

Oracle Installation and Usage

Raymond E. Marcil
<raymond.marcil@alaska.gov>

August 6, 2020

VERSION: 0.0.1

Abstract

Oracle database installation, client access, maintenance, user configuration, grants, and privileges.

**Alaska Department of Transportation & Public Facilities
Statewide Design & Engineering Services
820 East 15th Avenue
Anchorage, Alaska 99501**

Contents

Contents	2
List of Definitions and Abbreviations	3
Introduction	5
Installation	6
Instance	7
List	7
Create	7
Delete	7
Database	8
Create	8
Container Database	9
Create	9
Pluggable Database	10
Create	10
Recover and Restore	11
Examples	12
Escaping < and > Symbols	12
Enumerate	12
Comments	12
Questions	13
Instances	13
Databases	13
DBCA	13
Appendix	14
Books	14
Scripts	14
Hyperlinks	14

List of Definitions and Abbreviations

- **Container database** - “Container Database (CDB) : On the surface this seems very similar to a conventional Oracle database, as it contains most of the working parts you will be already familiar with (controlfiles, datafiles, undo, tempfiles, redo logs etc.). It also houses the data dictionary for those objects that are owned by the root container and those that are visible to all PDBs.”¹
- **Database** - “A database is a set of physical files on disk created by the CREATE DATABASE statement. The instance manages its associated data and serves the users of the database.”²
- **DBCA** - Database Configuration Assistant. The DBCA can be used to:³
 - Creating a Database with DBCA
 - Configuring Database Options with DBCA
 - Deleting a Database with DBCA
 - Managing Templates with DBCA
 - Configuring Automatic Storage Management with DBCA
- **Instance** - “A database instance is a set of memory structures that manage database files.”⁴
- **Multitenant** - “The multitenant option introduced in Oracle Database 12c allows a single container database (CDB) to host multiple separate pluggable databases (PDB).”⁵
- **Oracle Universal Installer (OUI)** - “The Oracle Universal Installer (OUI) allows you to create a container database (CDB) during the software installation. The “Typical Install Configuration” screen has a checkbox to indicate the database is a container database. You can optionally create a single pluggable database (PDB) in this screen also.”⁶
- **Pluggable database** - “Pluggable Database (PDB) : Since the CDB contains most of the working parts for the database, the PDB only needs to contain information

¹Multitenant : Overview of Container Databases (CDB) and Pluggable Databases (PDB)
<https://oracle-base.com/articles/12c/multitenant-overview-container-database-cdb-12cr1#create-pdb>

²Introduction to the Oracle Database Instance, Oracle Database Instance, Database Concepts, Oracle Database, Release 12.2, <https://docs.oracle.com/en/database/oracle/oracle-database/12.2/cncpt/oracle-database-instance.html>

³Using DBCA to Create and Configure a Database, Oracle® Database 2 Day DBA,

⁴Ibid.

⁵Multitenant : Create and Configure a Pluggable Database (PDB) in Oracle Database 12c Release 1 (12.1)

<https://oracle-base.com/articles/12c/multitenant-create-and-configure-pluggable-database-12cr1>

⁶Oracle Universal Installer (OUI)
<https://oracle-base.com/articles/12c/multitenant-create-and-configure-container-database-12cr1#oui>

specific to itself. It does not need to worry about controlfiles, redo logs and undo etc. Instead it is just made up of datafiles and tempfiles to handle it's own objects. This includes it's own data dictionary, containing information about only those objects that are specific to the PDB. From Oracle 12.2 onward a PDB can, and should, have a local undo tablespace.”⁷

⁷Multitenant : Overview of Container Databases (CDB) and Pluggable Databases (PDB)
<https://oracle-base.com/articles/12c/multitenant-overview-container-database-cdb-12cr1#create-pdb>

Introduction

”There are 3 steps to begin using AWStats:⁸

- I. Setup: Installation and configuration
- II. Process logs: Building/updating statistics database
- III. Run Reports: Building and reading reports

⁸AWStats Installation, Configuration and Reporting
<https://awstats.sourceforge.io>

Installation

AWStats v7.3 and v7.7 are installed on the `intdev`⁹ server from package.

The installed versions include:

- AWStats v7.3-1
- AWStats v7.7-1.1.el6

⁹`intdev - dnr.wintdev.dnr.state.ak.us` (204.89.222.43)

Instance

“A database instance is a set of memory structures that manage database files.

A database is a set of physical files on disk created by the CREATE DATABASE statement. The instance manages its associated data and serves the users of the database.

Every running Oracle database is associated with at least one Oracle database instance. Because an instance exists in memory and a database exists on disk, an instance can exist without a database and a database can exist without an instance.”¹⁰

List

Create

Delete

¹⁰Introduction to the Oracle Database Instance, Oracle Database Instance, Database Concepts, Oracle Database, Release 12.2,<https://docs.oracle.com/en/database/oracle/oracle-database/12.2/cncpt/oracle-database-instance.html>

Database

Oracle 12.2.0 running under Windows 10 (64-bit) saves databases as datafiles under
C:\oracle\oradata\cdb1\pdb1\PDB1\DATAFILE ¹¹

Create

¹¹From inspection of Windows 10 filesystem on Monday August 3, 2020.

Container Database

[FIXME: Need content here...]

Create

Pluggable Database

[FIXME: Need content here...]

Create

Recover and Restore

[FIXME: Need content...]

Examples

Series of useful \LaTeX markup. Need to break out to separate examples.tex file.

Escaping < and > Symbols

To get $\$<\$$ or $\$>\$$ just wrap the symbols in $\$$ for math mode.

Enumerate

1. DNR - Alaska State Department of Natural Resources
 - HI - Historical Index, not maintained since 1982
 - LE - Land Estate, maintained by SGU
 - ME - Mineral Estate, maintaind by SGU
2. Alaska State Surveys
 - ASBLT - As-Built Survey
 - ASCS - Cadastral Survey

Comments

COMMENTS Comment — *Sean Weems, Spring 2003*

We should get the **COMMENTS** column searchable via the landrecords application before we do much anything else – shouldn't be too hard.

Errata: Plats spanning multiple sections

A few anomalies can be observed in the **AKPLATS** table. Specifically plats exist that span multiple sections. Since the table only has a single column, **SCODE**, that accepts a single section code, SGU (Status Graphics Unit) has handled this problem by entering multiple rows in the table, each with a different section that point to the same plat or file. Multiple section plats are indicated by setting the **TCODE** column to the value 37, and making an appropriate notation like *Section 24-25-26-27* in the **REMARKS** column.

[FIXME: Perhaps the **SCODE** column should accept an array of sections?]

Questions

NOTE: All answers for latest oracle 12.1 or 12.2 unless otherwise specified.

Instances

- Create new instance?
- List available instances?

Databases

- Create new databases?
- List available databases?

DBCA

- What is the DBCA?
- DBCA vs. command line?

Appendix

Books

Oracle 12c For Dummies
by Chris Ruel, Michael Wessler

Scripts

[FIXME: Need scripts here.]

Hyperlinks

2 Day DBA

Oracle Database Release 12.2

<https://docs.oracle.com/en/database/oracle/oracle-database/12.2/admqs/introduction.html#GUID-78050887-822B-4091-8DBA-A8EC43602350>

How to Use the Database Configuration Assistant (DBCA)

to Create Databases in Oracle 12c

by Chris Ruel, Michael Wessler

<https://www.dummies.com/programming/databases/how-to-use-the-database-configuration-assistant-dbc>

Introduction to the Oracle Database Instance,

Oracle Database Instance, Database Concepts,

Oracle Database, Release 12.2

<https://docs.oracle.com/en/database/oracle/oracle-database/12.2/cncpt/oracle-database-instance.html>

Multitenant : Create and Configure a Pluggable Database (PDB)

in Oracle Database 12c Release 1 (12.1)

<https://oracle-base.com/articles/12c/multitenant-create-and-configure-pluggable-database-12cr1>

Multitenant : Overview of Container Databases (CDB) and Pluggable Databases (PDB)

Oracle 12c Release 1 (12.1)

<https://oracle-base.com/articles/12c/multitenant-overview-container-database-cdb-12cr1>

Oracle Database Instance

Oracle Database Release 12.2

<https://docs.oracle.com/en/database/oracle/oracle-database/12.2/cncpt/oracle-database-instance.html#GUID-67247052-CE3F-44D2-BA3E-7067DEF4B6D5>

Oracle Universal Installer (OUI)
Oracle Database 12c Release 1 (12.1)
<https://oracle-base.com/articles/12c/multitenant-create-and-configure-container-database-12cr1#oui>

Using DBCA to Create and Configure a Database
in Oracle Database 12c Release 1 (12.1)
Oracle Database 2 Day DBA
10g Release 2 (10.2)
Part Number B14196-02
<https://docs.oracle.com/cd/B16254-01/doc/server.102/b14196/install003.htm>

Viewing Information About CDBs and PDBs with SQL*Plus
Database Administrator's Guide
Oracle Database Online Documentation 12c
Release 1 (12.1) / Database Administration
https://docs.oracle.com/database/121/ADMIN/cdb_mon.htm#ADMIN13719