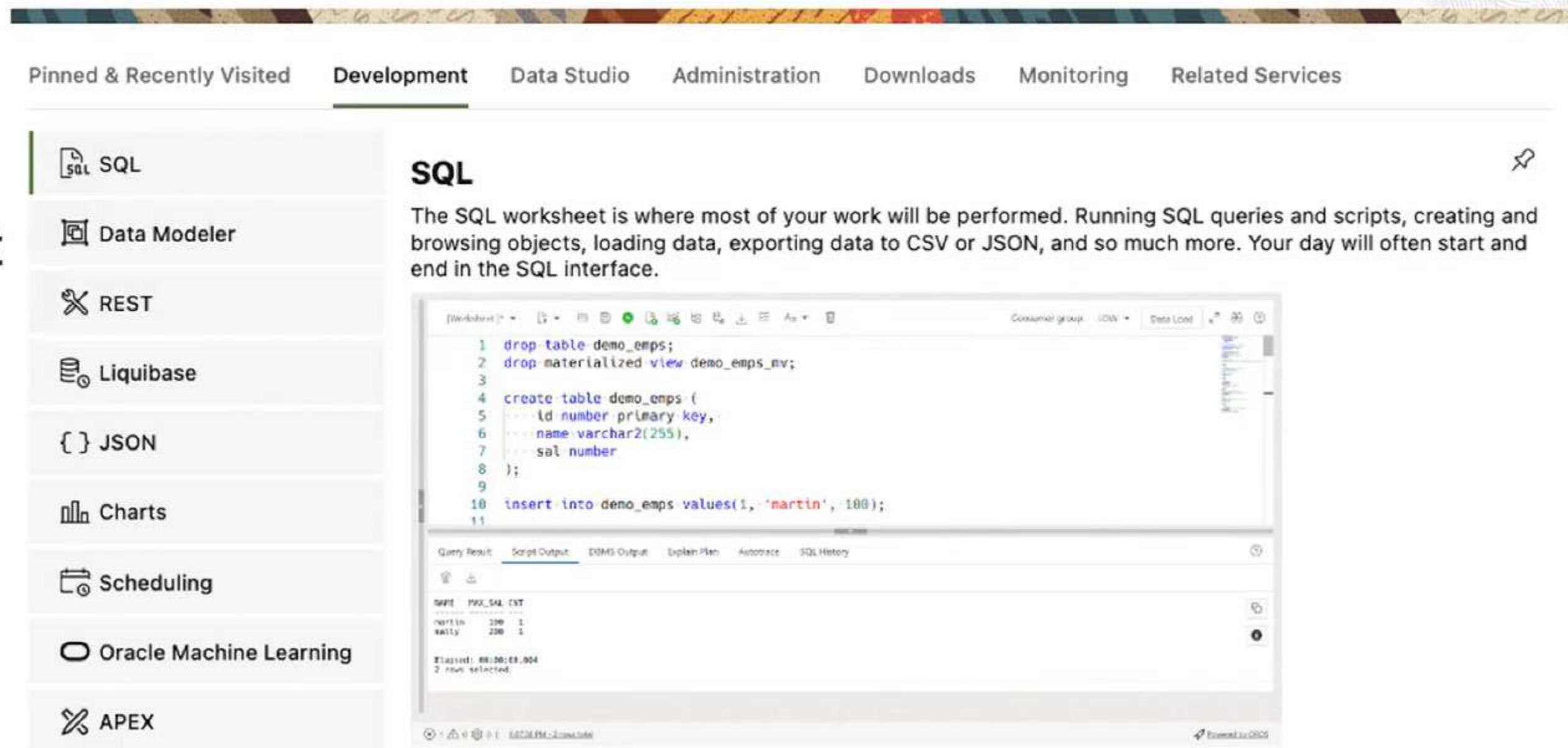
### Oracle REST Data Services



- Ability to REST enable a schema and autogenerate REST endpoints for tables, views, and procedures

# SQL Developer

- Run SQL statements
- Load data
- Database development
- Monitor and manage



The screenshot displays the Oracle SQL Developer interface. The top navigation bar includes links for Pinned & Recently Visited, Development (which is the active tab), Data Studio, Administration, Downloads, Monitoring, and Related Services. The left sidebar lists various development tools: SQL, Data Modeler, REST, Liquibase, JSON, Charts, Scheduling, Oracle Machine Learning, and APEX. The main workspace is titled 'SQL' and contains a text area with the following SQL script:

```
1 drop table demo_emps;
2 drop materialized view demo_emps_mv;
3
4 create table demo_emps (
5     id number primary key,
6     name varchar2(255),
7     sal number
8 );
9
10 insert into demo_emps values(1, 'martin', 100);
11
```

Below the script, the 'Query Result' tab is active, showing a table with two rows of data:

ID	NAME	SAL
1	MARTIN	100
2	ALLEN	200

The status bar at the bottom indicates that the query was executed successfully, showing 'Elapsed: 00:00:00.004' and '2 rows selected'.

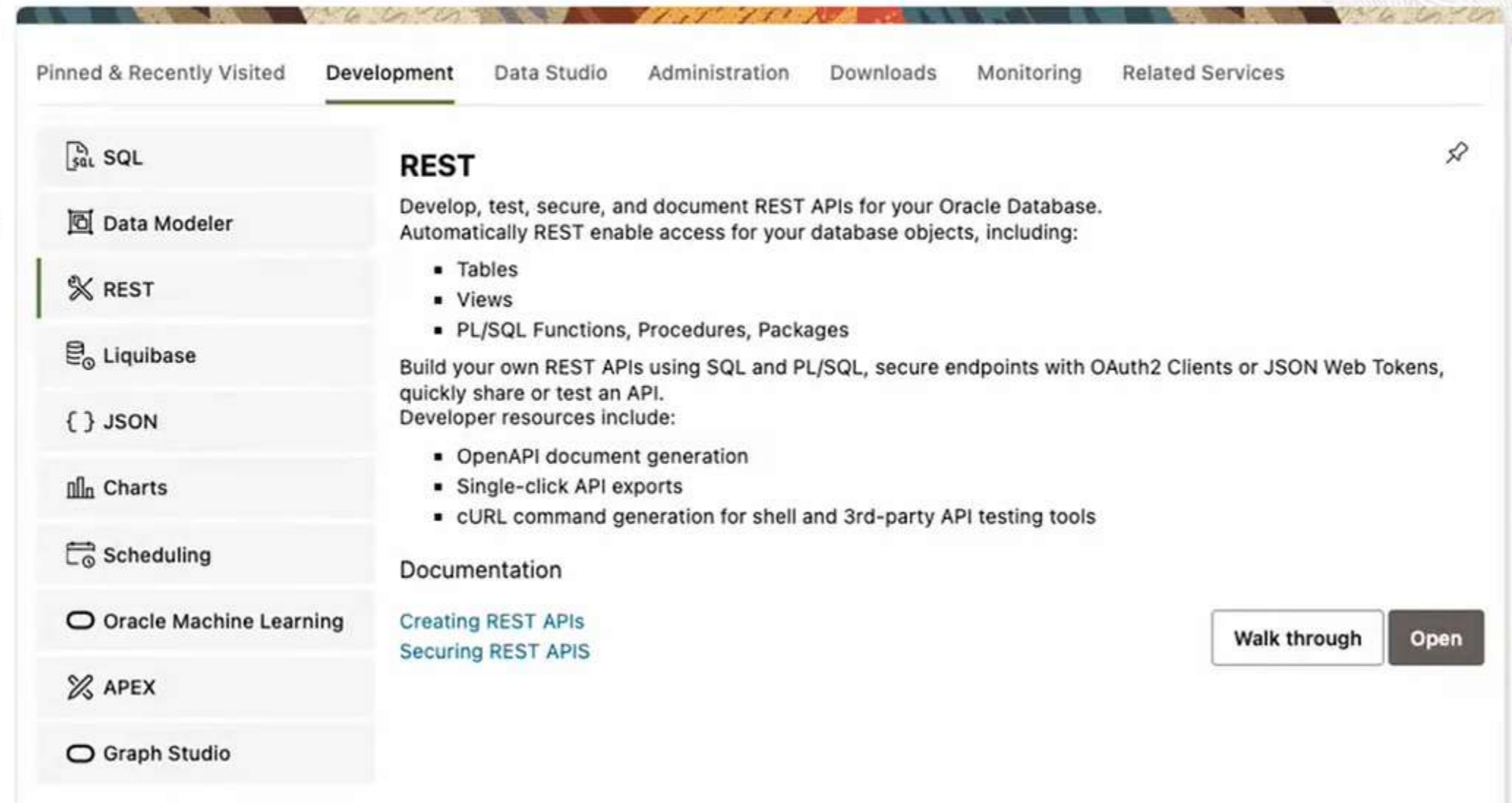
# APEX

- Access APEX Applications
- Manage workspaces
- APEX Development

The screenshot displays the Oracle APEX Developer's Hub interface. At the top, a navigation bar includes links for 'Pinned & Recently Visited', 'Development' (which is the active tab), 'Data Studio', 'Administration', 'Downloads', 'Monitoring', and 'Related Services'. On the left side, there is a vertical sidebar with icons and labels for various tools: SQL, Data Modeler, REST, Liquibase, JSON, Charts, Scheduling, Oracle Machine Learning, APEX (highlighted with a green bar), and Graph Studio. The main content area features a large 'APEX' header with the text 'Login to APEX, develop and run rich, low-code web applications.' Below this is a preview of the APEX application interface, showing a top navigation bar with 'APEX', 'App Builder', 'SQL Workshop', 'Team Development', and 'Gallery'. The preview also shows a 'Top Apps' section, a 'Top Users' section with a bar chart for 'KL', a 'Summary' section with '0 Applications', '0 Tables', and '1 Developers', and a 'Workspace Message' section. On the right side of the preview, there is an 'About' section and a 'Learn More' section with links to 'APEX Welcome', 'Blog', 'Tutorials', 'Videos', 'Educational Resources', 'Ideas & Feature Requests', and 'apex world'. Below the preview, there is a 'Documentation' section with links for 'Get started' and 'Create APEX Developer Accounts'. In the bottom right corner of the slide, there is a dark grey button labeled 'Open'.

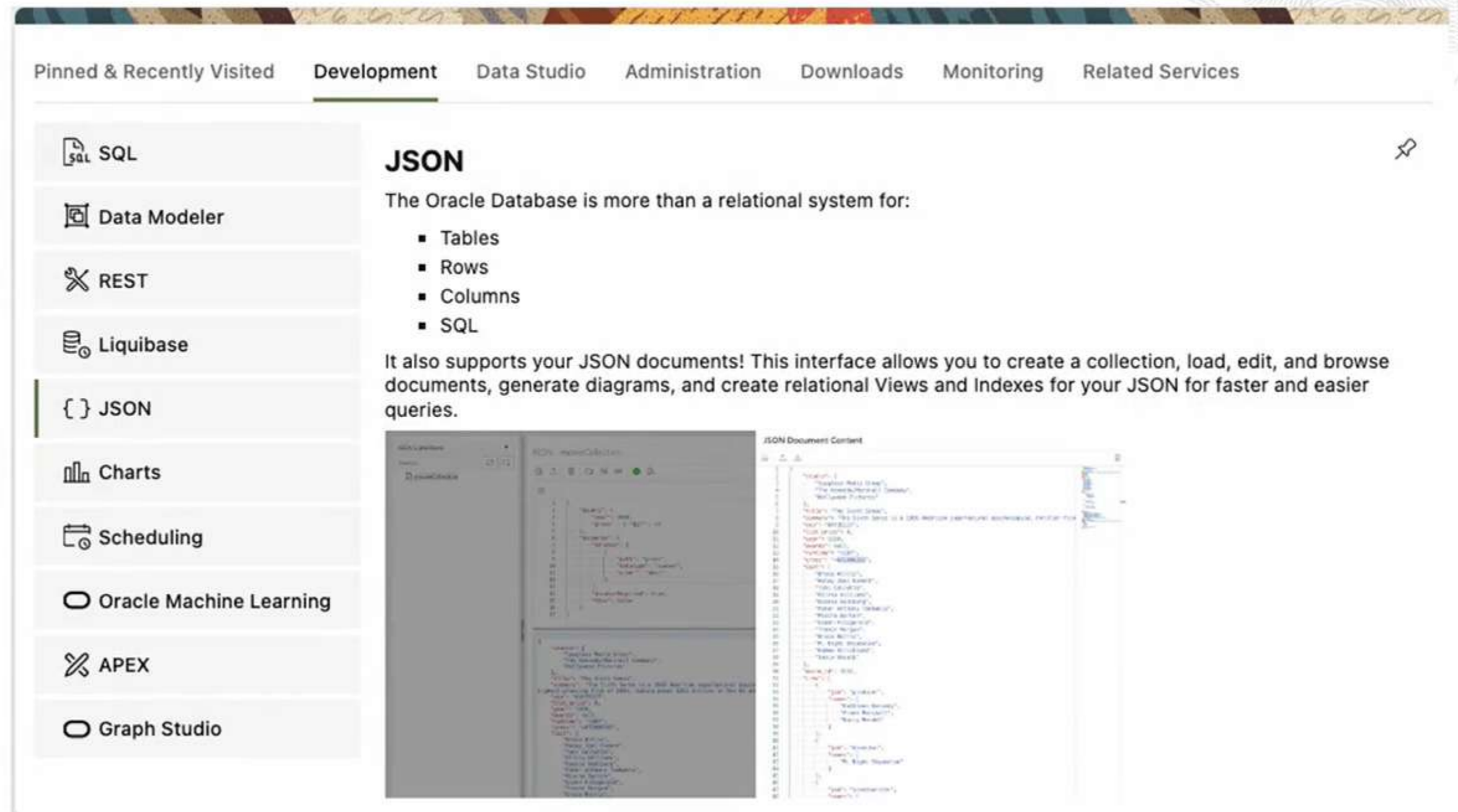
# REST

- Define via PL/SQL API, SQL Dev or APEX
- Auto REST enable tables and views
- Create custom REST services
- Document Store (SODA for REST)
- Database Management REST APIs
- REST Enabled SQL



# JSON

- Create collection
- Load and edit JSON
- Browse documents
- Create views



The screenshot displays the Oracle Cloud Development Interface (OCI DevEx) with the 'Development' tab selected. The left sidebar lists various development tools, with 'JSON' highlighted. The main content area is titled 'JSON' and includes the following text:

The Oracle Database is more than a relational system for:

- Tables
- Rows
- Columns
- SQL

It also supports your JSON documents! This interface allows you to create a collection, load, edit, and browse documents, generate diagrams, and create relational Views and Indexes for your JSON for faster and easier queries.

Below the text, there are three panels showing JSON document content, including a 'JSON Document Content' panel on the right displaying a list of documents with their keys and values.

- OCI & OSS Integration

```
107 rows selected.
```

```
DEPARTMENT_ID    DEPARTMENT_NAME  EXTRA_COLUMN      LOCATION_ID        MANAGER_ID
SQL> select * from departments
      2* where
```

## SQL Command Line

# Data Studio Tools

The screenshot displays the Oracle Data Studio Overview page. The top navigation bar includes the Oracle logo, 'Database Actions | Data Studio Overview', a search bar, and a user profile icon labeled 'QTEAM'. The left sidebar contains navigation links: Overview, Data Load, Analysis, Insights, Catalog, and Data Share. The main content area is divided into two sections. The 'Get Started' section features five action cards: Data Load (Load data from CSV, Excel, Parquet and other files on your local computer or cloud store into Autonomous Database), Data Analysis (Quickly layer a dimensional model over your data using Analytic Views and view data using reports and charts), Insights (Let the Database automatically search your data for outliers and anomalies. Find that needle in the haystack), Catalog (Find data and understand dependencies between objects in the database. Know where your data comes from and where it is going), and Data Share (Quickly and securely share tables in your Autonomous Database with other users and Databases). The 'Recent Objects' section lists ten database objects in a two-column grid: DEVICES TABLE, MONTHS TABLE, ORDERS TABLE, DAYS TABLE, CUSTOMER\_INTERACTIONS TABLE, COUNTRIES TABLE, CUSTOMER\_CONTACT TABLE, REQUEST\_INSIGHT\_5 INSIGHT\_REQUEST, REQUEST\_INSIGHT\_4 INSIGHT\_REQUEST, and REQUEST\_INSIGHT\_3 INSIGHT\_REQUEST. A right sidebar contains 'Getting Started' (Use Data Studio to understand your data better) and 'Need Help?' (Data Load Documentation, Analysis Documentation, Catalog Documentation, Insights Documentation, Database Actions Documentation, Data Warehouse Insider Blog).

ORACLE Database Actions | Data Studio Overview

Search

QTEAM

### Get Started

**Data Load**

Load data from CSV, Excel, Parquet and other files on your local computer or cloud store into Autonomous Database.

**Data Analysis**

Quickly layer a dimensional model over your data using Analytic Views and view data using reports and charts.

**Insights**

Let the Database automatically search your data for outliers and anomalies. Find that needle in the haystack.

**Catalog**

Find data and understand dependencies between objects in the database. Know where your data comes from and where it is going.

**Data Share**

Quickly and securely share tables in your Autonomous Database with other users and Databases.

### Recent Objects

DEVICES TABLE	MONTHS TABLE
ORDERS TABLE	DAYS TABLE
CUSTOMER_INTERACTIONS TABLE	COUNTRIES TABLE
CUSTOMER_CONTACT TABLE	REQUEST_INSIGHT_5 INSIGHT_REQUEST
REQUEST_INSIGHT_4 INSIGHT_REQUEST	REQUEST_INSIGHT_3 INSIGHT_REQUEST

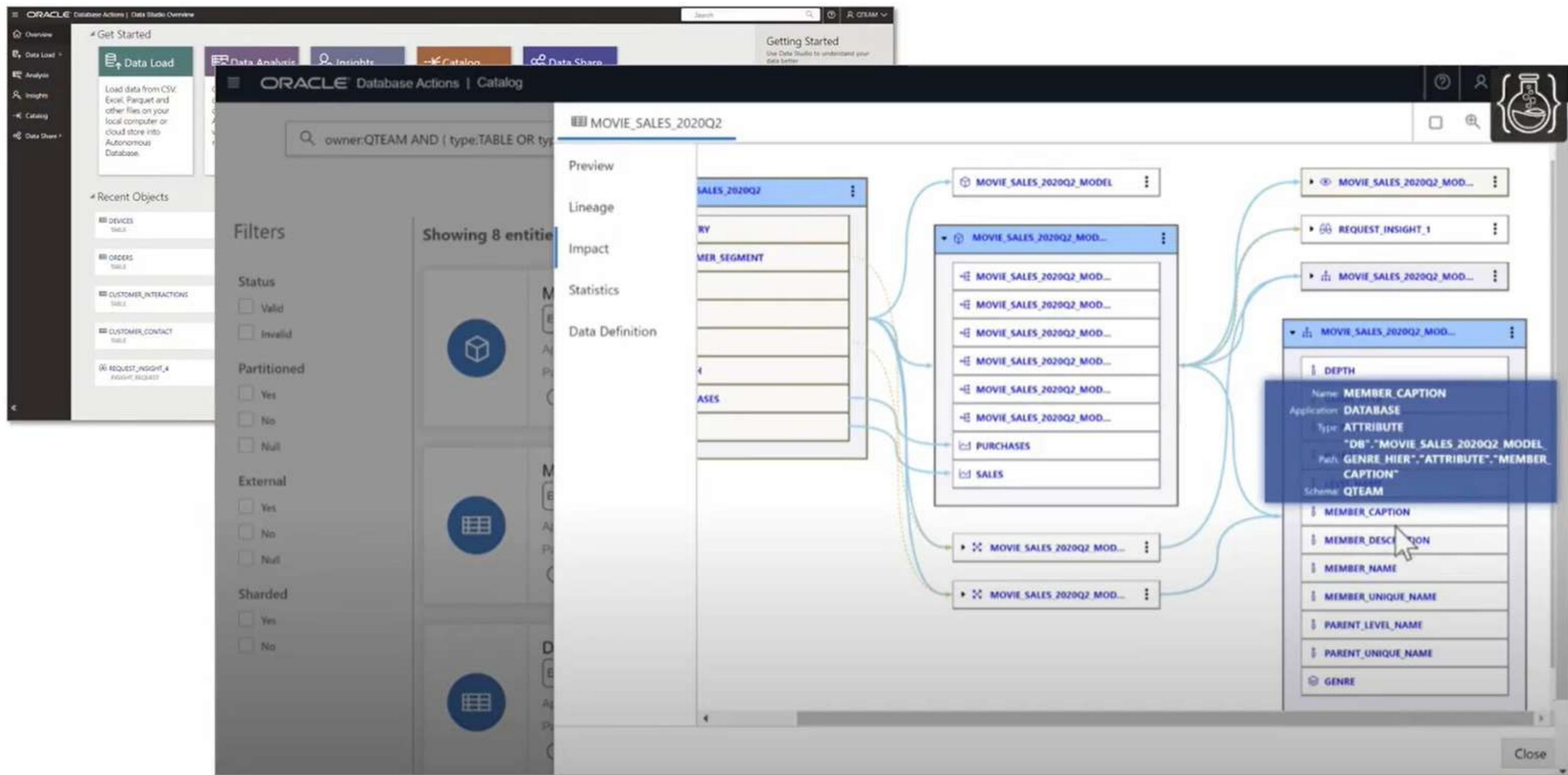
### Getting Started

Use Data Studio to understand your data better

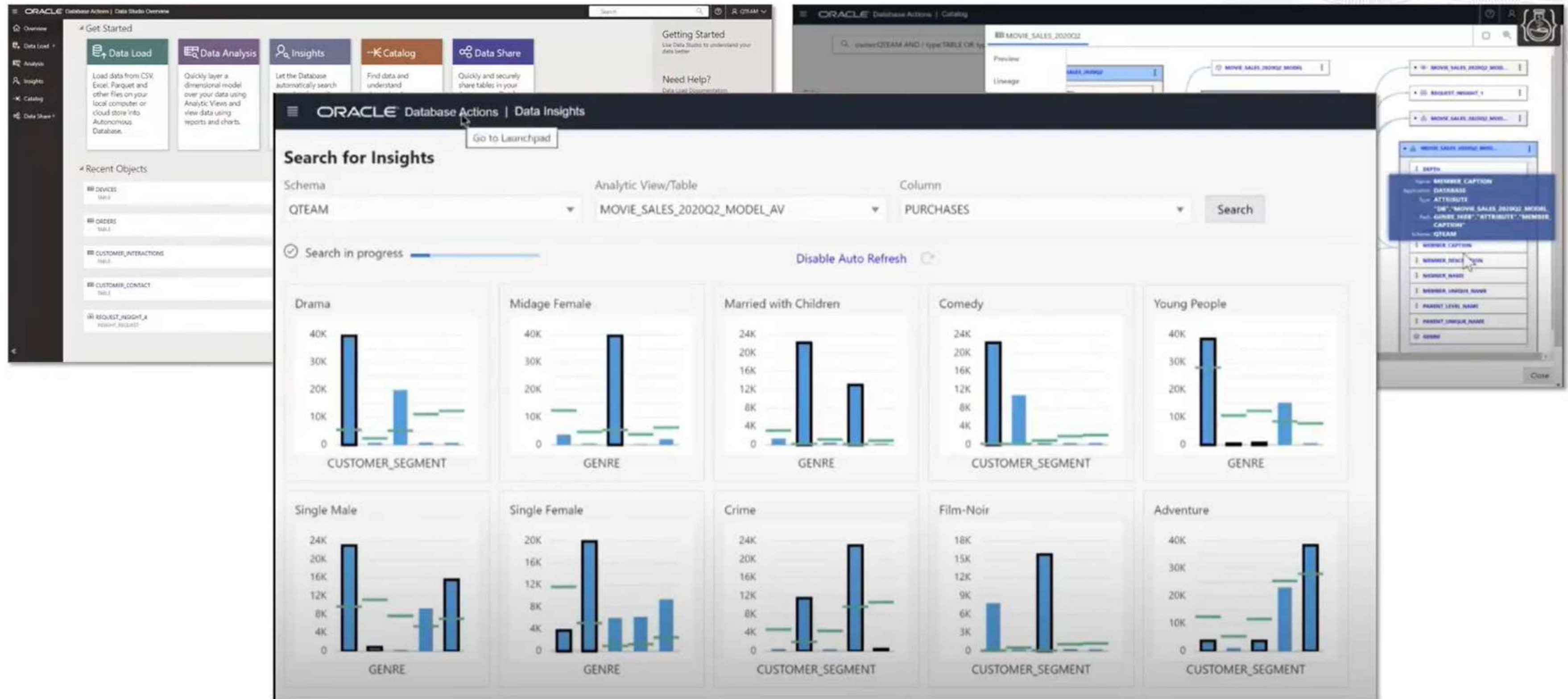
### Need Help?

- Data Load Documentation
- Analysis Documentation
- Catalog Documentation
- Insights Documentation
- Database Actions Documentation
- Data Warehouse Insider Blog

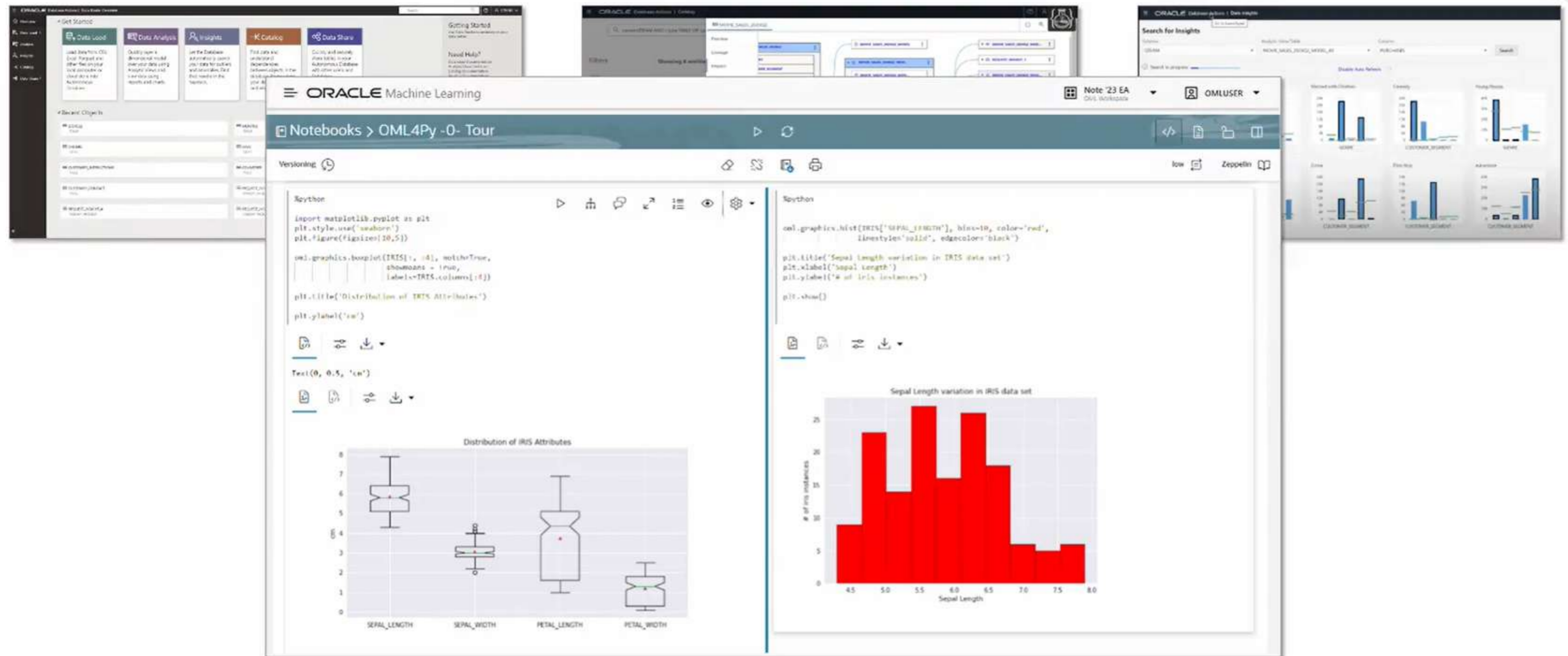
\_\_\_\_\_



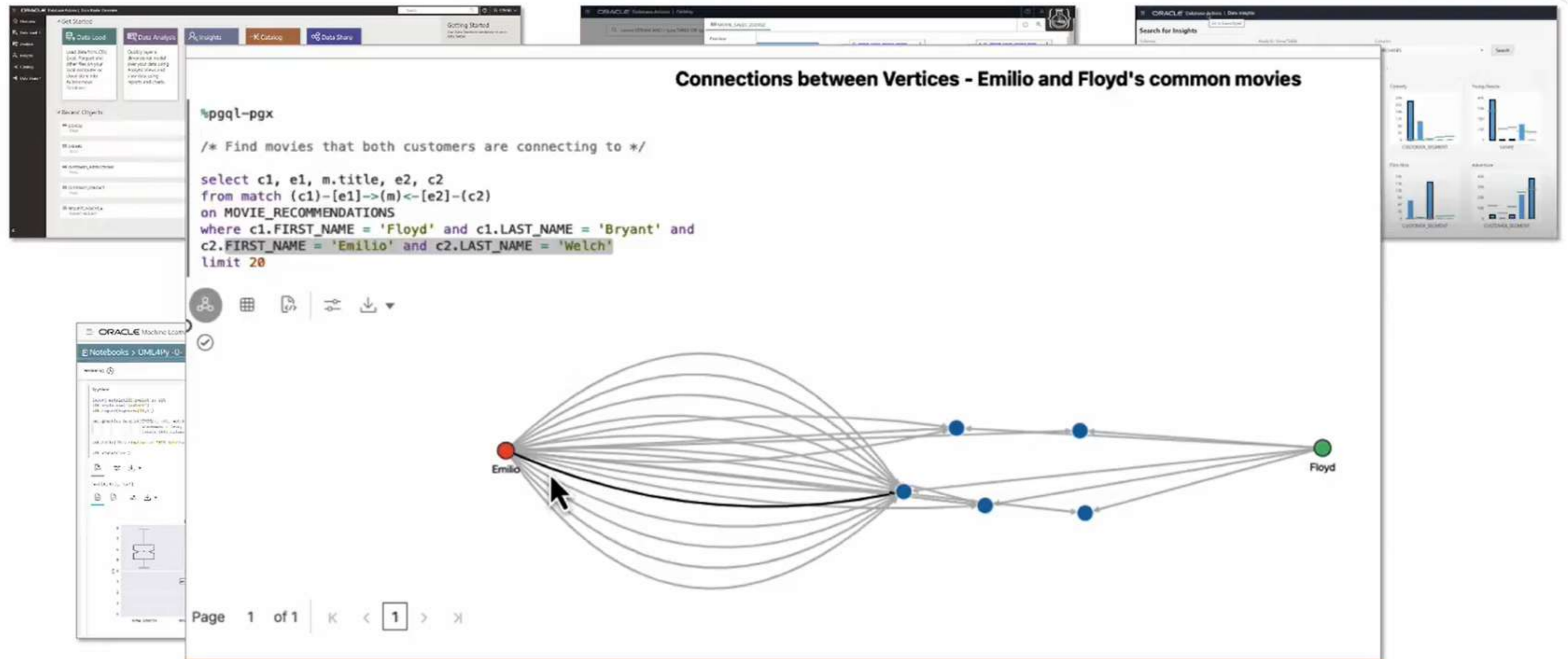
# Insights



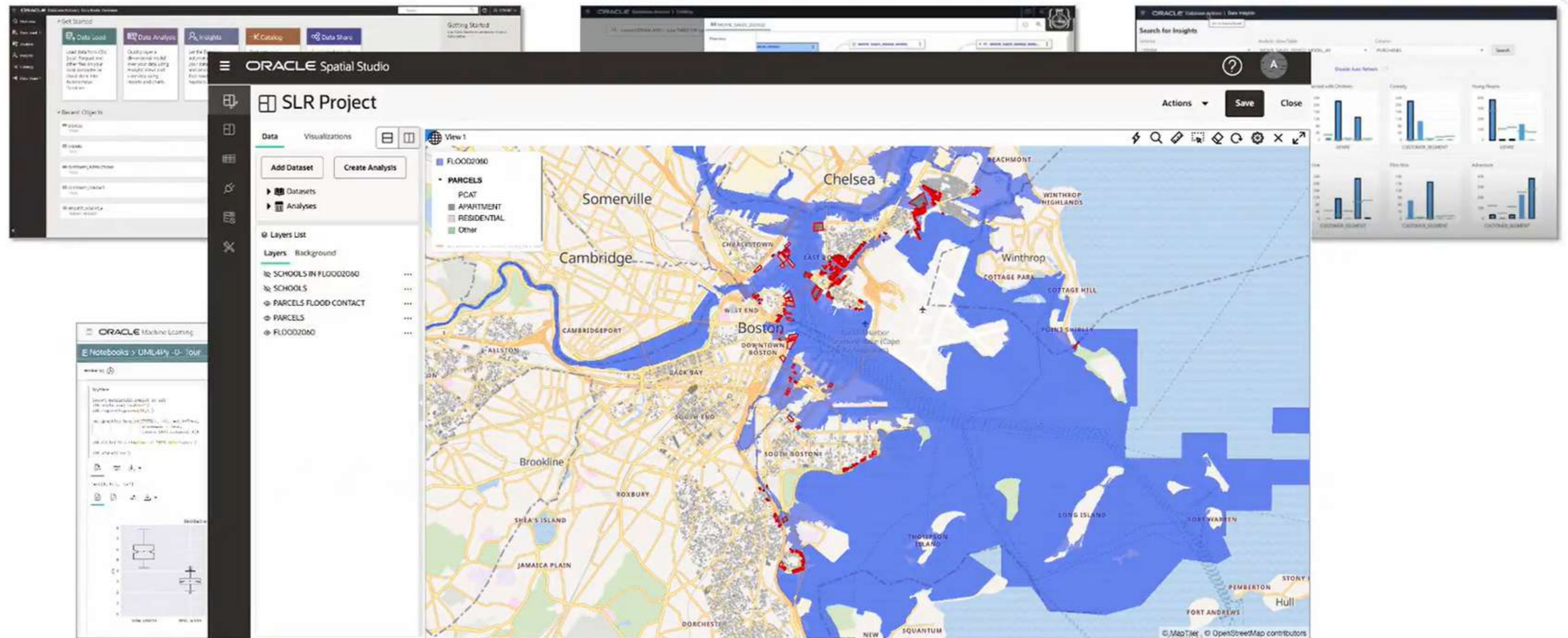
# Machine Learning Notebooks



# Graph Studio



# Graph Studio



# Summary



Describe ADB Tools