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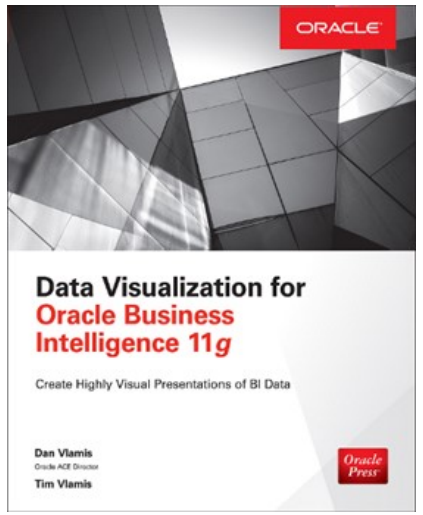
Introduction to Machine Learning in Oracle Analytics Cloud

Collaborate 2018
Arthur Dayton
Monday, 11am - April 23, 2018
Banyan A - Session Number: 1523
@VlamisSoftware

Vlamis Software Solutions

- Vlamis Software founded in 1992 in Kansas City, Missouri
- Developed 200+ Oracle BI and analytics systems
- Specializes in Oracle-based:
  - Enterprise Business Intelligence & Analytics
  - Analytic Warehousing
  - Data Mining and Predictive Analytics
  - Data Visualization
- Multiple Oracle ACEs, consultants average 15+ years
- www.vlamis.com (blog, papers, newsletters, services)
- Co-authors of book “Data Visualization for OBI 11g”
- Co-author of book “Oracle Essbase & Oracle OLAP”
- Creators of the Force Directed Graph Plugin on the Oracle Analytics Library
- Oracle University Partner
- Oracle Gold Partner



ORACLE ACE Director

ORACLE ACE

ORACLE EDUCATION RESELLER

ORACLE Gold Partner
Specialized
Oracle Business Intelligence
Foundation Suite 11g

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Presenter Background

Tim Vlamis – Vice President & Analytics Strategist

- 30+ years in business modeling and valuation, forecasting, and scenario analyses
- Oracle ACE
- Instructor for Oracle University's Data Mining Techniques and Oracle R Enterprise Essentials Courses
- Professional Certified Marketer (PCM) from AMA
- MBA Kellogg School of Management (Northwestern University)
- BA Economics Yale University
- @TimVlamis

Arthur Dayton – Senior Consultant

- Instructor University of Nebraska at Omaha Information Systems and Quantitative Analysis Program
- ODTUG BI Community Volunteer
- Oracle Spatial and Graph SIG Education Chair
- @arthurdayton116

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Vlamis Presentations

Presenter	Location	Time	Title
Cathye Pendley	Banyan D	Sunday 12:30pm	Do the Mashup: How to Get BI Self Service Data Connections Right
Tim Vlamis	South Pacific J	Sunday 3:00pm	Future Proof Your Career: What Every Executive Needs to Know About Adaptive Intelligence
Tim Vlamis Arthur Dayton	Banyan A	Monday 11:00am	Introduction to Machine Learning in Oracle Analytics Cloud
Dan Vlamis Tim Vlamis	Banyan B	Monday 4:15pm	Getting from Answers/Dashboards to Data Visualization
Arthur Dayton Dan Vlamis	Banyan E	Wednesday 11:00am	Using Node.js to Make OBIEE the Application You Always Wanted It to Be

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Presentation Agenda

- Machine Learning in OAC
  - Automated One-click algorithms
  - R-based column calculations in OBIEE 12c and OAC
  - Data Flow models
  - Languages and environments
- Lessons learned
- Recommendations for designing and implementing a machine learning strategy

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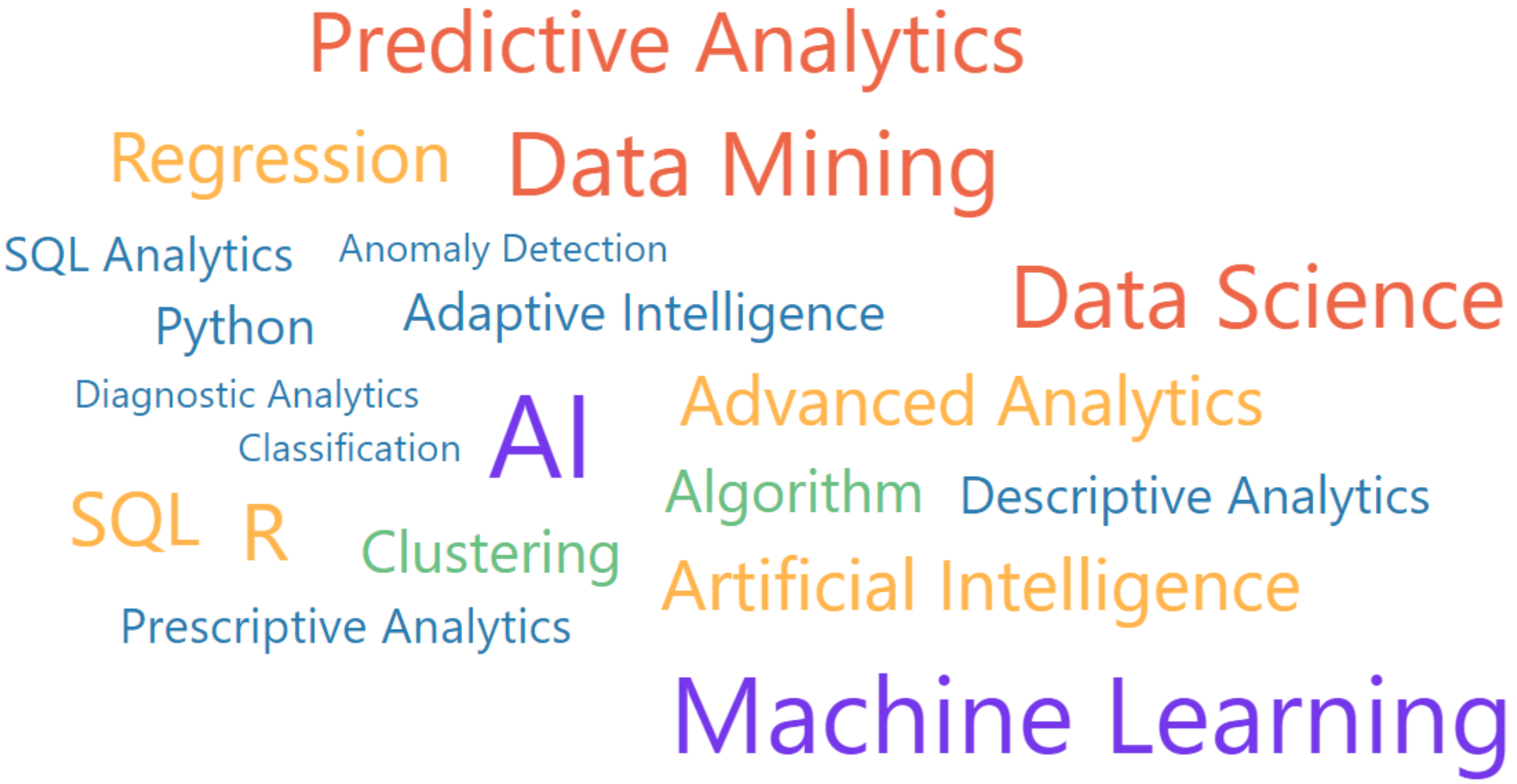
Many Words Used for Similar Concepts



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What is Machine Learning

Wikipedia:

> *Within the field of data analytics, machine learning is a method used to devise complex models and algorithms that lend themselves to prediction*
>
> *Effective machine learning is difficult because finding patterns is hard and often not enough training data are available; as a result, machine-learning programs often fail to deliver*

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Many Options for ML in OAC

- Work in Data Visualization Canvas
  - One-click options
  - Use built-in scripts via My Calculations
  - Upload and call custom scripts
- Work in “edit formula” in Criteria Tab in Answers Analysis
- Develop custom scripts in Repository
- Connect to Oracle Advanced Analytics in Oracle Database Cloud Service (High Performance or Extreme Performance)
  - Oracle Data Mining
  - Oracle R Enterprise
- Connect to Oracle Machine Learning in Autonomous Data Warehouse Cloud Service

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Oracle Database Cloud Service

- Oracle Advanced Analytics option to Oracle Database
  - Included with DBCS High Performance and Extreme Performance
  - Comprised of Oracle Data Mining and Oracle R Enterprise

- Oracle Data Miner SQL Developer Extension is fastest way to learn and develop predictive analytics/machine learning at enterprise scale

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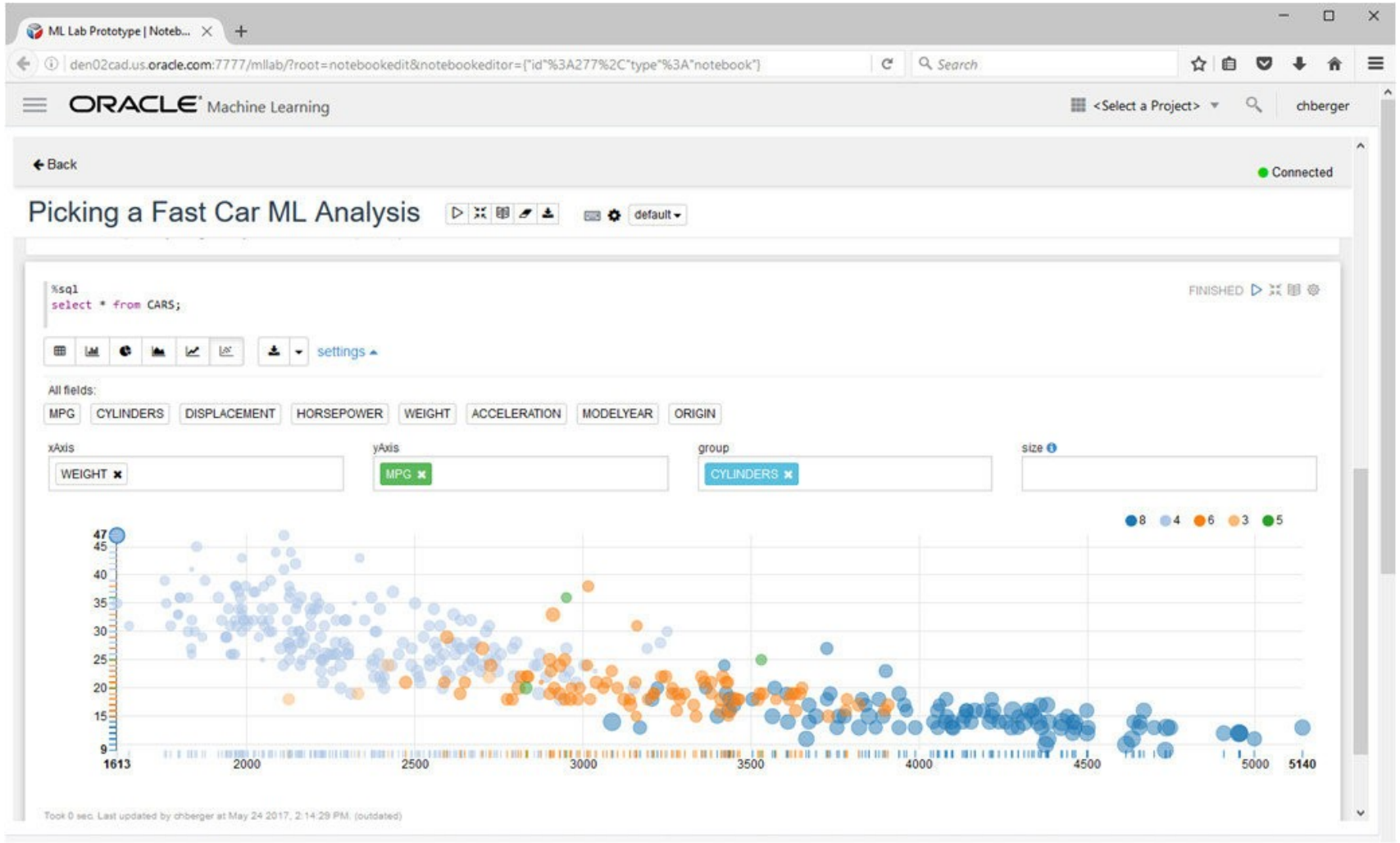
Oracle Machine Learning Notebook



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OAC and Data Visualization Desktop

- Oracle Advanced Analytics – Mostly R based
- Oracle Machine Learning – Mostly Python based

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OAC Data Flows

- Requires some knowledge of data mining/machine learning
- Build/train models in data flows
- Use classification for single/multi-class predictions
  - Churn models of customer loyalty
  - Predict buy/not buy specific products
- Use regression models for prediction of continuous values
  - Lifetime customer value prediction
  - Next year customer purchases
- Use clustering to segment members into groups
  - Customer segmentation based on history/buying behavior

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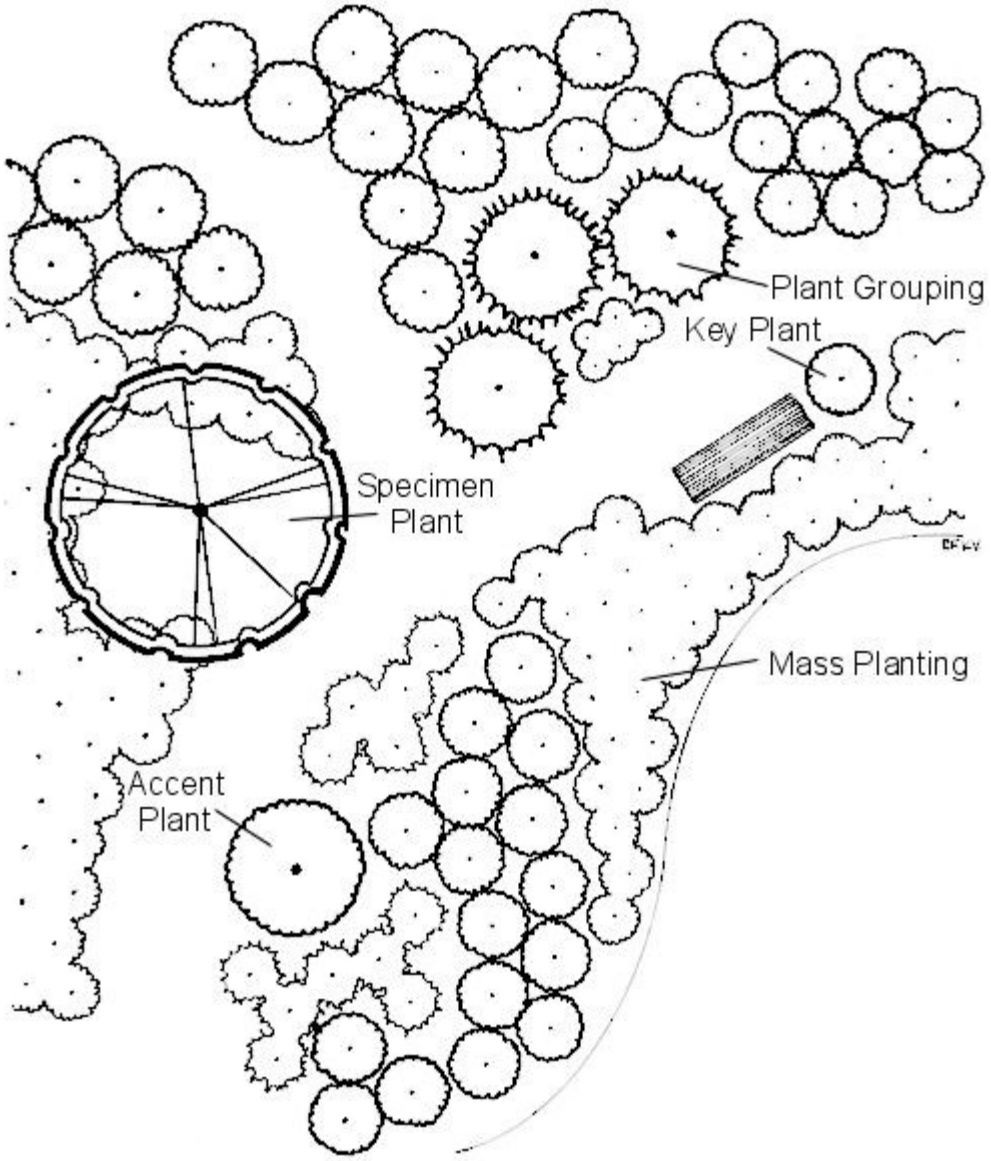
Grow Your Analytics Naturally

- Start with a general plan



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Grow Your Analytics Naturally

- Start with a general plan
- Enhance existing features

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Grow Your Analytics Naturally

- Start with a general plan
- Enhance existing features
- Prepare one bed at a time

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Grow Your Analytics Naturally

- Start with a general plan
- Enhance existing features
- Prepare one bed at a time
- Mulch and weed early on

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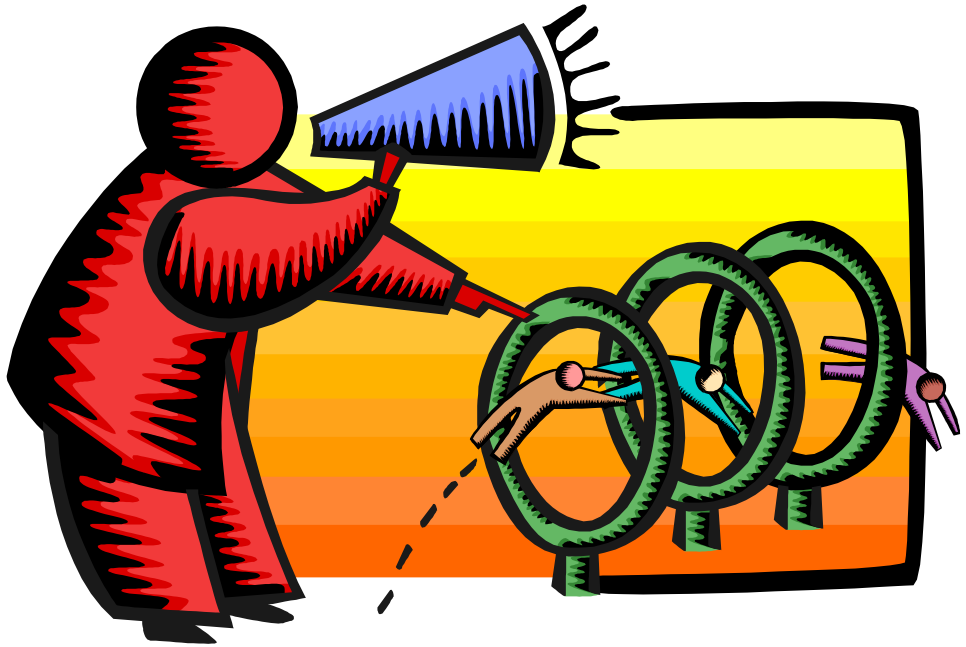
Demo



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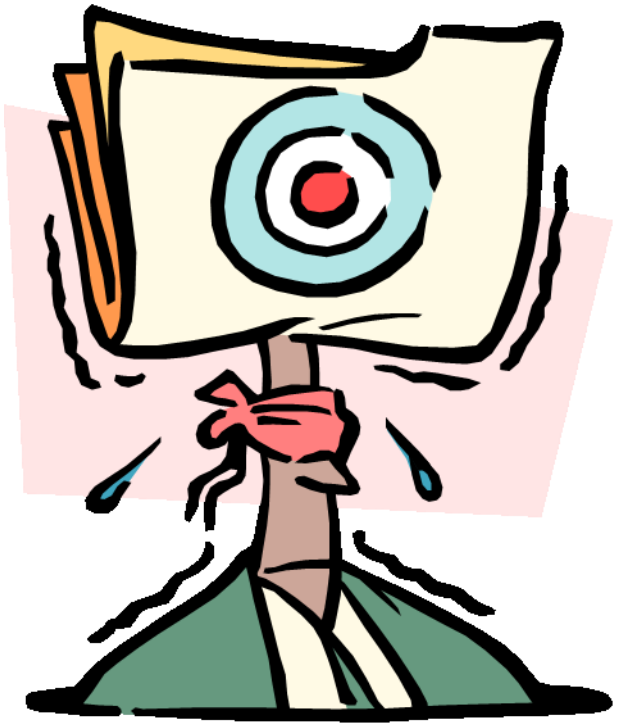
Questions?



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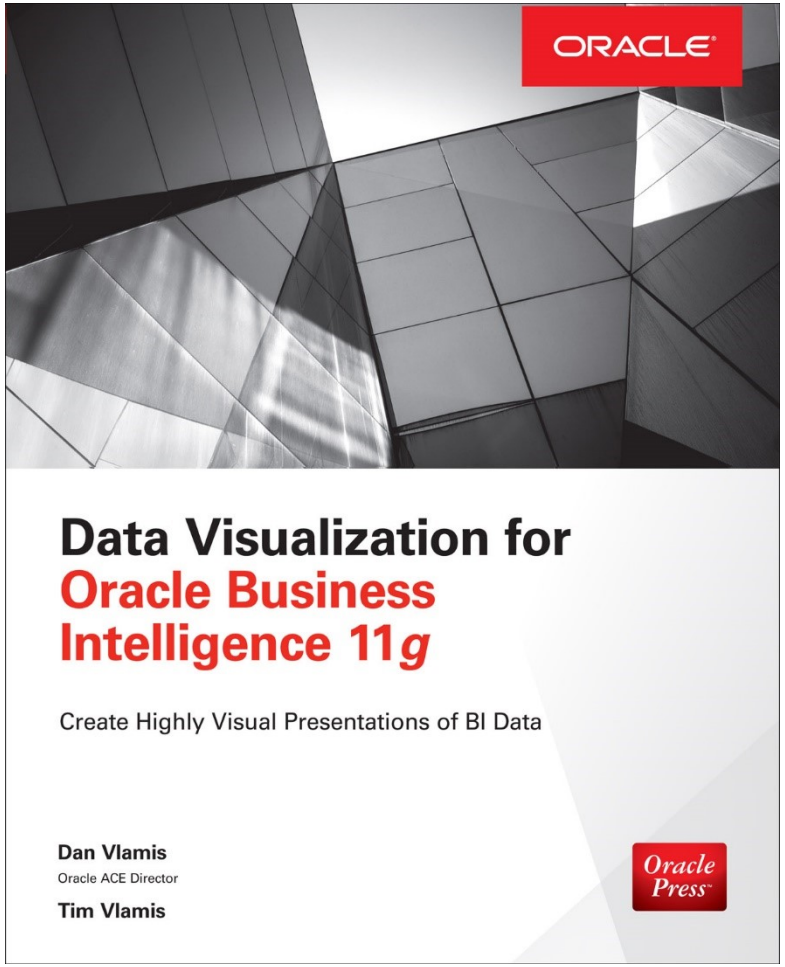
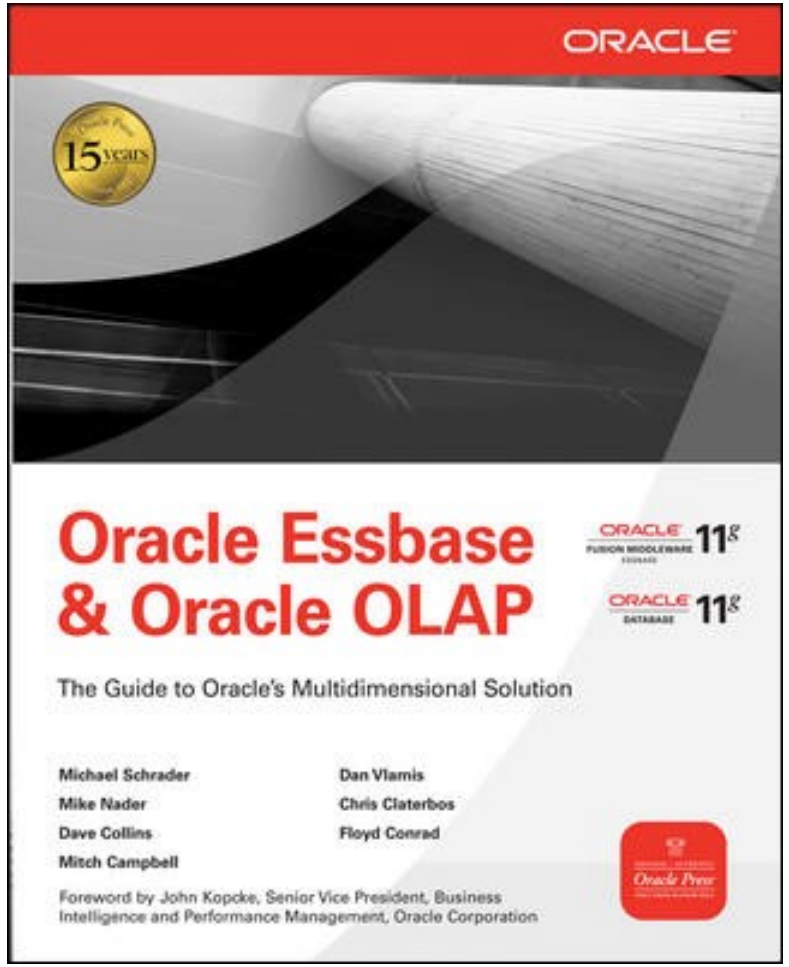
Oracle Press Books





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Same great technical content – great new name!

Thank You!

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For more information go to www.vlamis.com

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