Accessing an Oracle Database

Objectives

- After completing this lesson, you should be able to:
    - Connect to an Oracle Database
    - Describe the tools used to access an Oracle Database
    - Describe the Oracle-supplied user accounts for Oracle Database
    - Query the data dictionary in an Oracle Database

Connecting to an Oracle Database Instance

- You connect client applications to an Oracle Database by connecting to its database instance, not its database.

- A user session is a logical entity that represents the state of the current user login to the database instance.

- Examples of connecting to an Oracle Database instance:

    - By using operating system authentication

```
$ sqlplus / as sysdba
```

    - By using Easy Connect Syntax

```
SQL> connect hr/hr@host1.example.com:1521/db.example.com
```

Oracle Database Tools

- Oracle Database tools each have their own purpose, and some operations can be performed in more than one tool.
- Finding the right tool for the job often comes down to preference (for example, whether you prefer to work with code or use a graphical user interface).
- Tools include:
  - SQL*Plus
  - SQL Developer
  - SQL Developer Command Line (SQLcl)
  - Database Configuration Assistant (DBCA)
  - Oracle Enterprise Manager Database Express (EM Express)
  - Oracle Enterprise Manager Cloud Control
  - Others such as Listener Control, Oracle Net Configuration Assistant, Oracle Net Manager, ADR Command Interpreter, SQL*Loader, Oracle Data Pump Import, and Oracle Data Pump Export

Database Tool Choices

Topic	SQL*Plus	SQL Developer	SQLcl	DBCA	EM Database Express	EM Cloud Control	Oracle Universal Installer
Create a CDB or PDB	Yes	Yes (PDB only)	Yes	Yes	Yes (PDB only)	Yes (PDB only)	Yes
Explore CDB instance, architecture, and PDBs	Yes	Yes	Yes	No	Yes	Yes	No

SQL*Plus

- Example 1: From a command line, you can start SQL*Plus, log in, and show the user that you're logged in as:

```
$ sqlplus / as sysdba
...
SQL> show user
USER is "SYS"
```

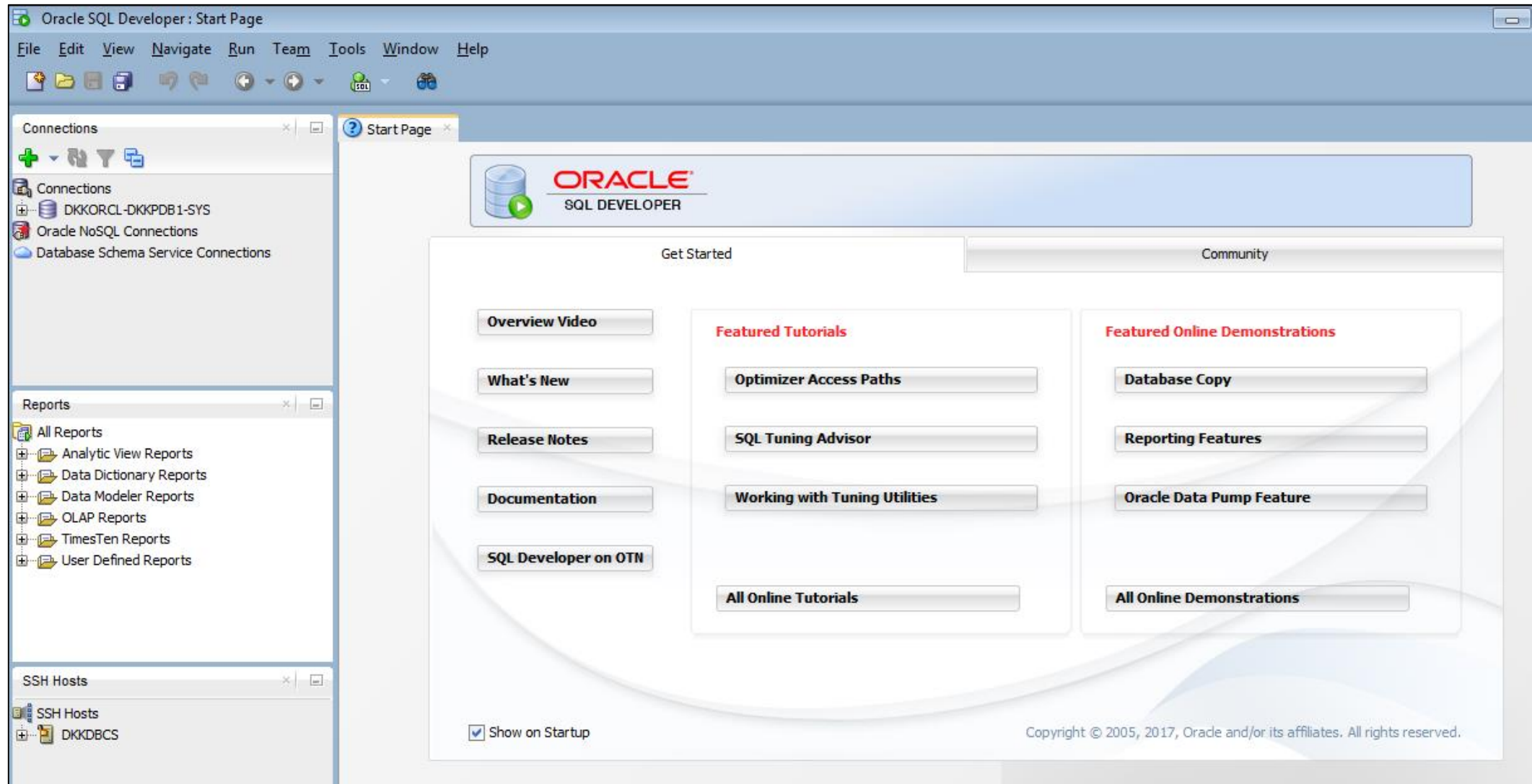- Example 2: Call a SQL script from the command line:

```
$ sqlplus hr/hr@HRPDB @script.sql
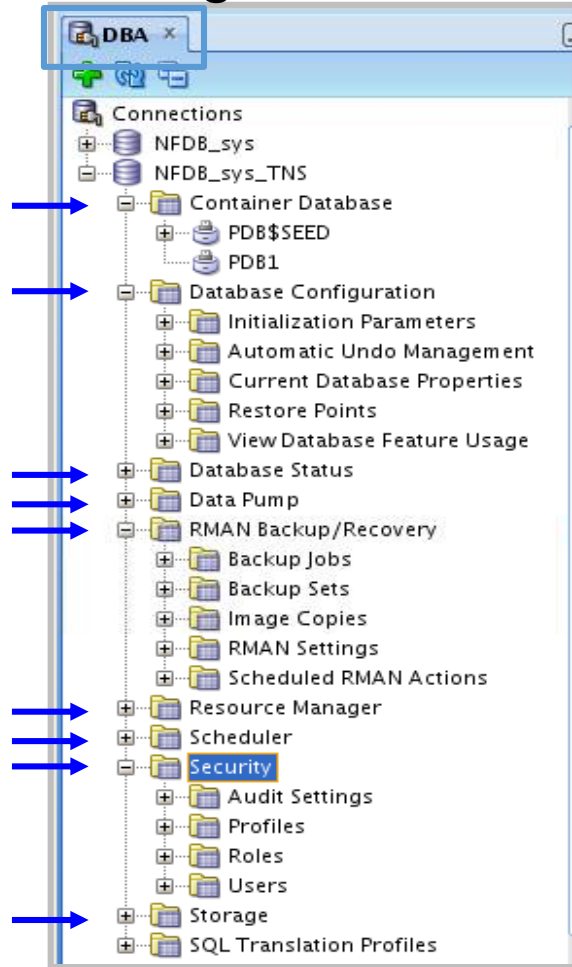```

Username and password

Connect identifier
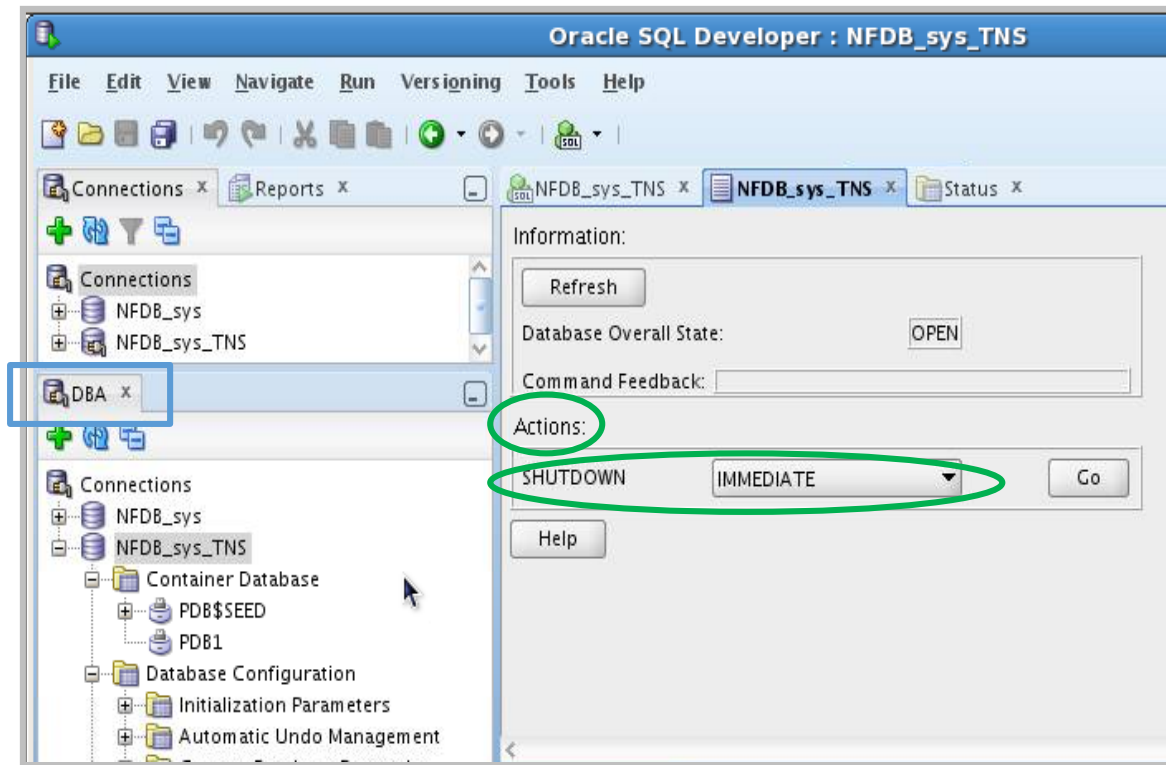
File name

# Oracle SQL Developer

# Oracle SQL Developer: DBA Actions

## Using DBA features through DBA navigator



## Performing DBA actions

# SQL Developer Command Line (SQLcl)

- SQLcl:
  - Is a tool that can access Oracle databases
  - Is a cross between SQL*Plus and SQL Developer
  - Incorporates Linux-like and IDE features, and color
- Example query with formatting to fit the screen:

```
SQL> SELECT first_name, last_name, salary, hire_date FROM hr.employees;

FIRST_NAME   LAST_NAME   SALARY   HIRE_DATE
Steven   King   24000   17-JUN-03
Neena   Kochhar   17000   21-SEP-05
...
```

# Database Configuration Assistant (DBCA)

- DBCA is a tool for creating and configuring an Oracle database
- DBCA has two modes:
    - Interactive: Provides a graphical interface and guided workflow
    - Noninteractive/silent: Uses command-line arguments, a response file, or both
- DBCA can be launched by the Oracle Universal Installer or invoked after the software is installed.
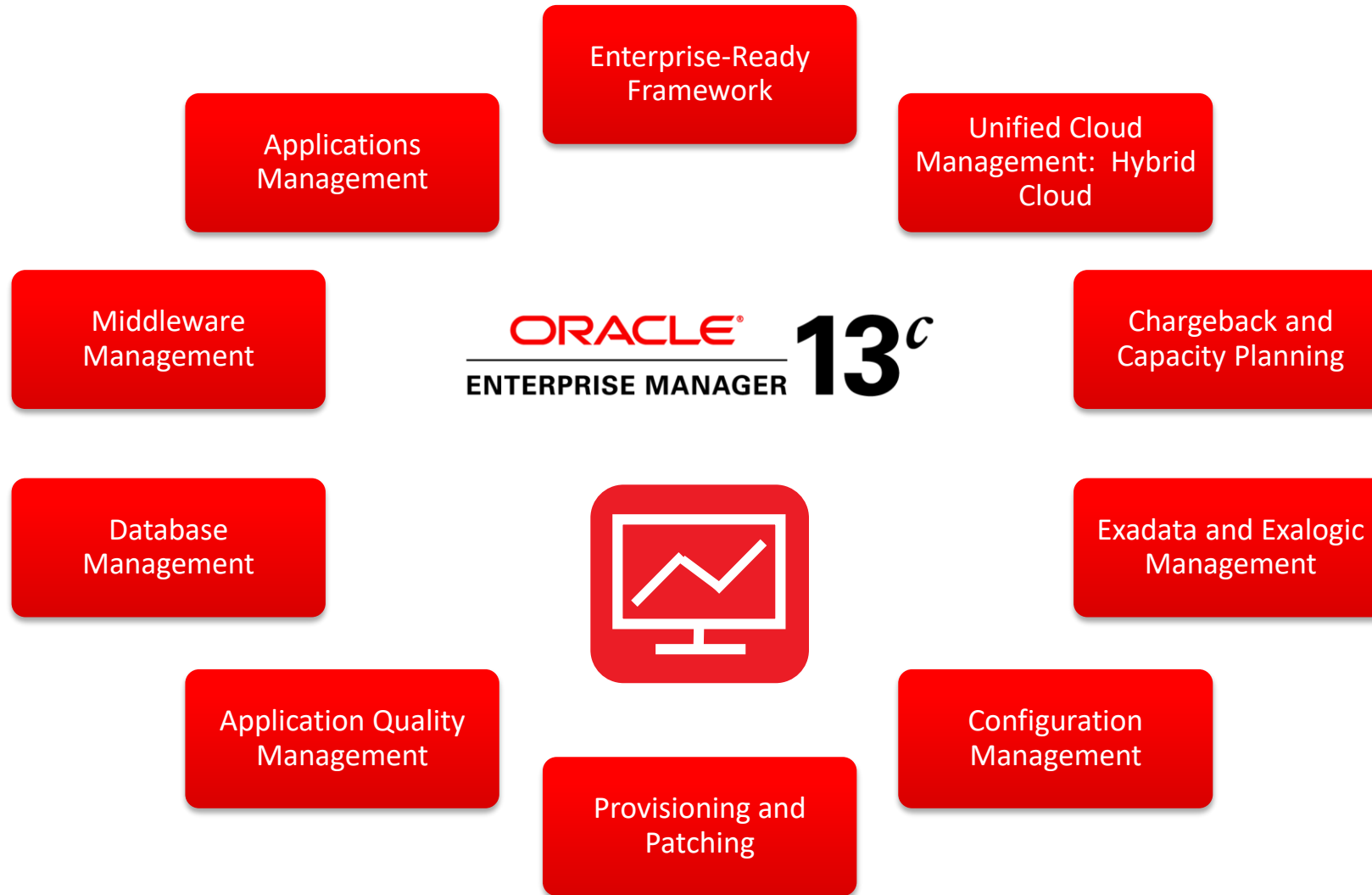
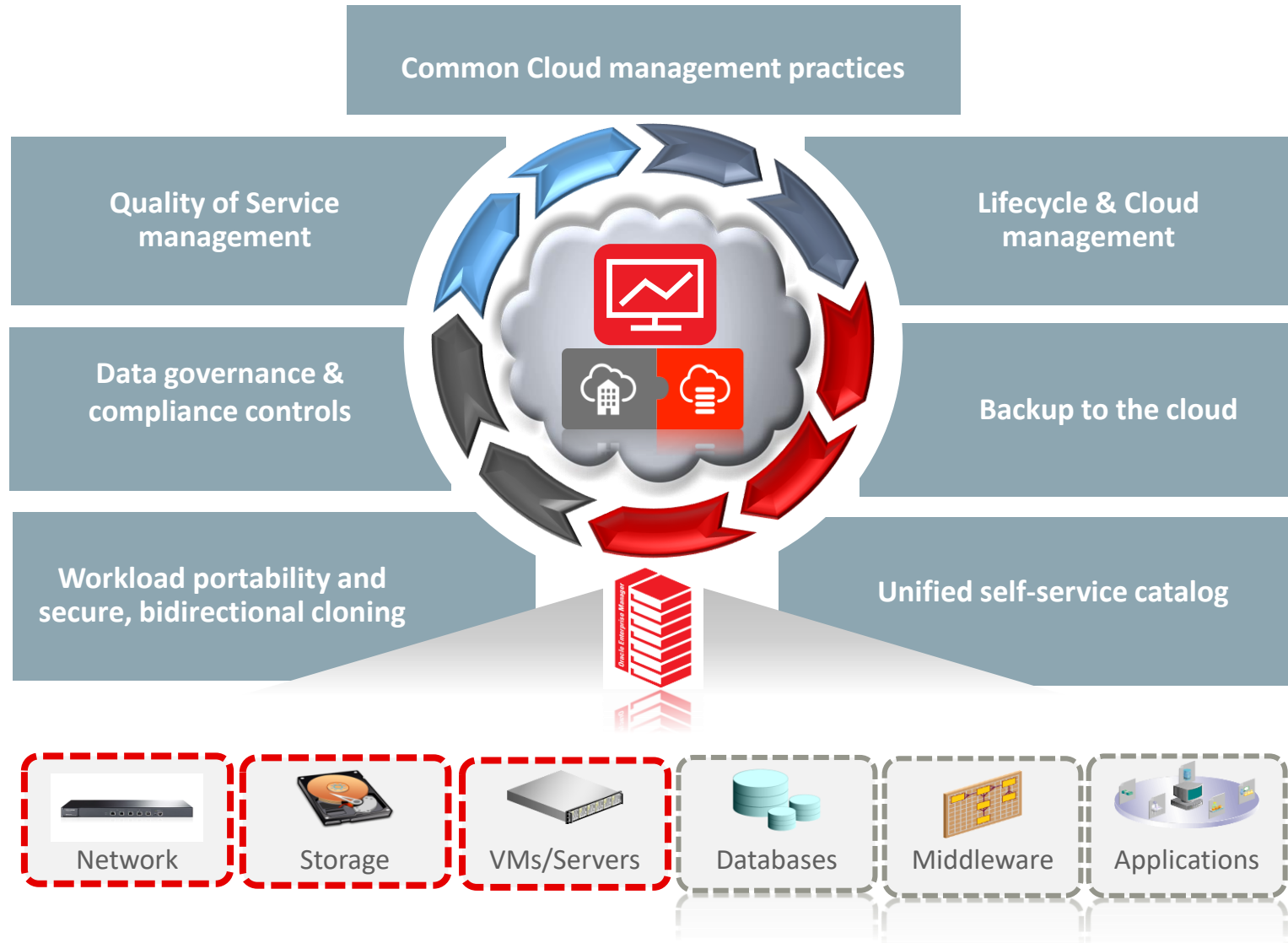# Oracle Enterprise Manager Database Express
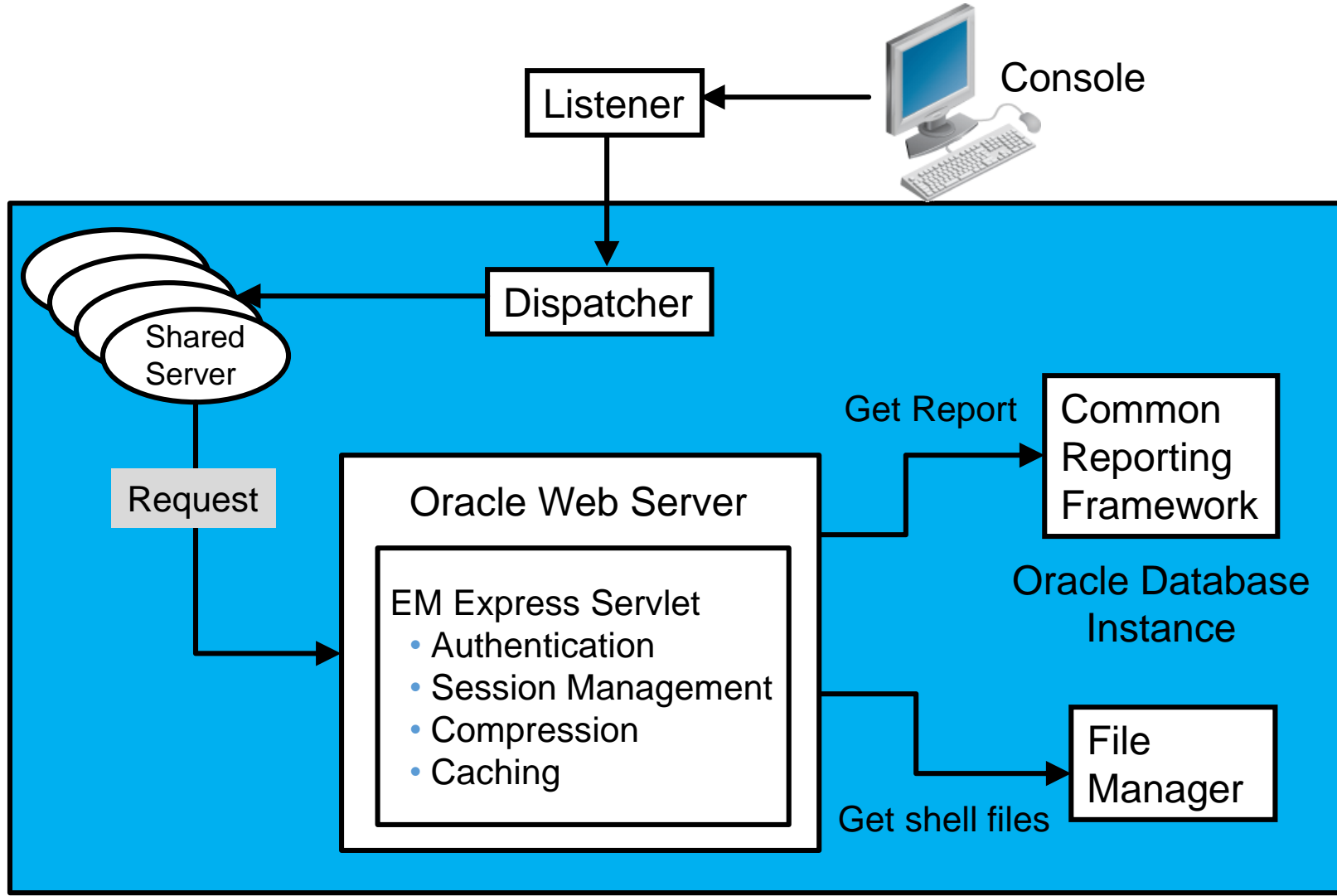
# Using the Database Home Page
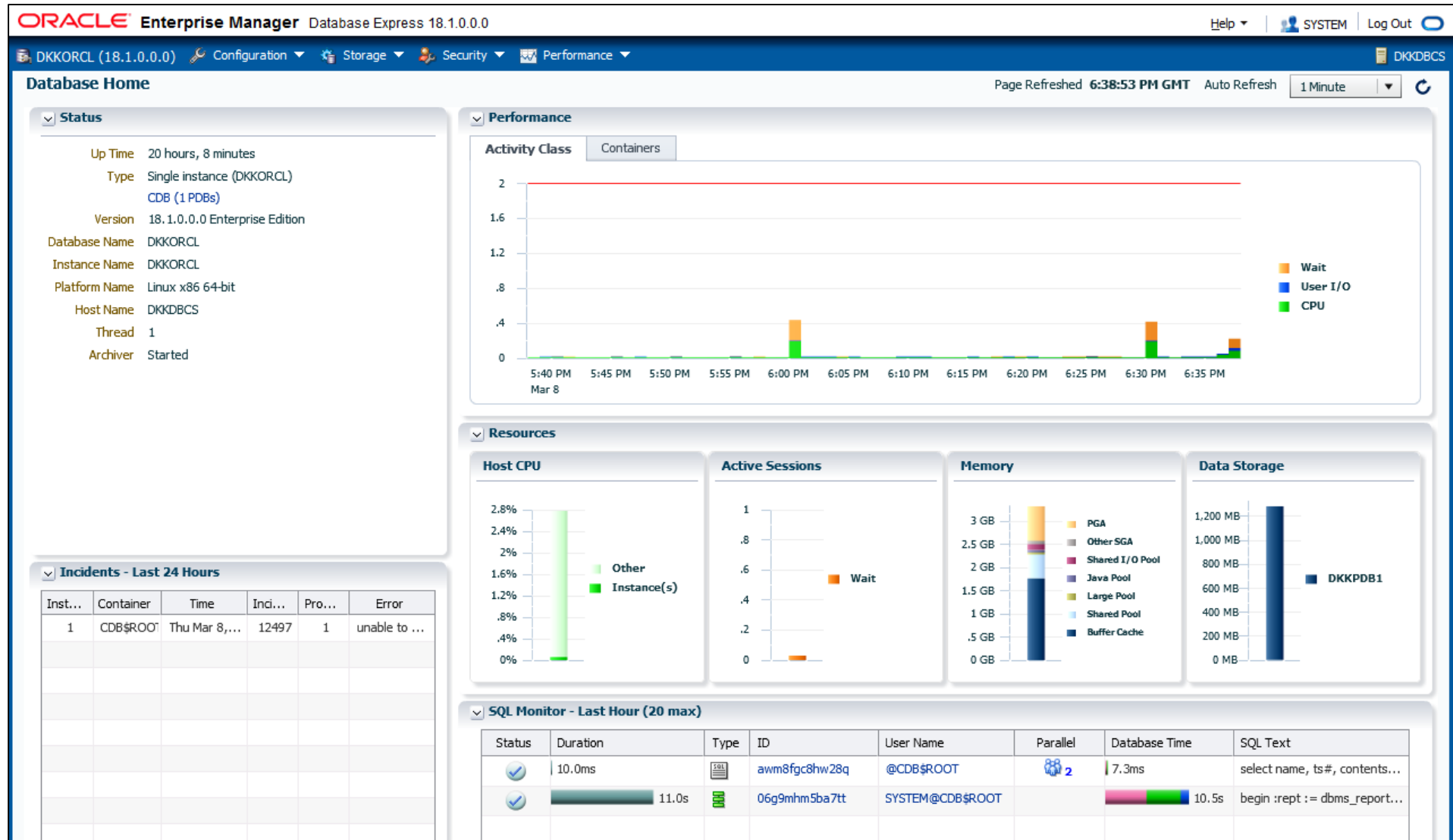
# Enterprise Manager Cloud Control 13*c* Features

# Single Pane of Glass for Enterprise Management



Common Cloud management practices

Quality of Service management

Lifecycle & Cloud management

Data governance & compliance controls

Backup to the cloud

Workload portability and secure, bidirectional cloning

Unified self-service catalog

Network

Storage

VMs/Servers

Databases

Middleware

Applications

# Oracle Database Cloud Service Tools

- Oracle Database Cloud Service includes:
  - Oracle Database tools such as SQL*Plus and Enterprise Manager Database Express
  - Cloud tooling that simplifies backup, recovery, patching, and upgrade operations

Automated Backups

Automated Patching
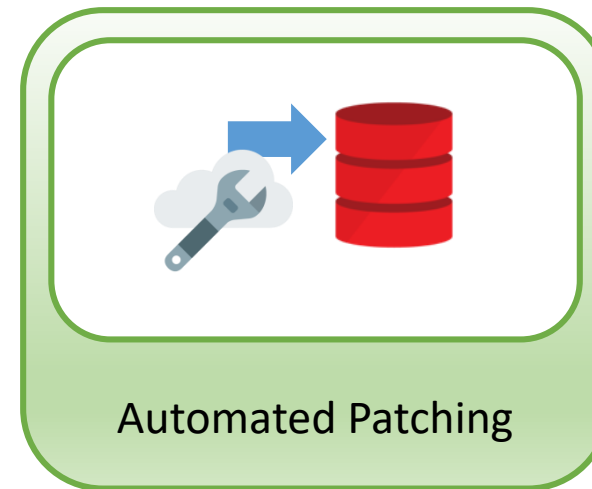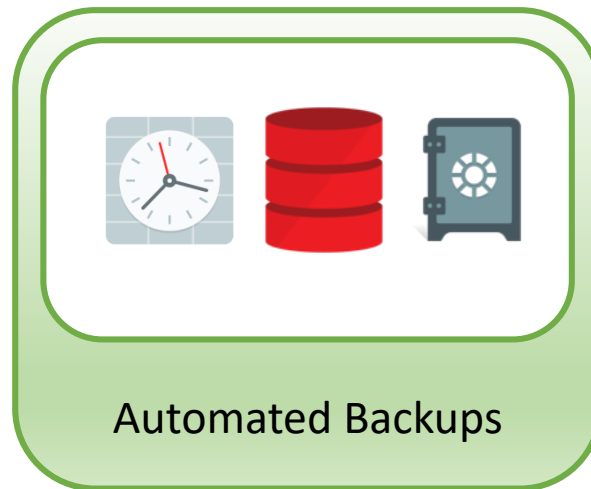
# Cloud Tooling

| Feature | Description | Tools |
|---|---|---|
| **Simple Automated Backups** | Perform on-demand backups Change automatic backup configuration | `bkup_api` utility `raccli` utility |
| **Simple Automated Recovery** | Restore from backups and recover the database | `orec` subcommand of the `dbaascli` utility `raccli` utility |
| **Simple Automated Patching** | Apply patches | `dbpatchm` subcommand of the `dbaascli` utility `dbpatchmdg` utility `raccli` utility |

# Accessing Tools and Features from the DBCS Console

- From the database deployment menu, you can select the following to access consoles and perform other actions:
    - Application Express Console
    - DBaaS Monitor Console
    - EM Console
    - SSH Access
    - Access Rules
    - Delete

# Using Enterprise Manager Cloud Control

- You can monitor and manage DBCS with on-premises Enterprise Manager Cloud Control.
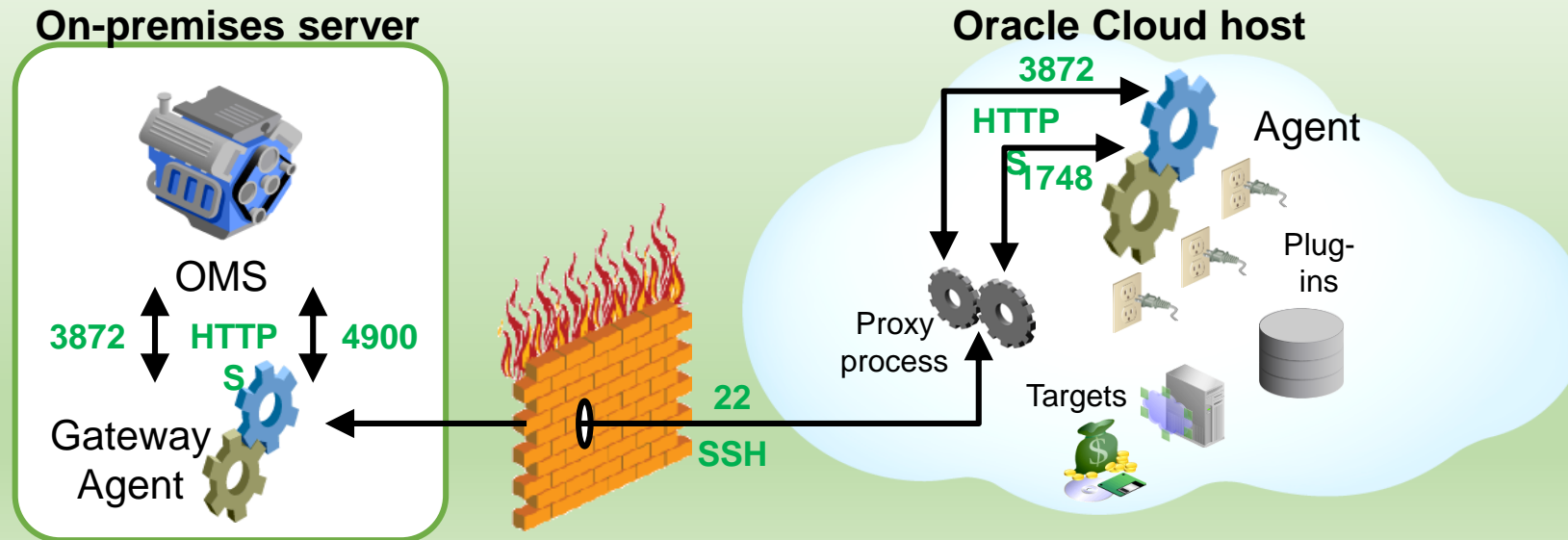


See Using Oracle Enterprise Manager Cloud Control with Database Cloud Service in *Using Oracle Database Cloud Service*

# Summary

- In this lesson, you should have learned how to:
  - Connect to an Oracle Database
  - Describe the tools used to access an Oracle Database
  - Describe the Oracle-supplied user accounts for Oracle Database
  - Query the data dictionary in an Oracle Database

# Practice 5: Overview

- 5-1: Viewing Database Deployment Information and Menus
- 5-2: Connecting to the Database Deployment Compute Node
- 5-3: Exploring a CDB by Using SQL*Plus
- 5-4: Exploring a PDB by Using SQL*Plus
- 5-5: Installing the HR Sample Schema
- 5-6: Copying Course Practice Files