

# COURSE OUTLINE

<b>IST 265</b>		<b>Oracle Database Cloud Concept</b>		<b>3</b>
<b>Course Number</b>		<b>Course Title</b>		<b>Credits</b>
2/2	2	N/A	N/A	15
<b>Class or Lecture Hours</b>	<b>Laboratory Work Hours</b>	<b>Clinical or Studio Hours</b>	<b>Practicum, Co-op, Internship</b>	<b>Course Length (15 week, 10 week, etc)</b>
Not Applicable			Online	
<b>Performance on an Examination/Demonstration</b> (Placement Score (if applicable); minimum CLEP score)			<b>Alternate Delivery Methods</b> (Online, Telecourse [give title of videos])	

## **Required Materials:**

Textbook: To be announced.

Material: Flash drive

## **Catalog Description:**

Oracle Database Cloud Concept prepares Students for a complete, practical guide to architecting, designing, and building Database Clouds with Oracle 12c. Building Database Clouds in Oracle 12c combines a real-world, hands-on operations guide on Oracle Database-As-A-Service (DBaaS) and Oracle Real Application Clusters (RAC). for the Job Market with Cloud Database Coverage.

**Prerequisites:** IST 253

**Corequisites:** IST 262

**Revised:** Spring 2019

## **Course Coordinator (name, email, phone extension):**

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## **Available Resources:**

Available Resources: (Identify library resources relevant to the course, including books, videos, journals, electronic databases, recommended websites.)

## ***The student will be able to:***

- Make the business case for cloud computing with DBaaS
- Organize DBA responsibilities in cloud environments

- Plan, design, and deploy Database Clouds with Oracle's latest components
- Consolidate schema and databases with Oracle Enterprise Manager 12c
- Use best practices for management, administration metering, and chargeback
- Clone databases quickly and reliably
- Set up grid infrastructure on Oracle VM for x86 or Oracle VM VirtualBox

Week	Learning Objectives	Activities
1	Discuss Cloud Computing: Definition and Classical View [CG 4] DBaaS – a special case of cloud computing [CG 4] Architecture of an Oracle-Based DBaaS Implementation [CG3, 4]. Create first step for Transforming into cloud [CG3, 4].	Chapter 1 Database as a Service Concepts – 360 Degrees Lab. 1 Create first steps for transforming into clouds.
2	Review DBA Responsibility in traditional environment and the new role of the Cloud DBA [CG 4]. Preparing to be a Cloud DBA[CG 4].	Chapter 2: The Database Cloud Administrator –Duties and Roles. Lab 2: Compare and Contrast Traditional DBA with Cloud DBA.
3	Explain Cloud computing with DBaaS strategies and delivery [CG 4]. List Cloud DBaaS benefits, averages and challenges [CG 4].	Chapter 3: Cloud Computing with DBaaS – Benefits and Advantages Lab 3: Deliver DBaaS with Oracle Technologies.
4	Create Directory Objects, Database Pool and Create a Profile and Service Template [CG3, 4] Use schema as a service [CG 4].	Chapter 4: Schema Consolidation in Enterprise Manager 12C. Lab. 4: <ul style="list-style-type: none"> <li>• Set up Schema as a Service</li> <li>• Create Directory Objects</li> <li>• Create Database Pool</li> <li>• Create a Profile and Service Template.</li> </ul>
5	Define Roles and Assigning Users, Create PaaS Infrastructure Zone, Database Pool, Configuring Request Settings, and setting Quotas. [CG3, 4]	Chapter 5: Database Consolidation in Enterprise Manager 12C Lab. 5: <ul style="list-style-type: none"> <li>• PDBaaS Setup</li> <li>• Define Roles and Assign Users</li> <li>• Create a PaaS Infrastructure Zone</li> <li>• Create Database Pool</li> <li>• Configure Request Settings</li> </ul>

		<ul style="list-style-type: none"> <li>• Set Quotas</li> <li>• Itemize Deployment Issues</li> </ul>
6	Discuss Mastering and chargeback in Enterprise Manager 12C Manager CG2] Explain Chargeback Entities, Charge Plans, Cost Center and Reports CG 4]	Chapter 6; Mastering and chargeback in Enterprise Manager 12C Manager. Lab. 6: Setup Chargeback.
	MIDTERM EXAMINATION	<p>MIDTERM EXAMINATION Must be Unique to Each Student.</p> <ul style="list-style-type: none"> <li>• Set up Schema as a Service</li> <li>• Create Directory Objects</li> <li>• Create Database Pool</li> <li>• Create a Profile and Service Template.</li> </ul>
7	Explain the Management and Administration of the Database Cloud in Enterprise 12C [CG3, 4] Review the Cloud Home Page and the Cloud Adviser [CG3, 4]	Chapter 7: Manage and Administer the Database Cloud in Enterprise Manager 12C. Lab. 7: <ul style="list-style-type: none"> <li>• Manage and administer:</li> <li>• Security, Server and Database Sizing and Performance Tuning in The Cloud Adviser</li> </ul>
8	Explain Full Clones and Snap Clones in Enterprise Manager 12C [CG3, 4]	Chapter 8: Cloning Database in Enterprise Manager 12C Lab. 8: <ul style="list-style-type: none"> <li>• List difference between Full and Snap Clones.</li> <li>• Create a Service Template from a Database Profile RMAN DUPLICATE.</li> </ul>
9	Explain Database Cloud based in RAC [CG 4] Explain Visualization – 360 Degrees [CG 2] Explain Types of Hypervisors [CG4] Type of Virtualizations [CG3, 4] Explain OVM Architecture [CG3, 4]	Chapter 9: Virtualizing RAC 12c (DB Clouds) on Oracle VM – Grid Infrastructure. Lab. 9 <ul style="list-style-type: none"> <li>• Set Up and Configure a Virtualized RAC Database Cloud Approach 2</li> <li>• Set Up and Configure RAC-Node-01</li> <li>• Install and Set Up 12C Grid Infrastructure.</li> </ul>

10	Explain OVM Virtual Box[CG4] Explain Cloud Computing [CG 4] Explain EM12c and OVM [CG 4] Explain RAC Private Cloud on OVM Virtualization [CG 4]	Chapter 10 Lab. 10 Set Up, Install and Configure Oracle RAC 12c Private Cloud on OVM Virtual box
11	Hand-on	Page X Step 10.1 Approach 2
12	Hand-on	Page X Step 10.2 OVM VirtualizeBox
13	Hand-on	Page X Step 10.3 OVM VirtualizeBox
14	Final Examination	Final Examination Build Database Cloud in Oracle 12c
15		