

Contrato de Obra Exp. Nro 19468 01 01

Provincia: San Juan

**Título: Adquisición de Conocimientos. Fase I - Bases de Datos y
Plataforma de Integración.**

Consultora: BGH Tech Partner S.A.

Soportes Informe Final

Soporte cursos

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Configurations

The diagrams illustrate three different Oracle RAC configurations for PDB services:

- Left Diagram:** A CDB Instance contains PDB Services (pdba, pdbb, pdbc, local) and a PDB (pdba, pdbb, pdbc) on CDB1. A Non-CDB Instance (iprod) is connected to the CDB Instance. A Non-CDB Instance (PRODB) is connected to the PDB.
- Middle Diagram:** An Oracle RAC Instance has Services (hr, sale, acct) on t1, t2, t3. A Non-CDB Instance (PRODB) is connected to the RAC Instance.
- Right Diagram:** An Oracle RAC Instance has PDB Services (pdba, pdbb, pdbc) on rac1, rac2, rac3. A PDB (pdba, pdbb, pdbc) is connected to the RAC Instance. A CDB (CDB1) is connected to the PDB.

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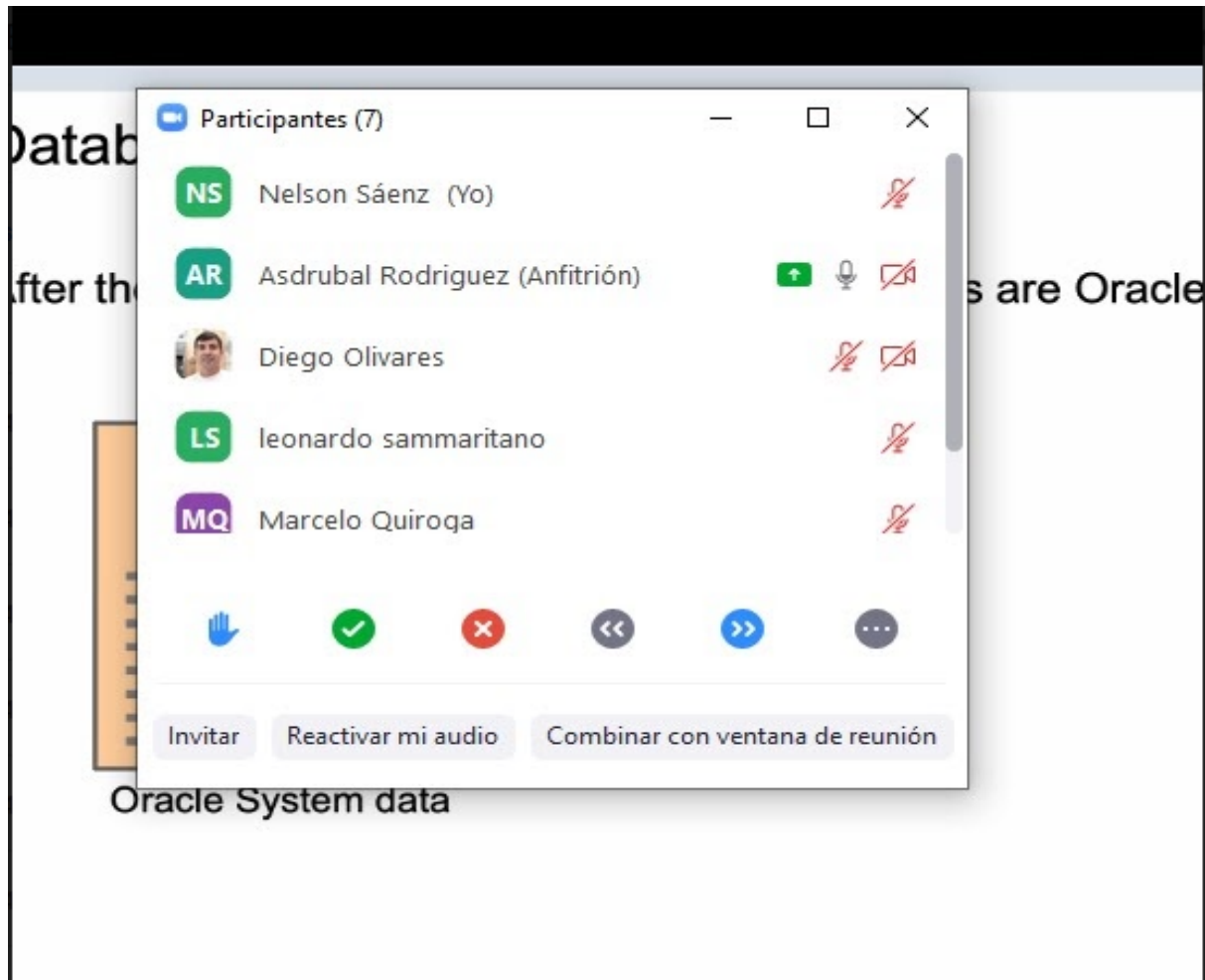
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Chat

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Reacciones

Salir



Automatic Resource Groups

Zoom

Salir

- An automatic resource group is created for each resource that is not explicitly added to a resource group.

```
$ crsctl add resource my_apache -type generic_application ...
$ crsctl stat resourcegroup my_apache -f|grep CRITICAL
CRITICAL_RESOURCES=my_apache
```

- Resources that you create without specifying a resource group can be added to a resource group at a later time.

```
$ crsctl modify resource my_apache -group rgl
$ crsctl stat resourcegroup rgl -f|grep CRITICAL
CRITICAL_RESOURCES=my_apache
```

- Clusterware deletes the automatic resource group when the resource is explicitly added to a resource group.

```
$ crsctl stat resourcegroup my_apache -f
CRS-33613: could not find resource group 'my_apache'
```

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Clusterware Resource Groups

- A resource group is a container for a logically related group of resources.
- An application is modeled as a resource group that contains:
 - The application resource
 - Related application resources such as WebServer
 - Infrastructure resources such as disk groups and VIPs
- A resource group provides a logical and intuitive entity for high availability modeling of all classes of applications.
- Resource groups are created and resources are added to the resource groups by using `crsctl`.
- Attributes define naming, description, and common placement and failover parameter values for the resource.



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Resource Group Dependency Types and Modifiers

Zoom

Dependency Type	Description
hard start	Specifies specific other resource groups that must be online anywhere in the cluster before this resource group can be started
weak start	Specifies the requirement that an attempt must be made to start specific other resource groups before starting this resource group
pullup	This dependency is used when the resource group must be automatically started when a dependent resource group starts.
hard stop	Specifies the mandatory requirement of stopping this resource group when another specific resource group stops running
attraction	Specifies a co-location preference with other resource groups
dispersion	Specifies a preference to not be co-located with specific other resource groups
exclusion	Specifies a mandatory requirement that this resource group should not run on the same server as specific other resource groups

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Using Resource Groups

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Use `crsctl` to create resource groups, resource group types, and add resources to resource groups.

1. Use the following command to create a resource group:


```
$ crsctl add resourcegroup rg1 -type local_resourcegroup
```
2. To create a resource group based on a custom resource group type, you must first create the resource group type.


```
$ crsctl add resourcegroupstype rgt1 -basetype local_resourcegroup
```
3. After you create a resource group, you can begin to add resources to the resource group.


```
$ crsctl add resource my_apache -group rg1
```

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Resource Group Dependencies

Zoom

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- Dependencies can be set among resource groups, allowing a way to define relationships between applications and components.
- Clusterware provides modifiers to specify different ordering, location, and enforcement level of dependencies among resource groups.
- All available Oracle Clusterware resource dependencies are also available to use with resource groups.
- The `START_DEPENDENCIES` and `STOP_DEPENDENCIES` attributes of a resource group can be defined to specify dependencies for resource groups.

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Failure and Recovery of Critical Resources

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1. When a critical resource of a resource group fails, the resource group immediately transitions to OFFLINE.
2. Clusterware attempts a local restart of the failed resource according to the RESTART_ATTEMPTS and UPTIME_THRESHOLD attributes.
3. Clusterware initiates immediate check actions on other resources in the same group that have a stop dependency on the failed resource.
4. Clusterware initiates immediate check actions on other resource groups that are dependent on this resource group.
5. If the resource restarts successfully, the resource group transitions to the ONLINE state.
 - Pullup dependency is evaluated within and across resource groups.
6. If Clusterware exhausts all local restart attempts of the resource, it stops the entire resource group.
 - On exhausting all restart attempts, the resource group will fail over to another server.

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Objectives

After completing this lesson, you should be able to:

- List the components of the Oracle Autonomous Health Framework
- Describe the functions of the Cluster Health Advisor
- Demonstrate how to query and manage the Cluster Activity Log

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Objectives

After completing this lesson, you should be able to:

- Create, implement, and manage flex disk groups
- Create, implement, and manage file groups and file group quotas
- Describe the technical aspects of ASM database cloning
- Describe the function of ASM IO Server





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Objectives

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Oracle Autonomous Health Framework

- Autonomous Health Framework is a set of utilities that collect and analyze diagnostic data, proactively identifying issues.
- Most of the Autonomous Health Framework components are already available in Oracle Database 12.1.
- In Oracle Database 12.2, the output of several components are consolidated in the GIMR and analyzed in real time.
- Autonomous Health Framework assists with monitoring, diagnosing, and preventing availability and performance issues.





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Oracle ASM File Group Properties

The following are the file **type** properties of file groups:

- REDUNDANCY
- MIRROR_SPLIT_COPIES
- STRIPING

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Oracle ASM File Group Properties

The following list summarizes the file group properties of file groups:

- PRIORITY
- QUOTA_GROUP
- POWER_LIMIT
- COMPATIBLE
- OWNER
- PENDING_REMIRROR
- LAST_REMIRROR_TS

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ASM File Group Considerations

Some important file group considerations include the following:

- A disk group contains at least one file group: the default file group.
- A disk group can contain multiple file groups.
- A disk group can store files belonging to multiple databases, with each database having a separate file group.
- A database can have only one file group in a disk group.
- A file group can belong to only one disk group.
- A file group can describe only one database, PDB, CDB, volume, or cluster.
- File groups can be created only on disk groups with the COMPATIBLE.ASM disk group attribute set to 12.2 or later.

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ASM File Group Administration by Using SQL

- Adding a file group to a database:

```
ALTER DISKGROUP data1 ADD FILEGROUP fg_pdb1 DATABASE pdb1
SET quota_group = quota_grp_pdb1;
```

```
ALTER DISKGROUP data1 ADD FILEGROUP fg_pdb2 DATABASE pdb2
SET quota_group = quota_grp_pdb1;
```

- Modifying a file group:

```
ALTER DISKGROUP data1 MODIFY FILEGROUP fg_pdb1
SET 'controlfile.redundancy' = 'HIGH';
```

```
ALTER DISKGROUP data1 MODIFY FILEGROUP fg_pdb1
SET 'datafile.redundancy' = 'HIGH';
```

```
ALTER DISKGROUP data1 MODIFY FILEGROUP fg_pdb1
SET 'archivelog.redundancy' = 'MIRROR';
```

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Practice 5: Overview

This practice covers the following topics:

- 5-1: ASM Snapshot Replication Enhancements
- 5-2: Implementing ACFS Automatic Resize

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Certificate of Completion

Nelson Saenz

Has Successfully Completed

Oracle Database 12c R2: High Availability New Features Ed 1 (Tailored - RR 118755361)

An Oracle University Training Class

Damien Carey
Senior Vice President,
Oracle University

Daniel Rosas

Instructor Name

80

Hours

April 01, 2021

Date

128044

Event ID

Oracle BPM 12c: Advanced Implementation Ed 1 LVC PRV

Oracle BPM 12c: Essentials Ed 1 LVC PRV

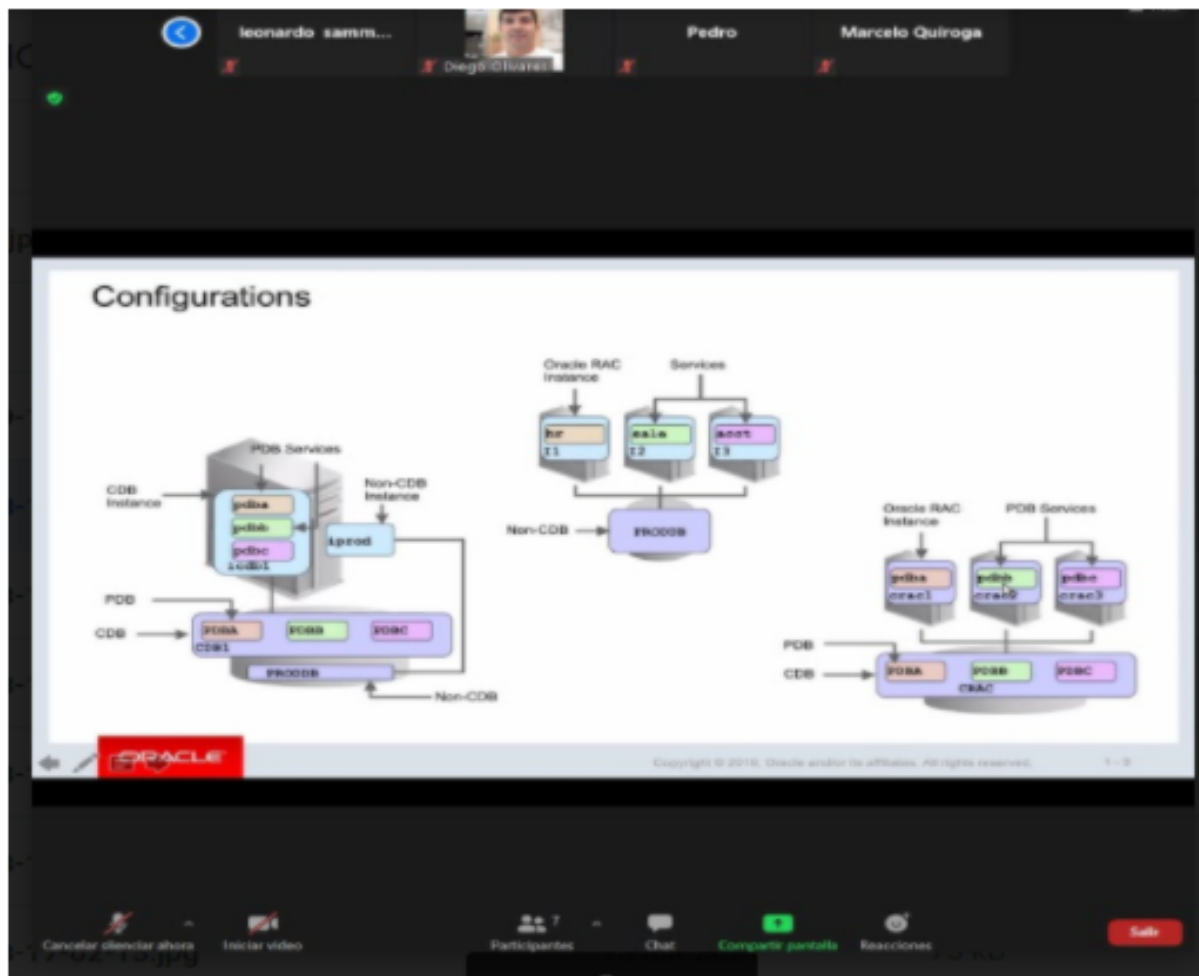
Oracle Database 12c R2: High Availability New Features Ed 1

Oracle Database 12c R2: New Features for Administrators Part 1 Ed 1 LVC PRV

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Oracle SOA Suite 12c: Essential Concepts ED 2 LVC PRV

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Diego Olivares

Pedro

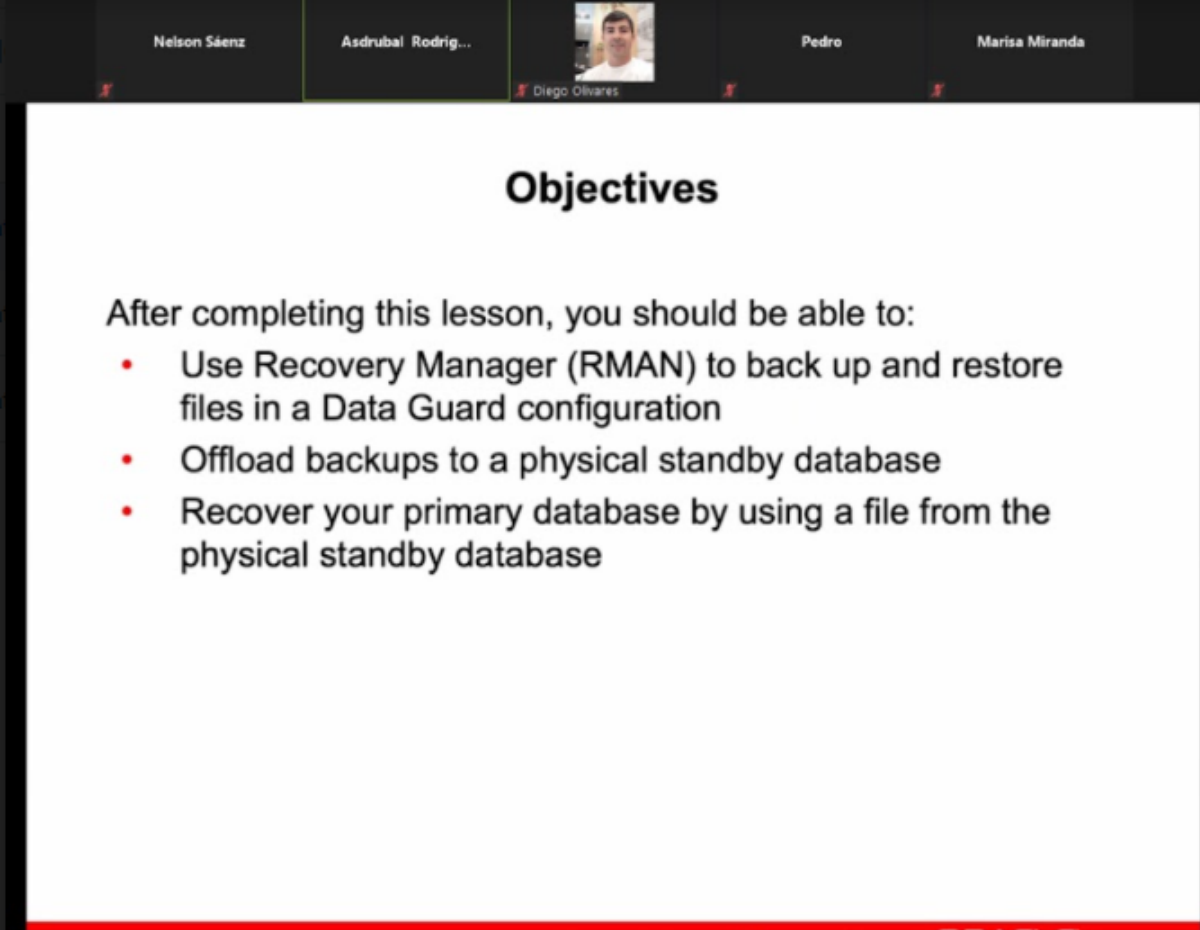
Marisa Miranda

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Backup and Recovery Considerations in an Oracle Data Guard Configuration

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The image shows a Zoom meeting interface. At the top, there is a header bar with five participant names: Nelson Sáenz, Asdrubal Rodrig..., Diego Olivares (with a video thumbnail), Pedro, and Marisa Miranda. Below the header is a large white slide with a black border. The slide has a title 'Objectives' in bold black font. Below the title, it says 'After completing this lesson, you should be able to:' followed by a bulleted list of three items. The bottom of the slide has a red bar with navigation icons.

Objectives

After completing this lesson, you should be able to:

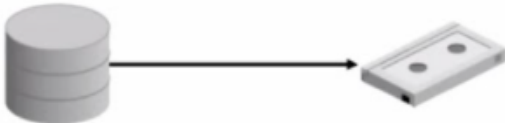
- Use Recovery Manager (RMAN) to back up and restore files in a Data Guard configuration
- Offload backups to a physical standby database
- Recover your primary database by using a file from the physical standby database

Nelson Sáenz Asdrubal Rodrig... Pedro Marisa Miranda

Diego Olivares

Offloading Backups to a Physical Standby

- Backups of data files and archived redo logs are fully interchangeable.
- Backups of standby control files and nonstandby control files are interchangeable.
- SPFILE backups are not interchangeable.
- Primary and standby databases must use the same recovery catalog.
- It is not necessary to register the standby database.



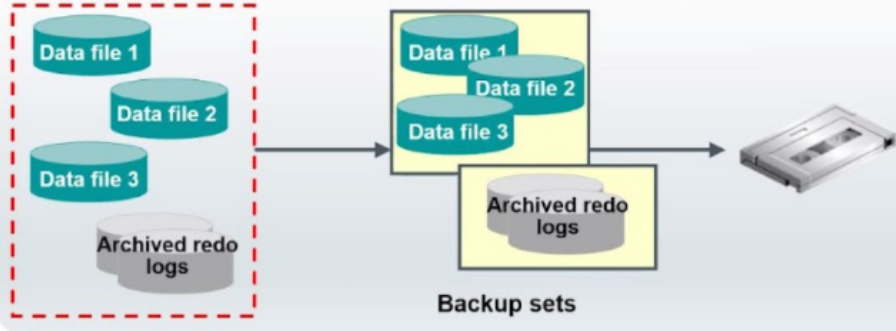
Nelson Sáenz Oracle Trainer pbaldovino marisa Elias Andrade

Diego Olivares

Creating Backups of Backup Sets

```

RMAN> BACKUP DEVICE TYPE DISK AS BACKUPSET
2> DATABASE PLUS ARCHIVELOG;
RMAN> BACKUP DEVICE TYPE sbt BACKUPSET ALL;
    
```



Nelson Sáenz
Oracle Trainer
pbaldovino
marisa
Diego Olivares
Elias Andrade

Using RMAN Backup Compression

Compression Ratio or Level	Considerations	Requires Advanced Compression Option
LOW	Fastest. Best suited to address backup: CPU resources.	✓
MEDIUM	Fast. Good balance of CPU usage and compression ratio.	✓
HIGH	Best compression ratio at the expense of high CPU consumption. Best suited to address backup constraint: network.	✓
BASIC	Fair. Compression ratio similar to MEDIUM at expense of additional CPU usage. Compression ratio between MEDIUM and HIGH.	✓

Nelson Sáenz
marisa
Pedro Baldovino
Jonathan J Sanchez Q

MOSTRAR BARRA DE TAREAS
OPCIONES DE PRESENTACIÓN
FINALIZAR PRESENTACIÓN

0:13:36
16:38

Oracle Database Server Architecture: Overview

The diagram illustrates the Oracle Database Server Architecture. On the left, a **User or client process** (represented by a person icon) connects to a **Session** (represented by a computer icon). The **Session** then connects to a **Server process** (represented by a yellow circle). The **Server process** is associated with a **PGA** (Program Global Area) and an **Instance** (represented by a blue box). The **Instance** is associated with the **Database** (represented by an orange box). The **Database** contains **Memory structures (System Global Area)** (green box), **Process structures** (yellow boxes), and **Database (storage structures)** (orange boxes). The **Memory structures** include a **Redo** log (red circle). The **Database (storage structures)** are represented by four cylinders.

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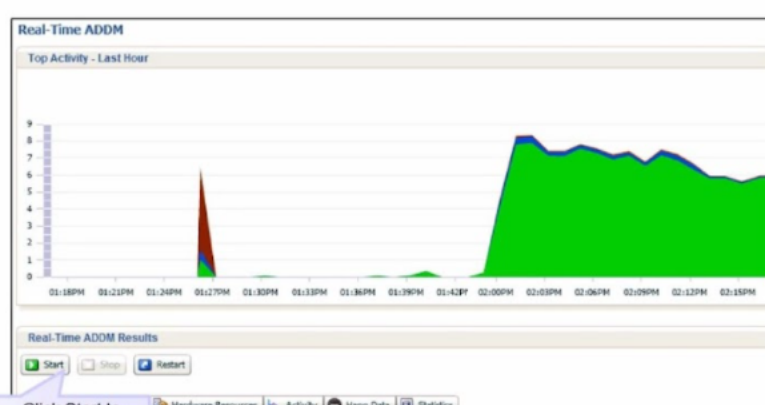
Nelson Sáenz Asdrubal Rodrig... Pedro Baldovino marisa Diego Olmores Oracle Support

Real-Time ADDM: Challenges

- Systems are sick.
- Database is slow:
 - All users' queries are still very slow.
 - Performance screens still show slow data refresh rates.
 - There is still a significant reduction in throughput.
- Database is hung due to other contention for resources:
 - Database might still be unresponsive; logon is allowed or is not allowed.
 - Users' queries are still waiting.
 - Performance screens do not refresh faster.
 - *You did not find any blocking session to kill.*
 - *Emergency Monitoring does not provide the root cause.*

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Using Real-Time ADDM



Real-Time ADDM

Top Activity - Last Hour

Real-Time ADDM Results

Start Stop Restart

Click Start to invoke Real-Time ADDM.


Hardware Resources Activity Hang Data Statistics

Nelson Sáenz
Asdrubal Rodrig...
Diego Cárdenas
marisa
Pedro Baldovino
Oracle Support

Objectives

After completing this lesson, you should be able to do the following:

- Describe the optimizer's behavior
- Explain how statistics can affect the optimizer
- Describe how data structures affect the optimizer
- Adjust parameters to influence the optimizer



Nelson Sáenz
Asdrubal Rodrig...
Diego Cárdenas
marisa
Pedro Baldovino
Oracle Support

Controlling the Behavior of the Optimizer with Parameters

Optimizer behavior can be controlled by using the following initialization parameters:

- `CURSOR_SHARING`
- `DB_FILE_MULTIBLOCK_READ_COUNT` (autotuned)
- `OPTIMIZER_INDEX_CACHING`
- `OPTIMIZER_INDEX_COST_ADJ`
- `PGA_AGGREGATE_TARGET`
- `OPTIMIZER_MODE`
- `OPTIMIZER_FEATURES_ENABLE`
- `OPTIMIZER_ADAPTIVE_FEATURES`
- `OPTIMIZER_ADAPTIVE_REPORTING_ONLY`