

## Oracle Database

# Describe Oracle's Data Toolset



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# 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

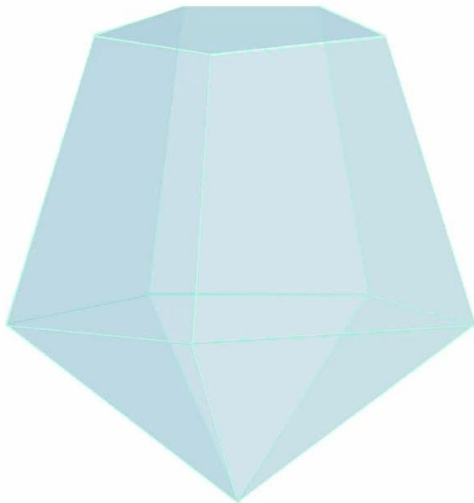


Data  
analysis

# Whole > Sum (Parts)

## Benefits of integration are multifaceted

- Integrated toolset
  - Preamsembled
  - Preconfigured
  - Pre-deployed
  - Consistent UX
  - Best practices instantiated
- Common components
  - Business model
  - Catalog

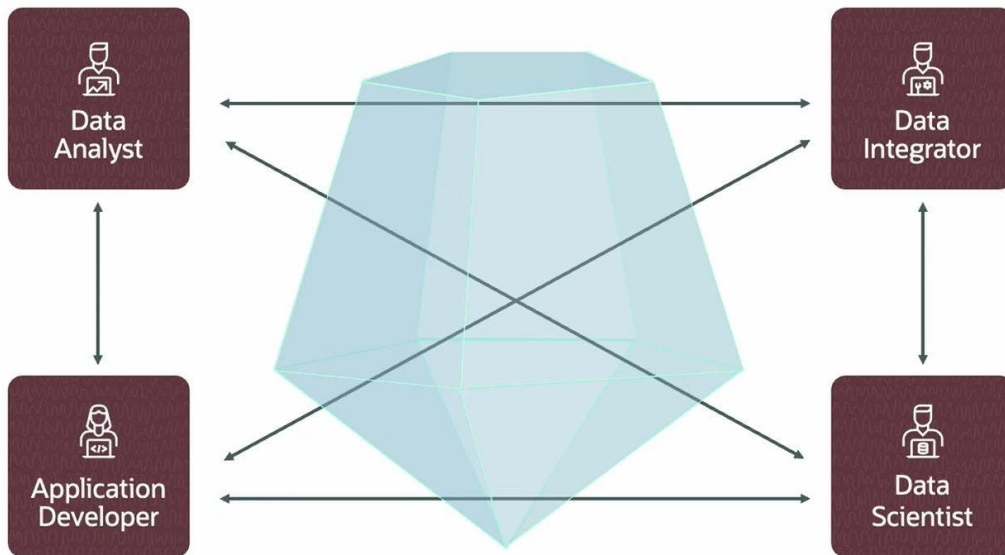


- Integrated data
  - Federated model
  - Common catalog
  - Silos eliminated
  - Common data sources
  - Confidence in lineage
  - Impact analysis

Collaboration by design

# Whole > Sum (Parts)

## Collaboration by design



# Derive Insights from Data

Open platform – nothing new to learn

It's an open platform

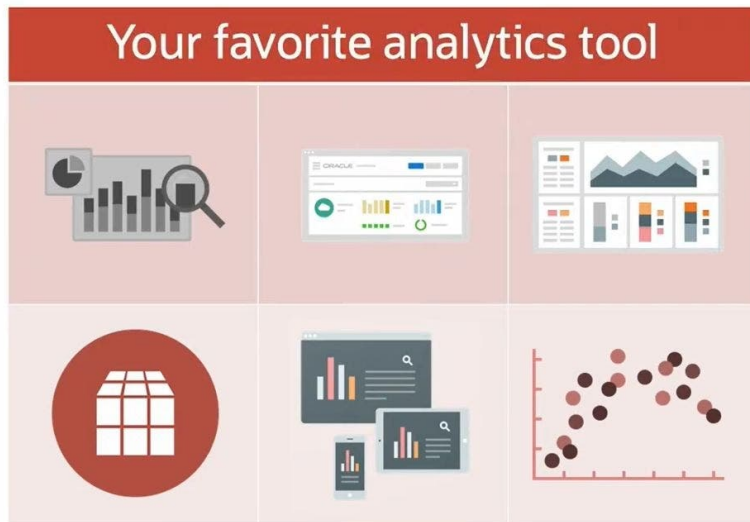
With open standards





# Derive Insights from Data

Open platform – nothing new to learn





# Built-In Tool Suite

Nothing more to buy or install

The screenshot displays the Oracle Cloud console interface for an Autonomous Database instance named MOVIESTREAM\_PGW. The top navigation bar includes the Oracle Cloud logo, a search bar, and the region 'US West (Phoenix)'. The main content area features a large green 'ADW' logo with the word 'AVAILABLE' below it. A red box highlights the 'Database Actions' button in the top navigation bar. Below this, the 'Tools' tab is selected, showing a grid of database administration and developer tools. These tools include Oracle Application Express (APEX), Oracle ML User Administration, SODA Drivers, and Graph Studio, each with a brief description and an 'Open' button. A hand cursor is pointing at the 'Metrics' link in the bottom navigation bar. The footer contains links for 'Terms and Privacy' and 'Cookie Preferences', and a copyright notice for 2021.

ORACLE Cloud Search for resources, services, and documentation US West (Phoenix) [Icons]

Overview - Autonomous Database - Autonomous Database Details

**ADW**  
AVAILABLE

**MOVIESTREAM\_PGW**

Database Actions DB Connection Performance Hub Service Console More Actions

Autonomous Database Information **Tools** Tags

Database administration and developer tools for Autonomous Database

**Oracle Application Express**  
Oracle Application Express (APEX) is a low-code development platform that enables you to build scalable, secure enterprise apps that can be deployed anywhere. [Learn more.](#)  
[Open APEX](#)

**Oracle ML User Administration**  
Oracle Machine Learning is a development environment that uses a web-based interface to enable you to perform data analytics, data discovery and data visualizations. [Learn more.](#)  
[Open Oracle ML User Administration](#)

**SODA Drivers**  
Simple Oracle Document Access (SODA) is a set of APIs that let you work with JSON documents managed by the Oracle Database without needing to use SQL. SODA drivers are available for REST, Java, Node.js, Python, PL/SQL, and C. [Learn more.](#)  
[Download SODA Drivers](#)

**Graph Studio**  
Oracle Graph Studio lets you create property graph databases and automates the creation of graph models and in-memory graphs from database tables. To access Graph Studio, you must log in as a graph-enabled database user. Create this user in Database Actions. [Learn more.](#)  
[Open Graph Studio](#)

Resources

**Metrics** Start End time Quick Selects

[Terms and Privacy](#) [Cookie Preferences](#)

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# Built-In Tool Suite

Nothing more to buy or install

ORACLE  
Database Actions

Username  
ADMIN

Password  
\*\*\*\*\*

Sign in

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# Built-In Tool Suite

Nothing more to buy or install

The screenshot displays the Oracle Database Actions Launchpad interface. The top navigation bar includes the Oracle logo, the text "ORACLE Database Actions | Launchpad", and a user profile icon labeled "ADMIN".

The main content area is organized into several sections:

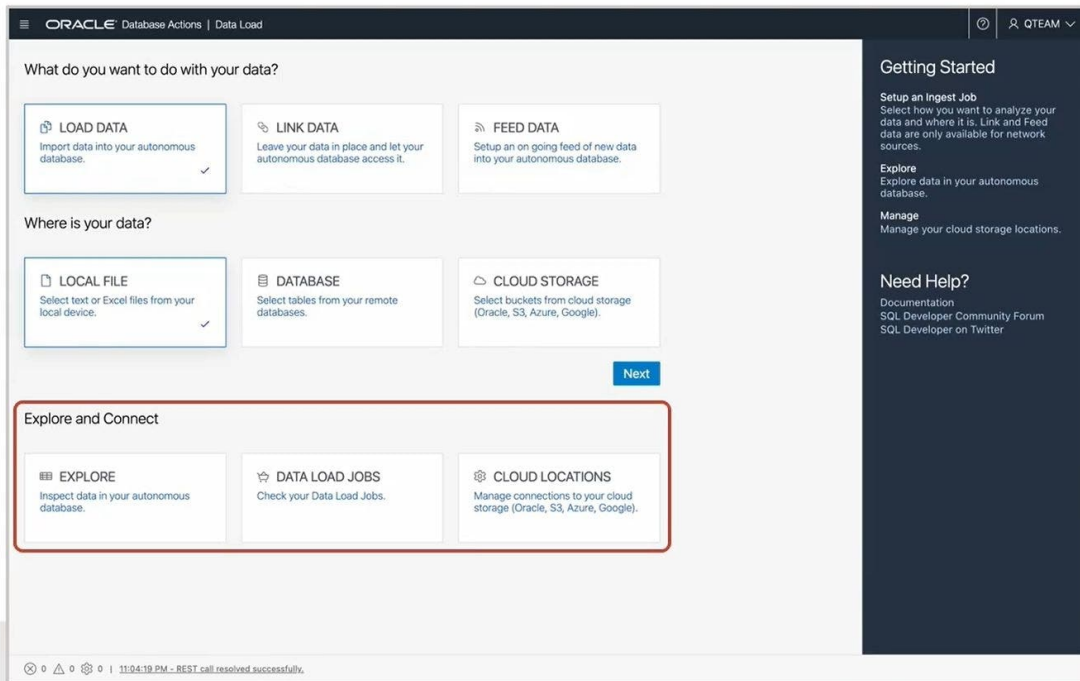
- Development**
  - SQL**: Execute queries and scripts, and create database objects.
  - DATA MODELER**: Create relational diagrams for database objects.
  - REST**: Deploy REST APIs for your database.
  - JSON**: Manage your JSON Document Database.
  - APEX**: Build web applications rapidly.
- Data 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.

The right sidebar, titled "Getting Started", contains the following sections:

- 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

The bottom status bar shows system icons, a timestamp "9:55:14 PM", and a message: "REST call resolved successfully".

# Data Load



## 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

The screenshot displays the Oracle Database Actions interface for 'Local Files'. The top navigation bar shows 'ORACLE Database Actions | Local Files' and a user profile 'ADMIN'. The main header indicates 'Data Load / Local Files'. Below this, a status bar shows 'Status: Completed (4/4) - Total time 00:02'. The central area contains four data load tasks, each with a green checkmark and an information icon:

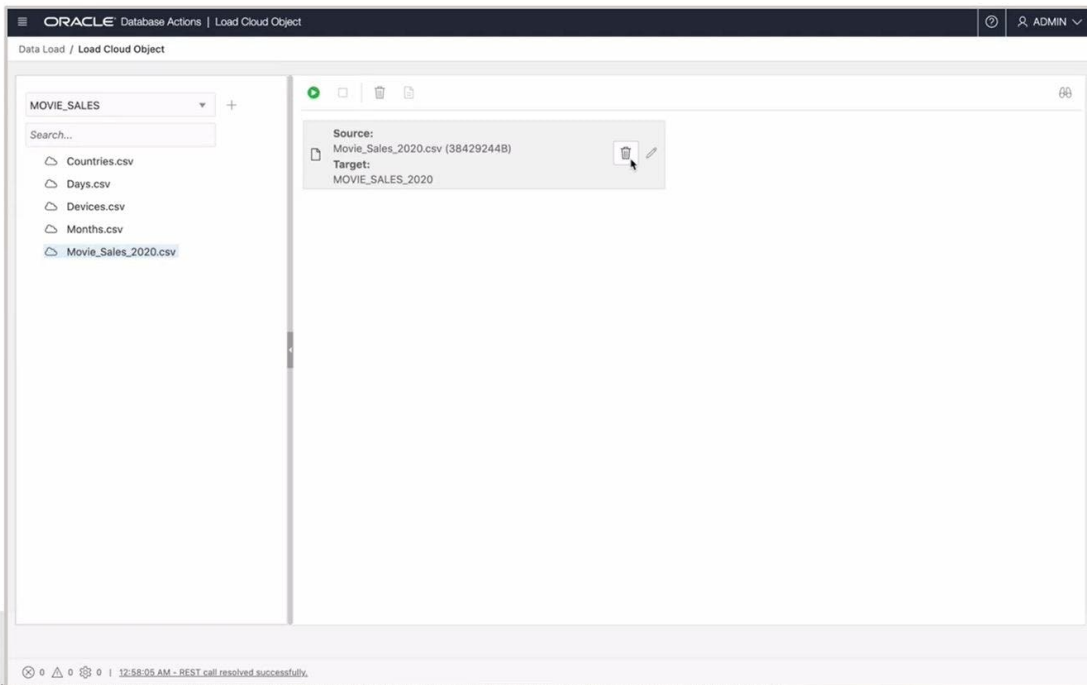
Source	Target
Countries.csv (1K)	COUNTRIES
Devices.xlsx (10K) (Devices)	DEVICES
Days_Months.xlsx (10K) (Days)	DAYS
Days_Months.xlsx (10K) (Months)	MONTHS

A 'Done' button is located at the bottom right of the task list. The bottom status bar shows system icons and the message '2:02:39 AM - REST call resolved successfully.'

Drag-and-drop data load:

- From local files

# Data Load



Drag-and-drop data load:

- From local files
- From Object Storage

# Data Load

The screenshot shows the Oracle Database Actions 'Data Load' page. The header includes the Oracle logo and 'Database Actions | Data Load'. The main content area is divided into three sections: 'What do you want to do with your data?', 'Where is your data?', and 'Explore and Connect'. Each section contains three cards with icons and descriptions. The 'LOAD DATA' card is highlighted with a blue border and a checkmark. A 'Next' button is located below the 'Where is your data?' section. On the right, a dark sidebar contains 'Getting Started' (with links for Setup an Ingest Job, Explore, and Manage), 'Need Help?' (with links for Documentation, SQL Developer Community Forum, and SQL Developer on Twitter), and a user profile for 'QTEAM'. The footer shows system status icons and a message: '11:04:19 PM - REST call resolved successfully.'

ORACLE Database Actions | Data Load

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).

**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

QTEAM

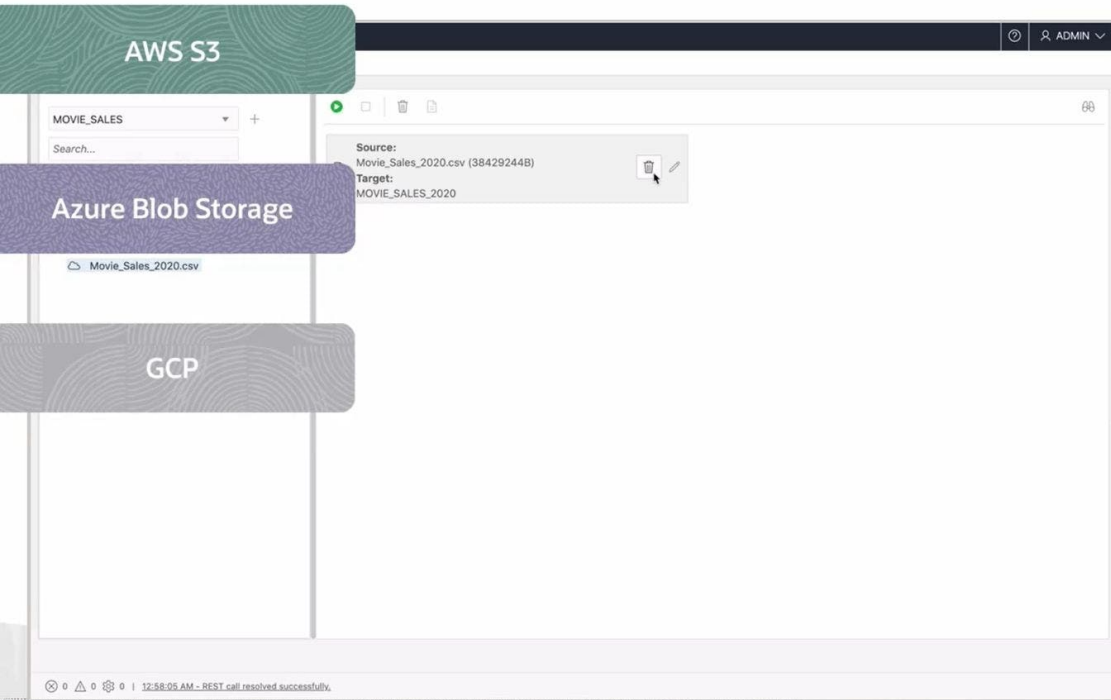
11:04:19 PM - REST call resolved successfully.

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

ORACLE Database Actions | Data Load

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. (Highlighted with a red border and a hand cursor icon)
- 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

QTEAM

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 Sort by: Updated on DESC

Showing 5 entities

**MOVIE\_SALES\_2020**  
Entity type: TABLE QTEAM  
Application: DATABASE  
Path: "DB"."MOVIE\_SALES\_2020"  
Updated on: 9/30/2021, 3:57:36 PM 1+

**DEVICES**  
Entity type: TABLE QTEAM  
Application: DATABASE  
Path: "DB"."DEVICES"  
Updated on: 9/30/2021, 3:37:24 PM 1+

**MONTHS**  
Entity type: TABLE QTEAM  
Application: DATABASE  
Path: "DB"."MONTHS"  
Updated on: 9/30/2021, 3:37:23 PM 1+

**DAYS**  
Entity type: TABLE QTEAM  
Application: DATABASE  
Path: "DB"."DAYS"  
Updated on: 9/30/2021, 3:37:22 PM 1+

**COUNTRIES**  
Entity type: TABLE QTEAM  
Application: DATABASE  
Path: "DB"."COUNTRIES"  
Updated on: 9/30/2021, 3:37:20 PM 1+

**Filters**

Status

- ☐ Valid
- ☐ Invalid

Partitioned

- ☐ Yes
- ☐ No
- ☐ Null

External

- ☐ Yes
- ☐ No
- ☐ Null

Sharded

- ☐ Yes
- ☐ No

**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**

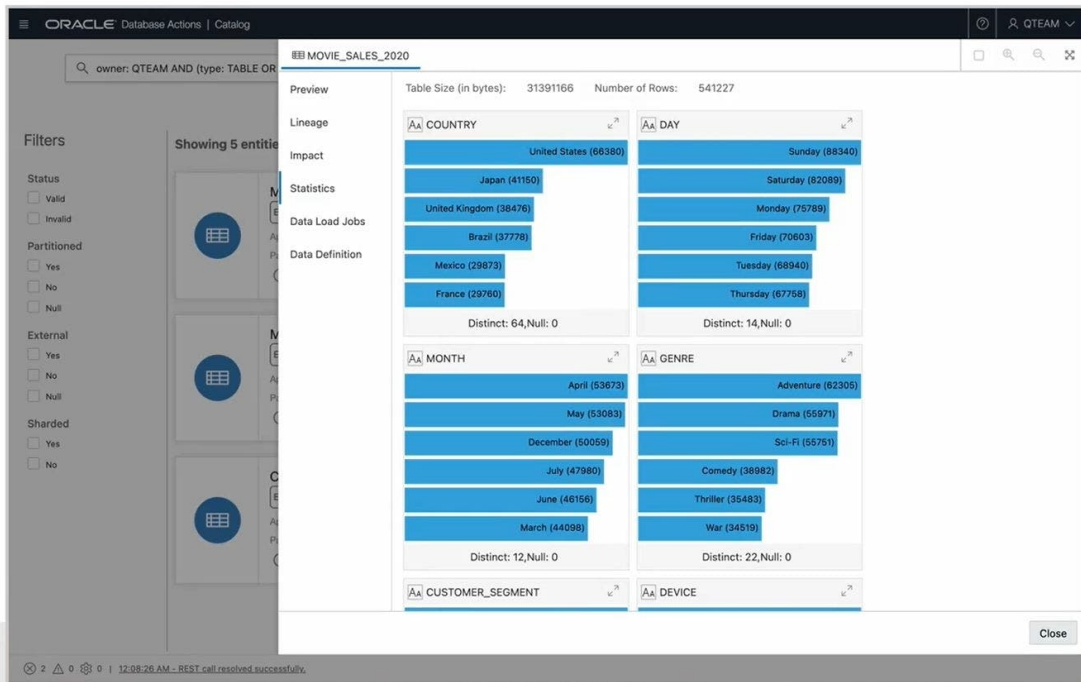
**Business models**

**Tables, views and analytic views owned by QTEAM**

Profile data after loading.

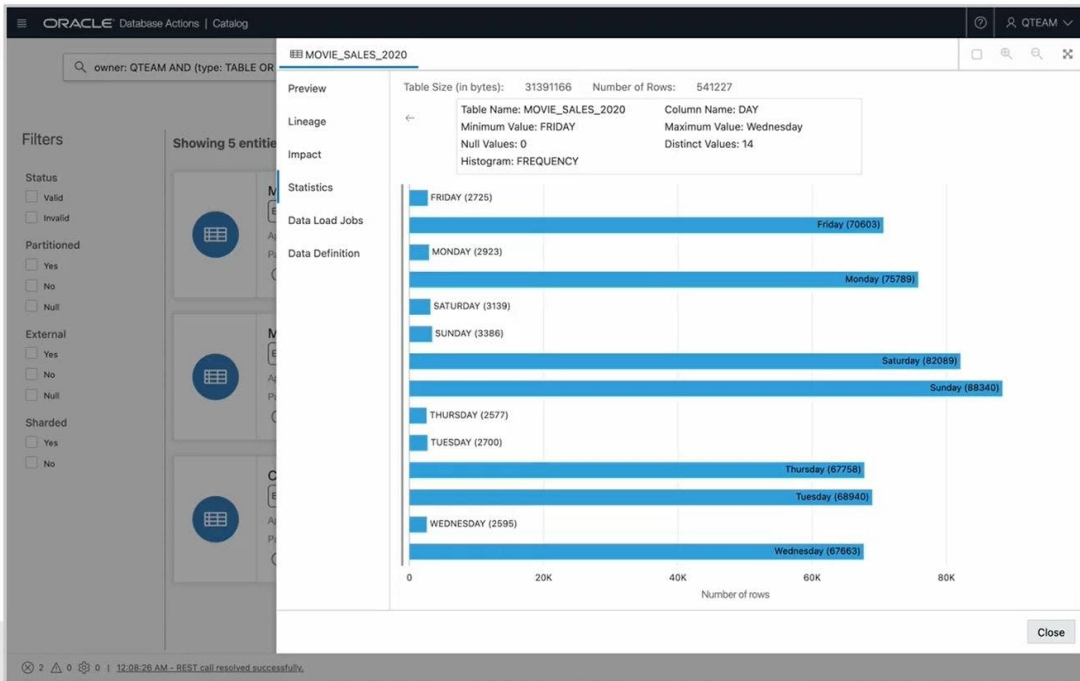
- Click the **Explore** card.
- Select the table.
- Press **Statistics**.

# Data Load



Identify data quality problems.

# Data Load

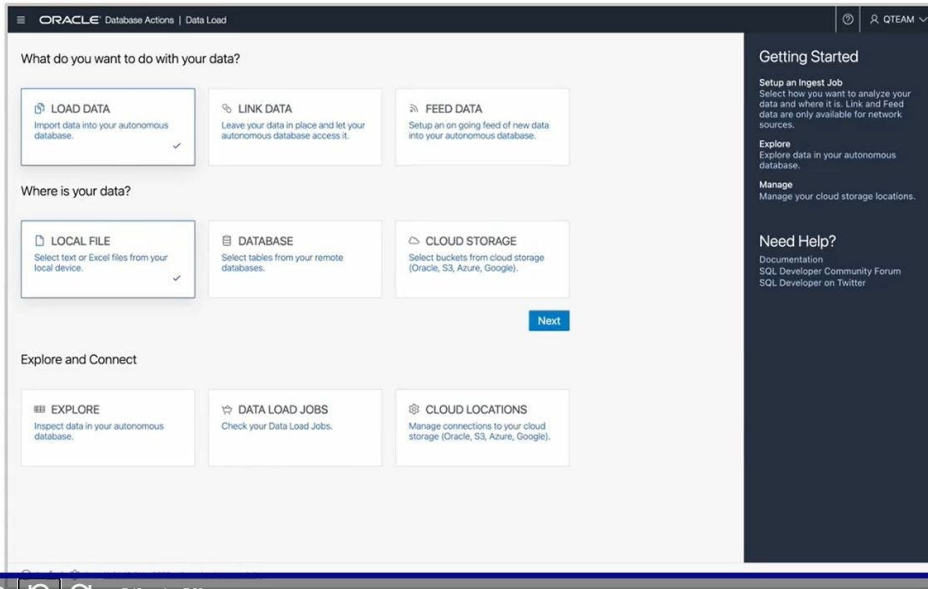


Identify data quality problems.

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

# Data Load

## Summary of demonstration



### 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.