

Training Objectives: -

This Training Program on **ORACLE 11g Administration, PL/SQL Programming and Database Security** is specially designed for OCA (ORACLE CERTIFIED ASSOCIATE) for those who want to master in database. Apart from general database designing concepts It include detailed description of SQL performance tuning, oracle security and optimized query development. Course includes both theoretical and practical aspect of the technology with proper lectures, assignments, labs and Project.

After completing this Training you are ready to:

1. Appear in Technical round in any company.
2. Appear exams on ORACLE DATABASE under any technical university of India.
3. Develop business models, Database, forms and reports development.
4. Appear for OCA exam.
5. Update yourself with Advance concepts of ORACLE DATABASE and PL/SQL.

Duration	4 Weeks
Starting Date	12 January 2015
Seats	30
FEES	RS. 6,500=00/-
ELIGIBILITY	B.TECH. (CS/IT/EC) or MCA/M.Sc. (IT/CS/Electronics), BCA /PGDCA, Diploma in Computer /Electronics Stream, B.Sc. or B.A, A/B/C Level, Working Professional. Basic knowledge of computing is desirable

How to Apply:

For Admission, submit completely filled in application form along with course fee either in Cash or Demand Draft in favor of "**NIELIT, Gorakhpur**". The application form may be downloaded from our website or collected from reception.

Accommodation:

Hostel accommodation is available for Male candidates only.

Training Highlights:

- Well Managed Course pattern
- Daily Handouts & Lab Exercise
- Industry Compliant Syllabus

- Use of Latest Tools & Technology
- LAB Assistance

Course Contents

Module I

Introduction to DBMS, What is DBMS, Relational Data Models, and Data integrity rules, Normalization, Introduction to data processing methods, Client/Server, Oracle Architecture, What is grid computing?

Module II

SQL, Creating Tables, Integrity Constraints Adding, updating and dropping columns Transaction and locking, Functions Grouping data, Using ROLLUP and CUBE Joining tables, ANSI Join , Sub queries, working with TOPn analysis Views, Materialized Views Using indexes and clusters Index Skip Scan Security Report generation using SQL*Plus commands Distributed databases Partitioning List partitioning Lobs

Module III

PL/SQL Programming What is PL/SQL, Structure of PL/SQL block Control statement, CASE expression Exception handling, Cursor handling Writing stored procedures and functions Definer rights vs. Invoker's rights Autonomous transactions Database triggers Native dynamic SQL Flashback query MERGE statement Multitable insert Using Regular Expressions

Module IV

Exploring the Oracle Database, Architecture, Oracle Database Architecture Overview Oracle ASM Architecture Overview, Process Architecture, Memory structures Logical and physical storage structures

ASM storage components

Module V

Installing Oracle Software Tasks of an Oracle Database Administrator Tools Used to Administer an Oracle Database Installation: System Requirements Oracle Universal Installer (OUI) Installing Oracle Grid Infrastructure Installing Oracle Database Software

Module VI

Creating an Oracle Database Planning the Database Using the DBCA to Create a Database Password Management Creating a Database Design Template Using the DBCA to Delete a Database

Module VII

Managing the Oracle Database Instance, Start and stop the Oracle database and Components, Use Oracle Enterprise Manager Access a database with SQLPlus Modify database installation parameters Describe the stages of database startup Describe database shutdown options View the alert log Access dynamic performance views

Module VIII

Configuring the Oracle Network Environment Use Enterprise Manager to create and configure the Listener ,Enable Oracle Restart to monitor the listener ,Use tnsping to test Oracle Net connectivity Identify when to use shared servers and when to use dedicated servers

Module IX

Managing Database Storage Structures Storage Structures How Table Data Is Stored Anatomy of a Database Block Space Management in Tablespaces Tablespaces in the Preconfigured Database Actions with Tablespaces Oracle Managed Files(OMF)

Module X

Administering User Security Database User Accounts Predefined Administrative Accounts

Benefits of Roles, Predefined Roles
Implementing Profiles

Module XI

Managing Data Concurrency, Data Concurrency,
Enqueue Mechanism, Resolving Lock Conflicts,
Deadlocks

Module XII

Managing Undo Data, Data Manipulation ,
Transactions and Undo Data ,Undo Data Versus Redo D
ata, Configuring Undo Retention

Module XIII

Implementing Oracle Database, Auditing,
Describe DBA responsibilities for security,Enable standa
rd database auditing,Specify audit options,
Review audit information, Maintain the audit trail

Module XIV

Database Maintenance

Manage optimizer statistics

Manage the Automatic Workload Repository

(AWR) ,Use the Automatic Database Diagnostic Monitor

(ADDM) ,Describe and use the advisory framework

Set alert thresholds, Use server-generated alerts

Use automated tasks

Module XV

Performance Management Performance Monitoring

Managing Memory Components

Enabling Automatic Memory Management

(AMM) ,Automatic Shared Memory Advisor

Using Memory Advisors,

Dynamic Performance Statistics ,

Troubleshooting and Tuning Views

Invalid and Unusable Objects

Module XVI

Backup and Recovery Concepts Part of Your Job

Statement Failure, User Error

Understanding Instance Recovery

Phases of Instance Recovery

Using the MTTR Advisor

Media Failure

Archive Log Files

Module XVII

Performing Database Backups

using RMAN Backup Solutions: Overview

Oracle Secure Backup, User-Managed Backup

Terminology, Recovery Manager (RMAN)

Configuring Backup Settings

Backing up the Control File to a Trace File

Monitoring the Flash Recovery Area

Module XVIII

Performing Database Recovery Opening a Database

Data Recovery Advisor, Loss of a Control File

Loss of a Redo Log File, Data Recovery Advisor

Data Failures, Listing Data Failures

Data Recovery Advisor Views

Module XIX

Data Replication Describe ways to move data

Create and use directory objects

Use SQL*Loader to move data

Use external tables to move data

General architecture of Oracle Data Pump

Use Data Pump export and import to move data

Module XX

Database Security, What's New in Oracle Database

Security?, Introducing Oracle Database Security

Managing Security for Oracle Database Users

Configuring Authentication, Configuring Privilege and
Role, Authorization, Managing Security

for Application Developers, Using Application Contexts
to Retrieve User Information, Using Oracle Virtual

Private Database to Control Data Access, Developing
Applications Using the Data Encryption API, Verifying

Security Access with Auditing, Keeping Your Oracle
Database Secure

Contact Information:

Abhinav Mishra

Scientist C

7752997204

abhinav@nielit.gov.in

**National Institute of Electronics and Information
Technology (NIELIT) Gorakhpur**

M. M. M. Engineering College campus,

Gorakhpur (UP) – 273010.

Phone: 0551-2273874

Fax: 0551-2273873

Web : <http://gorakhpur.nielit.gov.in>

ORACLE 11G ADMINISTRATION, PL/SQL PROGRAMMING AND DATABASE SECURITY

ORACLE® 11g
DATABASE

ORGANIZED BY



राष्ट्रीय इलेक्ट्रॉनिकी एवं सूचना प्रौद्योगिकी संस्थान,

गोरखपुर

**National Institute of Electronics and Information
Technology (NIELIT) Gorakhpur**

**An Autonomous Scientific Society of Ministry of
Communication & Information Technology,
Department of Electronics & Information Technology
(DeitY)**

Govt. of India

M. M. M. Engineering College Campus, Gorakhpur

U.P.– 273010

Web : <http://gorakhpur.nielit.gov.in>