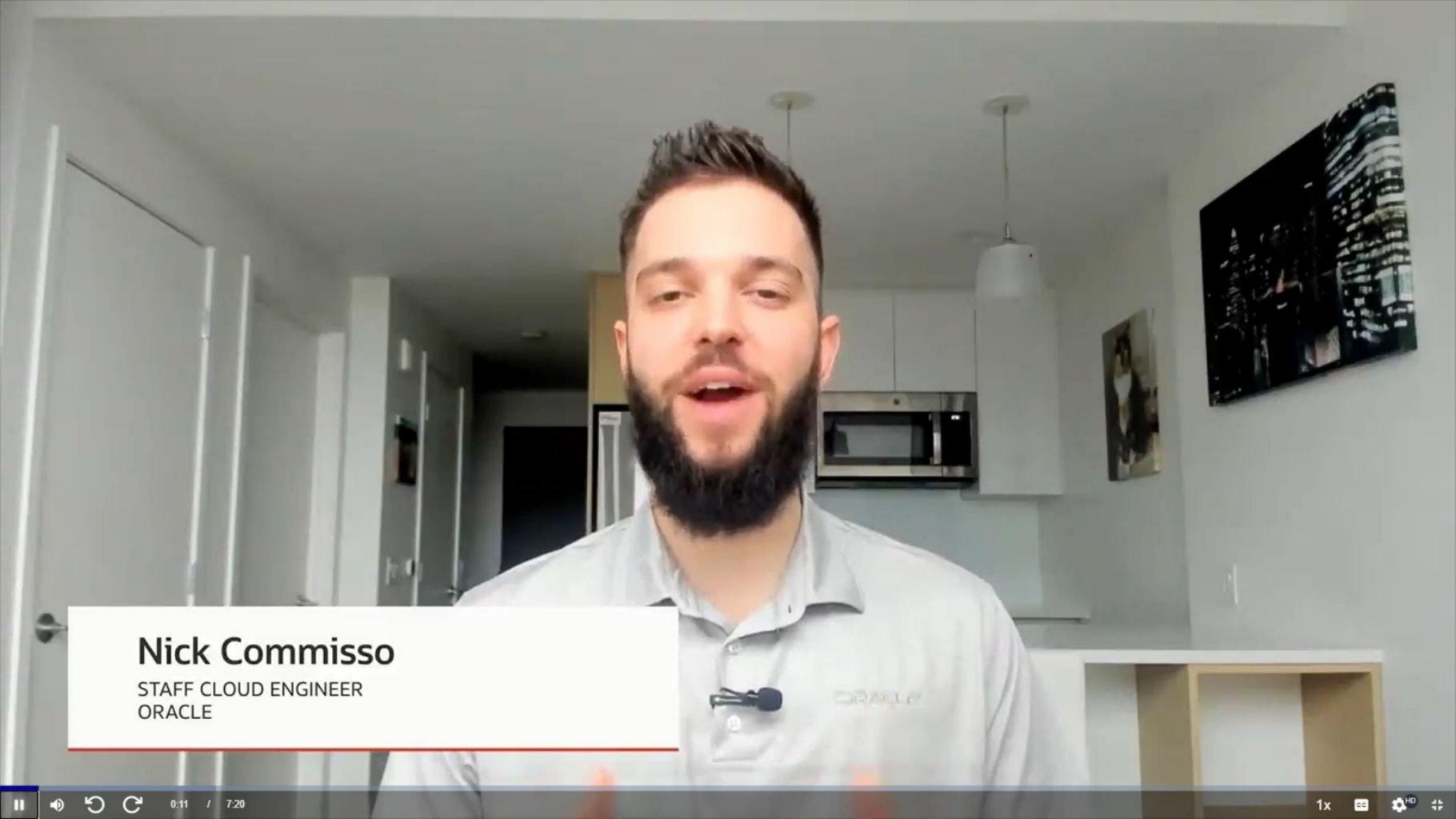


## Oracle Database

# Describe Oracle's Data Toolset

A man with dark hair and a beard is speaking to the camera. He is wearing a light-colored Oracle polo shirt. The background shows a modern kitchen with white cabinets, a stainless steel microwave, and some abstract wall art.

**Nick Commisso**

STAFF CLOUD ENGINEER  
ORACLE

# Autonomous Database with Built-In Tools Benefits All Players



# Data Analysis in the Traditional Market

Best-of-breed, enterprise-class tools, tailored for the specialist

Oracle Data Integrator

Data load

Oracle Enterprise Data Quality

Data prep



Semantic modeling

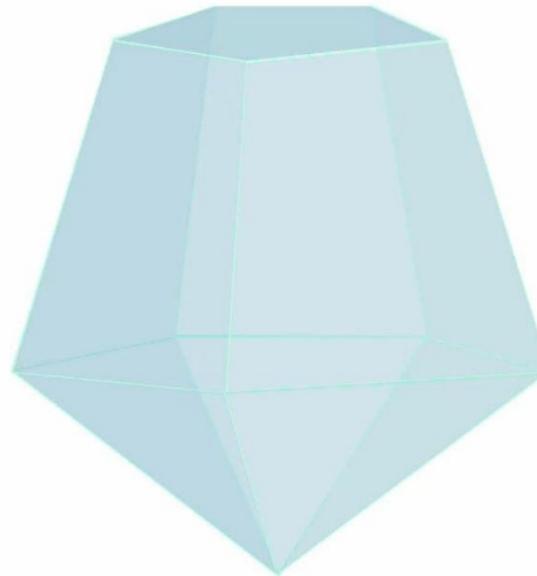


Data analysis

# Whole > Sum (Parts)

## Benefits of integration are multifaceted

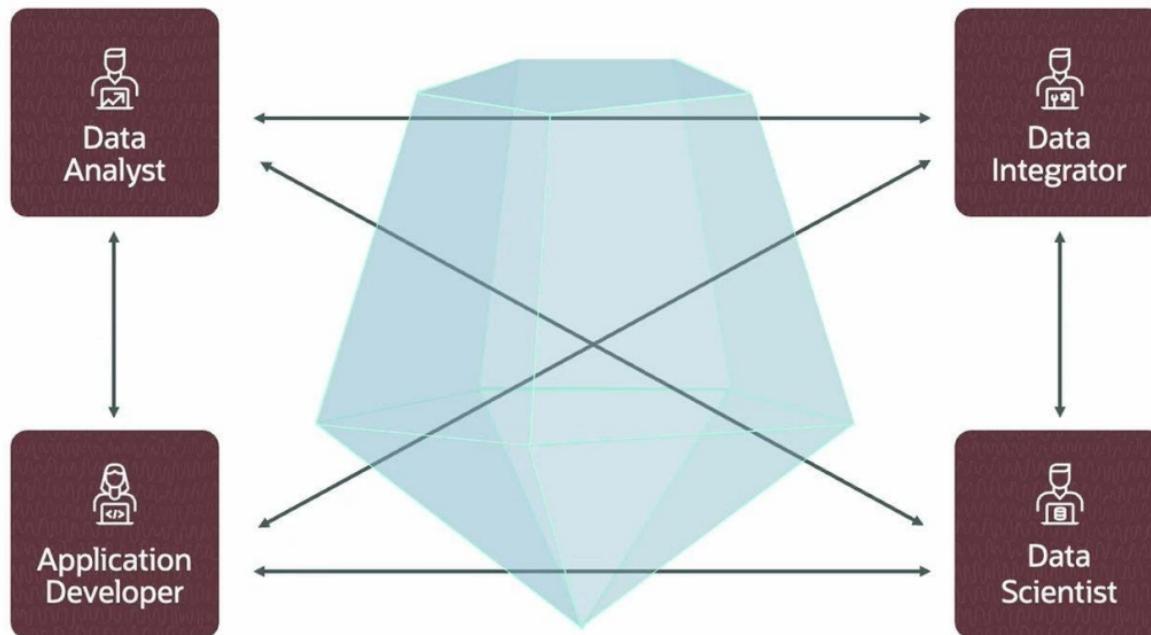
- Integrated toolset
  - Preassembled
  - Preconfigured
  - Pre-deployed
  - Consistent UX
  - Best practices instantiated
- Common components
  - Business model
  - Catalog
- Integrated data
  - Federated model
  - Common catalog
  - Silos eliminated
  - Common data sources
  - Confidence in lineage
  - Impact analysis



Collaboration by design

## Whole > Sum (Parts)

# Collaboration by design



# Derive Insights from Data

Open platform – nothing new to learn

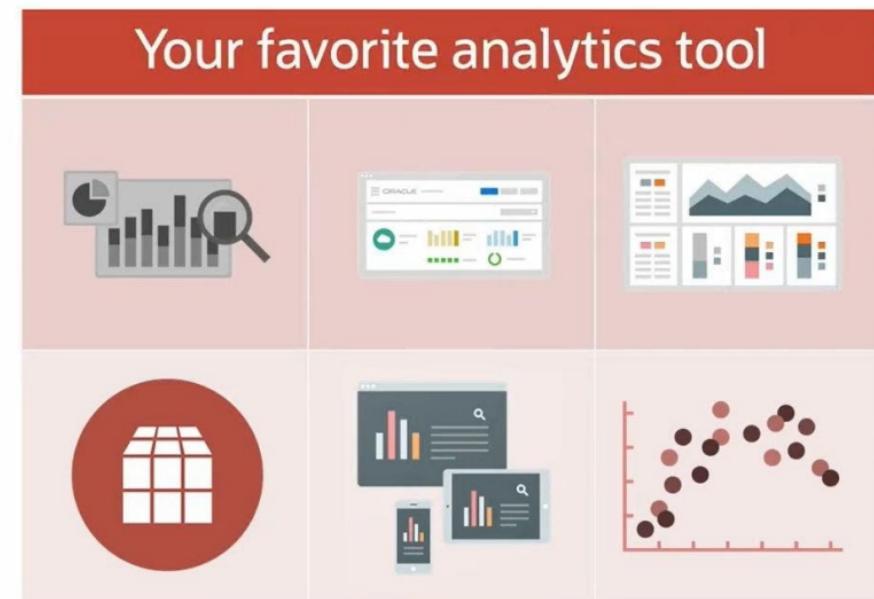
It's an open platform

With open standards



# Derive Insights from Data

Open platform – nothing new to learn



# Built-In Tool Suite

Nothing more to buy or install

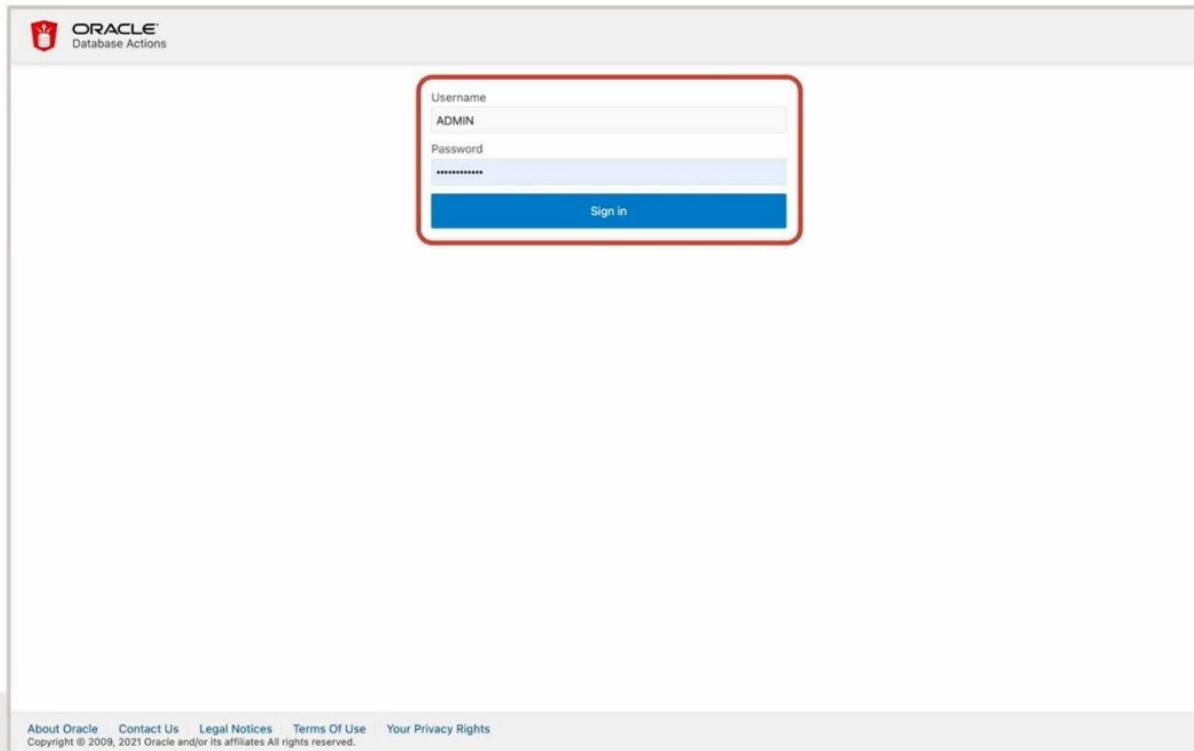
The screenshot shows the Oracle Cloud interface for an Autonomous Database named MOVIESTREAM\_PGW. The top navigation bar includes the Oracle Cloud logo, a search bar, and account information for US West (Phoenix). The main content area displays various tools available for the database:

- ADW**: Autonomous Data Warehouse, marked as **AVAILABLE**.
- Oracle Application Express**: A low-code development platform for building scalable enterprise apps. Includes a link to [Open APEX](#).
- SODA Drivers**: Simple Oracle Document Access drivers for REST, Java, Node.js, Python, PL/SQL, and C. Includes a link to [Download SODA Drivers](#).
- Oracle ML User Administration**: A development environment for machine learning. Includes a link to [Open Oracle ML User Administration](#).
- Graph Studio**: A tool for creating property graph databases. Includes a link to [Open Graph Studio](#).

At the bottom of the page, there are sections for **Resources** and **Metrics**. A hand cursor is shown pointing at the **Metrics** tab. Other footer elements include **Start time**, **End time**, **Quick Selects**, **Terms of Use and Privacy**, **Cookie Preferences**, and copyright information from 2021.

# Built-In Tool Suite

Nothing more to buy or install



# Built-In Tool Suite

Nothing more to buy or install

The screenshot shows the Oracle Database Actions Launchpad interface. At the top, there's a navigation bar with the Oracle logo, "Database Actions | Launchpad", and an "ADMIN" dropdown. Below the navigation bar, the interface is divided into several sections:

- Development**:
  - SQL**: Execute queries and scripts, and create database objects.
  - REST**: Deploy REST APIs for your database.
  - APEX**: Build web applications rapidly.
- Data Tools**:
  - DATA LOAD**: Load or access data from local files or remote databases.
  - CATALOG**: Understand data dependencies and the impact of changes.
  - DATA INSIGHTS**: Discover anomalies, outliers and hidden patterns in your data.
  - BUSINESS MODELS**: Create business models for performance and analysis.
  - DATA TRANSFORMS**: Prepare data for analysis with transforms and blending.
- Administration**:
  - DATABASE USERS**: Create, edit privileges and other parameters, and REST-enable database users.
- Monitoring**:
  - PERFORMANCE HUB**: View consolidated performance data for the database.
- Getting Started**:
  - Charts**: Create visualizations using area, bar, pie, and other popular charting methods from your SQL query results.
  - RESTful Web Services**: Deploy REST APIs for your Oracle database - GET, PUT, POST and DELETE securely using HTTPS with your Oracle data and stored procedures.
  - Load Data**: Populate existing tables or build new ones from local files (Avro, JSON, XML, CSV, or Excel) using our data loading wizard.
  - JSON**: Create collections, documents, add, edit, delete, and browse your documents, and visualize your JSON Data Guides.
- Need Help?**: Documentation, SQL Developer Community Forum, SQL Developer on Twitter.

At the bottom of the interface, there's a footer bar with icons for search, refresh, and help, and the text "0 0 0 | 9:55:14 PM - REST call resolved successfully." The bottom right corner shows a progress bar with "1x" and other controls.

# Data Load

The screenshot shows the Oracle Database Actions | Data Load interface. At the top, there are three main categories: LOAD DATA, LINK DATA, and FEED DATA. Below these, under "Where is your data?", are LOCAL FILE, DATABASE, and CLOUD STORAGE. A "Next" button is located at the bottom right of this section. On the left, there's a red-bordered box containing EXPLORE, DATA LOAD JOBS, and CLOUD LOCATIONS. The status bar at the bottom indicates a successful REST call at 11:04:19 PM.

What do you want to do with your data?

- LOAD DATA Import data into your autonomous database.
- LINK DATA Leave your data in place and let your autonomous database access it.
- FEED DATA Setup an on going feed of new data into your autonomous database.

Where is your data?

- LOCAL FILE Select text or Excel files from your local device.
- DATABASE Select tables from your remote databases.
- CLOUD STORAGE Select buckets from cloud storage (Oracle, S3, Azure, Google).

Next

Explore and Connect

- EXPLORE Inspect data in your autonomous database.
- DATA LOAD JOBS Check your Data Load Jobs.
- CLOUD LOCATIONS Manage connections to your cloud storage (Oracle, S3, Azure, Google).

11:04:19 PM - REST call resolved successfully.

Simple “drag-and-drop” data loading

- Files on local computer
- Files in Cloud Storage (including AWS S3 and Azure Blob Storage)
- Oracle Databases (on premises and in cloud)

# Data Load

ORACLE Database Actions | Local Files

Data Load / Local Files

Status: Completed (4/4) - Total time 00:02

Source:	Target:
Countries.csv (1K)	COUNTRIES
Devices.xlsx (10K) (Devices)	DEVICES
Days_Months.xlsx (10K) (Days)	MONTHS

Done

0 0 0 0 | 2:02:39 AM - REST call resolved successfully.

Drag-and-drop data load:

- From local files

# Data Load

The screenshot shows the Oracle Database Actions interface for "Load Cloud Object". The main area displays a "Data Load / Load Cloud Object" window. On the left, a sidebar lists files under "MOVIE\_SALES": Countries.csv, Days.csv, Devices.csv, Months.csv, and Movie\_Sales\_2020.csv. The main pane shows a "Source" section with "Movie\_Sales\_2020.csv (38429244B)" and a "Target" section with "MOVIE\_SALES\_2020". A trash can icon with a cursor over it is positioned between the source and target sections. The bottom status bar indicates "12:58:05 AM - REST call resolved successfully."

Drag-and-drop data load:

- From local files
- From Object Storage

# Data Load

The screenshot shows the Oracle Database Actions | Data Load interface. At the top, there are three main options: LOAD DATA, LINK DATA, and FEED DATA. Below these, under "Where is your data?", there are three options: LOCAL FILE, DATABASE, and CLOUD STORAGE. A "Next" button is located at the bottom right of the main content area. The bottom section, titled "Explore and Connect", contains three cards: EXPLORE, DATA LOAD JOBS, and CLOUD LOCATIONS. The status bar at the bottom indicates "11:04:19 PM - REST call resolved successfully."

What do you want to do with your data?

- LOAD DATA Import data into your autonomous database.
- LINK DATA Leave your data in place and let your autonomous database access it.
- FEED DATA Setup an on going feed of new data into your autonomous database.

Where is your data?

- LOCAL FILE Select text or Excel files from your local device.
- DATABASE Select tables from your remote databases.
- CLOUD STORAGE Select buckets from cloud storage (Oracle, S3, Azure, Google).

Next

Explore and Connect

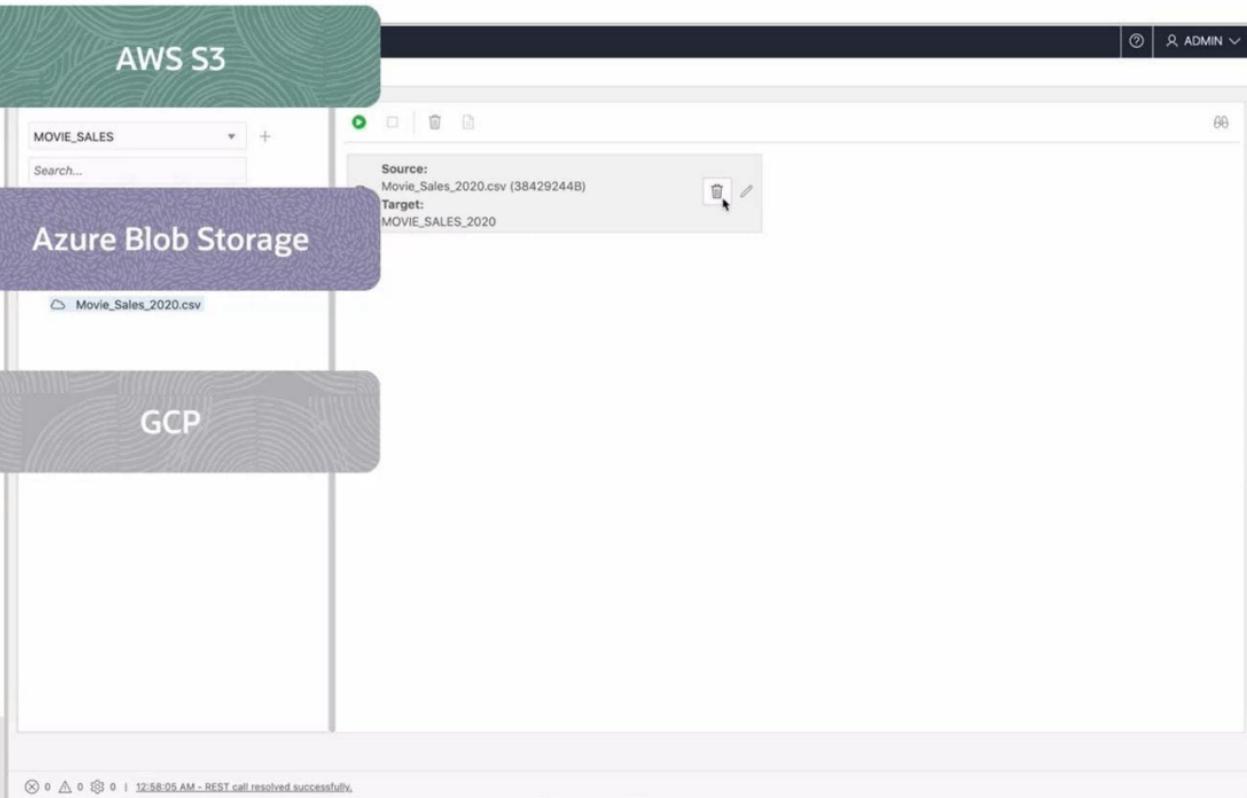
- EXPLORE Inspect data in your autonomous database.
- DATA LOAD JOBS Check your Data Load Jobs.
- CLOUD LOCATIONS Manage connections to your cloud storage (Oracle, S3, Azure, Google).

11:04:19 PM - REST call resolved successfully.

Profile data after loading.

- Click the **Explore** card.
- Select the table.
- Press **Statistics**.

# Data Load



Drag-and-drop data load:

- From local files
- From Object Storage

OCI  
object store

# Data Load

The screenshot shows the Oracle Database Actions interface for Data Load. The top navigation bar includes the Oracle logo, Database Actions, Data Load, a help icon, and a user dropdown for QTEAM.

**What do you want to do with your data?**

- LOAD DATA**: Import data into your autonomous database.
- LINK DATA**: Leave your data in place and let your autonomous database access it.
- FEED DATA**: Setup an on going feed of new data into your autonomous database.

**Where is your data?**

- LOCAL FILE**: Select text or Excel files from your local device.
- DATABASE**: Select tables from your remote databases.
- CLOUD STORAGE**: Select buckets from cloud storage (Oracle, S3, Azure, Google).

**Explore and Connect**

- EXPLORE**: Inspect data in your autonomous database. This card is highlighted with a red box and has a hand cursor icon pointing at it.
- DATA LOAD JOBS**: Check your Data Load Jobs.
- CLOUD LOCATIONS**: Manage connections to your cloud storage (Oracle, S3, Azure, Google).

**Getting Started**

- Setup an Ingest Job**: Select how you want to analyze your data and where it is. Link and Feed data are only available for network sources.
- Explore**: Explore data in your autonomous database.
- Manage**: Manage your cloud storage locations.

**Need Help?**

- Documentation
- SQL Developer Community Forum
- SQL Developer on Twitter

Bottom status bar: 0 0 0 0 | 11:04:19 PM - REST call resolved successfully, 6.18 / 7.20

Profile data after loading.

- Click the **Explore** card.
- Select the table.
- Press **Statistics**.

# Data Load

ORACLE Database Actions | Catalog

owner: QTEAM AND (type: TABLE OR type: VIEW)

Sort By: Page size: 25

Filters

- Status:
  - Valid
  - Invalid
- Partitioned:
  - Yes
  - No
  - Null
- External:
  - Yes
  - No
  - Null
- Sharded:
  - Yes
  - No

Showing 5 entities

 <b>MOVIE_SALES_2020</b> Entity type: TABLE  QTEAM Application: DATABASE Path: "DB"."MOVIE_SALES_2020" Updated on: 9/30/2021, 3:57:36 PM 1+	 <b>DEVICES</b> Entity type: TABLE  QTEAM Application: DATABASE Path: "DB"."DEVICES" Updated on: 9/30/2021, 3:37:24 PM 1+
 <b>MONTHS</b> Entity type: TABLE  QTEAM Application: DATABASE Path: "DB"."MONTHS" Updated on: 9/30/2021, 3:37:23 PM 1+	 <b> DAYS</b> Entity type: TABLE  QTEAM Application: DATABASE Path: "DB"."DAYS" Updated on: 9/30/2021, 3:37:22 PM 1+
 <b>COUNTRIES</b> Entity type: TABLE  QTEAM Application: DATABASE Path: "DB"."COUNTRIES" Updated on: 9/30/2021, 3:37:20 PM 1+	

Suggestions

- Recent objects  
Displays created or modified catalog entities for last 30 days
- User configured search  
Catalog entities are displayed based on default search query in user preferences
- All tables
- Tables owned by QTEAM
- Invalid tables
- Live feed tables
- Business models
- Tables, views and analytic views owned by QTEAM

1 0 0 | 11:55:25 PM - REST call resolved successfully.

6.24 / 7.20

Profile data after loading.

- Click the **Explore** card.
- Select the table.
- Press **Statistics**.

# Data Load

ORACLE Database Actions | Catalog

owner: QTEAM AND (type: TABLE OR

MOVIE\_SALES\_2020

Preview Table Size (in bytes): 31391166 Number of Rows: 541227

Filters

Status

- Valid
- Invalid

Partitioned

- Yes
- No
- Null

External

- Yes
- No
- Null

Sharded

- Yes
- No

Showing 5 entities

Lineage Impact Statistics Data Load Jobs Data Definition

**COUNTRY**

- United States (66380)
- Japan (41150)
- United Kingdom (38476)
- Brazil (37778)
- Mexico (29673)
- France (29760)

Distinct: 64, Null: 0

**DAY**

- Sunday (88340)
- Saturday (82089)
- Monday (75789)
- Friday (70603)
- Tuesday (68940)
- Thursday (67758)

Distinct: 14, Null: 0

**MONTH**

- April (53673)
- May (53083)
- December (50059)
- July (47980)
- June (46156)
- March (44098)

Distinct: 12, Null: 0

**GENRE**

- Adventure (62305)
- Drama (55971)
- Sci-Fi (55751)
- Comedy (38082)
- Thriller (35483)
- War (34519)

Distinct: 22, Null: 0

**CUSTOMER\_SEGMENT**

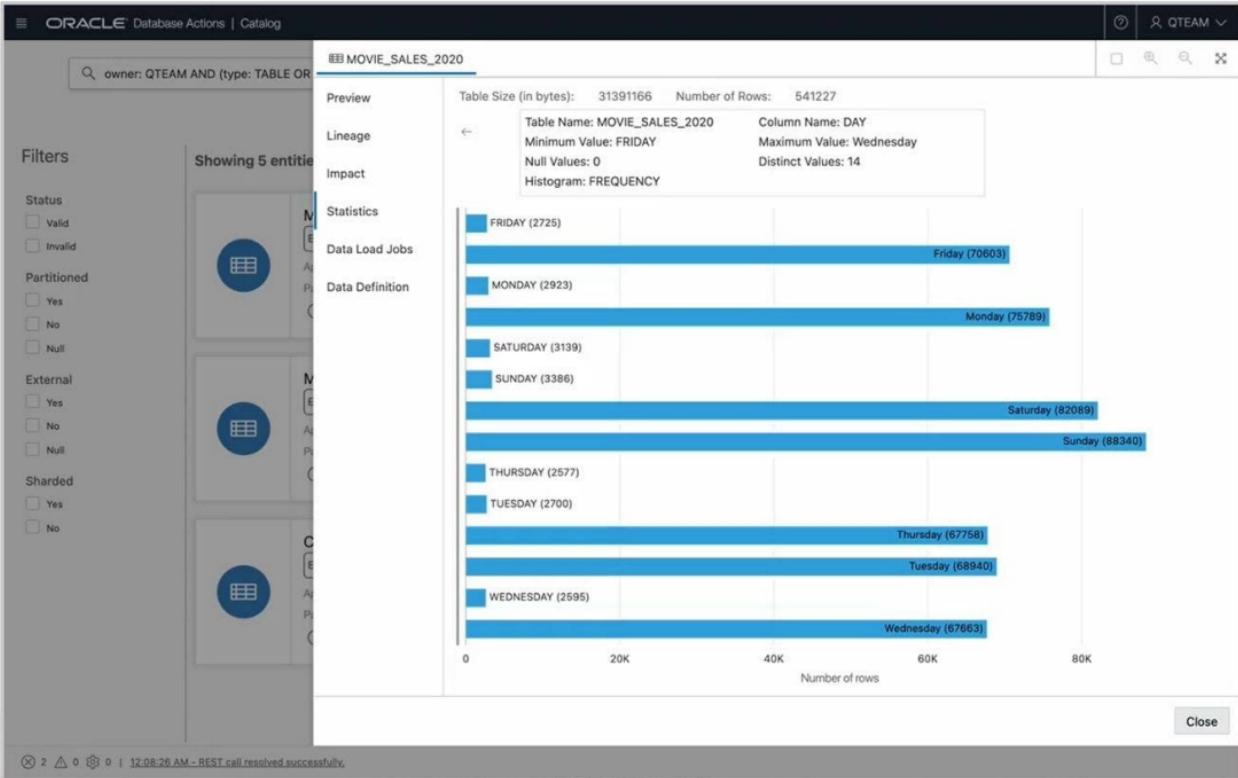
**DEVICE**

Close

2 0 0 | 12:08:26 AM - REST call resolved successfully.

Identify data quality problems.

# Data Load



Identify data quality problems.

- 12 months (we only want 3)
- 14 days in a week!
- Drill in to investigate:
  - Inconsistent letter case

# Data Load

## Summary of demonstration

The screenshot shows the Oracle Database Actions | Data Load interface. It includes sections for 'What do you want to do with your data?' (Load Data, Link Data, Feed Data), 'Where is your data?' (Local File, Database, Cloud Storage), and 'Explore and Connect' (Explore, Data Load Jobs, Cloud Locations). A 'Next' button is visible at the bottom right of the main content area.

Simple “drag-and-drop” data loading

- Files on local computer
  - Multiple locations
  - Different file types
- Files in Cloud Storage

Inspect loaded data

- Identify quality problems.