Database Administration/Development Courses

Microsoft SQL Server
NICF - Querying Data with Transact-SQL

Course Overview
This three-day course will give students a good understanding of the Transact-SQL language which is used by all SQL Server-related disciplines; namely, Database Administration, Database Development and Business Intelligence. As such, the primary target audience for this course is: Database Administrators, Database Developers and Business Intelligence professionals.

The course should be attended by SQL power users who are not necessarily database-focused; namely, report writers, business analysts and client application developers.

Course Objectives
• Describe the basic architecture and concepts of Microsoft SQL Server 2016
• Understand the similarities and differences between Transact-SQL and other computer languages
• Write SELECT queries
• Query multiple tables
• Sort and filter data
• Describe the use of data types in SQL Server
• Modify data using Transact-SQL
• Use built-in functions
• Group and aggregate data
• Use subqueries
• Use table expressions
• Use set operators
• Use window ranking, offset and aggregate functions
• Implement pivoting and grouping sets
• Execute stored procedures
• Program with T-SQL
• Implement error handling
• Implement transactions
NICF – Administering a SQL Database Infrastructure

Course Overview
This five-day course provides students with the knowledge and skills to administer and maintain a SQL Server database infrastructure. Additionally, it will be of use to individuals who develop applications that deliver content from SQL Server databases.

Course Objectives
• Authenticate and authorise users
• Assign server and database roles
• Authorize users to access resources
• Protect data with encryption and auditing
• Describe recovery models and backup strategies
• Backup SQL Server databases
• Restore SQL Server databases
• Automate database management
• Configure security for the SQL Server agent
• Manage alerts and notifications
• Managing SQL Server using PowerShell
• Trace access to SQL Server
• Monitor a SQL Server infrastructure
• Troubleshoot a SQL Server infrastructure
• Import and export data

NICF – Developing SQL Databases

Course Overview
This four-day course provides students with the knowledge and skills to develop a Microsoft SQL Server 2016 database. The course focuses on teaching individuals how to use SQL Server 2016 product features and tools related to developing a database.

Course Objectives
• Design and implement tables
• Describe advanced table designs
• Ensure data integrity through constraints
• Describe indexes, including optimised and columnstore indexes
• Design and implement views
• Design and implement stored procedures
• Design and implement user-defined Functions
• Respond to data manipulation using triggers
• Design and implement in-memory tables
• Implement managed code in SQL Server
• Store and query XML data
• Work with spatial data
• Store and query blobs and text documents
NICF – Oracle Database: SQL and PL/SQL Fundamentals

**Course Overview**

This five-day course delivers the fundamentals of SQL and PL/SQL along with the benefits of the programming languages using Oracle Database technology. You will explore the concepts of relational databases. Demonstrations and hands-on practice will reinforce the fundamental concepts taught in this course. By enrolling in this course, you will learn how to use Oracle SQL Developer to develop these program units. SQL*Plus is available as optional tools.

**Note:** This course is a combination of Oracle Database: SQL Workshop I and Oracle Database: PL/SQL Fundamentals courses.

**Course Objectives**

- Run data definition language (DDL) statements to create and manage schema objects
- Run data manipulation statements (DML) to update data in the Oracle Database
- Use PL/SQL programming constructs and conditionally control code flow (loops, control structures, and explicit cursors)
- Use cursors to process rows
- Create reports of sorted and restricted data
- Describe stored procedures and functions
- Describe the features and syntax of PL/SQL
- Design PL/SQL anonymous block that execute efficiently
- Display data from multiple tables using the ANSI SQL 99 JOIN syntax
- Create reports of aggregated data
- Employ SQL functions to generate and retrieve customized data
- Handle runtime errors
- Retrieve row and column data from tables with the SELECT statement
NICF – MySQL Fundamentals

Course Overview
This four-day course is the first step in mastering MySQL, the world’s most popular open source database. You will develop solid understanding and practical experience using relational databases, SQL and the MySQL Server and tools.

In learning about MySQL you will also gain an understanding of relational databases in general, learning how to design your database so that it is robust and efficient. Furthermore, you will harness that power by learning SQL and using it to build databases, populate them with data and query that data through extensive hands-on practice.

In addition to covering core concepts, this course introduces you to more advanced tools and techniques to help you manage your MySQL database and data. At the end of the course, you will be confident in your ability to use the MySQL database and put your new skills to work.

Course Objectives
- Describe the features and benefits of MySQL
- Explain the basics of relational databases
- Design an effective database
- Install and configure the MySQL server and clients
- Issue MySQL statements from the MySQL command-line client
- Perform database operations by using MySQL Workbench
- Select appropriate data types for your database

NICF – Oracle Database 12c Administrator Certified Associate

Course Overview
This seven-day course is a combination of “Oracle Database 12c: Install and Upgrade Workshop” and “Oracle Database 12c Administration Workshop” offered under Oracle University. This course will help participants to prepare for “1Z0-062 Oracle Database 12c: Installation and Administration” Exam, which will lead to “Oracle Database 12c Administrator Certified Associate” certification.

Professional instruction and hands-on demonstrations will provide you with real-world experience. By engaging in hands-on exercises to reinforce your learning, you will develop in-demand skills to effectively manage an Oracle Database.

Course Objectives
- Gain an understanding of the Oracle Database Cloud Service
- Install Oracle Grid Infrastructure for a Standalone Server
- Use Oracle Restart to manage components
- Upgrade database to Oracle Database 12c
- Create a container database
- Create an Oracle Database
- Install Oracle Database 12c software
- Configure Oracle Net Services
- Configure your Database for Backup and Recovery Operations
- Describe Oracle Database Architecture
- Manage the Oracle Database Instance
- Manage Oracle Database Storage structures
- Create and administer user accounts
- Monitor the Database
- Manage Database performance
- Implement Database auditing
- Configure the Database Instance such that resources are appropriately allocated among sessions and tasks
- Gain an understanding of the Oracle Database Cloud Service
- Schedule jobs to run inside or outside of the Database

MySQL
NICF – MySQL Fundamentals

Course Overview
This four-day course is the first step in mastering MySQL, the world’s most popular open source database. You will develop solid understanding and practical experience using relational databases, SQL and the MySQL Server and tools.

This course will teach you everything you need to know to start using the incredibly popular MySQL database in your Web, Cloud and embedded applications. In learning about MySQL you will also gain an understanding of relational databases in general, learning how to design your database so that it is robust and efficient. Furthermore, you will harness that power by learning SQL and using it to build databases, populate them with data and query that data through extensive hands-on practice.

In addition to covering core concepts, this course introduces you to more advanced tools and techniques to help you manage your MySQL database and data. At the end of the course, you will be confident in your ability to use the MySQL database and put your new skills to work.

Course Objectives
- Describe the features and benefits of MySQL
- Explain the basics of relational databases
- Design an effective database
- Install and configure the MySQL server and clients
- Issue MySQL statements from the MySQL command-line client
- Perform database operations by using MySQL Workbench
- Select appropriate data types for your database
NICF – MySQL and PHP: Developing Dynamic Web Applications

Course Overview
This four-day course will teach you how to develop applications in PHP and use MySQL efficiently for those applications. Through a hands-on approach, this course will help you improve your PHP skills and combine them with time-proven database management techniques to create best-of-breed web applications that are efficient, solid and secure.

Course Objectives
• Describe the LAMP architecture
• Use the basic components of PHP to build a foundation for more complex web applications
• Understand the basic components of MySQL
• Use SQL query commands to retrieve data from the MYSQL database
• Change table data using the SQL Data Manipulation Language (DML) commands
• Retrieve data from multiple MySQL tables using Joins
• Create web based forms that interact with the end user and the data within MySQL
• Use session handling to authenticate and monitor user identities
• Describe the purpose of template systems

SAP HANA
NICF – SAP HANA Introduction

Course Overview
In this two-day course, you will get an overview of SAP HANA. You will learn about in-memory computing, SAP HANA architecture and main implementation scenarios. You will also learn about modeling and data processing, data provisioning, as well as the different types of applications that run on SAP HANA, such as SAP BI tools, SAP Business Warehouse and SAP HANA XS applications. This course is also valuable for everyone who is part of an S/4HANA project, as it helps understand the key innovations in SAP Business Suite that the underlying SAP HANA Platform permits.

Course Objectives
• Understand the key concepts of SAP HANA and in-memory computing
• Create a data model with SAP HANA native modeling tools
• Provision data to SAP HANA
• Consume SAP HANA Information Views and run applications on SAP HANA
NICF – SAP HANA Installation & Operations

Course Overview
In this five-day course the participants install and operate SAP HANA SPS12. The course covers the most important tasks for the daily work of an SAP HANA system administrator. Furthermore, it provides details about starting and stopping, changing the configuration, troubleshooting and assuring the high-availability of a SAP HANA SPS12 system.

Course Objectives
• Install and update a SAP HANA database in version SPS12
• Perform the daily tasks for a SAP HANA system administrator
• Start and stop, change the configuration, backup and troubleshoot a SAP HANA SPS12 system
• Backup and recover a SAP HANA SPS12 database

NICF – SAP HANA Modeling

Course Overview
This five-day course is recommended for Business Application Consultants, Data Consultants or Managers, Database Administrators, Application Developers and Business Intelligence Specialists. Participants will be familiarised with information views, modelling functions, SQL script and procedures, and virtual data models in SAP HANA. The course will also cover text, spatial, predictive and graph modelling, as well as the management, administration, security, and optimisation of models.

Course Objectives
• Develop information models following SAP best practices for maximum performance and flexibility
• Get started with advanced data processing such as text, spatial, predictive and graph
• Get started with SQL and SQLScript based modelling
• Implement security and data access controls around SAP HANA data models

Register your interest today!