Autonomous Database

One Autonomous Database – Two Deployment Choices

ORACLE AUTONOMOUS DATABASE

Serverless

Ultra-Simple and Elastic

Dedicated
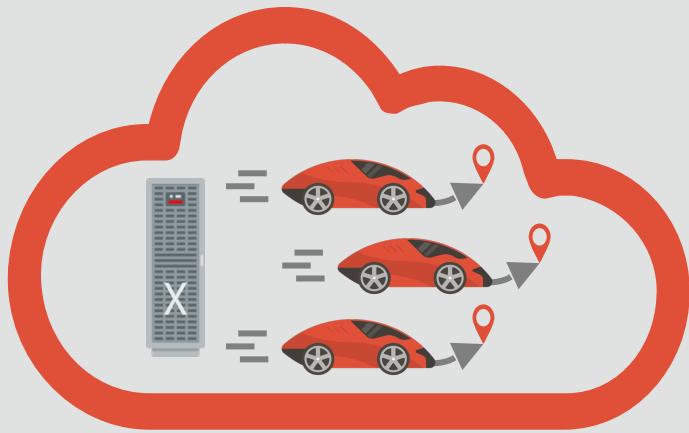
Customizable Private Database Cloud in Public Cloud
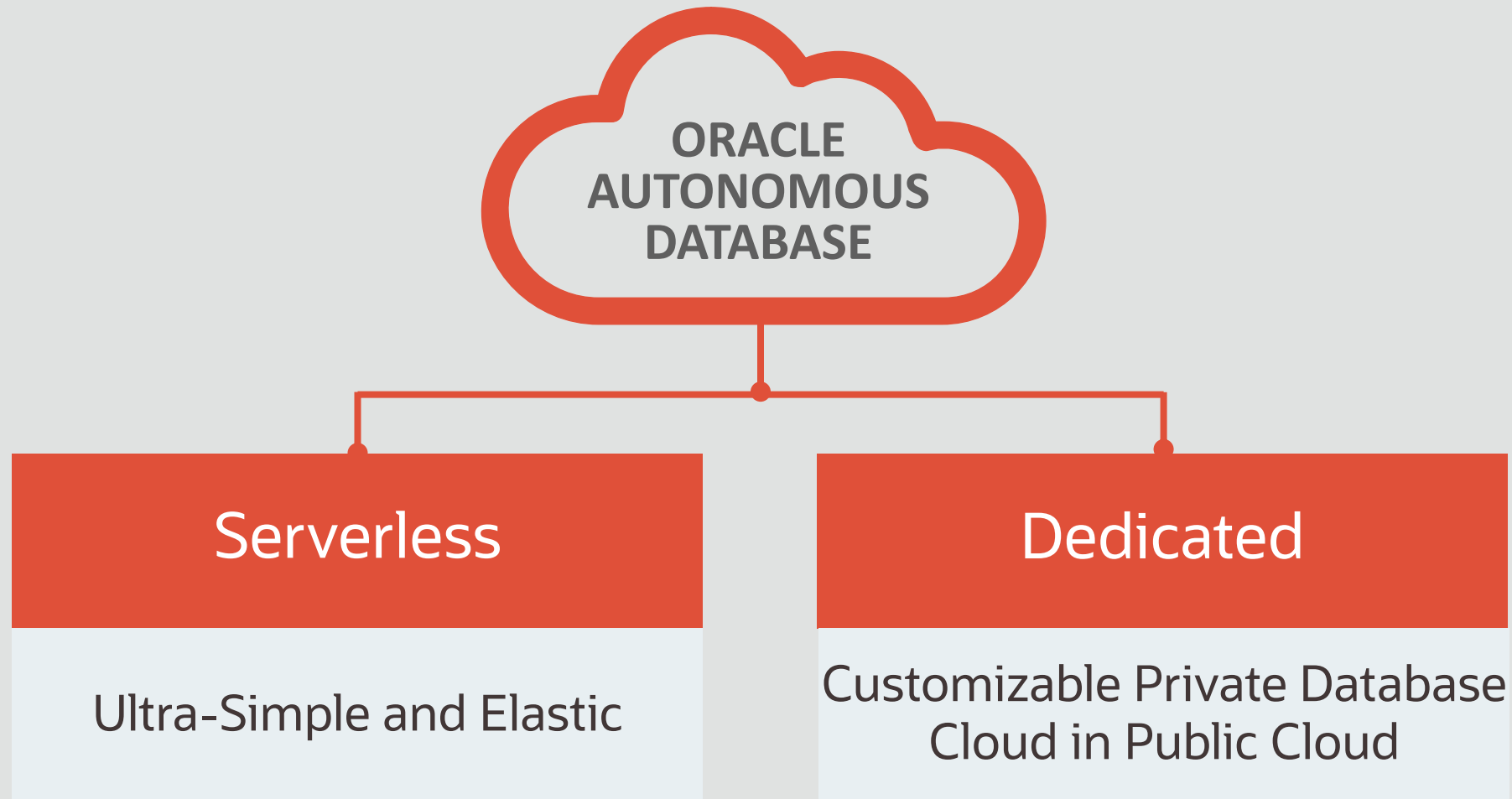
Autonomous Database Serverless – Primary Benefits

- Simple
  - Oracle automates and manages everything
    - Deployment, lifecycle, software updates, etc.
  - Customer just chooses database compute, storage, and region

- Elastic
  - Low minimum size - 1 OCPU
  - Low minimum time commitment - 1 hour
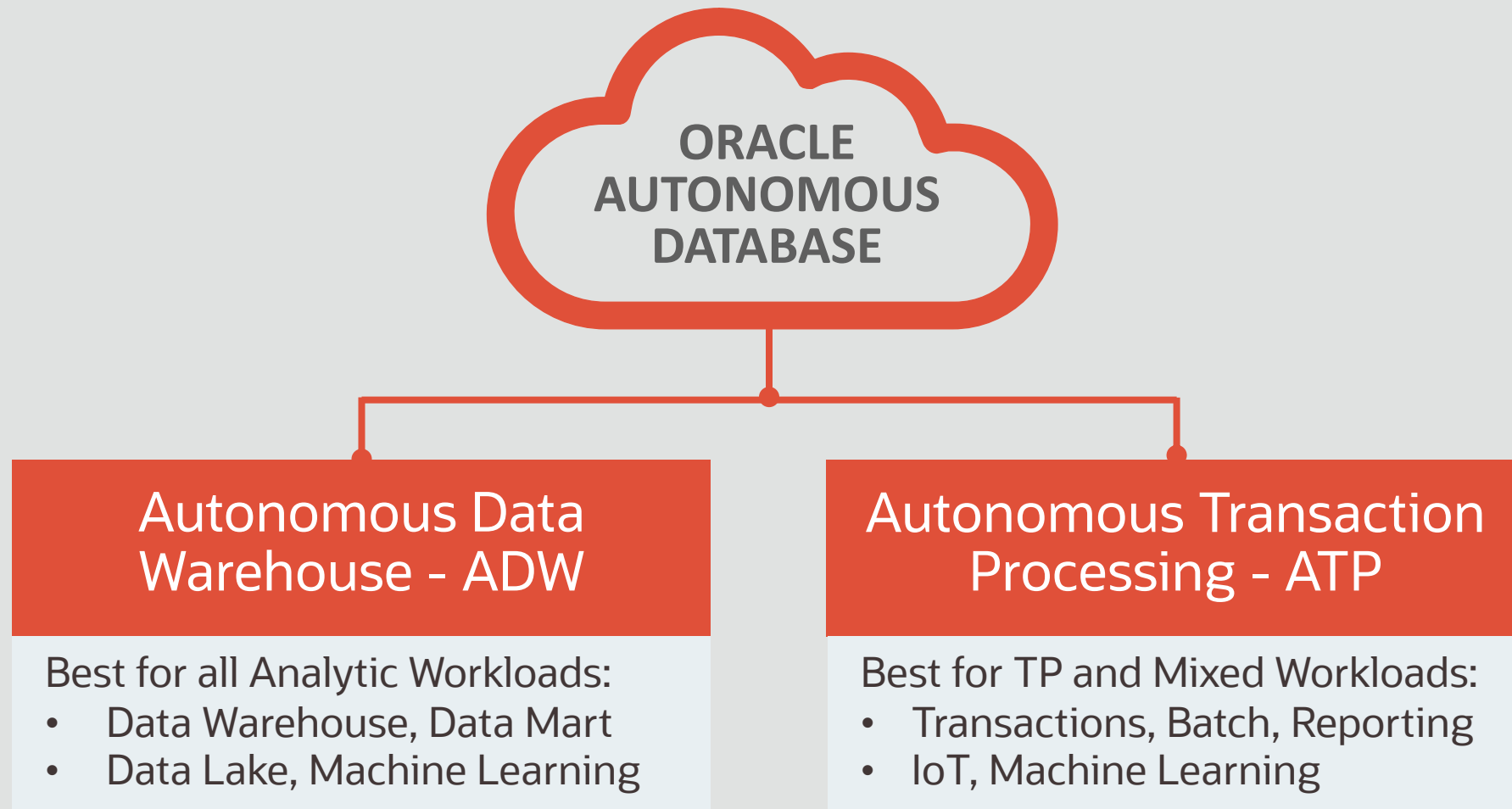 - Automatically scales online for true pay-per-use

Autonomous Database Dedicated – Primary Benefits

- Provides your own Database Cloud running on dedicated Exadata Infrastructure
  - Runs all your databases - any size, scale, or criticality

- Highest Isolation
  - Runs inside **Secure Isolation Zone** for highest protection from other tenants
  - Configure multiple Exadatas or Container Databases for intra-company isolation

- Customizable Operational Policies
  - Control of provisioning, updates, availability, density

One Autonomous Database – Optimized by Workload

ORACLE AUTONOMOUS DATABASE

Autonomous Data Warehouse - ADW

Best for all Analytic Workloads:
- Data Warehouse, Data Mart
- Data Lake, Machine Learning

Autonomous Transaction Processing - ATP

Best for TP and Mixed Workloads:
- Transactions, Batch, Reporting
- IoT, Machine Learning

Automated Management

Oracle automates end-to-end management of data warehouse
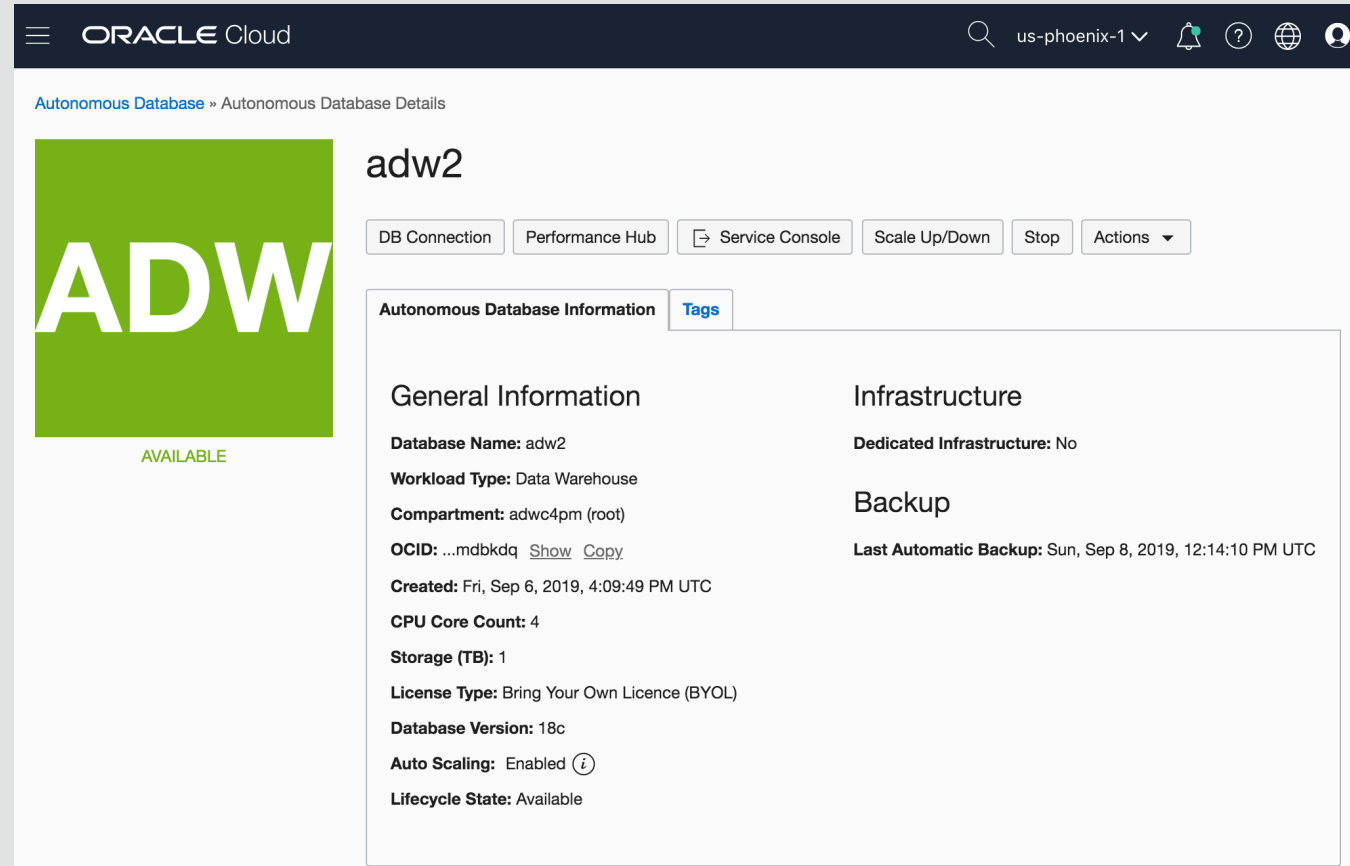
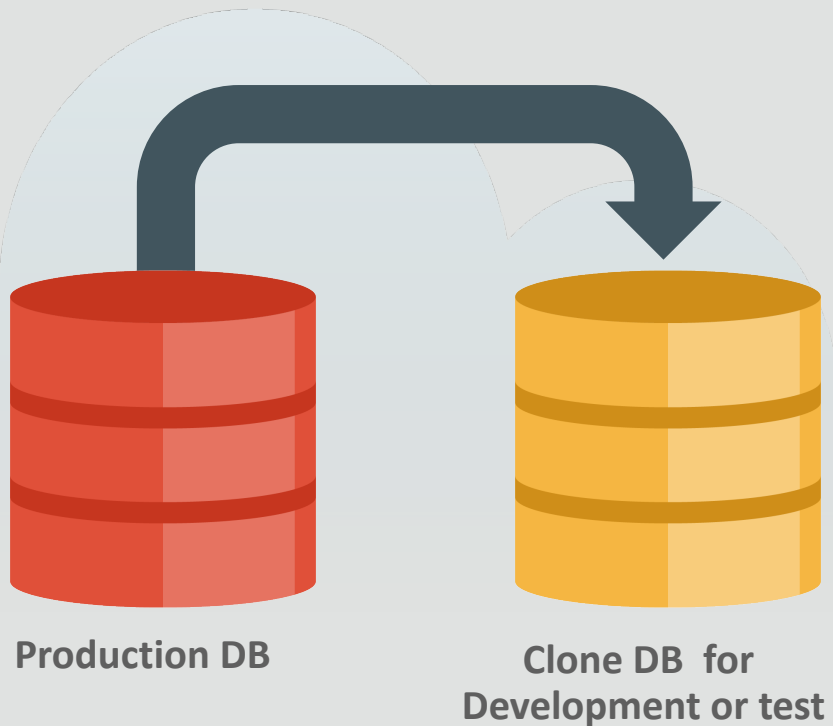- Provisioning new instances
- Backup and restore
- Patching and upgrades
- Cloning

Full lifecycle managed using Service Console or API's

Cloning in Autonomous Database

Easy and fast cloning

Today: full clone or metadata-only clone

Coming soon:

Clone across regions

Clone from backup

Refreshable clone

Production DB

Clone DB for Development or test

Automated Tuning

"Load and go"

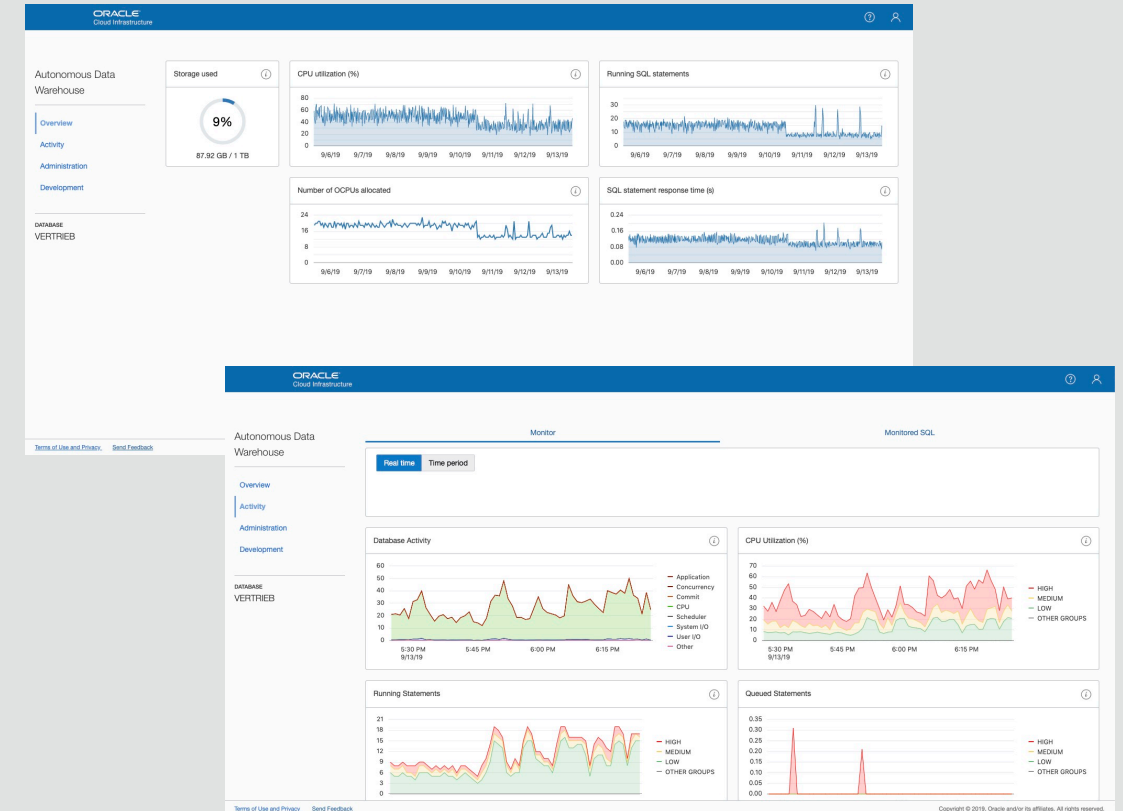### Define tables, load data, run queries

- No tuning required
- No special database expertise required
- No need to worry about tablespaces, partitioning, compression, in-memory, indexes, parallel execution

Fast performance out of the box with zero tuning

Auto-scaling to adapt to changing workloads

Built-in resource-management plans

Automated Reliability

Fault-tolerant, highly-available Exadata infrastructure

- Triple-mirrored disks for disk failures
- Real Application Clusters for compute node failures
- Self-healing hardware

Automatic backups

- Point in time recovery to anytime in last 60 days

Online patches

- Regular patches applied with zero database downtime

Automated Security

Always up-to-date on security patches
- Eliminates the largest security risk in current customer-managed systems

Full encryption for entire database, backups and all network connections

Database auditing always on
- Login failures
- Modifications to user accounts or database structures

Secure by default
- Customers are unable to disable security configurations
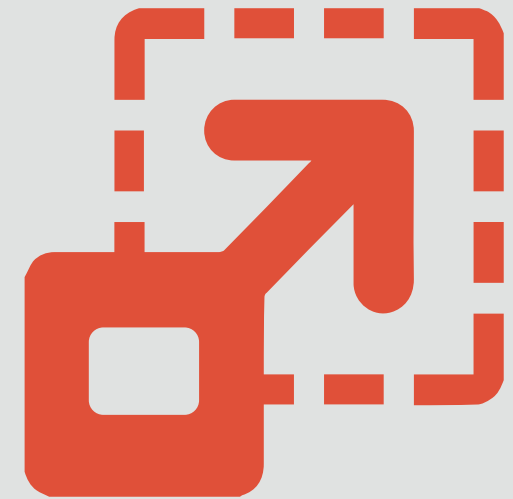
Fully Elastic: Pay for What you Use

Size to the exact number of OPCU's and TB's required

    Not constrained by fixed building blocks

Auto-scaling instantaneously adjusts CPU and IO resources for current workload requirements

Shut off idle compute save money
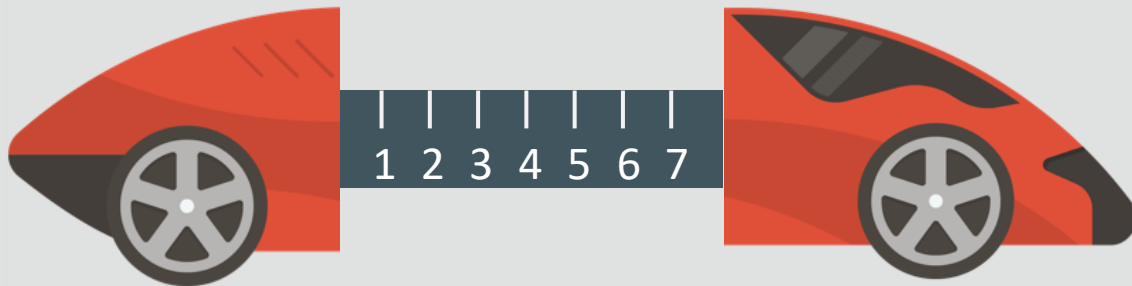
    Restart instantly

Auto Scaling in Autonomous Database

- **Instantaneous** scaling based upon workload requirements

  - Up to 3x additional CPU and IO resources

- **Simple** 1-click to enable:

  ✅ Auto scaling
  Allows system to use up to three times the provisioned number of cores as the workload increases. Learn more.

- **Saves money**: pay for the resources that you use

1 2 3 4 5 6 7

Autonomous Database: Cloud Platform

Cloud-based Tools

Service console for Cloud Admins

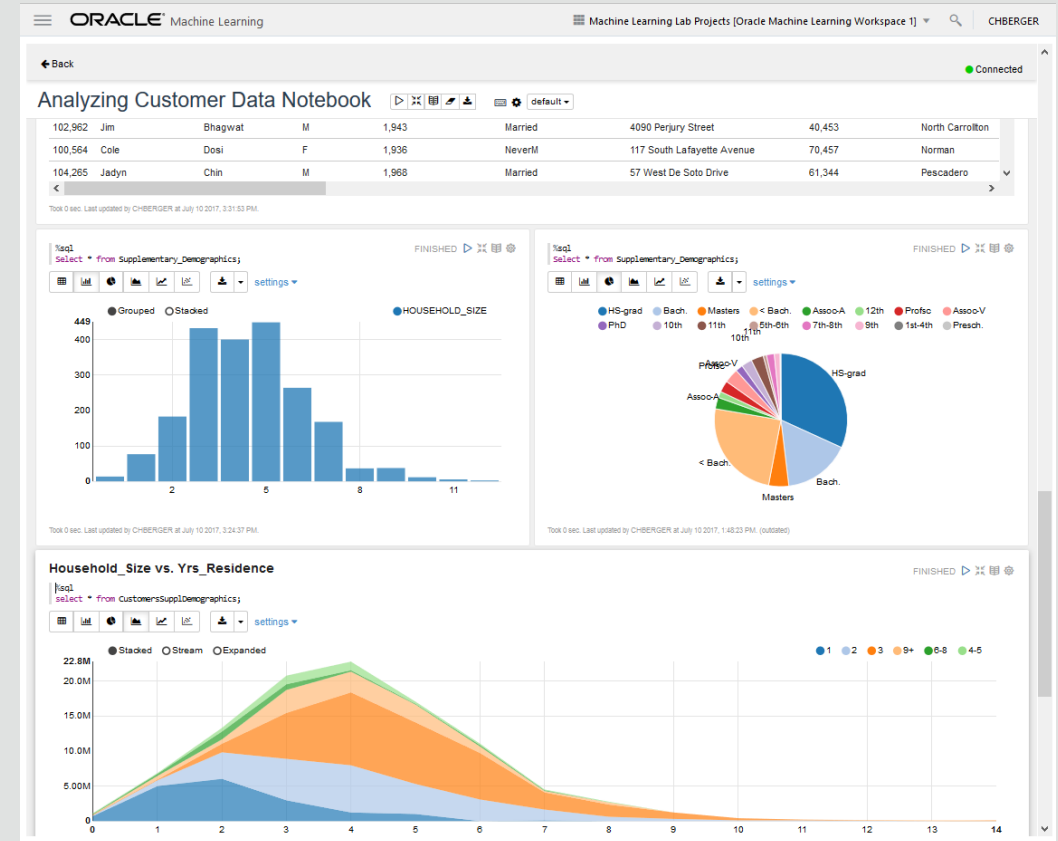SQL Developer Web for Database Developers

OracleML for Data Scientists

APEX (Application Express) for Applications Developers

OracleML: Built-in notebook

Collaborative UI for data scientists

> Easy access to shared notebooks, templates, permissions, scheduler, etc.

Based on Apache Zeppelin

Roadmap: Common UI for data scientists across multiple services

APEX - Oracle Application Express

Autonomous Database-centric web application development framework

Develop desktop and mobile web apps

Visualize and maintain database data

Leverage SQL Skills and database capabilities

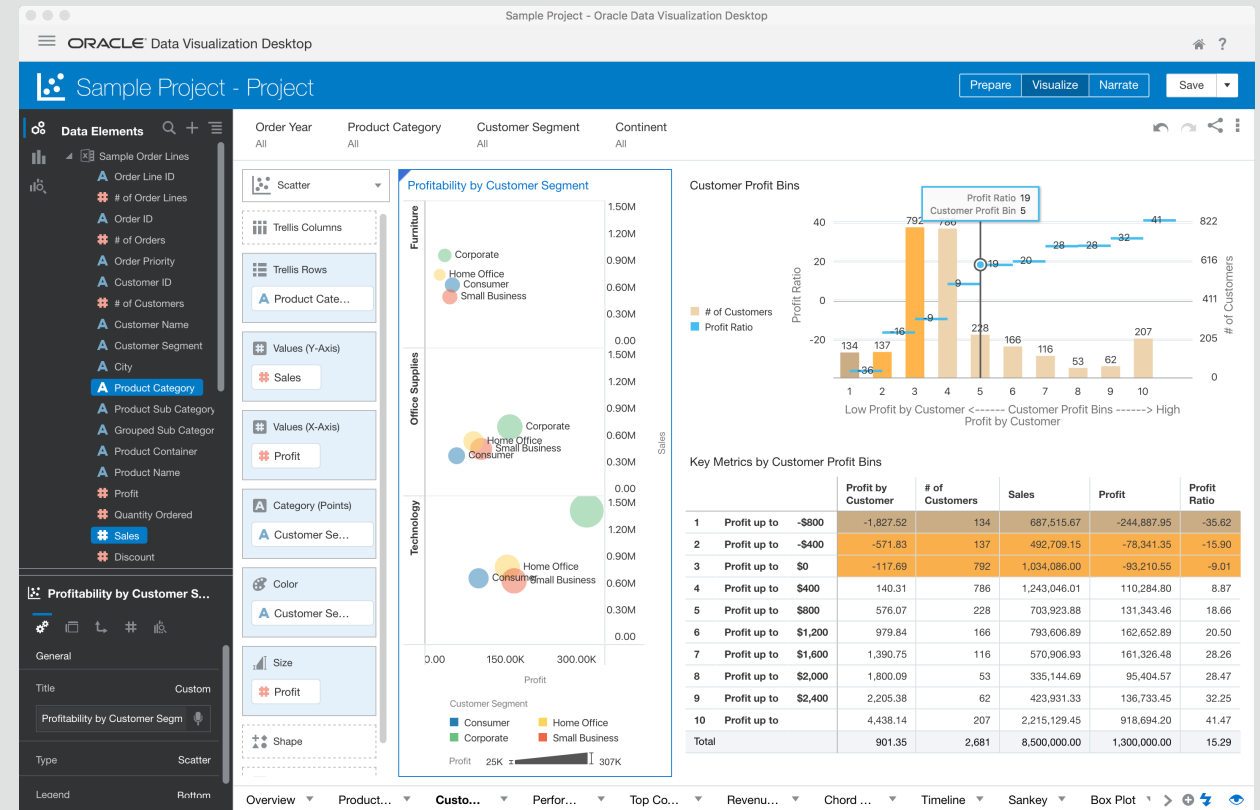# Oracle Data Visualization Desktop

Self-service data exploration for business users

   Rich, interactive visualizations

Included with ADW*

   Also available as cloud version within Oracle Analytics Cloud

   * May be be use with ADW at no added cost

Third Party Business Intelligence/Integration Platforms