

Introducing Oracle Machine Learning A Collaborative Zeppelin notebook for Oracle's machine learning capabilities

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Advanced Analytics and Machine Learning



Accelerate Your
Digital Transformation
in the Cloud



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What is a “notebook”



What is a “notebook”

- Web-based – accessible by browser
- Enables interactive data analytics
- Produces appealing data-driven and collaborative documents
- Integrates formatted notes with your code

ORACLE Machine Learning

Mark Project [Mark Workspace] mhornick

← Back

Connected

Clustering using Oracle R Enterprise

FINISHED

In this vignette, we explore clustering on generated data and t...
We will highlight a few aspects of ORE:

- Data Access - creating database tables from R data.frames
- Visualize Data - using open source R
- Predictive Analytics - using ore.odmKMeans and ore.odmKMeans
- Embedded R Execution - illustrate how to produce this

Took 3 sec. Last updated by mhornick at January 22 2017, 2:20:13 PM. (outdated)

Create a demo data set

Took 0 sec. Last updated by mhornick at January 22 2017, 3:25:44 PM. (outdated)

```
%ore
set.seed(123) # enable repeatable results
options(digits=4) # limit decimal output

#-- generate a data set with three clusters

dat <- rbind(matrix(rnorm(1000, sd = 0.3), ncol = 2),
```

Clustering using Oracle R E...

#-- Visualize the clustering using a 3D plot

```
library(plot3D)

with(km.res1.local, scatter3D(mpg, displacement, horsepower, phi = 10, bty = "g",
                             colvar=CLUSTER_ID, col=unique(CLUSTER_ID),
                             xlab="mpg", ylab="displacement", zlab="horsepower",
                             colkey=FALSE, main="Clustering of Horsepower, MPG, and Displacement",
                             pch = 20, cex = 1.5, ticktype = "detailed"))
```

Clustering of Horsepower, MPG, and Displacement

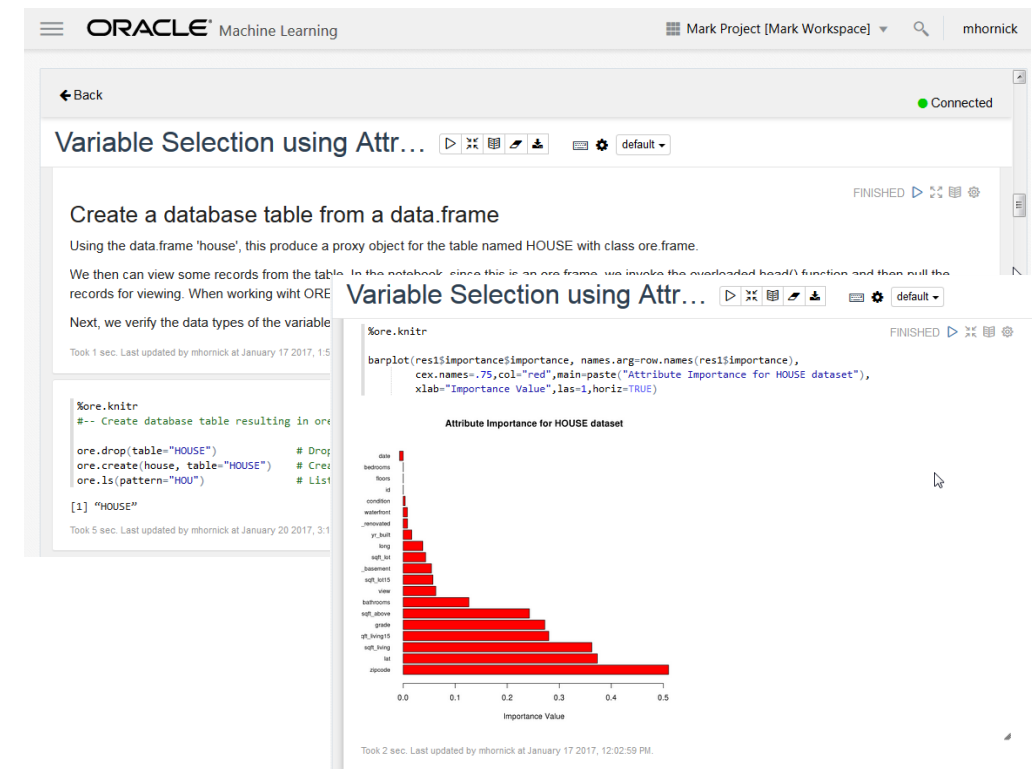
Oracle Machine Learning

Multi-Platform, Multi-Engine Oracle Machine Learning for the Cloud



Introduction

- A collaborative unified notebook user interface for Oracle's machine learning capabilities
- Enables teams to...
 - Leverage the languages, platforms and engines of their choice
 - Explore and prepare data
 - Build, access, and use machine learning models
 - Deploy machine learning solutions



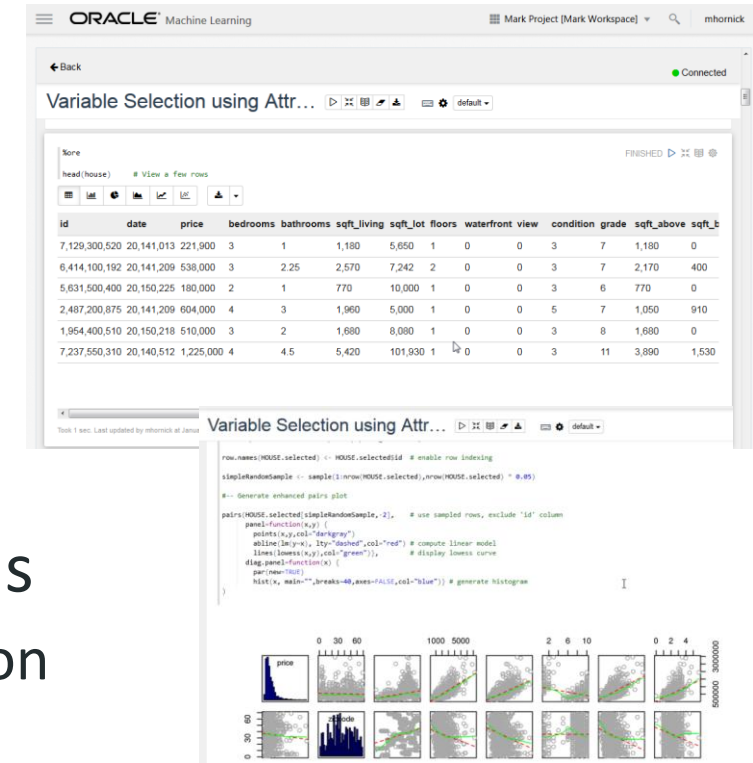
Oracle Machine Learning

Multi-Platform, Multi-Engine Oracle Machine Learning for the Cloud



Features

- Zeppelin-based Unifying Notebook UI
 - Multiple backend servers, analytical engines and languages
 - Oracle and open source algorithms, platforms, tools, and data sources (SQL, R, Spark, Python)
 - Provides a flexible toolbox for the data scientist
- Supports collaborative development
 - Shared notebooks and templates, with access permissions
- Supports deployment of predictive analytics solutions
 - Enables publishing libraries, templates, examples of common use cases
- Dynamic and expandable platform



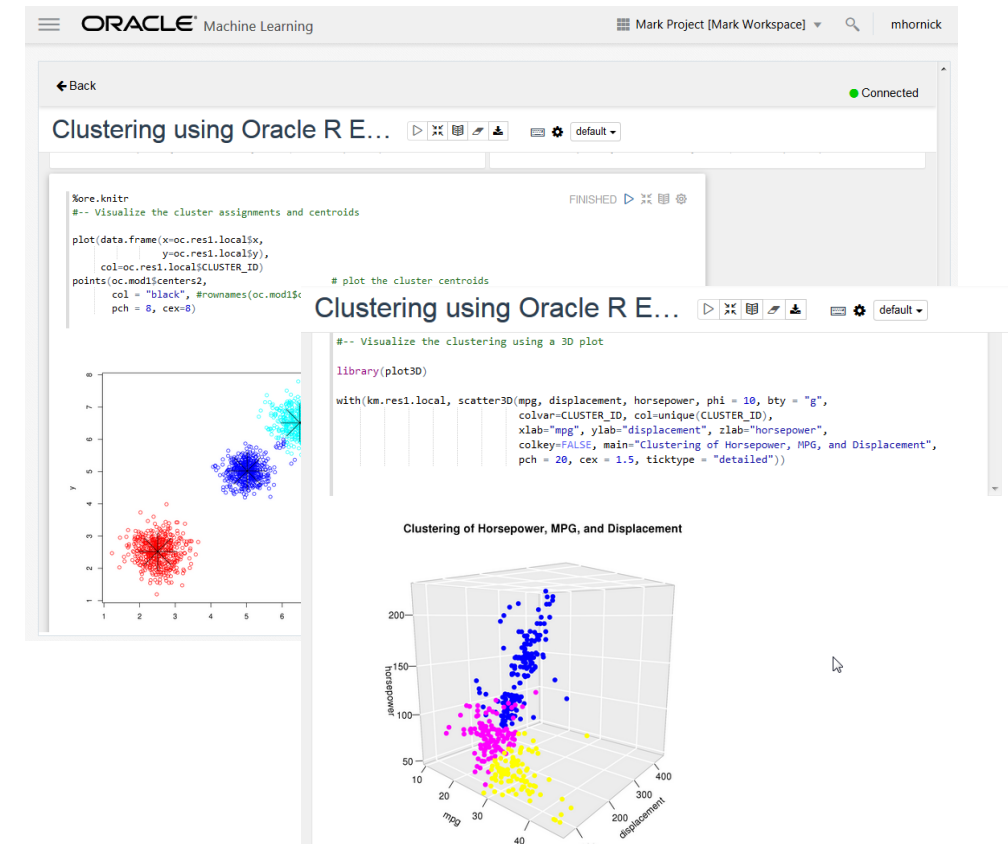
Oracle Machine Learning

Multi-Platform, Multi-Engine Oracle Machine Learning for the Cloud



Benefits

- Harnesses the power of Oracle's multi-platform data and machine learning ecosystem and open source machine learning algorithms
- Enables collaboration between data scientists, citizen data scientists, and application developers
- Develop and publish analytical methodologies, templates and micro-services in the Oracle Cloud



Oracle's Advanced Analytics and Machine Learning Platform

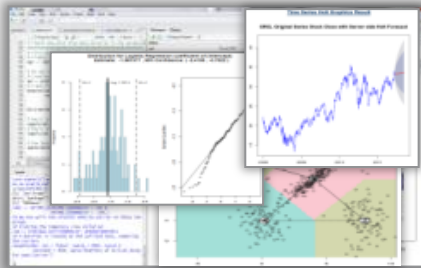
Multiple interfaces across platforms — SQL, R, GUI, Dashboards, Apps

Users



R programmers

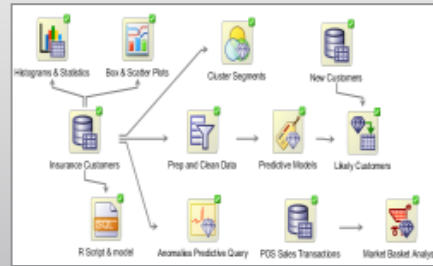
R Client



Information Producers

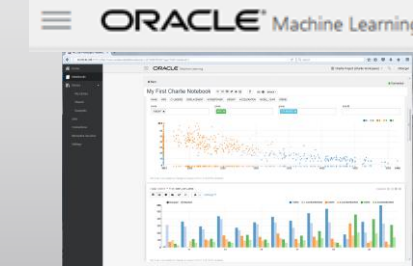
Data & Business Analysts

SQLDEV/
Oracle Data Miner



Data Scientists (R, SQL, Python, etc.)

Oracle
Machine Learning



Hadoop

ORAAH
Parallel,
distributed
algorithms

Oracle Database Enterprise Edition

Oracle Advanced Analytics - Database Option
SQL Data Mining, ML & Analytic Functions + R Integration
for Scalable, Distributed, Parallel in-DB ML Execution

Oracle Cloud

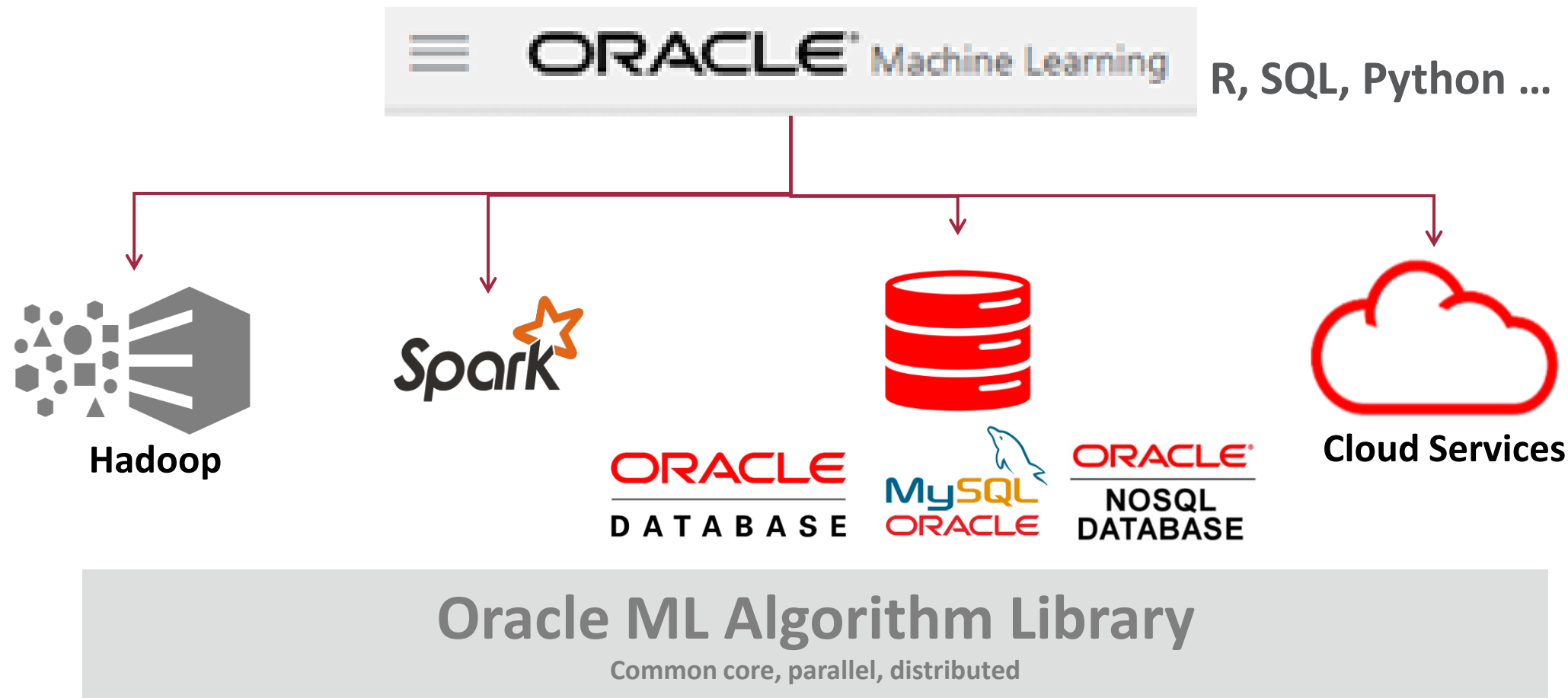
Oracle Database 12c



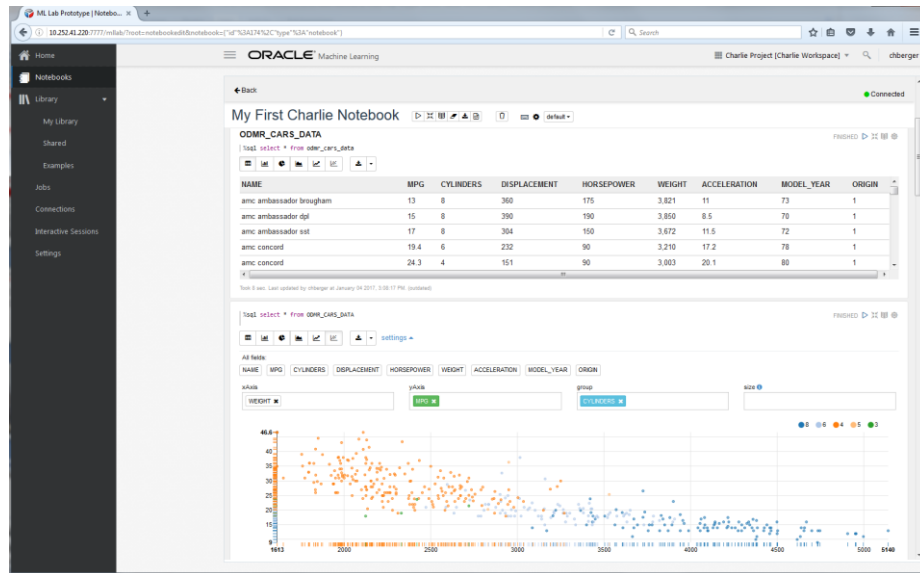
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Oracle Machine Learning Strategy and Vision

One server side product, with a single analytic library, supporting multiple data platforms, analytical engines, UIs and deployment strategies



Oracle Machine Learning



OML Beta Program 2017

- Seeking data scientists and data analysts for early product access, beta testing, and providing valuable customer feedback
- Oracle Machine Learning will host “i-Betas” in the Oracle Cloud for easier customer access and testing

OML Contacts in Product Management

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