# vlamis ™
## SOFTWARE SOLUTIONS

## Using Cloud Technology for Oracle Database and Oracle BI Sandboxes and Training Environments
## Session: 734

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**@MustacheBI**

# Vlamis Software Solutions

- Vlamis Software founded in 1992 in Kansas City, Missouri
- Oracle Gold Partner, Oracle University Partner
- Developed more than 200 Oracle BI systems
- Specializes in Oracle-based:
  - Business Intelligence
  - Data Warehousing
  - Data Mining and Predictive Analytics
  - Data Visualization
- Expert presenters at major Oracle conferences
- www.vlamis.com (blog, papers, newsletters, services)

# About Me

- I have worked with Vlamis for almost fifteen years.
- I have administered hundreds of hands-on lab environments using various technologies.
- I am responsible for all Amazon Web Services management and training within our team and provide the lion's share of IT support for the organization.
- I have worked with clients on projects involving Oracle BI (EE), Oracle OLAP, Application Express, and BI Publisher.
- I have been a performer for the Kansas City Renaissance Festival, theatrical and vaudeville events.
- The mustache is real. I use Clubman brand mustache wax. No, I do not use curlers and it takes about 5 minutes. 10 if it is being stubborn.

# Objectives

- Review several technical training environments and the challenges and benefits of each.
- Amazon Web Services (AWS) Overview
- Tips and Tricks for Computer Lab Classes
- Development environments
- Witness the ease of using a self-serve Oracle Business Intelligence server for on-demand and hands-on training.

# Disclaimer - Licensing

I AM NOT A LAWYER

Discuss licensing with your Oracle Representative

Obey the EULA

# Technical Training Environments - Challenges

- The bullet proof training environment must handle Adverse Events such as:
    - Hard Errors
    - Oops, I didn't follow the instructions
    - Vandalism - I was only trying to check FaceBook and…
    - I tried changing the configuration script to maximize…
- You must fit the hardware and labor of maintenance in the always strained training budget.
- The answer doesn't make your hair fall out, or worse, your manager's.

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# What is the Cloud anyway?

- When something becomes unclear, we often say it is cloudy

- Some would define "the cloud" to be something specific, it really isn't

- When the connection between the physical computer and the operating system become decoupled, it is "cloud"

- Virtualization in almost any context could be considered cloud, especially if you don't know where the physical parts of the machine are located.

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# Virtualization – The Cloud
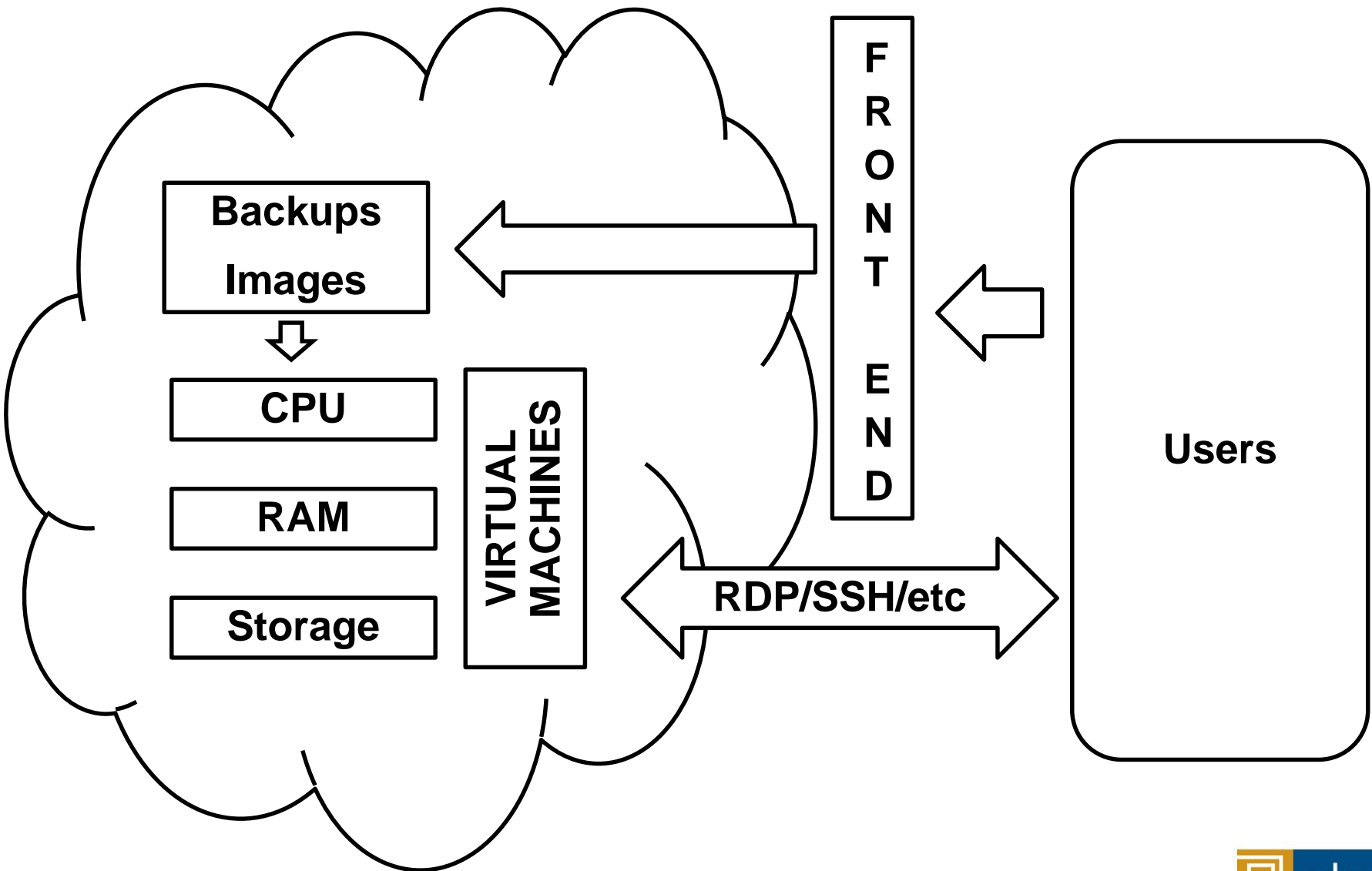
# Technical Training Environment Examples

- Lecture
- Simulation Computer Based Training
- Cloned PCs
- Centralized Servers
- VMWare
- VirtualBox
- Citrix
- Oracle OnDemand
- Amazon Electronic Compute Cloud (EC2)

# What works and what doesn't work?

- Lecture
  - What Works:
    - Total control
  - What doesn't Work:
    - Those of you texting right now
    - Everything else

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# What works and what doesn't work?

- Simulation Computer Based Training
    - What Works:
        - Does not require internet connectivity
        - Total control
        - Secure
        - Adverse event-proof
    - What doesn't Work:
        - Expensive equipment and software
        - Limits class size
        - Does not allow for exploration or deviation from exercises

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# What works and what doesn't work?

- Cloning PCs and Centralized Servers
  - What Works:
    - Does not require internet connectivity
    - Total physical control
    - Secure
  - What doesn't Work:
    - Expensive equipment
    - Hard limits to class size
    - Time for cloning and setup
    - If something breaks during class, fixing it can be impossible

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# What works and what doesn't work?

- VMWare and VirtualBox
  - What Works:
    - Does not require internet connectivity
    - Total physical control
    - Secure
    - If something breaks during class, fixing it is often easy
  - What doesn't Work:
    - Expensive equipment
    - Limits class size
    - Time for cloning and setup

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# What works and what doesn't work?

- Oracle OnDemand and Amazon Electronic Compute Cloud (EC2)
  - What Works:
    - No expensive equipment. A Raspberry Pi can do this
    - Attendees can even bring their own laptops.
    - Easy fixes for in-class failures
    - Scriptable and dynamic tool sets
  - What doesn't Work:
    - Requires internet connectivity
    - No physical control
    - Security concerns if you use your own data

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# Amazon Web Services – What is it?

- EC2 - A large and responsive IT department that has a seemingly infinite hardware and software budget.
- Pre-installed Server operating systems on demand.
  - Windows Server 2008 and 2015
  - Various Linux Flavors
- Server duplication on demand.
- Entire server farm duplication on demand.
- Private and public cloud environments.
- S3 - Massive online storage
- Powers a significant amount of the internet.

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# How you can use Cloud Technologies

- Training
- Testing
- Development
- Proof of Concepts
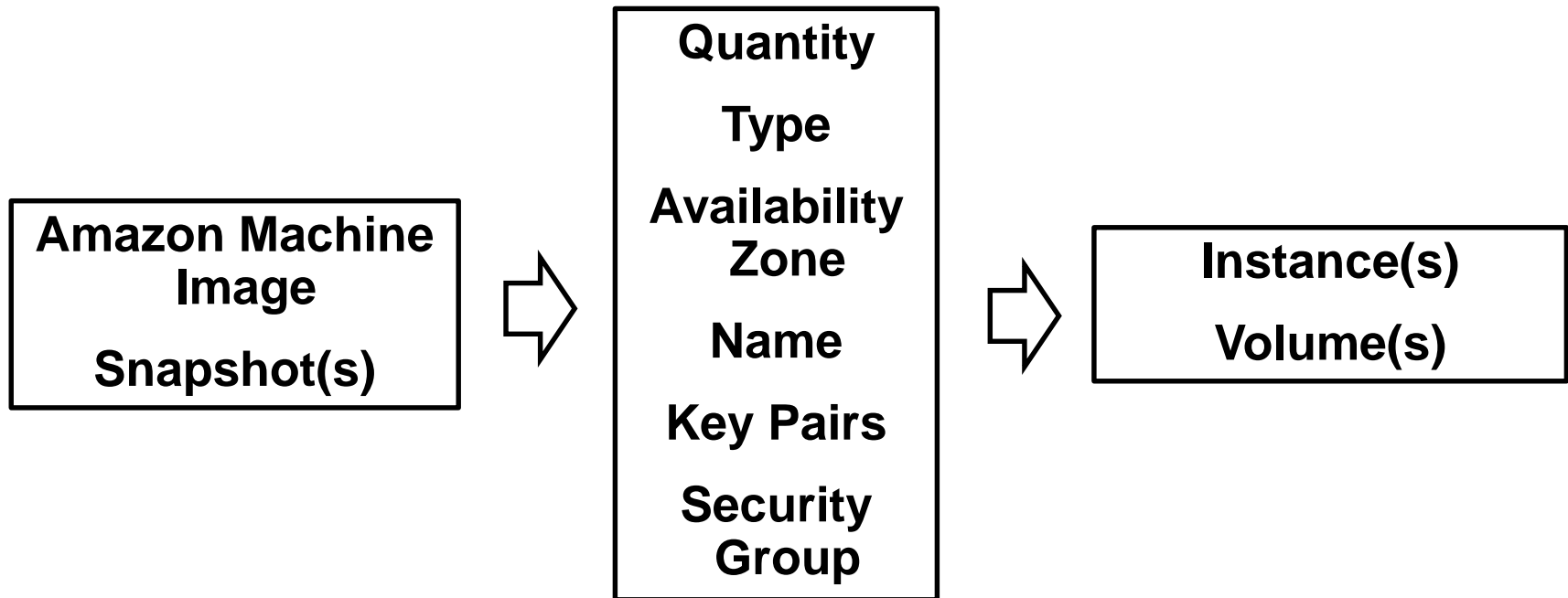- Production Environments

# Electronic Compute Cloud Vocabulary

- Instances
  - Public / Private
- Amazon Machine Images (AMIs)
  - Quick Start
  - My AMIs
  - Community AMIs
  - AWS Marketplace
- Key Pair
- Security Group
- Elastic IPs
- Snapshots
- Volumes
- Types – Large, Extra Large, Memory and CPU
- Start / Stop / Terminate

# AMI vs Instance



**Amazon Machine Image**

**Snapshot(s)**

➡

**Quantity**

**Type**

**Availability Zone**

**Name**

**Key Pairs**

**Security Group**

➡

**Instance(s)**

**Volume(s)**

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# Classroom Tips and Tricks

- Build on a smaller instance than you use for production
- Test your environment with the lab materials
- Create AMIs frequently, storage is cheap!
- Create an AMI or Cloud Front for each of your classes
- Set save points by lesson in AMI
- Start an extra instance (or two!)
- Use VMs for client machines

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# Classroom Tips and Tricks

- Print out lab material
- Have login information on the lab material
- Use Elastic IPs and your own domains
- Shut down Instances overnight to save money
- One server for multiple users or a server for each user!
- Import VMs to AWS – Google 'Rittman Mead AWS VM Import' they have an excellent blog post
- Consider using a web conference in conjunction with cloud servers

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# DNS Names to the Rescue

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# Virtualized Development Environments

- Benefits
    - Backups and snapshots
    - Consistent development environments
    - Can be individually controlled by each developer
    - No Fear
- Drawbacks
    - Integration of conflicting changes into Dev
    - Requires developer discipline
    - No Fear

# Virtualized On Demand

- AWS API
  - Android
  - iOS
  - Java
  - JavaScript in the Browser
  - JavaScript in Node.js
  - .NET
  - PHP
  - Python
  - Ruby

```php
<?php
$username = "ec2-user";
require_once '/usr/www/users/vlamis/aws/sdk.class.php';
// Instantiate the AmazonEC2 class
$ec2 = new AmazonEC2();

// Boot an instance of the image 3.5 is ami-66f78c0f
$response = $ec2->run_instances('ami-1abcd23efg', 1, 1, array(
    'InstanceType' => 'm3.xlarge',
                'SecurityGroup' => 'security_group'
));

operation.
$response = $ec2->describe_instances(array(
                'Filter' => array(
                array('Name' => 'instance-id', 'Value' => "$instance"),
                )
));
$hostname = $response->body->reservationSet->item-
>instancesSet->item->dnsName;

// Output the message
$message .= "<p>Your instance hostname is: <br>
<b>$hostname</b></p>";
echo $message;
?>
```

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# AWS Cloud Formation

- Create complicated multi-server environments with a script
- Full API
- Creates consistency for development or training environments

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# AWS And Vlamis

- Amazon Web Services (AWS) and Vlamis
- How we use the AWS environment
- Vlamis involvement in Test Drive

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# Vlamis Test Drives

- ## OBIEE
  - A quick overview of Oracle Business Intelligence Enterprise Edition (OBIEE) 11g and allow users to create reports and dashboards for themselves. The lab uses version 11.1.1.7.1 of Oracle BI and showcases the following features: adhoc reports, graphs, maps, and color-coding.

- ## Oracle Advanced Analytics
  - OAA Hands-on Labs: 1 Oracle Data Mining – Basic predictive analytics exercises in an Oracle 11g Database instance using the Data Miner extension for Oracle SQL Developer. 2. Oracle R Enterprise – Basic exercises with the R Language and Oracle R Enterprise.

- ## Big Data Lite
  - This test drive walks through some basic exercises on the Big Data Lite Virtual Machine. The Oracle Big Data Lite Virtual Machine provides an integrated environment to help you get started with the Oracle Big Data platform.

# Benefits of Test Drives

- Completely free to the end user
- Fully configured training environment
- Backed by the power of the AWS EC2 environment
- Try it before you buy the Oracle software
- Repeatable
- Available 24/7, provisioned on demand in minutes

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# Questions?

# Handy Links / References

- Amazon AWS
  - http://aws.amazon.com
- Our Blog
  - http://www.vlamis.com/blog
- Test Drives on AWS
  - http://awstestdrive.com
- Oracle Pre-built Developer VMs
  - http://www.oracle.com/technetwork/community/developer-vm/index.html

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