

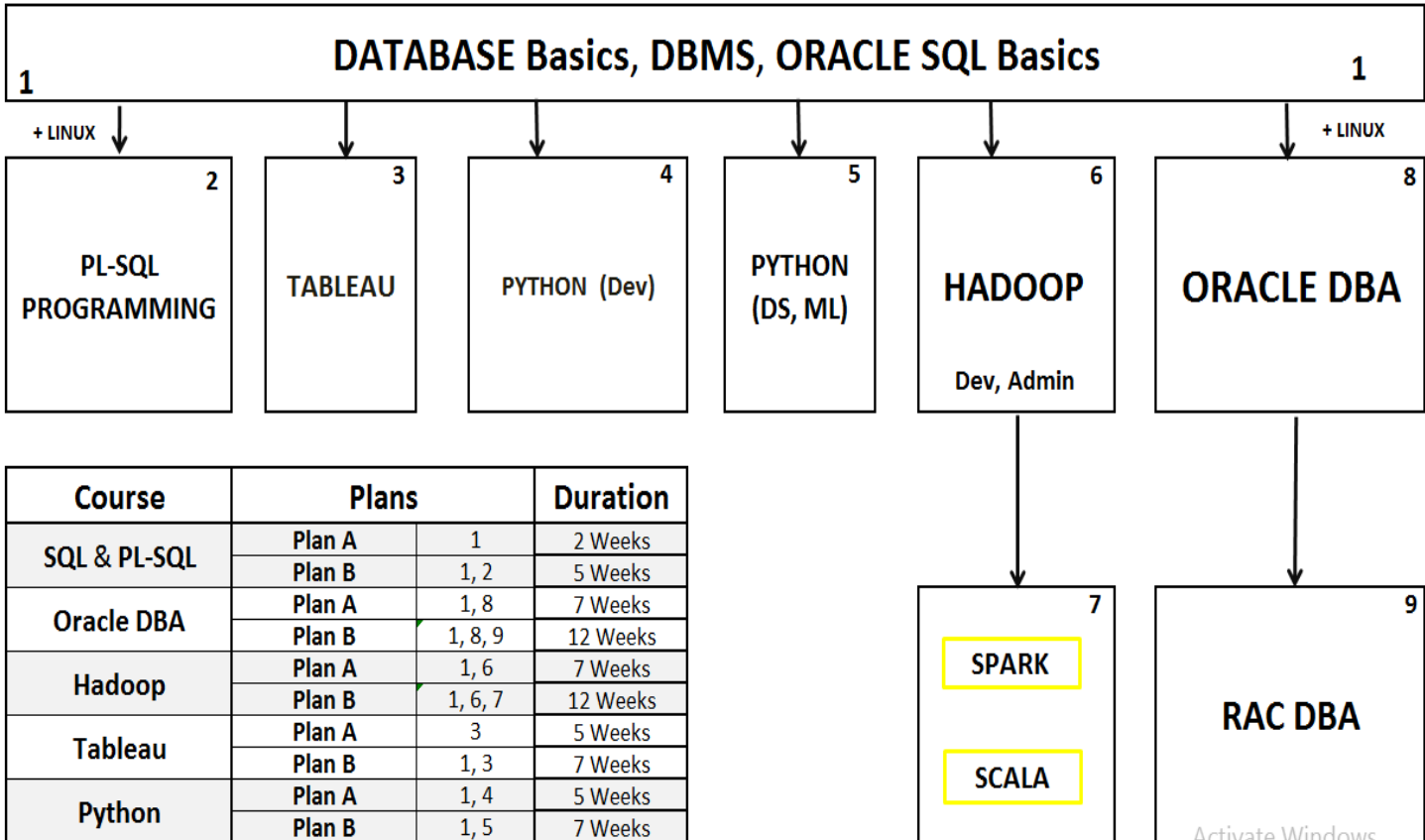
# SQL School <sup>TM</sup>

## Quality Training Assured

### Tableau Training

All Trainings Are Completely Practical, Real-Time. Resume, Placement Support Included

**For Free Demo Call Us [24 x 7] @ 9666 44 0801, 9666 64 0801**



Course	Plans		Duration
SQL & PL-SQL	Plan A	1	2 Weeks
	Plan B	1, 2	5 Weeks
Oracle DBA	Plan A	1, 8	7 Weeks
	Plan B	1, 8, 9	12 Weeks
Hadoop	Plan A	1, 6	7 Weeks
	Plan B	1, 6, 7	12 Weeks
Tableau	Plan A	3	5 Weeks
	Plan B	1, 3	7 Weeks
Python	Plan A	1, 4	5 Weeks
	Plan B	1, 5	7 Weeks

## Tableau Training

<b>Tableau Training Plans</b>			
Course Description	Tableau	PL SQL, Tableau	PL SQL, Python, Tableau
Total Duration	4 Weeks	8 Weeks	12 Weeks
Tableau Desktop and Report Design	✓	✓	✓
Data Modeling with Tableau Tools	✓	✓	✓
ETL and ELT Process with Tableau	✓	✓	✓
Tableau Prep and Data Mash-up	✓	✓	✓
Big Data Access in Tableau Reports	✓	✓	✓
Paginated Reports, Interactive Reports	✓	✓	✓
Table Cloud Configuration, Report Hosting	✓	✓	✓
Row Level Security (RLS) with Tableau	✓	✓	✓
Advanced Settings, Data Refresh, Rest API	✓	✓	✓
SQL Basics with DDL, DML, SELECT, DCL, TCL	✗	✓	✓
SQL Joins, Queries and Sub Queries	✗	✓	✓
Query Tuning and Excel Integration	✗	✓	✓
Basics of SPs, Functions, Transactions	✗	✓	✓
Using SQL with Real-world Reports	✗	✓	✓
Python Fundamentals (Basics)	✗	✗	✓
Python Modes and new IDEs	✗	✗	✓
Sequence, Lists, Tuple, Sets	✗	✗	✓
File Handling and Exception Handling	✗	✗	✓
Python Classes, XML Parser, Web Scrapping	✗	✗	✓
Unit Testing, Python Web, Data Analytics	✗	✗	✓
Data Science and Machine Learning Intro	✗	✗	✓
<b>Total Course Fee</b>	<b>INR 7,000</b>	<b>INR 13,000</b>	<b>INR 20,000</b>

### Schedules of Trainer Mr. Shekhar (15+ Yrs of exp.)

<b>Schedule I: 8:45 AM</b>	<b>Schedule II: 11:15 AM</b>	<b>Schedule III: 3:00 PM</b>
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# Tableau Training

## Tableau Developer

Applicable For Plan A, B, C

### Chapter 1: TABLEAU INTRODUCTION

Need for Business Intelligence (BI) \* Need for Reporting Tools \* Need for Data Visualizations; Tableau Data Analyst Roles; Tableau Business Analyst Roles; Tableau - Scope and Advantages; Why Tableau? Why Visualizations?; Level Setting and Terminology; Tableau Product Line in Real-world; Licensing and Pricing in Tableau; Integration Components in Tableau; Comparing Tableau and Power BI; Comparing Tableau and QlikView

### Chapter 2: TABLEAU INSTALLATION

Installing Tableau Desktop Tool; Understanding the Interface; Menu Options and Data Access Options; Integration Components in Tableau; Designing Basic Reports in Tableau; Understanding the Tableau workspace; Understanding Dimensions and Measures; Using "Show Me" Options & Workspace; Working of Shelves and Marks; Working of Shelves and Marks; Building Basic Views in Tableau; Help Menu and Samples in Tableau; Saving and Sharing your work; Application Terminology, Definitions; Data Source Page, Tableau Workspace; Distributing and Publishing Reports

### Chapter 3: TABLEAU PREP

Tableau Prep Interface - Examples; Building Flows in Tableau Interface; Input Step and Cleaning Step; Adding Data to Flow, Wildcard Union; Data Sampling, Additional Inputs; Data Cleansing - Context, Process; Annotations and Cleaning Options; Group & Replace, Out of Domain Values; Fuzzy Matching Algorithms and Notes; Profile Pane in Tableau & Errors; Data Highlighting, Distribution; Pivot Step and Aggregation Step; Join Configuration Pane, Join Edits; Union Configuration Pane, Union Edits; Output Step : Creation and Edits; Running the Flow, Multi Output; Preview in Tableau Desktop

### Chapter 4: DATA SOURCES IN TABLEAU

Connecting to DAT and CSV File Sources; Connecting to Excel File Sources, Sheets; Connecting to OLTP Database Sources; Connecting to DWH Database Sources; Connecting to OLAP Database Sources; Connecting to Cloud Databases Tableau; Connecting to Files & Folders in Tableau; Working with Multiple Sheets - Live, Extract; Extract Refresh, Publish Data Source; Metadata Edits, Connection Edits; Join Types: Inner, Outer and Union; Cross Database Joins, Data Blending; Data Blending - Calculations, Aggregations; Aestricks, Pdf Connections. Headers, Pivots

### Chapter 5: VISUAL ANALYTICS - Level 1

Marks and Mark Types in Power BI; Number, Aggregations in Marks; Building View, Highlights, Details; Hierarchies and Drilldown Options; Sorting from Pill, Nested Sorts; Grouping Headers,

Grouping Pane; Grouping Marks, Visual Grouping; Calculations, Parameters in Grouping; Creating and Combining Sets - Marks

### **Chapter 6: VISUAL ANALYTICS - Level 2**

Data Filters and Filter Shelf - Usage; Pill Types in Filtering and Dates; Measures and Continuous Dimensions; Interactive Filters - Layout Modes; Cascading Interactive Filters - Usage; Where Tableau Filters, Summaries; Data Source Filters, Record Filters; Context Filters and Worksheets; Filter Order with Filter Queries; Parameters in Tableau - Types; Parameters and Filters Usage; Parameters with Sets, Calculated Fields; Parameters with Reference Lines

### **Chapter 7: VISUAL ANALYTICS - Level 3**

Formatting Options with Tableau; Labels, Annotations and Tooltips; Formatting Specific Parts of the View; Editing, Formatting Axes. Map Layers; Formatting Pane: Formatting Menu; Font, Alignment, Shading, Borders; Lines, Copy/Paste, Workbook Formats; Tooltips: Storytelling, selection, Action; Command Buttons, Conditional Tooltips; Viz in Tooltip, Size and Filters; Trend Lines, Significance and Residuals; Command Buttons & Conditional Tooltips; Reference Lines: Adding, Edits, Formats; Lines, Bands, Distribution and Boxes; Reference Bands, Reference Distributions; Box Plots, Drop Lines and Forecasts

### **Chapter 8: VISUAL ANALYTICS - Level 4**

Forecast Fields and Descriptions; k-means Cluster Analysis, Conditions; Using MDX and cohort Calculations; Grouping and Calculated Members; OLAP Cube Reports in Real-time; Map Reports : Latitudes, Longitudes; Coordinate Points, Geo Coding; Plotting Graphs, Symbols, Filled Maps; WMS and Map Layers. Spatial Data; Polygon Maps, Background Images; Map box Integration - Classic and GL

### **Chapter 9: CALCULATIONS**

Tableau – Operators and Functions; Calculations Syntax, LOD Expressions; Numeric Calculations, String Calculations; Table Calculations and Field Set, Edits; Manual, Quick Table Calculations; Aggregate Calculations, Columns; Date Calculations, Tableau Dates; Logic Calculations, String Calculations; Number Calculations, Type Calculations; Nested LOD Calculations, Integrations; Granularity and Ratio Calculations

### **Chapter 10: TABLEAU CHARTS - Level 1**

Bar Chart : Simple Bar Chart; Bar Chart Color Range , Stacked Bar; Line Chart Simple Line Chart; Multiple Measure Line Chart; Line Chart with Label Tableau - Pie Chart; Simple Pie Chart Drill-Down Pie Chart; Crosstab, Simple Crosstab; Color Encoded Crosstab - Row Percentage; Scatter Plot, Simple Scatter Plot; Scatter Plot - Color Encoded Properties; Scatter Plot - Drill-Down Scatter Plot

### **Chapter 11: TABLEAU CHARTS - Level 1**

Bubble Chart : Simple Bubble Chart; Bubble Chart with Measure Values; Bubble Chart with Measure Colors; Bullet Graph and Real-time Use; Box Plot Creating Box Plot Tableau; Creating Tree Map - Bump Chart; Bump Chart and Gantt Chart; Gantt Chart Versus Histogram; Motion

Charts and Properties; Waterfall Charts and Properties

## **Chapter 12: DASHBOARDS & STORIES**

Dashboards and Stories in Tableau; Building Dashboards - Views, Sheets; Dashboard Size, Views, Objects; Legends and Quick Filters in Tableau; Tiles, Floating Layouts in Tableau; Layout Containers, Images, Web Pages; Dashboard Extensions, Management; API Extensions - Usage in Tableau; Device Designer - Default Layout; Adding and Customizing Layouts; Story Points - Creation and Updates; Bollinger Bands - Views, Summary; Data Cleansing - Bulk Re-aliasing

## **REAL-TIME CASE STUDY**

Working with Tableau Prep; Working with Tableau Desktop; Cloud Data Sources, Mapping; Data Cleansing and LOD Expressions; Calculations and Dashboards; Storytelling with Analytics, Filters

# **Tableau Administration**

**Applicable For Plan A, B, C**

## **Chapter 13: TABLEAU ONLINE**

Tableau Online - Architecture; Publish Tableau Workbook, Verify; Sharing Options and Layouts; Adding Device Layouts in Tableau Online; Adding Custom Layouts in Tableau Online; Adding Content to Custom Layouts; Java Script API in Table Online; Security Advantages @ Tableau Online

## **Chapter 14: TABLEAU SERVER**

Tableau Server - Architecture; Tableau Server - Installation Process; Publish Tableau Workbook, Verify; Sharing Options and Layouts; Adding Device Layouts in Tableau Server; Adding Custom Layouts in Tableau Server; Adding Content to Custom Layouts; Java Script API in Table Server; Tableau Online Versus Table Server; Security Advantages @ Tableau Server; Performance Advantages @ Tableau Server

## **Chapter 15: Collaborate TABLEAU ONLINE**

Tableau Online - Purpose, LIVE Reports; Projects and Workbooks in Tableau Online; Tableau Report Views in Tableau Online; Searching Content, Data Sources, Sites; Account Settings, Drill Down, Actions; Custom Views, Comments - Tableau Online; Downloads, Exports - Tableau Online; Sharing, Subscription and favorites; Web Authoring, Edits and Publish Online; Data Driven Alerts - Refining, Managing; Stacked Bars and Views For Alerting; Navigations, Snapshots, Searching; Mobile Reports - Phone Marks and Maps; Interacting with Content on Tableau Online

## **Chapter 16: Collaborate TABLEAU SERVER**

Tableau Server - Purpose, LIVE Reports; Projects, Workbooks in Tableau Server; Tableau Report Views in Tableau Server; Searching Content, Data Sources, Sites; Account Settings, Drill Down,

Actions; Custom Views, Comments in Tableau Server; Downloads and Exports in Tableau Server; Sharing, Subscription and favorites; Web Authoring, Edits and Publish Online; Data Driven Alerts - Refining, Managing; Stacked Bars, Alerting Views in Server; Navigations, Snapshots, Searching in Server; Mobile Reports - Phone Marks and Maps; Interacting with Content on Tableau Server

### **Chapter 17: MANAGE TABLEAU ONLINE**

Tableau Online - Administration Concepts; Tableau Sites, Users and Groups Security; Schedules, Tasks, Status in Tableau Online; Settings and Alerts in Tableau Online; Tableau Bridge - Need, Requirements; Bridge Client Setup and Secured Usage; Tableau Bridge Client - LIVE Connections; Tableau Command Line Utility - Usage; R Integration with Tableau Online; Cloud Integration with Tableau Online

### **Chapter 18: MANAGE TABLEAU SERVER**

Tableau Server - Administration Concepts; Tableau Sites, Users, Groups Security; Group Rules, Web Edits in Tableau Server; Project Permission and Locking Options; Data Security with user Filters in Server; user Filters and Hybrid Models in Server; Access Roles, Schedules, Extraction; TSM : Tableau Services Manager; TSM Configuration for Real-time Use; Browser, Maintenance, GUI and CLI; Backups and Restores with Tableau TSM; TSM Upgrades For Tableau Report Config.; Tabcmd : Command Line Utility - Imports; Tabcmd : user Import via CSV File; Comparing Tableau & Microsoft Power BI

### **REAL-TIME CASE STUDY**

Working with Tableau Online; Working with Tableau Server; Table Bridge with LIVE Edits; Data Refresh - Auto, Manual; Dashboards & Worksheets - Security; Users, Roles and Group Security

## **PL-SQL Course Content**

**Applicable For Plan B**

### **CHAPTER 1 : INTRODUCTION TO DBMS**

What is Data and Information?; Purpose of Data Management; File and File System For Data Storage; Disadvantages of File Data Management; Database : Purpose, Basic Terminology; Advantages of Database for Data Storage; Possible Operations on the Database; Database Models – Hierarchical Model; Network Model and Relational Model; Introduction to DBMS; Introduction to RDBMS; Database Design; Most Popular RDBMS Products; History, Real-time Database Examples (LIVE)

### **CHAPTER 2: ORACLE INSTALLATION**

Oracle 2018 Installation Guidance; Oracle 2012 Installation ; Installation Pre-Requisites and Precautions; Oracle Sql Developer; Oracle Sql Command prompt; Oracle Versions and Editions Comparisions ; Connect Sql Developer Tool; Creating a new User ; Grant permission; Lock and Unlock User Account; How to Reset User Account Password; SQL\* Plus; How to Establish the Oracle Connection; Default System user in Oracle; Default Sysdba user in Oracle

### **CHAPTER 3: INTRODUCTION TO RDBMS**

Features of RDBMS; Advantages of RDBMS; E.F Codd Rules for RDBMS; Normalization Concepts & Process; Client Server Communication; Oracle Corporation Products; RDBMS from Other Vendors: Microsoft, IBM, etc; Oracle Versions about SQL & SQL\*PLUS; Database Types: OLTP and OLAP Databases; Real-world Advantage of OLTP & OLAP; Why a database is called as Relational Database Model; Database Entites and Attributes; Applicative use of RDBMS Databases

### **CHAPTER 4 : SQL LANGUAGE COMMANDS**

Structured Query Language (SQL) Basics; What is SQL?; What Can SQL do?; Possible Operations with SQL; Data Definition Language (DDL); Data Retrieval Language (DRL); Data Manipulation Language (DML); Transaction Control Language (TCL); Database Security and Privileges (DCL); Rules of SQL Queries and Statements; Real-world applicative uses of SQL; Creating Users and Tables; Table Data Inserts and Validations; Oracle Data Types; DDL Commands with Examples; CREATE, ALTER, TRUNCATE,DROP,RENAME; Learn the DESCRIBE command to display the table structure; DML Command DRL Commands Operators; INSERT, UPDATE, DELETE Statements; Difference between Truncate and Delete commands; SELECT Statements with Multiplier; SQL Comments; Single Line Comments & Multi Line Comments; WHERE Keyword for Query Conditions

### **CHAPTER 5 : SQL SPECIAL OPERATORS**

SET, AND, OR, NOT, IN; Special Operators – IN (NOT IN); BETWEEN (NOT BETWEEN); Arithmetic and Logical Operators; Understand Operator Precedence; UNION, UNION ALL, INTERSECT, MINUS; LIKE (NOT LIKE), IS NULL (IS NOT NULL); Understanding DCL and TCL Commands; Transaction Concepts in Databases with SQL; Transaction Types and Uses; Commit and Rollback Operations; Nested Transactions with Savepoints; Database Read Consistency with SQL; DDL and DML Operations with Transactions

### **CHAPTER 6: GROUPING QUERY RESULTS**

Identify Distinct Values in Tables; Group Function or Aggregate function ; Group By Syntax; Group By Operations in Queries; Having Clause of DRL Statements; Aggregate Functions with Group By; Order By Clause and Group By; SQL Group By Statement; Query Execution Order with Group By; Arithmetic Functions, Character Function; Date & Time Functions, String Function; Conversion Functions, Analytical Function; Rank(), Dense\_Rank(),Row\_Number(); NVL(),NVL2(), NullIF(),Coalesce();

### **CHAPTER 7 : CONSTRAINTS & KEYS**

Importance of Data Integrity; Working with Integrity constraints; Types of Integrity Constraints; Domain Integrity Constraint and Usage; Entity Integrity Constraints and Usage; Referential Integrity Constraint and Usage; Check Constraints and Usage; NOT NULL Constraint, UNIQUE Constraint; PRIMARY KEY Constraint and Usage; FOREIGN KEY Constraints and Relations; Column Level & Table Level Constraints; Adding Constraints to Tables, User Constraints ; Enabling - Dropping Constraints; Disabling Constraints on Tables; Querying for Constraints Information, Self Referential Key

### **CHAPTER 8 : QUERIES & JOINS**

Need for Joins and Table Comparisons; SET Operations on Tables and Joins; Join Types : Equi Join,

Simple Join; Inner Join and Query Conditions; Cross Join (Cartesian Join), Conditions; Join syntax - Sql syntax and Ansi Syntax; Non-Equi Join and Self Join; Outer Joins – Types, Advantages and Usage; Cross Joins – Advantages and Limitations; Self Joins, Merge Joins and Sub Queries; Using Aliases in Joins and Conditions; Using Inner Self Joins with HAVING; JOINS and GROUP BY Queries

## **CHAPTER 9 : VIEWS, SYNONYMS,SEQUENCES**

VIEWS IN ORACLE, Understanding Views & Use; Relational Views and Standard Views; SIMPLE VIEWS and COMPLEX VIEWS in PLSQL; Column Definitions in VIEWS; Using VIEWS for DML Operations; Forced Views, CHECK Constraints in Views; Creation of READ ONLY VIEWS - Realtime Use; TOP-N Analysis, (Indexed) Materialized Views; SequenWorking ces, with Synonyms; What is the Use of Synonym in Oracle?; Difference between View and Synonym in Oracle; When should Table Synonyms be used?; Public Synonym and Private Synonyms; All\_Synonyms and Db\_Synonyms System Tables; Creating Index Tables – Purpose

## **CHAPTER 10 : SUB QUERIES, NESTED QUERIES**

Sub Queries in Real-world; Dynamic Conditions with Sub Queries; Sub Queries and Nested Sub Queries; How does oracle Execute Nested Sub Queries?; Inner Select and Outer Select Queries; Usage of Sub Queries with WHERE, HAVING; Impact of Having Clause in Sub Queries; Select Nth Highest salary ; Select Duplicate Records; Delete Duplicate Records; Advantages of Oracle Sub Query; Subquery in the Select Clause Examples; Subquery in the From Clause Examples; Display Odd Rows in a table; Display Even Rows in a table; Execution of Correlated Sub Queries in SQL; IN, ANY SOME, ALL Operators in Sub Queries; PAIR WISE and NON PAIR WISE in Sub Queries; Single Row Subquery & Multiple Row Subquery; Multiple Column Subquery; UnCorrelated Subquery; Difference between Correlated and Non-Correlated Subquery; How does Oracle Execute Correlated Subquery?; NULLS and Correlated Sub Queries in SQL

## **CHAPTER 11: LOCKS in ORACLE TABLES**

Open Transactions and Lock Concepts; Lock Types and Locking Mechanism; Row Level Locks for Table Data Access; Table Level Locks and Query Blocking; Shared Lock and Real-time Use; Shared Update Lock and Real-time Use; Exclusive Lock and Real-time Use; DeadLock : Detection, Prevention, Avoidance; Implicit Locking Concepts in Oracle with PLSQL; How to check howmany locks are occured?; LOCK Hints and Query Blocking; What is row exclusive lock in Oracle?; What is lock in SQL?; What are different types of locks?

## **CHAPTER 12 : PERFORMANCE (QUERY) TUNING**

Indexes - Definition and Architecture; B Tree Concept in Indexes; Clustered and Non clustered Indexes; Primary Key and Clustered Index; Unique Key and Non Clustered Indexes; Simple Index, Rebuild Index; Materialized Views - Indexed Views; Composite Index, Function Based Index; User\_indexes System Table; Range Partitions and Hash Partition; Partion “VALUES LESS THAN “ Clause; List Partition and Composite Partition; Parallel Query Process with Partitions; Performance Tuning Advantages

## **CHAPTER 13 : PL/SQL – (CONTROL STRUCTURE) - Level I**

Simple If, If..Else. Nested If..Else Statements; Ladder, Selection, Simple Case Statements; GOTO Label and EXIT Statements in PL/SQL; Iterations in PL/SQL, Simple LOOP, WHILE; FOR LOOP and NESTED



LOOPS in PLSQL; PL/SQL Select statements; SQL within PL/SQL, Composite Data Types; Cursor Variables and with Sub Queries, Reference Cursors; Implicit Cursors, Explicit Cursor; Parameterized Cursors, Ref Cursors; REF Cursors Management in PL/SQL; Implicit & Explicit Cursors and Attributes; Cursor with Parameters and Nested LOOPS; REF Cursors

### **CHAPTER 14: ADVANCED PL/SQL - 1**

Procedures in PL/SQL: STORED PROCEDURE; PROCEDURES @ Parameters (IN, OUT, IN OUT); POSITIONAL Notation and NAMED Notation; Procedure with Cursors and Sub Queries; ALTER and DROP of Stored Procedures; Functions in PL/SQL: Real-time Usage; User Defined Functions, Nested Functions; Using Functions in SQL Statements; Working with Procedures and Functions; Comparing Stored Procedures and Functions; Using SPs with Table Value Functions; Using SPs for Dynamic SQL Statements; Loops and Table Variables in SQL Programs ; Merge, NVL2(), NULLIF(), COALESCE(); CASE & Temporary /Global Tables

### **CHAPTER 15 : ADVANCED PL/SQL - 2**

Cross Tab Views using Pivot/Unpivot Operators; Follows Clause and READONLY Tables; IN-LINE VIEWS. Manipulations with Triggers; Purity Levels in Oracle - with Examples; User\_Source Dictionary Table Packages; Creating PACKAGE Specifications with PLSQL; PACKAGE Body - Examples with Big Data Tables; Private and Public Objects in PACKAGE; Types of Exceptions: User Defined Exceptions; EXCEPTIONS in PL/SQL with Real-time; Event Handling and Error Handling Techniques; Important Error Code Values in PL/SQL; RAISE\_APPLICATION\_ERROR Procedure

### **CHAPTER 16 : ADVANCED PL/SQL - 3**

Pragma\_Autonomous\_Transaction() with SPs; Returning into clause, Bulk Collect; For All, Definer/Invoker Rights & Usage; About Flash Back Queries, Dynamic SQL; Flash Back Command, Purge Command; Regular Expressions in PLSQL; What is the Recycle Bin?; How to Delete RecycleBin Table?; How to Delete Recycle Bin?; SQL Loader - Flat file into Oracle table; Abstract Datatypes; DML Error Logging and Virtual Columns; Types of Triggers, Row Level Triggers; Statement Level Triggers, DML Triggers; DDL Triggers and Schema Level Triggers; Using OLD & NEW References, Trigger Auditing; Enabling / Disabling Triggers, Dropping Triggers; Triggers in PL/SQL and Data Manipulations; Using Memory Tables in Triggers; DML and DDL Events with Triggers; Compound Triggers, New data types; Working with LARGE Tables in PLSQL; New: EXTRACT(), Autonomous Transaction; Pragma Exception\_init in oracle

### **CHAPTER 17: IMPLEMENTING OBJECT TECHNOLOGY – Level I**

Object Technology and Applicative Use; OOPS-Object Instances, Creation of Objects; Creating User Defined Data Types; Creating Object Tables in Oracle; Inserting rows in Table using Object; Retrieving data from Object Based Tables; Calling a Method, Indexing Abstract; Data type Attributes in PLSQL; Advantages of Collections; Ref Cursor (Dynamic Cursor), Weak Ref Cursor; Strong Ref Cursors and Nested Tables; Associative Arrays, VARRAYS/VARYING arrays; Creating tables using Nested Tables; Inserting, Updating & Deleting; Nested, Table Records

### **CHAPTER 18: IMPLEMENTING OBJECT TECHNOLOGY – Level II**

Perform a Basic Search using the REGEXP\_LIKE function; patterns using the REGEXP\_INSTR function;

Extract Substrings using the REGEXP\_SUBSTR function; Replace Patterns Using the REGEXP\_REPLACE ; Invisible Columns in Oracle Database 12c ; What is fetch in SQL?; Can we use limit in Oracle?; What is offset in Oracle?; Is PL SQL object oriented?; What is Oracle object type?; What is object type in Oracle PL SQL?; Is Oracle object oriented database?; What is PL SQL in Oracle?; What is Oracle constructor?

# Python Programmer Course Content

Applicable for Plan C

## DAY 1 : INTRODUCTION TO SCRIPT

What is Script in Python? ; What is a program in Python? ; Types of Scripts in Python? ; Difference between Script ; programming languages list ; main features of scripting Lang. ; limitation of client side scripting ; Programming Language Paradigms ; Basic understanding of Python ; Is Python a compiled language? ; Where is python used in real life? ; Why Python is called Python? ;

## DAY 2 : INTRODUCTION TO PYTHON

What is Python Programming? ; Why Python is used in DS? ; Where is python Mostly used? ; Characteristics of Python Programming; History of Python Programming Language; What is PSF Python Programming? ; Python Versions - Python Application ; How to Download Python, print to the screen ; How to Install Python , Creating Program ; Install Python with Diff IDEs ; Features of Python Programming ; Limitations of Python Programming ;

## DAY 3 : DIFFERENT MODE IN PYTHON

Execute the Script - Interactive & Script Mode ; Python File Extensions - Script Mode ; SETTING PATH IN Windows - Clear Screen ; Learn Python Main Function - Comments ; Quit the Python Shell - Simple Calculator ; Order of operations - Multiline Statements ; Quotations in Python - Python Path Testing ; Joining two lines - Python Implementation ; Python Packages - Usage of Python in DS ; USES OF PYTHON IN IOT - Working in Python ; in Unix/Linux/Windows/Mac/Android..!! ; script Mode and Interactive mode ;

## DAY 4 : PYTHON NEW IDEs

PyCharm IDE - How to Work on Pycharm ; PyCharm Components - Debugging in Pycharm ; PYTHON Install Anaconda - What is Anaconda? ; Coding Environments - Spyder Components ; General Spyder Features - Spyder Shortcut Keys ; Jupyter Notebook - What is Conda? ; Conda List - Jupyter and Kernals Environment ; Python PIP - Mutable Versus Immutable Objects ;

## Variables in Python

What is Variable? - Variables and Constants; Variable names - Mnemonic Variable Names; Values and Types - What Does "Type" Mean? ; Multiple Assignment - Python Numerical types ;

## **DAY : 5 Python Operators and Operands**

Arithmetic Operators - Relational Operators ; Comparison Operators - Assignment Operator ; Short hand Assignment Operators ; Logical Operators or Bitwise Operators ; Membership Operators - Identity Operators ; Operator precedence - Evaluating Expressions ; python evaluate expression in string ; Standard Datatypes - Operators and Operands ; Order of operations - Swap Variables ; Types Conversion Function - Python Math. ; Mutable Versus Immutable Objects ; Operator precedence - Evaluating Exp. ; Evaluating expressions in python ;

## **DAY 6 : String Handling**

what is String ? - String Operations - String indices ; String Functions - len , upper, lower,join,Split ; SwapCase(), Title(),find(), isupper(), islower(); Delete a string - Python Keywords ; String Multiplication and concatenation ; Python Identifiers - Python Literals ; string formatting operator in python ; Built-in String Methods - Data Structures ; Structuring with indentation in Python ; Define Data Structure in Python Language ; Reverse words - Reverse Characters Examples ; How do you split a string in Python? ;

## **DAY 7 : Python Conditional**

Control Structures - Sequential Control Structure ; Selective and Repetitive Control Structure ; How to use “if condition” in conditional ; control Structures in python ; if statement (One-Way Decisions) ; if .. else statement (Two-way Decisions) ; How to use “else condition” ; if .. elif .. else statement (Multi-way) ; When “else condition” does not work ; How to use “elif” condition ; How to execute conditional statement with ; minimal code - Nested IF Statement ; Nested IF Statement in python ;

## **DAY : 8 Python LOOPS**

How to use While loop and For loop ; Break and Continue Statements in For loop ; Python Enumerate function for For Loop ;

## **Sequence or Collections and Lists**

Strings - Unicode Strings ; Lists - Tuples - Sets - Dictionary - Xrange ; Lists are mutable - Accessing the List ; Updating a List - Deleting a List ; List indices - Traversing a list ; List operations - List Slices - List Methods ; Map, filter and reduce - Deleting elements ; What is list of list in python? ; What is Python list function? ; How do you add to a list in Python? ;

## **DAY 9 : Python TUPLE**

Advantages of Tuple over List ; Packing and Unpacking - Tuples ; Creating Nested tuple - Examples ; Deleting Tuples - Slicing of Tuples ; Comparing Tuple Membership Test ; Built in Functions ,Dotted Charts ;

## **Python Sets**

how to create/declare a set in python ; Iteration Over Sets - Python Methods ; Python Set Operations - Union of Sets ; Built-in Functions with Set ; python frozenset get element ;

## **DAY 10 : Python Dictionary**

How to create a dictionary? ; PYTHON HASHING - Dictionary Methods ; Copying dictionary - Updating Dictionary ; Delete Keys from the dictionary ; Sorting the Dictionary - Dictionary len() ; Python Dictionary in-built Functions ; Variable Types - python List Cmp() ; Python List cmp() Method ; Python Dictionary Str(dict) ; How do you create a dictionary in Python? ; Can Python dictionary have multiple values? ; How do you add to a dictionary in python? ;

## **DAY 11 : Python Functions**

What is a function? - Types of Function ; How to define and call a function in Python ; Significance of Indentation (Space) in Python ; How Function Return Value? ; Types of Arguments in Functions ; Default Arguments - Non Default Arg. ; Keyword Arguments - Non Keyword Arg. ; Arbitrary Arguments in python ; Various Forms of Function Arguments ; Scope and Lifetime of variables - Nested Fun ; Call By Value, Call by Reference in python ; Anonymous Functions/Lambda functions ;

## **DAY 12 : Python Modules**

What is a Module? - Types of Modules ; The import Statement - The from... import st ; ..import \* Statement - Underscores in python ; The Dir() Function in python ; Creating User defined Modules ; Command line Arguments in python ; Getting Python Module Search Path ; What are modules and packages in Python? ; What is Python import statement? ; How do you import random in Python? ; import <module\_name> string python ; from <module\_name> import <name(s)> ; from <module> import <name> as <name> ;

## **DAY 13 : Packages in Python**

What is a Package in Python? ; Introduction to Packages? ; py file - Creating a package ; Importing module from a package ; Creating Sub Package in Python ; Importing from Sub-Packages ; Most Popular Python Packages ; How many libraries are there in Python? ; What are libraries in Python? ; What is the difference between NumPy & SciPy? ; Why is SciPy and NumPy used? ; Python what is Seaborn? - Examples ; Is NumPy a Python framework? ;

## **DAY 14 : Python Date and Time**

How to Use Date & DateTime Class ; How to Format Time Output ; How to use Timedelta Objects ; Calendar in Python ; datetime classes in Python ; How to Format Time Output? ; Python Calendar Module, Time Module ; Python Text Calendar ; Python HTML Calendar Class ; Unix Date and Time Commands ; Python strftime(); How strftime() works? ;

## **DAY 15 : Python OS Module**

Shell Script Commands in OS Modules ; Various OS operations in Python ; Python File System Shell Methods ; Different Python Modules ; os - math - cmd - csv - random ; Numpy (numerical python) ; Pandas - sys - Matplotlib - Datetime ;

## **Python Exception Handling**

Common RunTime Errors in PYTHON ; Abnormal termination,Python Custom Exception ; Chain of importance Of Exception,Assertions ; Exception Handling, Argument of an Exception ; Try ... Except,Try...Except...else,Try...finally ;

### **DAY 16 : Python Class and Objects**

Introduction to OOPs Programming ; Object Oriented Programming System ; Define Classes - Built in Class Attributes ; Creating Objects - Constructors ; Class variables and Instance Variables ; Basic concept of Object and Classes ; Access Modifiers - Self Variable in python ; How to define Python classes ; Python Namespace - Garbage Collections ; What is Inheritance? Types of Inheritance? ; Single Inheritance - Hierarchical Inheritance ; Multilevel,Multiple,Hybrid Inheritance ; Overloading and Over Riding ; Polymorphism - Abstraction – Encapsulation ;

### **DAY 17: Python Regular Expressions**

What is Regular Expression? ; Regular Expression Syntax ; Understanding Regular Expressions ; Regular Expression Patterns ; Literal characters - Repetition Cases ; Groups and Grouping Regular Expressions ; Example of w+ and ^ Expression ; Example of \s expression in re.split function ; Using regular expression methods ; Using re.match() in Regular Exp. ; Finding Pattern in Text (re.search()) ; Using re.findall for text ;

### **DAY 18: Python-Data Base Communication**

What is Database? Types of Databases; What is Database Management System ; What is Relational DBMS? ; What is Big Data? Types of data? ; Oracle - SQLSERVER - MYSQL - DB2 ; Postgre SQL - DataBase Sample ; Executing the Queries - Bind Variables ; Installing of Oracle Python Modules ; Executing DML Operations..!! ; Connecting to the Database ; Create a connection object. ; Create a cursor object to read/write. ;

### **DAY 19: Multi-Threading**

What is Multi-Threading ; Threading Module in python ; Defining a Thread in python ; Thread Synchronization ; What is python multithreading? ; Does Python have true multithreading? ; Difference between multiprocessing & multithreading ; Why does Python have a Gil? ; Thread Control Block (TCB): ; Thread Identifier in MultiThreading ; Stack pointer in multi-Threading ; Program counter, Thread State ;

### **DAY 20 : Introduction to Python Web**

Python Web Frameworks ; Django – Design Form or patterns ; Advantages of Django Web Framework ; MVC and MVT - Installing Django ; Designing Web Pages using python ; HTML5, CSS3, AngularJS Templates ; PYTHON Flask - Java Script variables ; PYTHON Bottle - PYTHON pyramid - Falcon ; How Python is used for web programming? ; Can I build a website with Python? ; Is Python suitable for Web development? ; What is Python and Django? ;

### **DAY 21: GUI Programming-Tkinter**

Introduction to Tkinter GUI Program ; Components and Events in Tkinter ; Adding Controls in Tkinter form ; Entry Widget, Text Widget, Radio Button, ; Check Button in Tkinter forms ; List

Boxes, Menus, ComboBox, Canvas, Entry ; What is Tk () in Python? ; What is Mainloop () in Python? ; What is the best GUI for Python ? ; Can we make a GUI in Python? ; MessageBox ,simpdialog ; messagebox tkinter methods ; showinfo(),showerror(), showwarning() ;

### **DAY 22: Data Analytics**

Introduction to data Big Data? ;Introduction to NumPY and SciPY ; Introduction to Pandas and MatPlotLib ; Data Science ; What is Data Science in Python ; Data Science Life Cycle in python ; what is data analysis using python ; what is Data Mining in Python ; Analytics vs Data Science in python ; How Python is used in big data? ; Is Python or R better for data science? ; Why is Python used in data science? ;

### **DAY 23 : Internet of Things**

IMPACT OF THE INTERNET; What is IOT - History of IOT; What is importance of Network? ; What is importance of Protocol? ; What is smart\_open in python; How Internet of Things Works? ; The Future of Internet of Things; What is future of Internet of Things; Is Python used in IoT? - Framework; Which language is better for IoT? ; How many IoT devices will be there? ; How many IoT devices are there? ;

### **DAY 24 : Introduction to Machine Learning**

Learning with PYTHON ; What is Machine learning? ; Machine Learning Methods ; predictive models in python ; Descriptive Models in Python ; What are the steps used in Mach. Learning? ; what is deep learning in python ; How Python can be used in Mach. learning? ; Which Python library is used for Mach.Learning? ; What is PredictionIO machine learning server? ; What are some well open source ML libraries? ; Why are most machine learning projects? ; Some good open source projects for ML ; What is the best open source machine translation? ;