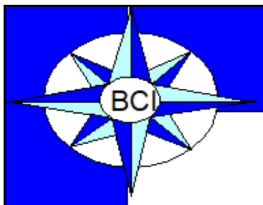
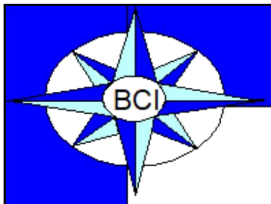


2

Creating an Oracle Database

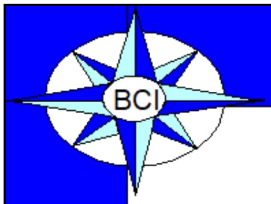


Terminal Learning Objective

ACTION: Create an Oracle Database.

CONDITION: Given a student handout and Oracle DBA Handbook.

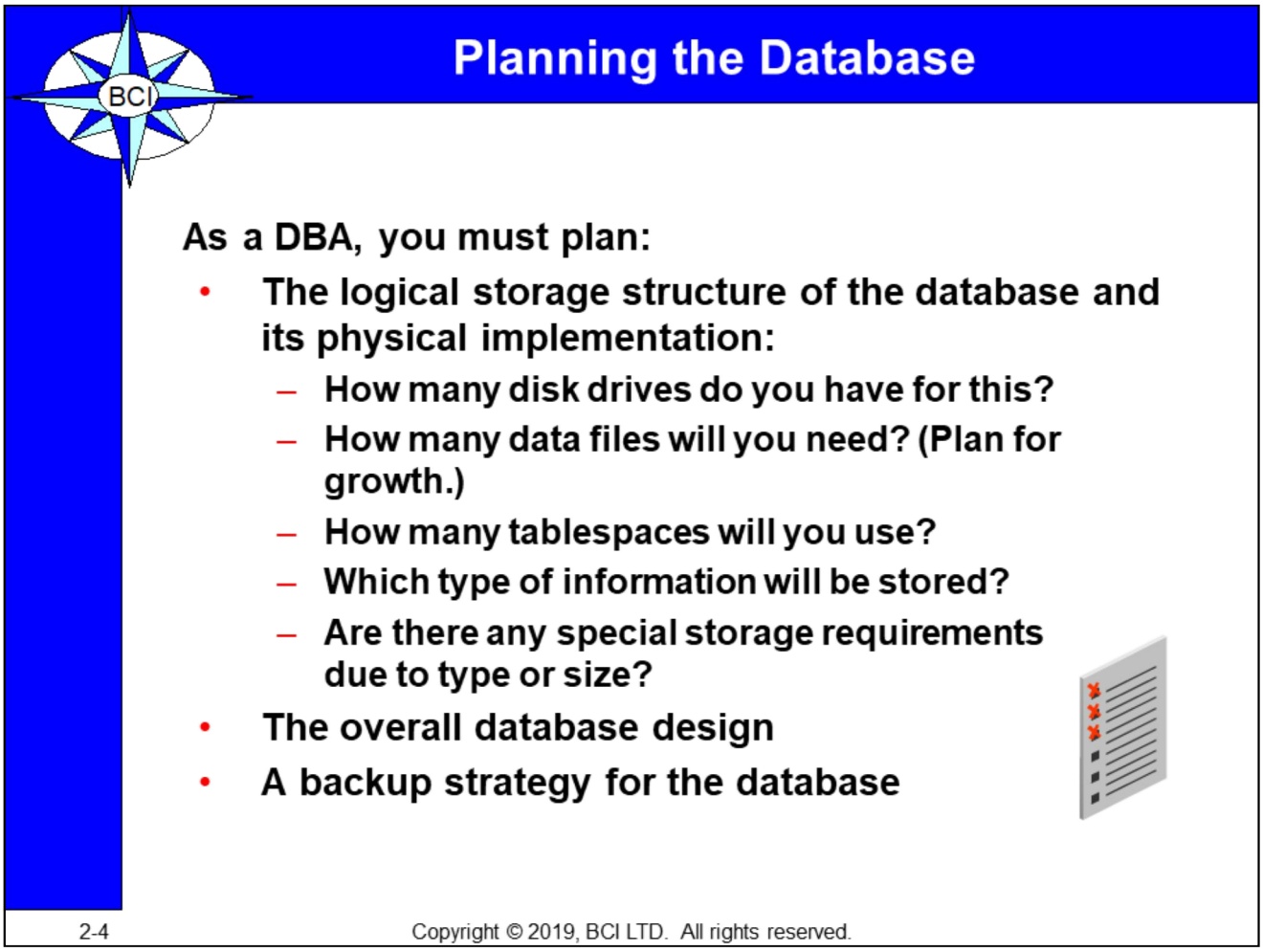
STANDARD: Students must successfully create an Oracle database.



Lesson Overview

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

- Create a database with the Database Configuration Assistant (DBCA)
- Create a database design template with the DBCA
- Generate database creation scripts with the DBCA



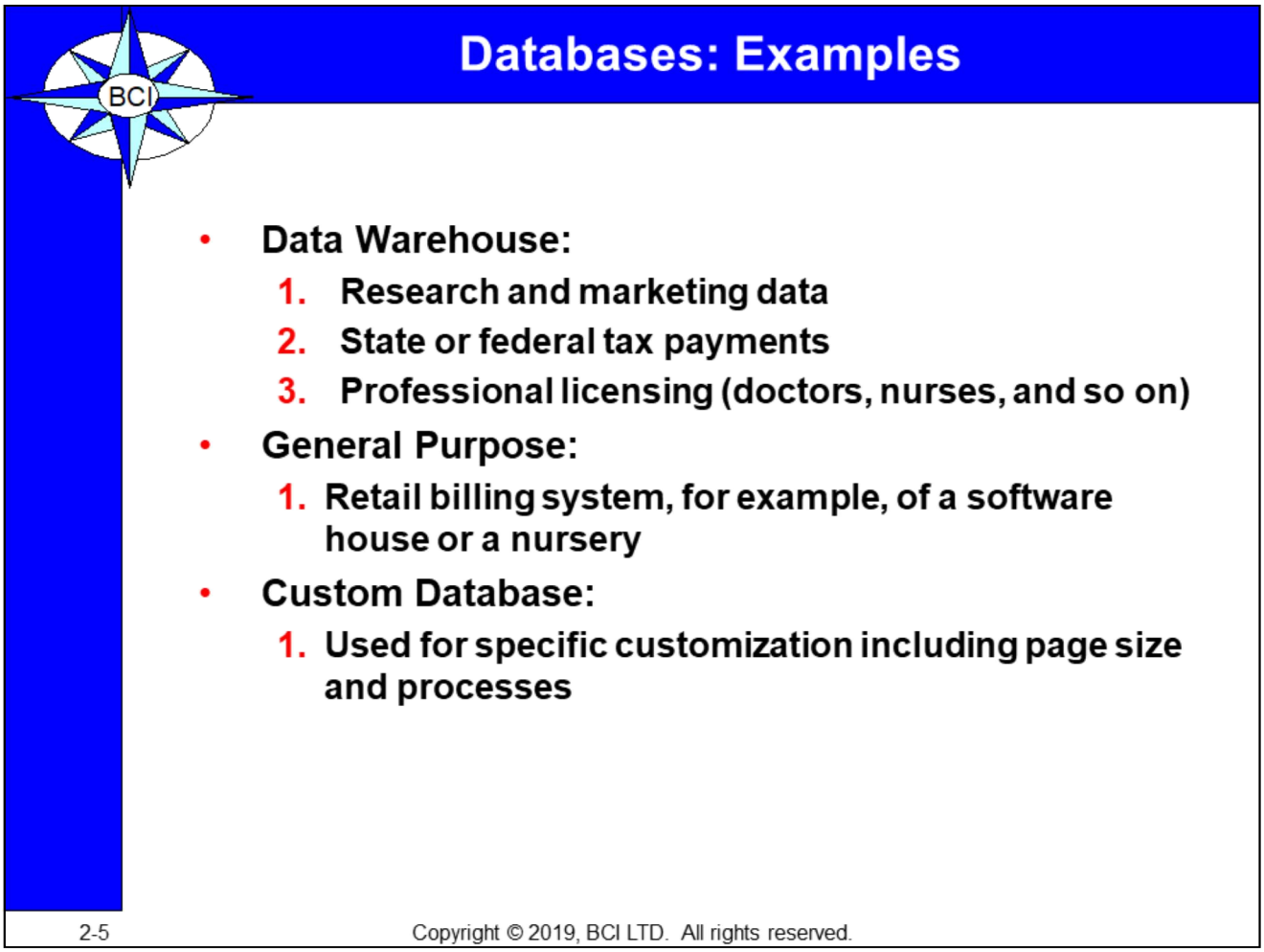
Planning the Database

It is important to plan how the logical storage structure of the database will affect system performance and various database management operations. For example, before creating any tablespaces for your database, you should know how many data files will make up the tablespace, what type of information will be stored in each tablespace, and on which disk drives the data files will be physically stored. When planning the overall logical storage of the database structure, take into account the effects that this structure will have when the database is actually created and running. You may have database objects that have special storage requirements due to type or size.

In distributed database environments, this planning stage is extremely important. The physical location of frequently accessed data dramatically affects application performance.

During the planning stage, develop a backup strategy for the database. You can alter the logical storage structure or design of the database to improve backup efficiency. Backup strategies are introduced in a later lesson.

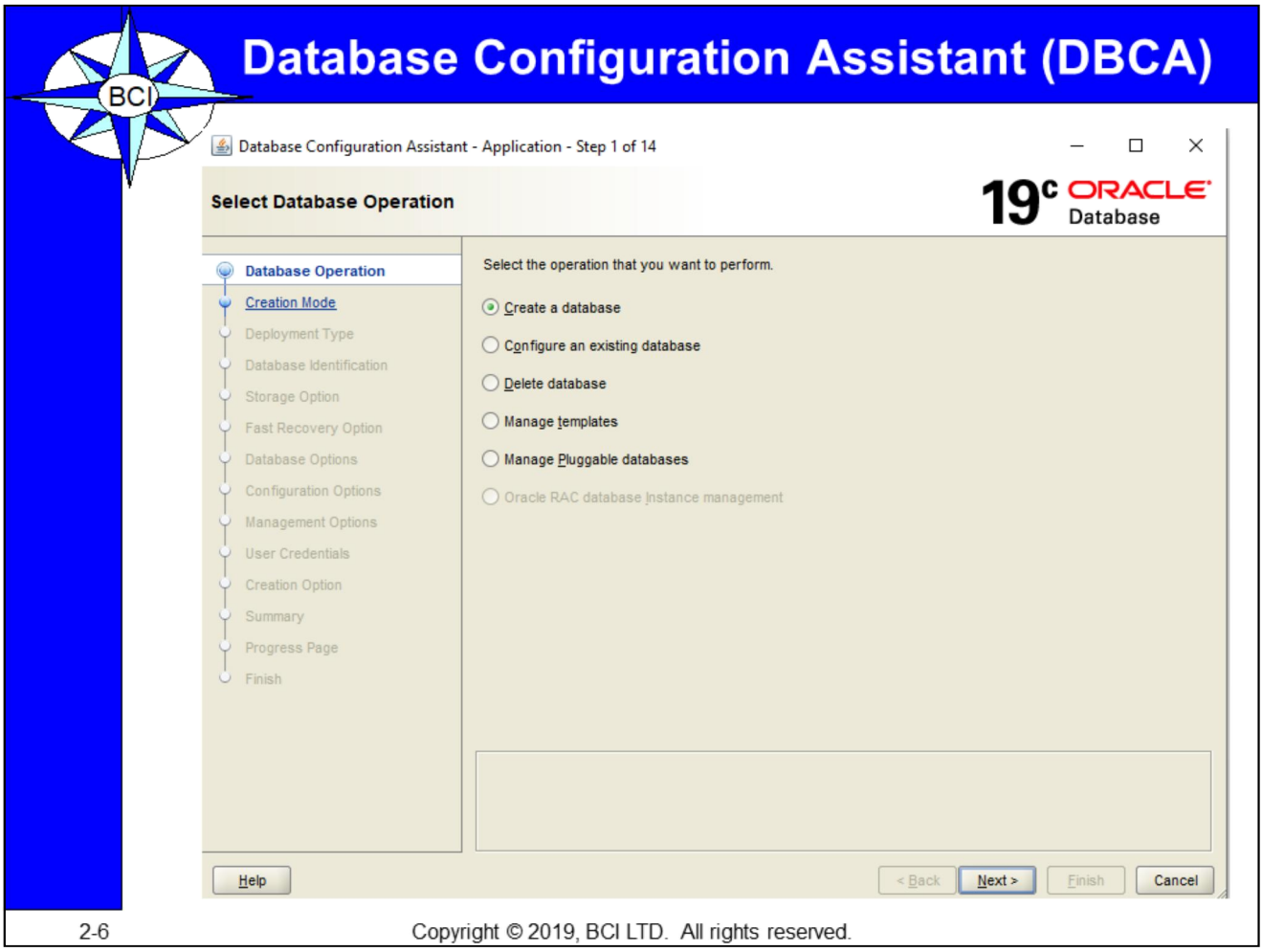
These are the types of questions and considerations, which you will encounter as a DBA, and this course (in its entirety) is designed to help you answer them.



Databases: Examples

Different types of databases have their own specific instance and storage requirements. Your Oracle database software includes templates for the creation of these different types of databases. Characteristics of these examples are the following:

- **Data Warehouse:** Store data for long periods and retrieve them in read operations.
- **General Purpose:** Work with transactions and store them for a medium length of time.
- **Custom Database:** Accommodate many, but usually small, transactions.



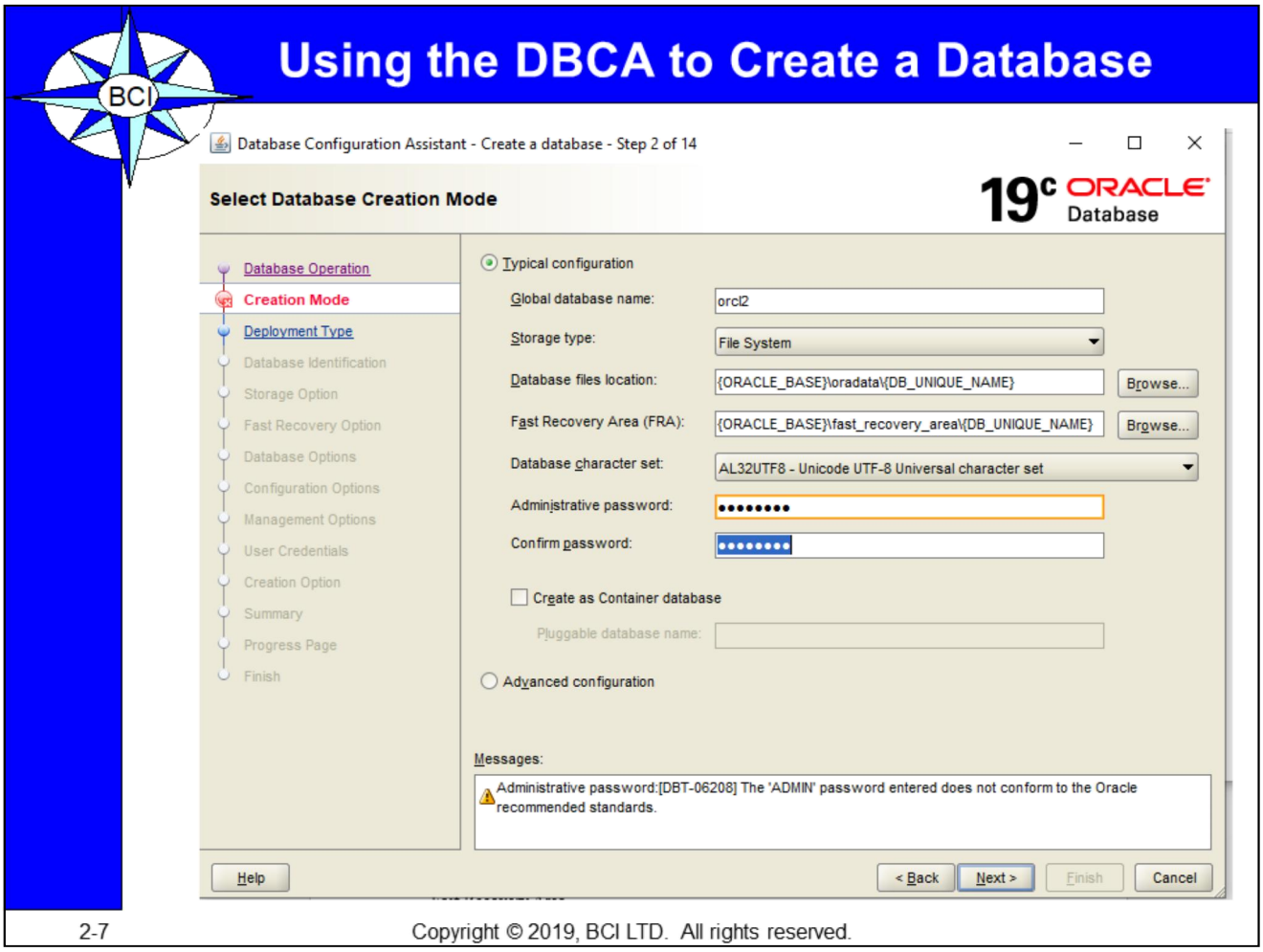
Database Configuration Assistant (DBCA)

You can use the Database Configuration Assistant (DBCA) to create, change the configuration of, or delete a database. You can also create a database from a list of predefined templates or use an existing database as a sample to create a new database or template. This is sometimes referred to as “database cloning.”

You can invoke the DBCA by performing the following steps:

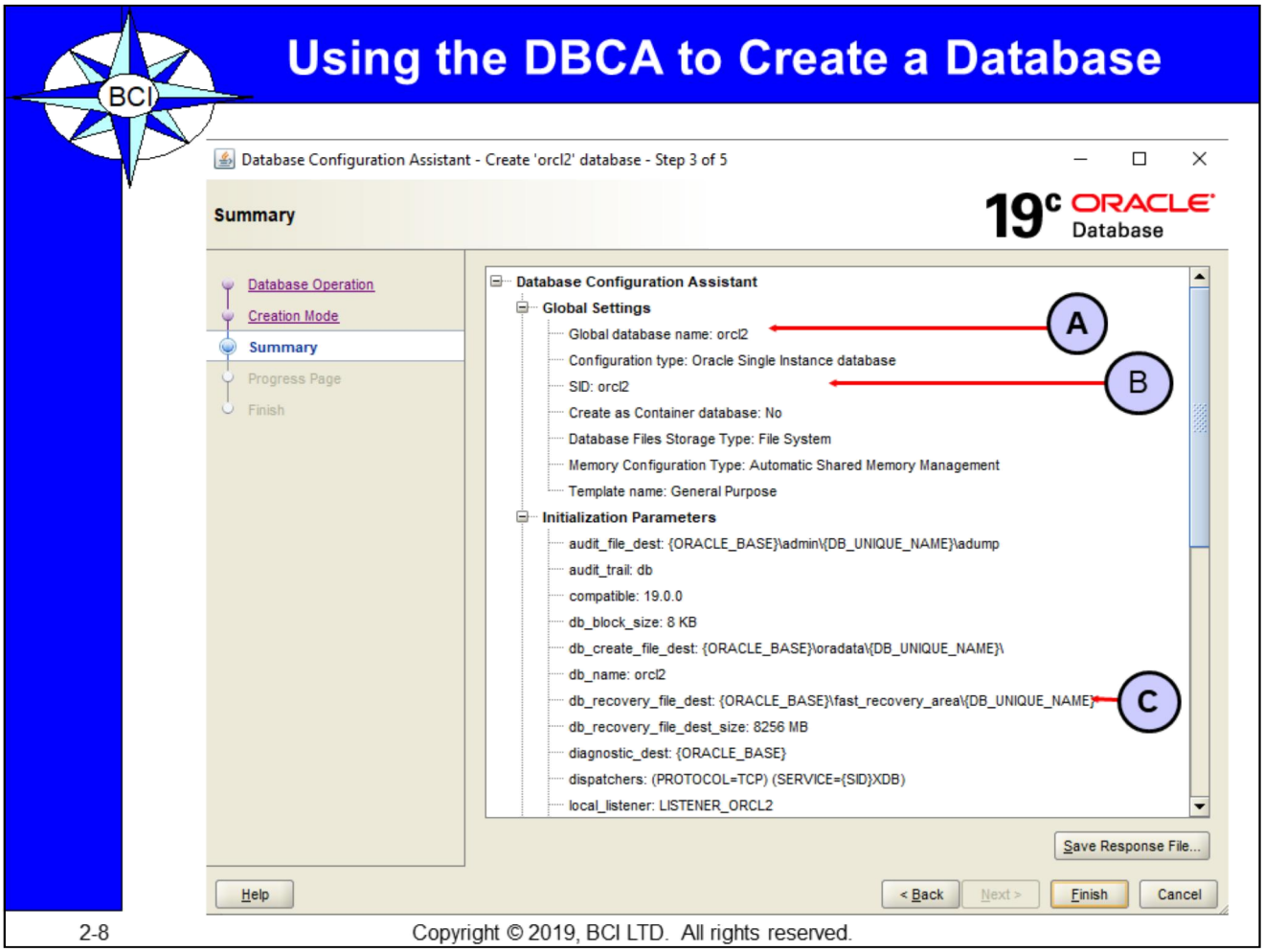
1. Log on to your computer as a member of the administrative group that is authorized to install the Oracle software.
2. If required, set environment variables.
3. Enter `dbca` to invoke the DBCA.
4. Click Next to continue.
5 Make sure Create Database is selected and click on the Next button

DBCA offers you a choice of assisting with several operations, for example, creating a database.



Using the DBCA to Create a Database (continued)

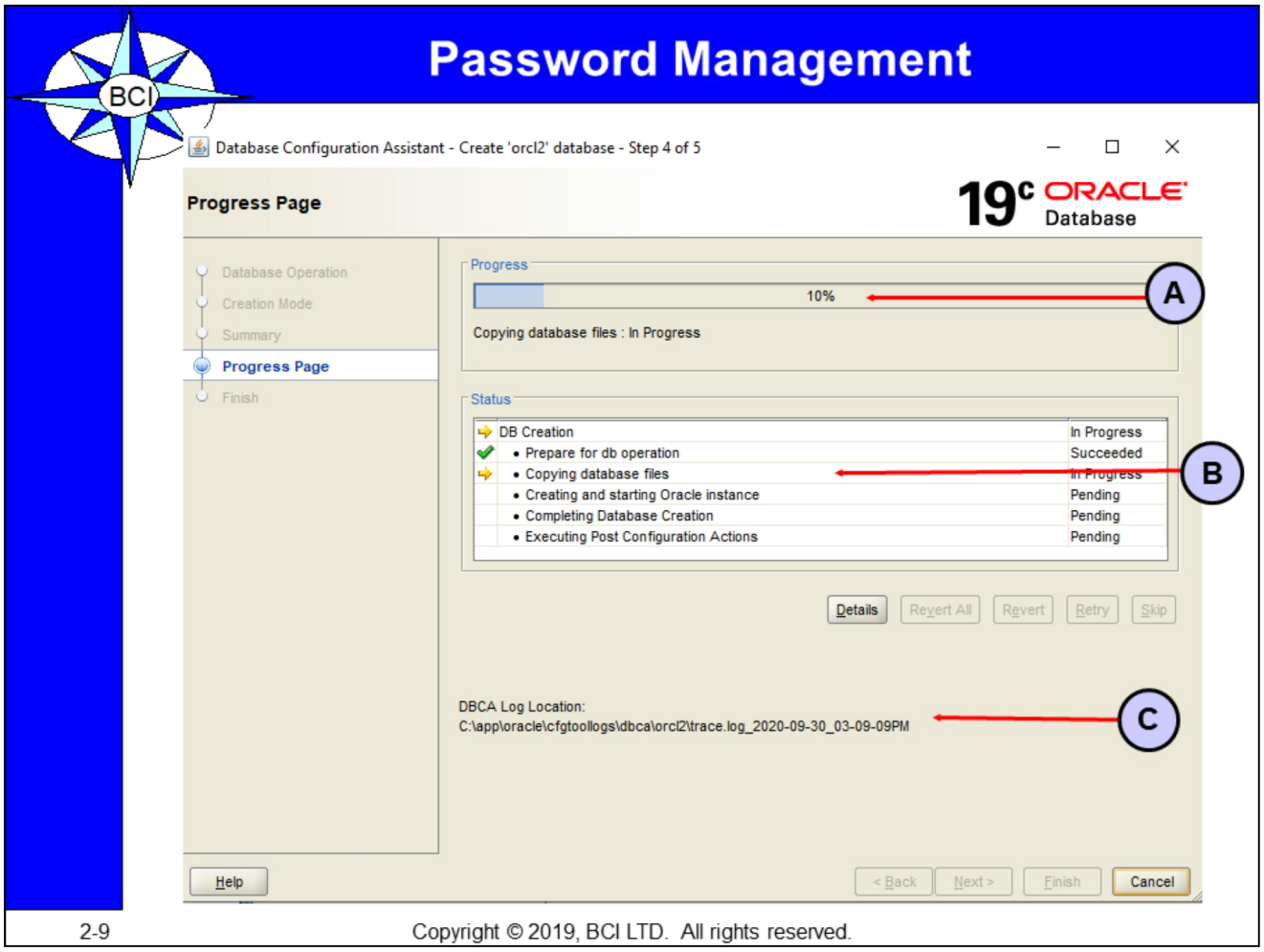
3. Database Identification: Enter the Global Database Name in the form *database_name.domain_name*, and the system identifier (SID). The SID defaults to the database name and uniquely identifies the instance associated with the database.
4. Deselect Create an Container Database. We simply want a database much like the previous 11g versions..
5. Database Credentials: Use this page to specify the passwords for the administrative accounts, such as `SYS` and `SYSTEM`. In class, use `password` as password for all administrative accounts.
6. Storage Options: Specify the type of storage mechanism (such as File System) that you would want your database to use. Notice that there is no flash recover area. It is now called Fast Recovery Area.
7. Database File Locations: Choose according to your needs. Oracle Managed Files (OMF) eliminate the need for you to directly manage the operating system files comprising an Oracle database. You specify operations in terms of database objects rather than file names. For more details, see the lesson titled “Managing Database Storage Structures.”



Using the DBCA to Create a Database (continued)

Before clicking Finish, the following is identified::

- Global database name(see A)
- System identifier (SID) (see B)
- Log Files and RMAN Files (see C)

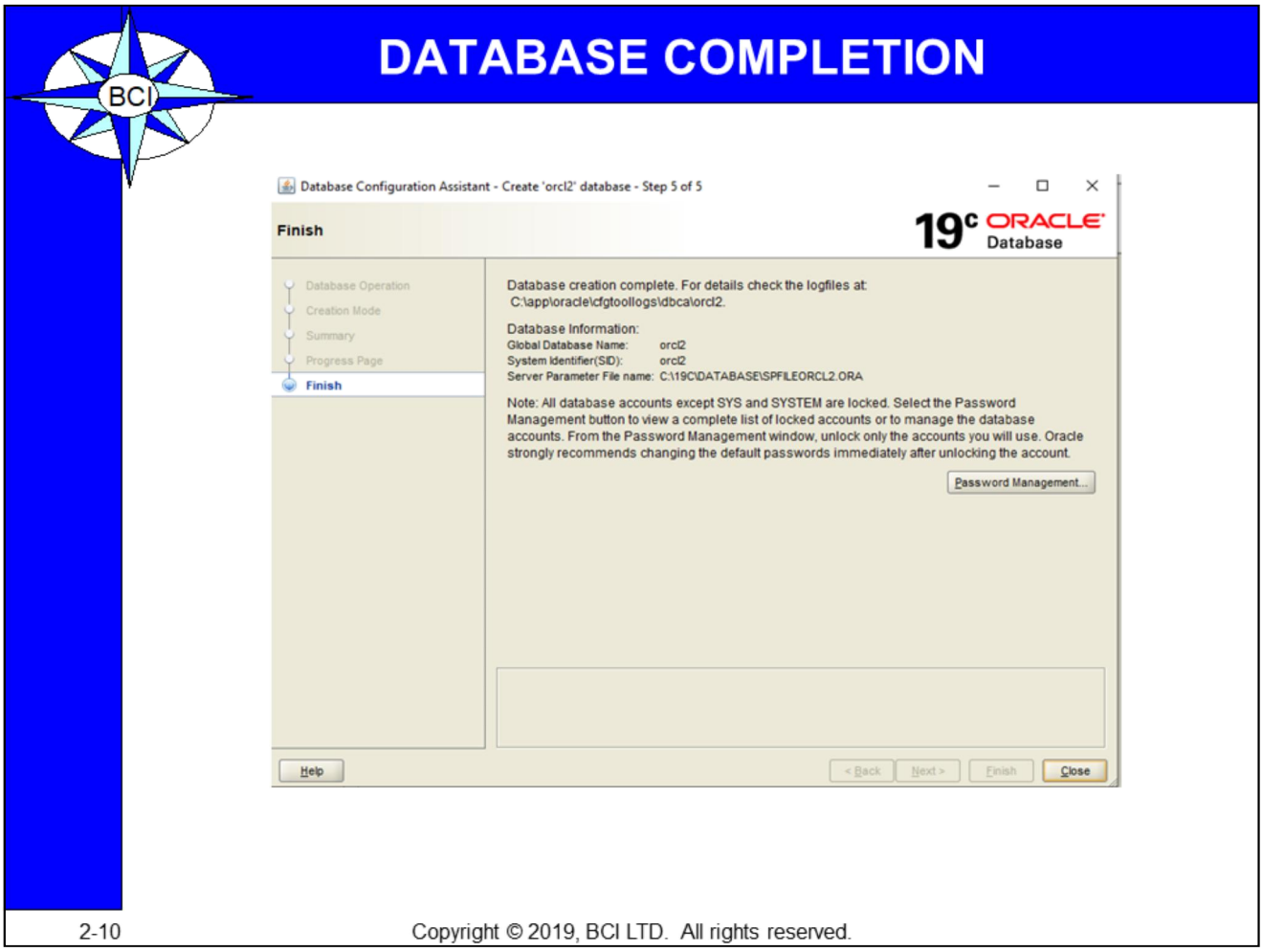


DBCA Progress

After the DBCA finishes, note the following information for future reference:

- Progress Indicator(see A)
- Current Step in Progress(see B)
- Log Location(see C)

Click Password Management to unlock database accounts that you plan to use. Provide a password when you unlock an account.

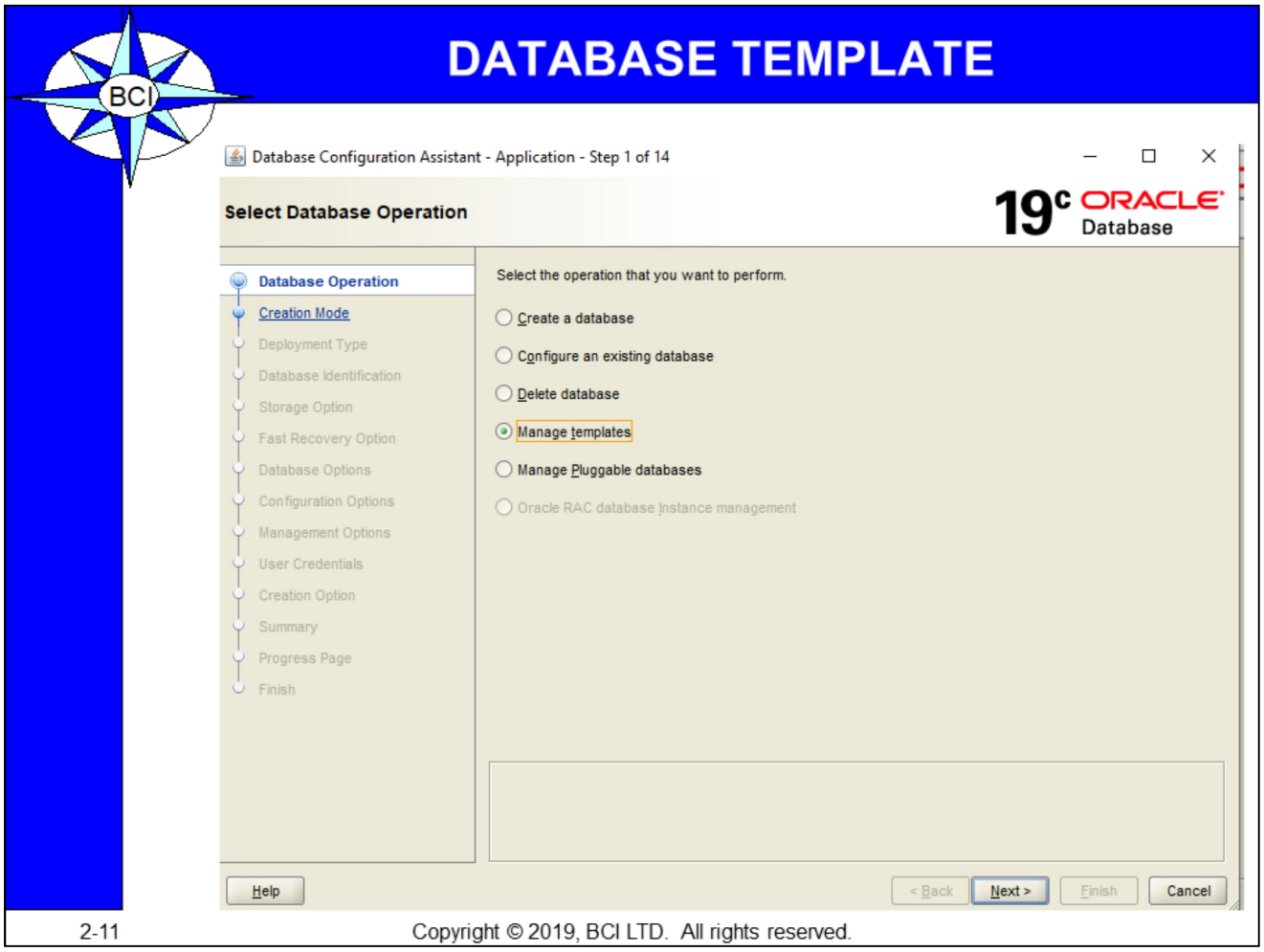


Upon database completion the Finish screen will identify where Database Express URL is located and again note the information on:

Global Database Name **orcl2**

System Identifier **orcl2**

Server Parameter File Name **C:\19c\DATABASE\SPFILEORCL2.ORA**

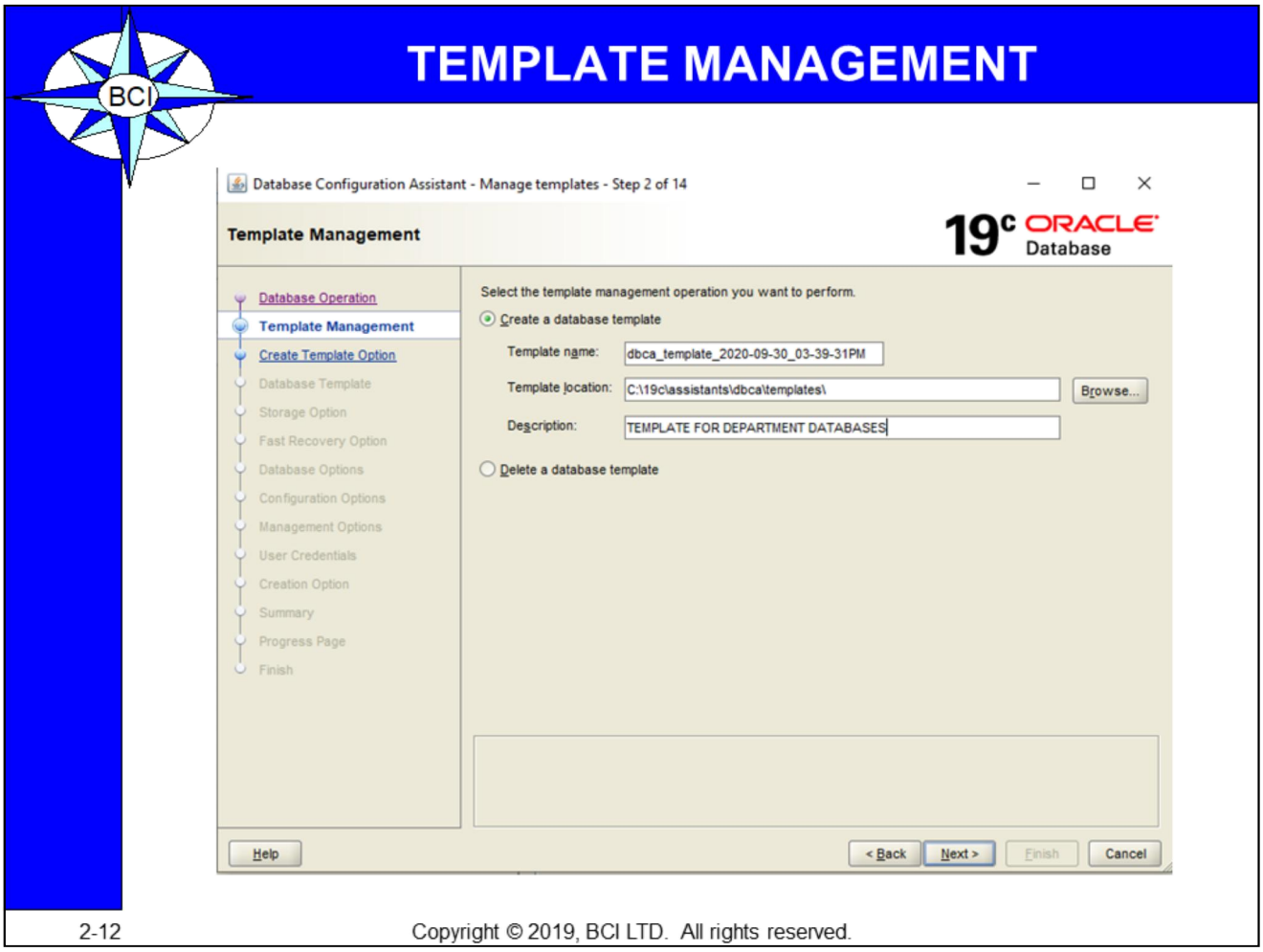


Creating a Database Design Template

A template is a predefined database definition that you use as a starting point for a new database. If you do not create a template as part of the database creation process, you can do it anytime by invoking the DBCA. You have three ways to create a template:

- From an existing template
- From an existing database (structure only)
- From an existing database (structure as well as data)

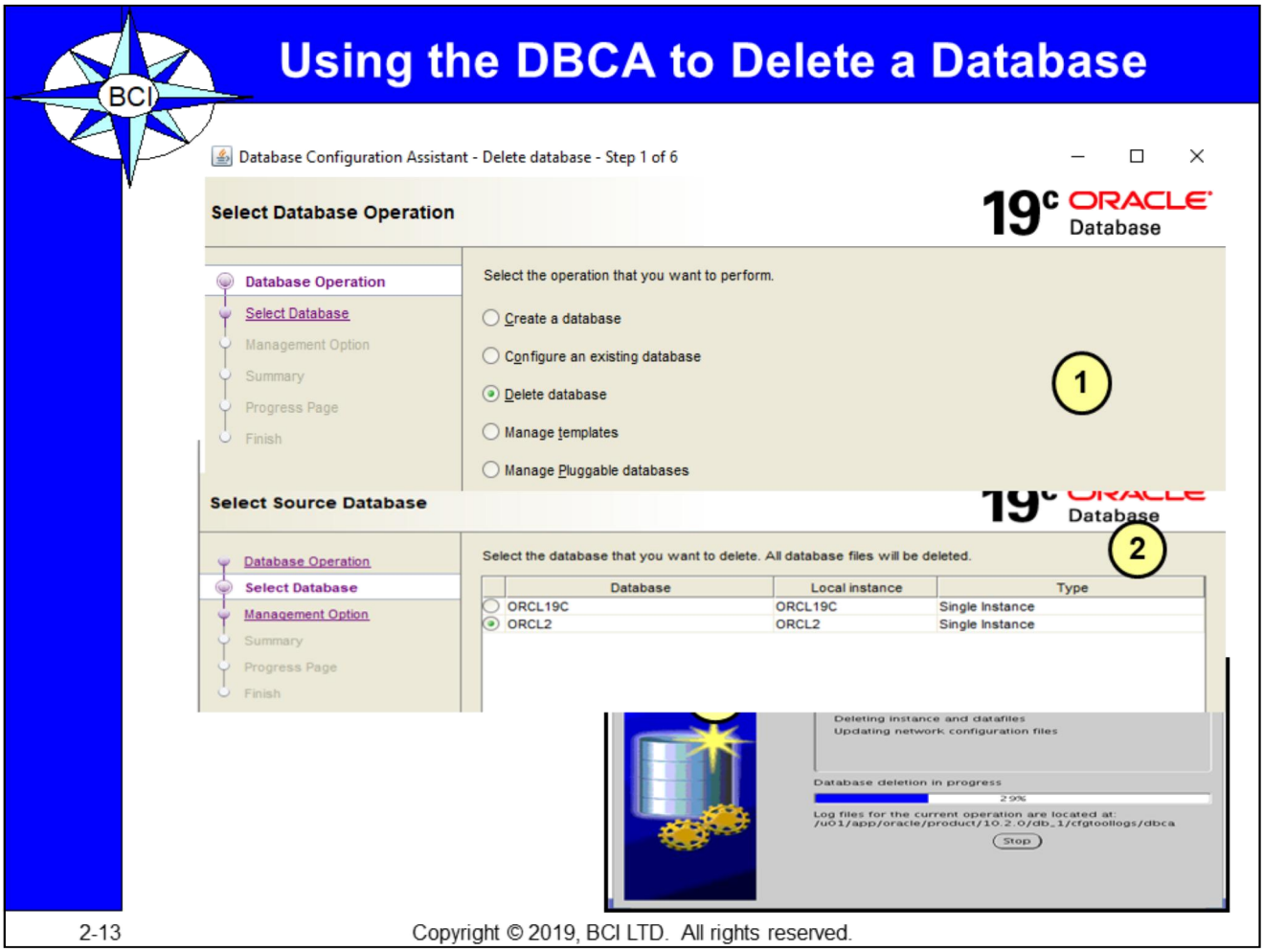
The DBCA guides you through the steps to create a database design template.



This template will have the structural configuration of the database you point too. You may also create a template which contains the actual data from the template you are creating.

When creating a template the Database Configuration Assistant will prompt you for the Name of the template and descriptive information for documentation purposes**.**

You can also delete a template as shown above



Using the DBCA to Delete a Database

To delete (or configure) a database in UNIX or Linux, you must set `ORACLE_SID` in the shell from which DBCA is launched. Start the DBCA by entering `dbca` in a terminal window, and click Next on the Welcome page. To delete the database, perform the following steps:

1. On the Operations page, select Delete a Database, and click Next.
2. Select the database that you want to delete (in class, `hist`), and click Finish.
3. Click Yes to confirm your deletion.

Using the DBCA to Delete a Database (continued)

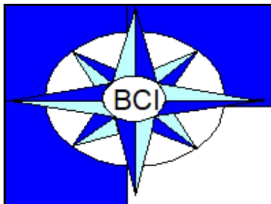
Dropping a database involves removing its data files, redo log files, control files, and initialization parameter files. The `DROP DATABASE` statement deletes all control files and all other database files listed in the control file. To use the `DROP DATABASE` statement successfully, all the following conditions must apply:

- The database must be mounted and closed.
- The database must be mounted exclusively—not in shared mode.
- The database must be mounted as `RESTRICTED`.

An example of this statement is:

```
DROP DATABASE;
```

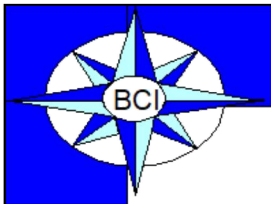
The `DROP DATABASE` statement has no effect on archived log files nor does it have any effect on copies or backups of the database. It is best to use Recovery Manager (RMAN) to delete such files. If the database is on raw disks, then the actual raw disk special files are not deleted.



Summary

In this lesson, you should have learned how to use the DBCA to:

- Create a database
- Create a database design template
- Generate database creation scripts



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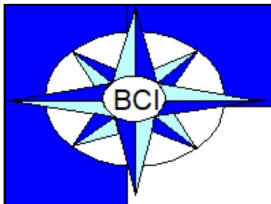

Practice Overview: Using the DBCA

This practice covers the following topics:

- Creating the `ORCL` database by using the DBCA
- Creating the `HR` and Sidpers schemas

Note: Completing the database creation and unlocking the HR schema is critical for all following practice sessions.

Optionally:

- Creating the `ORCL2` database design template by using the DBCA
- Creating database creation scripts with the DBCA