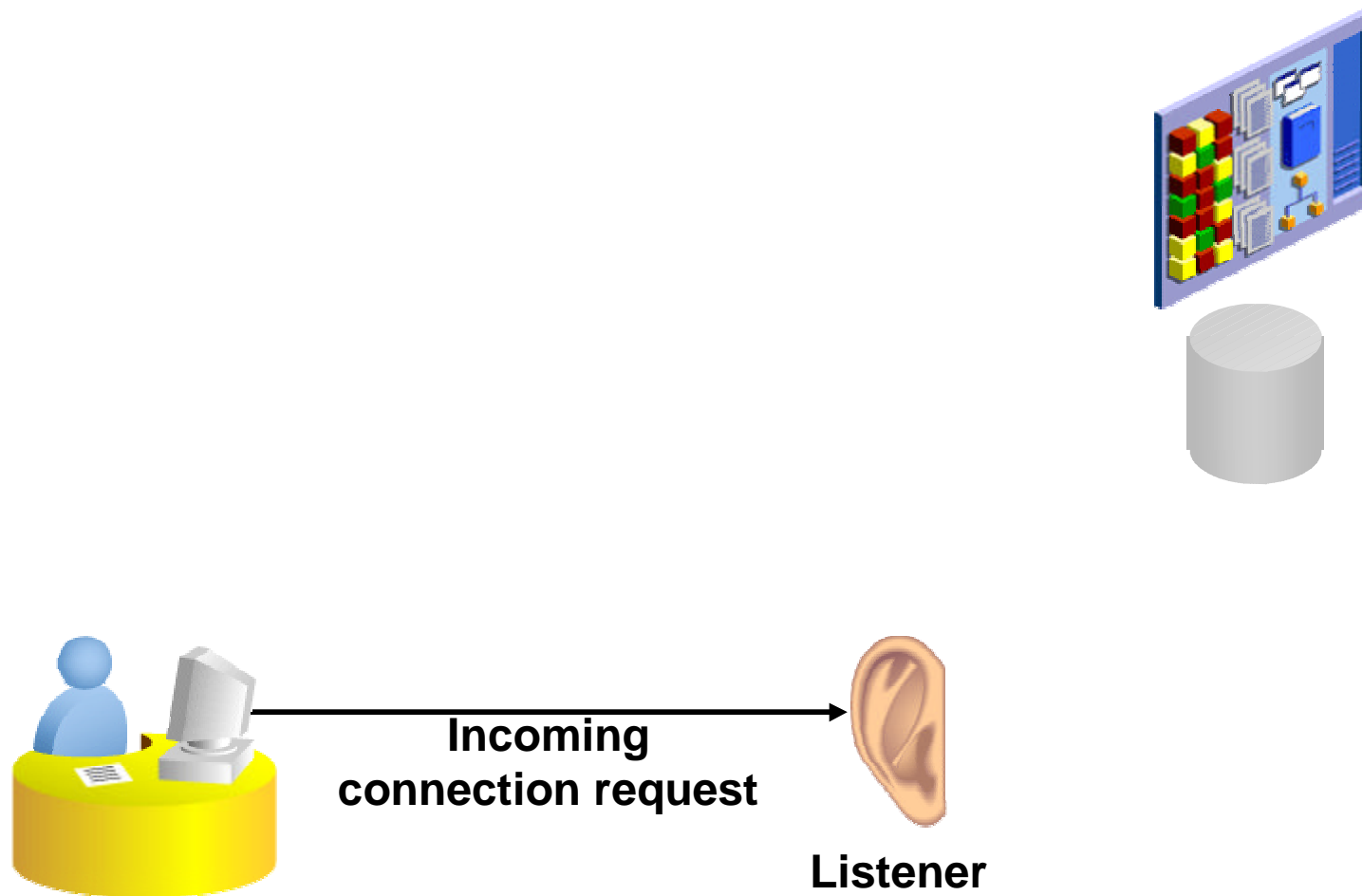# Oracle Shared Servers

13

Objectives

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

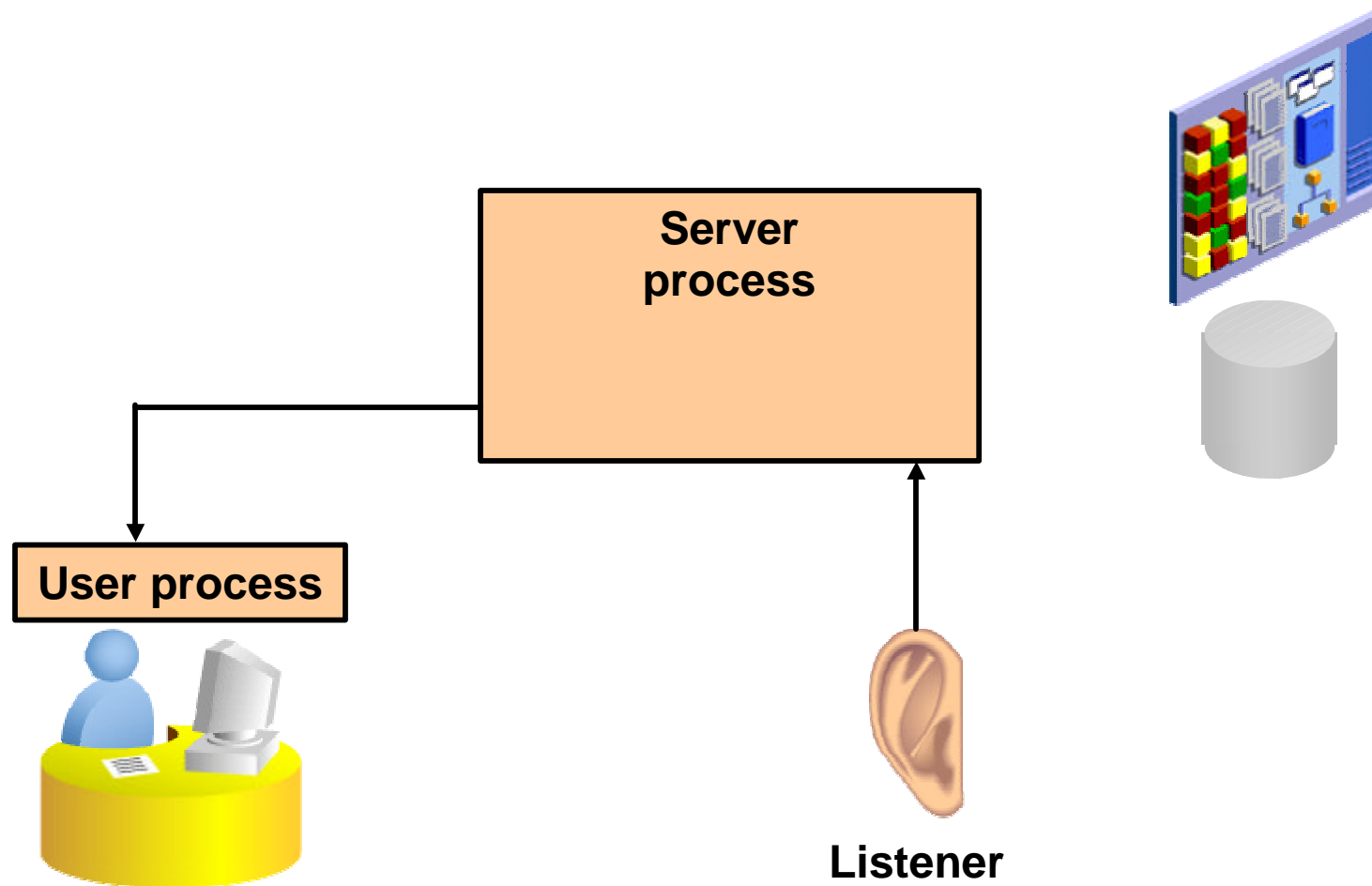- **Identify when to use Oracle Shared Servers**
- **Configure Oracle Shared Servers**
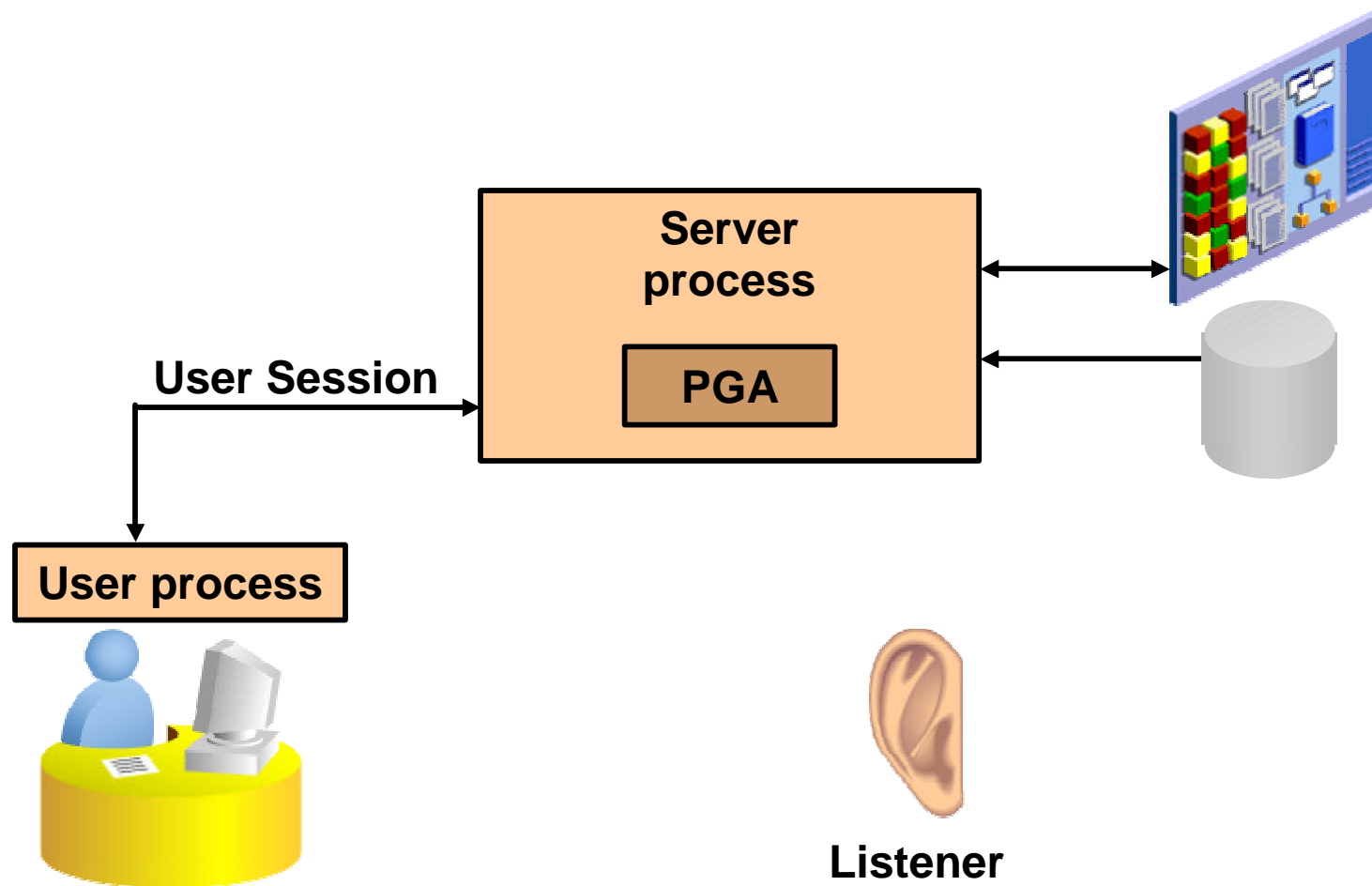- **Monitor Shared Servers**

Establishing a Connection

Incoming connection request

Listener

Dedicated Server Process

Server process

User process

Listener

User Sessions

User Session

Server process

PGA

User process

Listener

User Sessions: Dedicated Server

User sessions

Server process
Server process
Server process
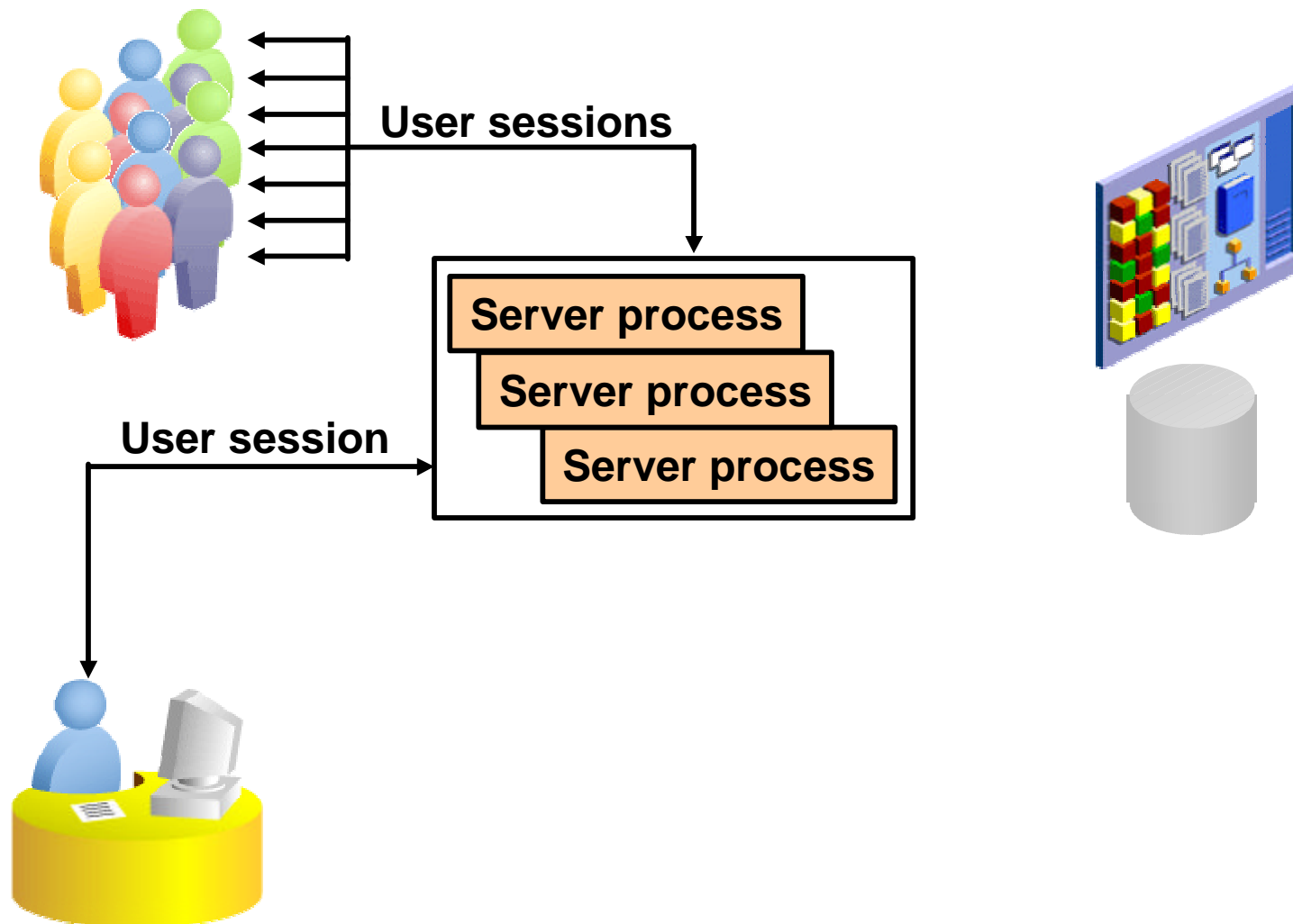
User session

User Sessions: Shared Server

Dispatcher

Server process

Listener
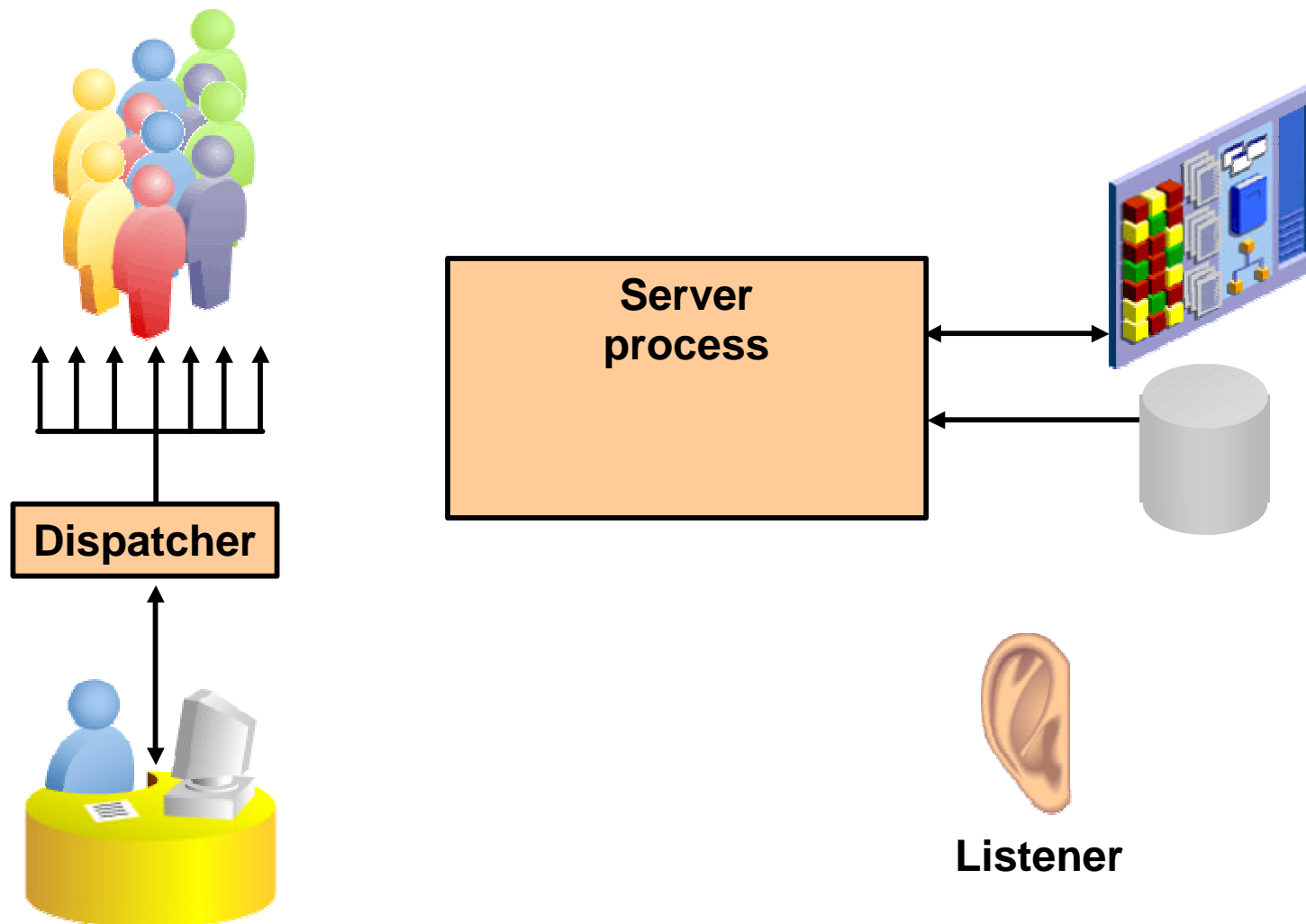
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Processing a Request
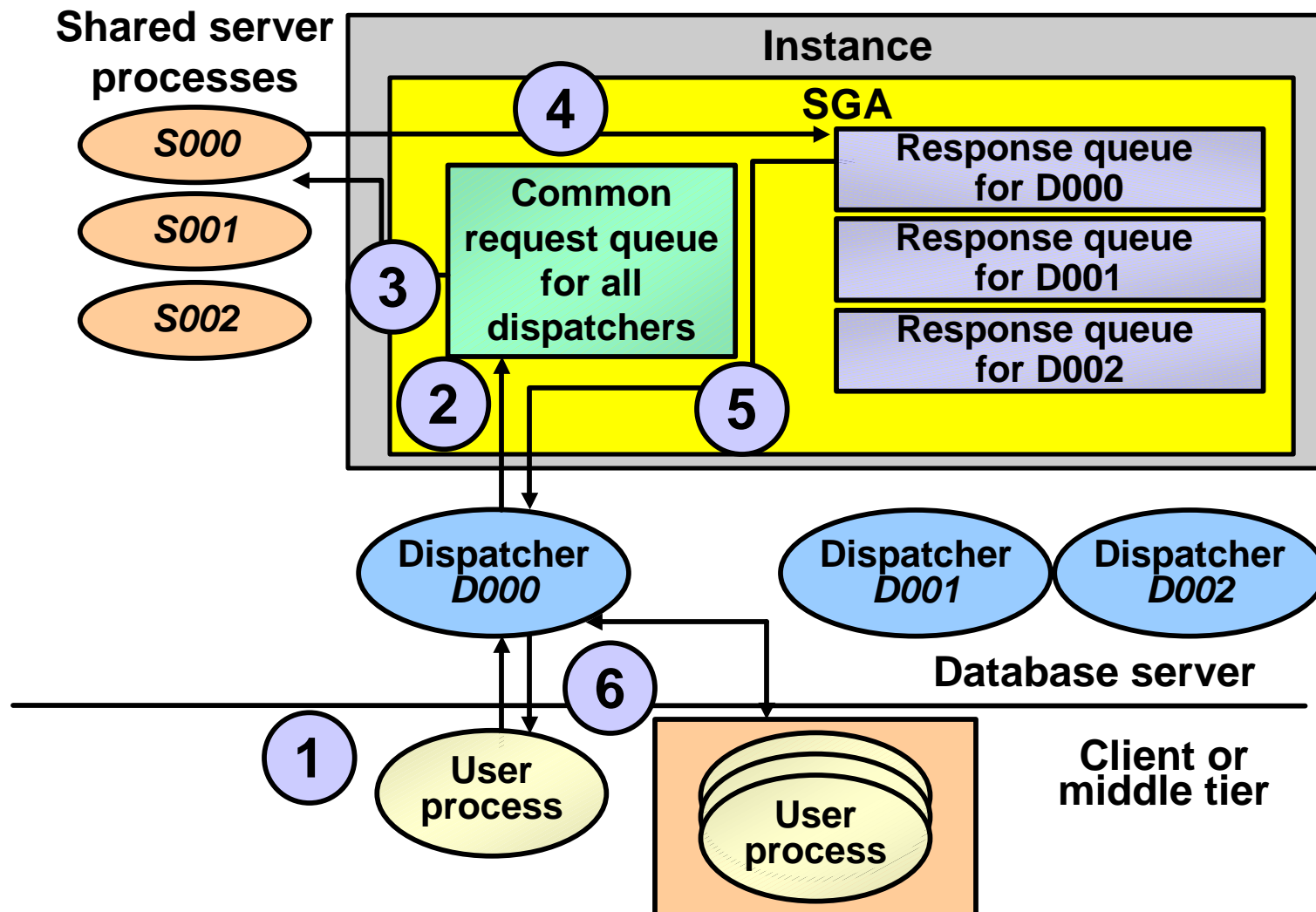
The SGA and PGA

Dedicated server: User session data is kept in the PGA.

SGA

Shared pool and other memory structures

PGA

| Stack space | User session data | Cursor state |
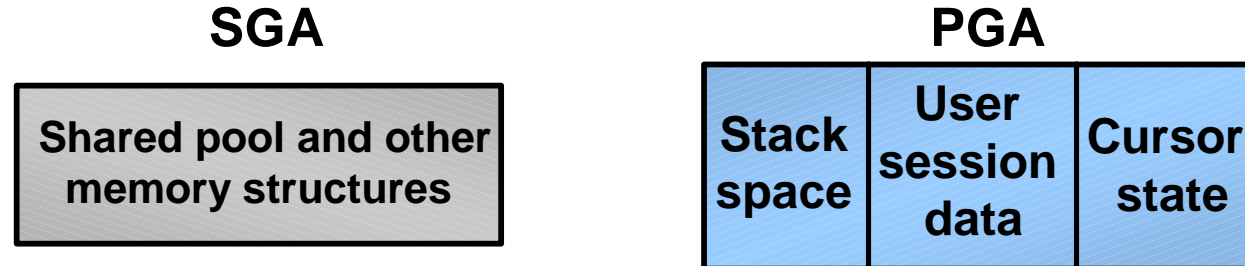
Oracle Shared Server: User session data is held in the SGA.

SGA

| User session data | Cursor state | Shared pool and other memory structures |

PGA

Stack space
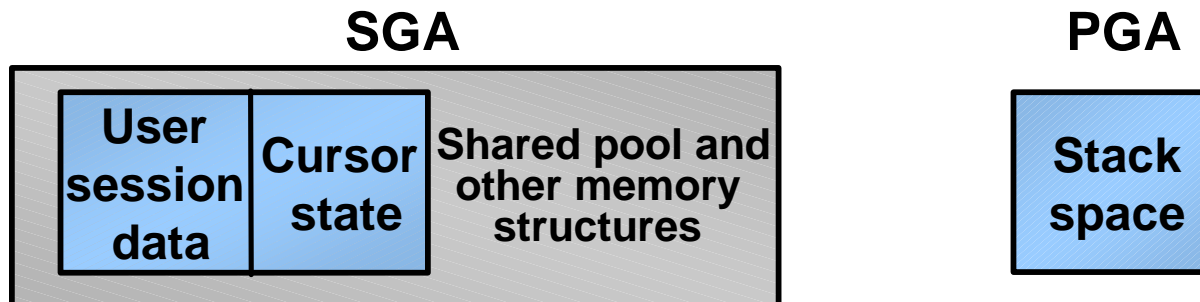
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Configuring Oracle Shared Server

Initialization Parameters

Show SQL

Current | SPFile

The parameter values listed here are currently used by the running instance(s). You can change static parameters in SPFile

Filter [dispatchers] (Go)
Filter on a name or partial name

Name △	Help	Revisions	Value	Type	Basic	Default
dispatchers	ⓘ		(DIS=3)(PRO=TCP)(SERVICE=sharedorcl)	String		

## Required parameter

- **DISPATCHERS**

Optional parameters

- **SHARED_SERVERS**
- **MAX_SHARED_SERVERS**
- **CIRCUITS**
- **SHARED_SERVER_SESSIONS**

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DISPATCHERS

Specifies the number of dispatchers that are initially started for a given protocol.

```
DISPATCHERS = "(PROTOCOL=TCP)(DISPATCHERS=2)\
                (PROTOCOL=IPC)(DISPATCHERS=1)"
```

Dispatcher
D*000*

TCP/IP

Dispatcher
D*001*

TCP/IP

Dispatcher
D*002*

IPC

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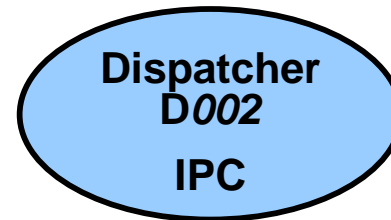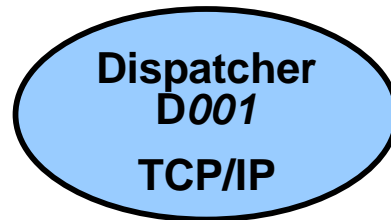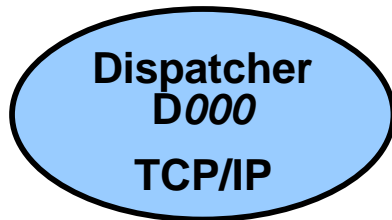
SHARED_SERVERS

Specifies the number of shared server processes created when an instance is started up, and retained during instance operation.

```
SHARED_SERVERS  =  6
```

```
S000        S002        S004

S001        S003        S005
```

MAX_SHARED_SERVERS

- **Specifies the maximum number of shared servers that can be started**
- **Allows shared servers to be allocated dynamically based on the length of the request queue**

```
MAX_SHARED_SERVERS = 10
```

S000 S002 S004 S006 S008
S001 S003 S005 S007 S009

CIRCUITS

- **Specifies the total number of virtual circuits that are available for inbound and outbound network sessions**
- **Contributes to total SGA size**

```
CIRCUITS = 100
```

SHARED_SERVER_SESSIONS

- **Specifies the total number of Oracle Shared Server user sessions to allow**

- **Enables you to reserve user sessions for dedicated servers**

```
SHARED_SERVER_SESSIONS = 100
```

Related Parameters

Other initialization parameters affected by Oracle Shared Server that may require adjustment:

- `LARGE_POOL_SIZE`

- `SESSIONS`

- `PROCESSES`

- `LOCAL_LISTENER`

Verifying Shared Server Setup

- **Verify that the dispatcher has registered with the listener when the database was started by issuing:**

```
$ lsnrctl SERVICES
```

- **Verify that you are connected using shared servers by making a connection and then query `V$CIRCUIT` view to show one entry per shared server connection.**

Data Dictionary Views

- **V$CIRCUIT**

- **V$SHARED_SERVER**

- **V$DISPATCHER**

- **V$SHARED_SERVER_MONITOR**
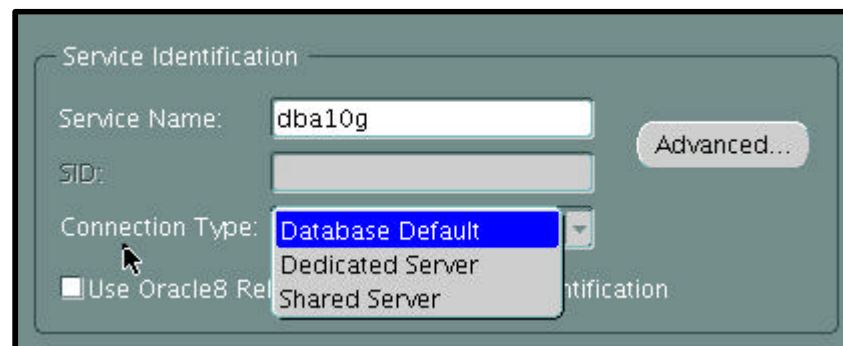
- **V$QUEUE**

- **V$SESSION**

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Choosing a Connection Type

Unless otherwise configured, Oracle Net connections will use:

- **Shared server if one is available**
- **Dedicated server if a shared server connection is not available**

Using local or directory naming, the connection type can be specified as part of the Net service alias.

When Not to Use Shared Server

Certain types of database work should not be performed using shared servers:

- Database administration
- Backup and recovery operations
- Batch processing and bulk load operations
- Data warehouse operations

| Dispatcher | Server process |

Summary

In this lesson you should have learned how to:

- **Identify when to use Oracle Shared Servers**
- **Configure Oracle Shared Servers**
- **Monitor Shared Servers**

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Practice 13 Overview:
Oracle Shared Servers

This practice covers the following topics:

- Investigating the impact of dedicated server connections on your system

- Configuring your system to use shared servers

- Investigating the impact of shared server connections on your system

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