DATA ANALYTICS COURSE OUTLINE

Oracle Database : SQL – Basics:

Duration: 2 weeks

Objectives:

- To identify the concepts and components of an Oracle Database 11g database, recognize how to retrieve information from it using SQL, and identify the steps for sorting, limiting

- To recognize the steps for writing queries that convert data from one type to another, specify conditions, perform calculations on groups of rows or even tables, and return value

- To identify the steps for manipulating queries to return the data you need, using sub queries and set operators, and also for manipulating the actual data using INSERT, UPDATE

- To recognize the steps for creating, defining, and dropping tables, manipulating how their data can be viewed, and using schema objects to generate integers, improve queries

Introduction to Oracle Database :

- List the features of Oracle Database 11g
- Discuss the basic design, theoretical, and physical aspects of a relational database
- Categorize the different types of SQL statements
- Describe the data set used by the course
- Log on to the database using SQL Developer environment
- Save queries to files and use script files in SQL Developer

Retrieve Data using the SQL SELECT Statement

- List the capabilities of SQL SELECT statements
- Generate a report of data from the output of a basic SELECT statement
- Select All Columns
- Select Specific Columns
- Use Column Heading Defaults
- Use Arithmetic Operators
- Understand Operator Precedence
- Learn the DESCRIBE command to display the table structure

Learn to Restrict and Sort Data

- Write queries that contain a WHERE clause to limit the output retrieved
- List the comparison operators and logical operators that are used in a WHERE clause
- Describe the rules of precedence for comparison and logical operators
- Use character string literals in the WHERE clause
- Write queries that contain an ORDER BY clause to sort the output of a SELECT statement
- Sort output in descending and ascending order

Usage of Single-Row Functions to Customize Output

- Describe the differences between single row and multiple row functions
- Manipulate strings with character function in the SELECT and WHERE clauses
- Manipulate numbers with the ROUND, TRUNC, and MOD functions
- Perform arithmetic with date data
- Manipulate dates with the DATE functions

Invoke Conversion Functions and Conditional Expressions

- Describe implicit and explicit data type conversion
- Use the TO_CHAR, TO_NUMBER, and TO_DATE conversion functions

Aggregate Data Using the Group Functions

- Use the aggregation functions in SELECT statements to produce meaningful reports
- Divide the data in groups by using the GROUP BY clause
- Exclude groups of date by using the HAVING clause

Display Data From Multiple Tables Using Joins

- Write SELECT statements to access data from more than one table
- View data that generally does not meet a join condition by using outer joins
- Join a table by using a self join
- Cross Join
- Equi Join
- Non Equi Join
- Outer Join
- Left outer Join
- Right Outer Join
- Full Outer Join

Data Manipulation Statements

- Describe each DML statement
- Insert rows into a table
- Change rows in a table by the UPDATE statement
- Delete rows from a table with the DELETE statement
- Save and discard changes with the COMMIT and ROLLBACK statements
- Explain read consistency

Use of DDL Statements to Create and Manage Tables

- Categorize the main database objects
- Review the table structure
- List the data types available for columns
- Create a simple table
- Decipher how constraints can be created at table creation
- Describe how schema objects work

Control User Access

- Differentiate system privileges from object privileges
- Create Users
- Grant System Privileges
- Create and Grant Privileges to a Role
- Change Your Password
- Grant Object Privileges
- How to pass on privileges?
- Revoke Object Privileges

Management of Constraints

- Add, Drop and Defer a Constraint
- How to enable and disable a Constraint?
- Type of Constraints
- Primary Key Constraints
- Foreign Key Constraints
- Not Null Constraints
- Unique Constraints
- Cheque Constraints

Manipulate Large Data Sets

- Use Sub queries to Manipulate Data
- Retrieve Data Using a Subquery as Source

- Insert Using a Sub query as a Target
- List the types of Multitable INSERT Statements
- Use Multi table INSERT Statements
- Merge rows in a table

Microsoft Excel (Only for Freshers)

Duration: 1 week

Basics

Entering and editing text and formulas

Create spreadsheet title, Working with numeric data, date values, Cell reference, Basic formulas , Relative Vs Absolute cell references in formulas , Understanding the order of operation

Working with Basic Excel functions

Structure of an excel function, SUM() Function , MIN() and MAX() Function , AVERAGE () Function , count() Function , Adjacent Cells Error in Excel Calculations , Using the Autosum command , Excels autosum short key , Using the AutoFill Command to copy formulas

Modifying an Excel worksheet

Moving and Copying, Inserting and deleting Rows and Columns, Changing the width and hight of the cells , Hiding and unhiding excel Rows and columns , Renaming an excel worksheet , Deleting an excel worksheet , Moving and copying an excel worksheet

Formatting data in an excel worksheet

Working with font formatting commands, Changing the Background colour of a cell , Adding borders to cell , Excel Cell borders continued , Formatting data as currency value , Formatting percentages , Using Excel's format painter , Creating styles to format data , Merging and centering cells , Using conditional formatting , Editing excel conditional formatting

Working with an Excel List

Understanding excel list structure, Sorting a list using single level sort, sorting a list using multi-level sorts, Using custom sorts in an excel list, Filter an excel list using the auto filter tool , Creating sub totals in a list , Format a list as a table , Using conditional formatting to find duplicates , Removing duplicates

EXCEL PIVOT TABLE

Understanding excel PivotTable, Creating an excel pivot table, Modifying Excel pivot table calculations, Grouping pivot table data , Modifying pivot table calculations , Creating PivotCharts, Filtering PivotTable Data, Filtering with the slicer tool

Importing and Exporting Data

Importing Data into Microsoft Excel, Importing data from text file, Exporting data to a text file

Working with Large set of Excel Data

Using the freeze panes Tool, Linking worksheets (3D Formulas), Consolidating Data from Multiple Worksheets

Working with Excel's Conditional Functions

Working with Excel name ranges, Advantage and disadvantages of Excel name Ranges, Editing an Excel Name Range , Using Excel's IF() Functions , Excel's IF() Functions with a name Range , Nesting functions with Excel, Nesting Excel's AND() Function within the IF() Function , Using Excels COUNT() Functions , Using Excel's SUMIF() Function

Microsoft Power BI Desktop Visualisation

About the Course :

Microsoft Power BI Training introduces you to Power BI Desktop and how it is used with Power Pivot for Data Modelling. This course enables you to learn about Data Analysis Expressions (DAX) and Data Visualization with Power BI Desktop. This course will also introduce you to Power BI Q&A, which enables you to discover, explore and visualize enterprise data using Natural Language.

Duration: 4 weeks

Business Intelligence Basics

- What is BI ?
- Different BI Tools
- Advantages of BI
- Applications and Future of BI
- Overview of BI and Data Integration Products
- Opportunities/ Scope of BI
- What is a Data Warehouse?
- Data Warehousing Schemas
- Dimensions and Fact Table types
- Modeling Types
- Star and Snow Flake Examples and differences
- PBI Architecture Overview

Microsoft Power BI Desktop

- Overview of Power BI
- Introduction to Tools and Terminology.
- Different components of PBI
- Downloading and installation of PBI Desktop
- An overview of the interface
- Introducing 3 views of PBI
- Different connection options
- Connecting to Microsoft Excel
- Connecting to Oracle Database
- Connecting to CSV files
- Different method of extracting data

Power Query Editor (ETL Tool)

- Overview of Power Query Editor (cleaning up messy data)
- Transform Data
- Pivot and Unpivot tables
- Adding columns

- Text functions
- Number functions
- Date and Time functions
- Grouping Data
- Data Profiling
- Create custom date table using MCode Method
- Combining schemas for modeling
- Refreshing Option

Visualization and report

- Overview: Visualizations
- Using visualizations
- Overview: Power BI data sources
- Upload Power BI data sources
- Basic charts in Power BI
- Creating basic visuals
- Formatting visuals and pages
- Using Themes and Import Custom Themes from Gallery.
- Inserting images to our report
- How to set up your data model – Setup and Manage relationships.
- Sort, copy, and paste visualizations
- Creating hierarchy
- Grouping data
- Setting interactions between visuals
- Using Various types of graphs
- Using Slicers to filter the data.
- Using Filters
- Using Tool Tips at Page Level and Field Level
- Conditional Formatting in Tables and Graphs.
- Parameter settings
- Using Buttons and Actions.
- Creating Bookmarks with Various actions.
- Selection option
- Ask a Questions to create Custom visuals by Using Q&A
- Familiarizing different AI visuals
- Using Market Place to add Custom visuals to Visualizations
- Use Scrollers and Hierarchy Slicers from Market Place.
- Download and use different custom visuals from the gallery
- Sample Reports using Database Tables

DAX

- What is DAX?
- Why we use DAX?
- Basic DAX functions :- SUM, SUMX, CALCULATE…..
- Time intelligence functions :- SAMEPERIODLASTYEAR, DATEADD…
- Text functions :- CONTAINS, STARTSWITH, ENDSWITH..
- Mathematical functions :- DIFF, DIVIDE…

- Aggregate functions :- MIN, MAX, AVG…
- Logical functions :- IF, OR, AND, NOT….
- Count functions :- COUNT, DISTINCTCOUNT…
- Information functions :-ODD, EVEN, RANKX…
- Filter functions :- FILTER, ALL, ALLSELECTED ….
- Inter and Intra column operation :- RELATED,SUMMARIZE,SUMMRIZECOULMN…
- Data handling with tables
- Variables
- Conditional operation
- Visualizing DAX Calculations.
- Difference between Measures and Quick Measures
- How to organize all the measures

Reports and Dashboards

- How to save a report
- Modify and Print a Report
- Rename, hide and delete report pages
- Send a report to PowerPoint
- Introducing Power BI Service
- Publish reports to Power BI Service.
- Creating Dashboards
- Create and manage dashboards
- Pin a report tile to a dashboard
- Pin a live report page to a dashboard
- Pin a tile from another dashboard
- Build a dashboard with Quick Insights
- Interacting with your Dashboards
- Sharing Dashboards and Reports.
- Manage published reports
- Updating report options

Advanced Topics

- Calculated Columns
- Calculated Tables
- Variables
- KPI visual
- ArcGIS maps
- AI Visuals
- Analytics Pane
- Performance Analyser
- RLS / Data Level Security and OLS (Overview Tabular)
- Integration with Python and R - Overview

Python Training Modules

1. Introduction

2. Data Types & Variables

3. Python Operators

4. Python Strings

5. Python Lists

6. Python Tuples

7. Python Sets

 8. Python Dictionary

9. If Else Statement

10. While Loop

 11. For Loop

12. Functions

13. Recursions

 14. Lambda

15. Object Oriented Programming

 16. Inheritance(OOP)

 17. Math Functions

 18. Python Modules

19. User Inputs

 20. File Handling

 21. JSON

22. Pandas

23. Numpy

24. Advance OOPS Concept

25. Abstract

26. Polymorphism

27. Encapsulation

28. Database Connectivity Using(Pandas)&(Psycopg)

29. Server side scripting

30. Data Frame

31. Matplotlib

32. SciPy

33. JupyterNote

Fresher's / Career Break Candidates can get the below advantage from the Course.
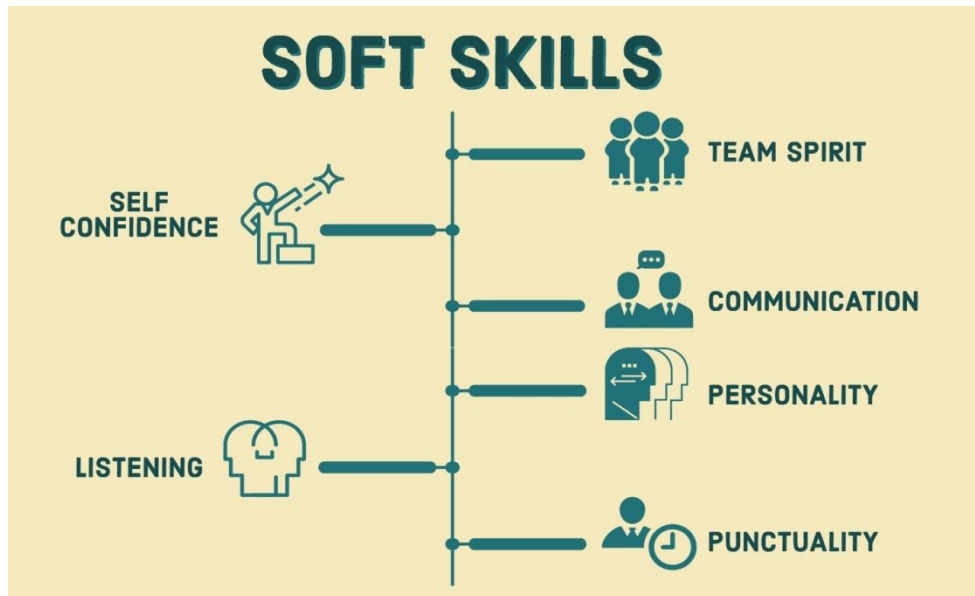
Soft skills are the interpersonal attributes you need to succeed in the workplace. Soft skills are a combination of personality traits, behaviours, and social attitudes that allow people to communicate effectively, collaborate, and successfully manage conflict. 75% of long-term job success comes down to soft skills mastery. The workers with soft skills training are 12% more productive than those without them.

We offer:

- **Resume Building Training**
- **Mock Interview Sessions &**
- **Communication Guidelines**

Business intelligence (BI) involves analyzing data sets and software programs in order to help a company make better business decisions.
Business intelligence is a technology-driven process, so people who work in BI need a number of hard skills, such as computer programming and database familiarity. However, they also need soft skills, including interpersonal skills.

While someone working in business intelligence requires a number of hard skills, communication is a critical soft skill.

This involves describing complex technical information to non-BI professionals. Therefore, people in business intelligence need to be able to communicate clearly and effectively.

Some are:

- PowerPoint
- Leadership
- Group presentations
- Secure information Collection
- Presenting graphical data
- Group discussion
- Writing summaries
- Technical writing
- Pitching proposals
- Teamwork
- Listening
- Handling Confidential and Complex Information

Problem Solving

Not only does someone in BI need to be able to analyze data, but they typically also have to offer solutions to executives based on that data. Therefore, a BI employee needs to come up with clear suggestions or solutions to help the company make better business decisions.

- Identifying and prioritizing problem areas
- Determining factors that contribute to problems
- Weighing alternative solutions
- Assessing stakeholder perceptions regarding problems
- Estimating costs for interventions
- Proposing solutions
- Persuading others to adopt solutions
- Creativity
- Decision making
- Research
- Project management
- Leading brainstorming sessions

RESUME BUILDING TRAINING

Add the Most Relevant Skills You Own to Your Resume

Construct your resume with KEY words that correspond to the skills related to BI, especially those key skills that are highlighted in the job description for your target position. Incorporate your phrases with skills words like analyzed, calculated, and programmed. Your statements need to be layered in order of relevancy to the priority qualifications of your target job.

Resume statements that projects impact and results produced need to be included. Lead with words like increased, enhanced, revamped, and improved, which point to value added.

Use quantitative descriptions whenever possible to highlight the magnitude of results generated—for example: "Identified options for telecom that reduced labor costs by 15%."

Your Cover Letter Needs a Highlight of your Skills

Include statements in your cover letter that portrays key analytical skills you have executed in various roles, with emphasis on skills that have led to solving problems. To draw attention to a skill, highlight it on your resume when you describe your previous positions, and possibly also in a separate skills list section.

Most importantly make sure you cover the requirements that employers have emphasized in their job advertisements. The closer a match your skills are to the job requirements, the better your chances are for being selected for an interview. Several employers utilize automated applicant tracking systems (ATS) to scan candidate resumes; these systems are programmed to search for specific keywords.

The more keywords your resume can "match," the more likely it is that your resume will be selected for review by human eyes.

Job Specific vs. Transferable Skills

Job-specific skills are those abilities that a candidate has for employment to succeed in a particular job. Some skills are attained by attending school or training programs. Others can be acquired through experience learning in real time. Job-specific skills vary based on the position.

Transferable skills consists of communication, organization, presentation, teamwork, planning, and time management, which are required in a broad array of jobs. These are those that you use in almost every job. Both types of skills can be included in a resume.

Not Every Skill Should Be Included in Your Resume

While listing your skills is a good thing, not every skill you possess needs to be - or should be - included. Plus, there is no need to include skills that do not relate to the job at hand. Be picky and smart while adding skills on your resume.

MOCK INTERVIEW SESSIONS

One should have knowledge on the industry trends in BI along with a deep understanding of the concepts. When working in business intelligence, you need to understand the industry in which you are working. For example, if you are working for a hospital as an Analyst, you need to have knowledge of current trends in the healthcare industry. This will help you understand and make better use of the data you analyze, and it will allow you to offer more useful solutions to executives.

- Industry trend analysis
- Identifying best practices
- Developing relationships with industry experts and influencers
- Understanding the impact of economic cycles on your industry sector
- Professional meetings and conferences, Online forums

Prepare for your interviews by making a list of the core analytical skills that best equip you to excel in your target job. Don't hesitate to share examples of how you have applied these skills to generate positive results in the past. Describe the situations, the actions you took emphasizing the skills you applied and the results of your interventions.

Handling Behavioral Interviews

- Familiarize yourself with common behavioral interview questions.
- Research the company to learn as much as possible about their goals and needs.

- Use the STAR interview technique to prepare examples to share during an interview:

   (S) A specific **situation**

   (T) The **tasks** that needed to be done

   (A) The **action** you took

   (R) The **results**, i.e., what happened

- Follow up after the interview.
- There are no right or wrong answers to behavioral interview questions. The interviewer's goal is to understand how you behaved in a given situation.