Publication date : 03/31/2025

Course : Oracle Database, administration

Versions 23ai to 12c

Practical course - 5d - 35h00 - Ref. ORC

Price : 3170 CHF E.T.

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BEST

In this intensive, hands-on course, you'll learn how to implement and administer the Oracle 23ai DBMS under optimum conditions. Key points covered include DBMS architecture and installation, as well as management of instances, databases, disk space, objects, cancellation data, users and access rights. DBMS version evolutions are discussed, to give a better understanding of Oracle's database functionalities.

Teaching objectives

At the end of the training, the participant will be able to:

- Breaking down Oracle database architecture
- Install Oracle DBMS
- Identify the main features of Oracle database administration
- Create and manage an Oracle database
- Manage user access
- Managing database security

Intended audience

Oracle database administrators, application administrators and consultants.

Prerequisites

Basic knowledge of SQL language and Oracle DBMS. Experience of using the DBMS in a Windows or Linux environment required.

Practical details

Exercise

Discussions, experience sharing, demonstrations and numerous exercises are carried out after each theoretical input.

Teaching methods

Active pedagogy based on exchanges, practical exercises and assessment of acquired skills throughout the course.

PARTICIPANTS

Oracle database administrators, application administrators and consultants.

PREREQUISITES

Basic knowledge of SQL language and Oracle DBMS. Experience of using the DBMS in a Windows or Linux environment required.

TRAINER QUALIFICATIONS

The experts leading the training are specialists in the covered subjects. They have been approved by our instructional teams for both their professional knowledge and their teaching ability, for each course they teach. They have at least five to ten years of experience in their field and hold (or have held) decision-making positions in companies.

ASSESSMENT TERMS

The trainer evaluates each participant's academic progress throughout the training using multiple choice, scenarios, hands-on work and more.
Participants also complete a placement test before and after the course to measure the skills they've developed.

Course schedule

1 Oracle SDBG architecture and installation

- Database files. Data storage.
- Background processes. Memory zones. Transaction management.
- Administrator tasks. System requirements. Unix installation tasks.
- OFA architecture.
- Use of Oracle Universal Installer (YES).
- Interactive or silent installation.
- RAC architecture. Shared architecture (CDB) and inserted bases (PDB).
- EM Database Express and SQL Developer.
- Sharding architecture and PDBs as shards.

Hands-on work
Oracle SDBG installation.

2 Creating and deleting databases

- Oracle Managed Files (OMF).
- Storage in ASM disk groups.
- The database configuration wizard.
- Create and manage a CDB container and a PDB inserted base.

Hands-on work
Create a new Oracle DB from scripts generated by DBCA.

3 Instance management and network configuration

- Identification control methods, SYSDBA, SYSBACKUP, SYSDG, SYSKM.
- Instance setup with PFILE or SPFILE.
- Options for stopping and starting an instance.
- Startup and shutdown of a CDB container and a PDB inserted base.
- View types: dynamic, data dictionary.
- Trace files, alert file and ADR repository.
- Network configuration, Oracle Net Services configuration, service management.

Hands-on work
Modify DB settings. Create SPFILE file from PFILE file.

4 Control file and log file management

- Control file functions. Content.
- Multiplex the control file.
- Create and manage log files.
- ARCHIVELOG mode.
- Archive file management.

Hands-on work
Multiplex control files and view their contents. Create and modify log file group sizes. Set database to ARCHIVELOG mode.

TEACHING AIDS AND TECHNICAL RESOURCES

• The main teaching aids and instructional methods used in the training are audiovisual aids, documentation and course material, hands-on application exercises and corrected exercises for practical training courses, case studies and coverage of real cases for training seminars.
• At the end of each course or seminar, ORSYS provides participants with a course evaluation questionnaire that is analysed by our instructional teams.
• A check-in sheet for each half-day of attendance is provided at the end of the training, along with a course completion certificate if the trainee attended the entire session.

TERMS AND DEADLINES

Registration must be completed 24 hours before the start of the training.

ACCESSIBILITY FOR PEOPLE WITH DISABILITIES

Do you need special accessibility accommodations? Contact Mrs. Fosse, Disability Manager, at psh-accueil@orsys.fr to review your request and its feasibility.

5 Logical disk space management

- Create permanent, temporary and undo tablespaces.
- Define permanent, temporary and undo tablespace defaults.
- Permanent and temporary tablespace in shared architecture.
- On-line expansion/movement of a tablespace.
- Grouping temporary tablespaces and compacting a temporary tablespace.

Hands-on work

Create different tablespaces, define default permanent, temporary and undo tablespaces. Create a group of temporary tablespaces.

6 Database structures

- Storage structure.
- Tablespace storage parameters.
- Using extents.
- The structure of a database block.
- Storage of BLOB or CLOB data.
- Statistics and table storage information.
- High Water Mark and block chaining.
- Reorganize storage and unused space.
- Activity analysis, compression and automatic data movement.

Hands-on work

Table reorganization. Automatic table movement and compression.

7 Object administration

- External and temporary tables.
- Index: B*-tree, bitmap and function-based.
- Tables organized in indexes (IoT).
- Partitioning tables, indexes and IoTs.
- Materialized views.

Hands-on work

Creation of B*-tree indexes, bitmap index and materialized view.

8 Cancellation data management

- The undo segments and the retention period for undo information.
- Guarantee the preservation of cancellation information.
- Use the Undo wizard.
- Flashback Database.

Hands-on work

Change how undo information is stored. Place UNDO records from temporary tables in temporary tablespace.

9 User management and security

- Create a local or shared user.
- Password expiration and history.
- System and object privileges granted locally or commonly.
- Local and common roles. Profiles.
- Manage resources in a database.

Hands-on work

Configure user rights. Set up a schema and users to connect and work with this application.

10 Supplements

- Manage AWR repository and ADDM monitor.
- Set alert thresholds and use automated tasks.
- Datapump architecture overview.
- Audit trails.

Demonstration

Audit trail implementation.

Dates and locations

REMOTE CLASS
2026 : 1 June, 1 June, 14 Sep., 14 Sep., 23 Nov., 23 Nov.