

## **PGDCA**

# **MICROSOFT OFFICE**

## **WINDOWS EXPLORER**

- Types of Computer Keyboard Keys
- Computer Mouse Cursor Shapes
- Introduction of Computer
- Definition of Computer
- Hardware & Software
- Binary Language
- Classification of Computers
- Characteristics of Computer
- Block Diagram of Computer
- Open Application Windows
- Control Menu for Application Window
- Organize Folders & Files
- Personalize of Desktop Screen and Display Settings of Icons

## **MICROSOFT WORD**

- Introduction about MS Word Application
- Basic Parts of MS Word Window
- File Menu of MS Word Application
- Data Clipboard Settings
- Setting Font Formats
- Settings Paragraph Formats
- Changing Paragraph Styles

### **Our Courses**

Java Full Stack, Dotnet Full Stack, Python Full Stack, Data Science (AI & ML), Front End – Angular, Front End – React, Testing, Tools – QA, Digital Marketing, Tally, MS Office, C & DS, Java, Advanced Java, Azure Devops, UI Technologies

- Document Data Editing
- Create Document Pages
- Create Different Format Tables
- Formatting Pictures
- Formatting Shapes
- Formatting SmartArt's
- Formatting Screenshots
- Insert Graphical Reports
- Insert Hyperlinks & Objects
- Insert Header & Footer, Page Numbers
- Formatting Text Boxes
- Insert WordArt
- Insert Signature Line, Date & Time
- Setup Pages Margins, Orientation , Size
- Covert Data in to Columns
- Apply Page Numbers & Hyphenation
- Creating Page Watermarks
- Apply Page Colors
- Apply Page Borders
- Adjusting Paragraphs Indents & Spacing
- Create Index Tables
- Checking Spelling & Grammar, Document Word Count
- Protect/Unprotect Document
- Changing Document Views & Zoom Levels

## **BASIC EXCEL**

- Introduction about MS Excel Application
- Basic Parts of MS Excel Window
- File Menu of MS Excel Application

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- Excel Work Book & Work Sheet
- Data Clipboard Settings
- Setting Font Formats
- Cell Data Alignments
- Number Format Cells
- Table Format Cells & Styles
- Insert Work Sheet Columns & Rows
- Delete Work Sheet Columns & Rows
- Adjust Columns Widths & Rows Height
- Visibility & Organize Work Sheets
- Data Series Fillings
- Cells Data Paste Special
- Insert Hyperlinks
- Insert Header & Footer
- Set the Paper Margins, Orientation, Size
- Set Print Area & Insert Page Breaks
- Sheet Background & Print Titles
- Set Scale to Fit of Sheet
- Print Gridlines & Headings
- Date Formulas
- Time Formulas
- Mathematical Formulas
- Financial Formals
- Statistical Formulas
- Logical Formulas
- Text Formulas
- Name Manager with Define Names
- Protect Work Sheet
- Workbook Views

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### Our Courses

Java Full Stack, Dotnet Full Stack, Python Full Stack, Data Science (AI & ML), Front End – Angular, Front End – React, Testing, Tools – QA, Digital Marketing, Tally, MS Office, C & DS, Java, Advanced Java, Azure Devops, UI Technologies

- Set Sheet Zoom Levels
- Set Sheet Freeze Panes

## **ADVANCED EXCEL**

- SUMIF Formulas
- COUNTIF Formulas
- Subtotal Formulas
- Database Formulas
- VLOOKUP Formulas
- HLOOKUP Formulas
- Text To Columns
- Create Cell Conditional Formatting
- Create Pivot Tables & Graphical Reports
- Remove Duplicates
- Auto Filter Functions
- Advanced Filter Data Functions
- Calculating Inputs with Goal Seek
- Calculating Results with Data Table
- Subtotal Functions with Category Wise

## **MICROSOFT POWERPOINT**

- Introduction about MS PowerPoint Application
- Basic Parts of MS PowerPoint Window
- File Menu of MS PowerPoint Application
- Insert New Slides
- Change Slide Layouts
- Create Photo Album
- Insert Hyperlinks
- Insert Time & Date, Slide Numbers

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### **Our Courses**

Java Full Stack, Dotnet Full Stack, Python Full Stack, Data Science (AI & ML), Front End – Angular, Front End – React, Testing, Tools – QA, Digital Marketing, Tally, MS Office, C & DS, Java, Advanced Java, Azure Devops, UI Technologies

- Insert Video Clips & Audio Clips
- Setup Slide Size, Orientation
- Apply Slide Themes, Colors & Fonts
- Format Slide Background Styles
- Hide/Unhide Background Graphics
- Setup Slide Transition Effects
- Apply Transition Sound & Duration Time
- Apply Animation Effects & Preview
- Start Slides Shows & Custom Slide Shows
- Set Up Slide Show & Hide/Unhide Slides
- Set Slide Show Rehearse Timings
- Presentation Views and Zoom Levels

## **MICROSOFT ACCESS**

- Introduction about MS Access Application
- Basic Parts of MS Access Window
- File Menu of MS Access Application
- Create Table Design Format
- Create Table Data with Format
- Create Relationships between Multiple Tables
- Preparation of Query Design
- Preparation of Query Wizard

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## **C & DS**

### **About C-Language Training**

C is an basic building block for every languages .It is a general Purpose Language. To develop the programming skills „C“ is the only platform for to develop programming techniques for any type languages. It is an Mid-level programming language for systems programming very widely used, relatively low-level, weakly typed, systems programming language associated with Unix and through that with Linux and the open source movement Performance becomes somewhat portable. Many Applications Like System Software, Application Software, Embedded Systems, Cool Games, Mobile applications, Device Drivers Programming etc of the World applications written in C and the List continues.... C Designed and implemented by Dennis Ritchie 1972.

### **C Training Course Objective**

This Course main objective for the student to develop primary programming skills upto the higher end in order solves the different programming logics. The students can able write different type of logics at the end of the sessions. After learning the C course the student can able get all the fundamental knowledge in all the languages. After Completion the student can able to attend any MNC Company interview and can solve the technical rounds both theoretically and practically. We Provide lot of logical examples to make as good as.

### **Why This Course is Required**

One thing we can speak without C Knowledge there is no Programming Logics to learn any language. There is no interviews for a Fresher without C language. To learn Java, .Net, Databases the list continues so many we require “C” Knowledge for a student Finally to tell many languages are internally Programmed by only C Language.

### **C Training Course Overview**

#### **Introduction to ‘C’ language**

- Features of C
- History
- Structure of C Program
- Keyword, Identifiers & Constants

#### **Data types**

- Primitive Data Types
- Aggregated Data Types

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## Operators

- Binary Operators
- Unary Operators
- Ternary Operators
- Special Operators
- Order of Evaluation **Selections**
- Simple if
- if..else
- Nested if
- if..else ladder
- Goto Statement
- Break and Continue Statement
- Switch..Case statement

## Iteration

- While
- For
- Do..While
- Nested loop Statements

## Arrays

- Introduction to arrays
- Need for Arrays
- Types of arrays
- One Dimensional Arrays
- Two Dimensional Arrays
- Multi Dimensional Arrays

## String manipulation

- Declaring String
- Initializing String
- String Functions
- String Formatted Specifiers
- Multiple Strings

## Functions

- Interdiction to Functions
- Need for Functions

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## Our Courses

Java Full Stack, Dotnet Full Stack, Python Full Stack, Data Science (AI & ML), Front End – Angular, Front End – React, Testing, Tools – QA, Digital Marketing, Tally, MS Office, C & DS, Java, Advanced Java, Azure Devops, UI Technologies

- Classification of Functions
- Function Prototype
- Defining Function
- Calling Function
- Function with Arrays
- Function with Strings
- Recursive Functions

#### **Storage class specifiers**

- Automatic
- Extern
- Static
- Register

#### **Structures, unions, enum**

- Introduction to structures
- Declaring a Structure
- Introduction to Structures
- Structures with Arrays
- Structures with Function
- Nested Structures
- Introduction to Union
- Declaring Union
- Difference between Structures and Unions
- Enumerations
- Typedef

#### **Pointers**

- Introduction to Memory
- Introduction to Pointers
- Operations on Pointers
- Pointer to Pointer
- Pointer to Array
- Array to Pointers
- Void pointers
- Call by Value and Call by Reference
- Passing Pointers to Functions
- Functions returning Pointers

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- Pointer to Functions
- Dynamic Functions Call with Function Pointer
- Pointers with Structures

### **Dynamic memory allocation**

- Allocation (Malloc, Calloc & Realloc)
- De – Allocation (Free)

### **Files**

- Introduction
- File Input, Output Operations
- Sequential Files
- Random Access Files
- Command Line Arguments
- Handling Errors
- Database vs File System

### **Graphics**

- Introduction to Graphics
- Initializing Graphics
- Graphic Drivers & Modes
- Graphic Functions

### **Data Structures (DS)**

- Introduction
- Stacks using Arrays
- Stacks using Linked List
- Queues using Arrays
- Queues using linked List
- Singly Linked List
- Doubly Linked List
- Searching Techniques – Linear, Binary
- Sorting Techniques – Bubble, Insertion

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## C++

### **About C++ Training**

C++ is general Purpose Programming language which supports Object Oriented Concepts. Generally C++ is a Super Set of C Language Every C application can be upgraded in C++ with Object Oriented Concepts There are many application like Operating Systems. Unix, Windows, Linux, NoCrysis Warhead and Other Coolgames, No Photoshop, No FireFox, No VLC, No FL Studio, No Playstation, No XBOX and the list continues . 90% of the applications in the world are written in C and C++.

### **C++ Training Course Objective**

The main objective student can able to implement the applications can develop the Programs with classes and objects. The developed application of C can change into with classes and can add all the object Oriented Concepts. Developing in C++ the application is more optimized and efficient than C.

### **C++ Training Course Duration**

- Normal Track 45 Working days, daily one and half hours.
- Fast Track 35 Working days, daily two hours.

### **C++ Training Course Overview**

#### **Basic In C++**

- Programming Methods
- Object Oriented Programming
- Introduction to C++
- Variables, Datatypes, Operators
- Reference Operator
- Scope :: Resolution Operators
- New Structure of a C++ Program

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## **Our Courses**

Java Full Stack, Dotnet Full Stack, Python Full Stack, Data Science (AI & ML), Front End – Angular, Front End – React, Testing, Tools – QA, Digital Marketing, Tally, MS Office, C & DS, Java, Advanced Java, Azure Devops, UI Technologies

## Control Structures

- Conditional – if, if...else, Nested if...else, Switch...Case
- Loops – While, do...While, For, Nested Loops
- Jump – Goto, Continue & Break

## Functions

- Introduction a Function
- Defening a Function
- Prototypes
- Actual and Formal Arguments
- Parameter Passing Techniques
- Call by Value
- Call by Reference
- Call by Pointer
- Default Arguments
- Function Overloading
- Inline Functions

## Oops Concepts

- Encapsulation
- Abstraction
- Polymorphism
- Static Binding
- Dynamic Binding
- Inheritance
- Message Passing
- Class
- Object

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## Our Courses

Java Full Stack, Dotnet Full Stack, Python Full Stack, Data Science (AI & ML), Front End – Angular, Front End – React, Testing, Tools – QA, Digital Marketing, Tally, MS Office, C & DS, Java, Advanced Java, Azure Devops, UI Technologies

### **Classes and Objects**

- Class Declaration
- Access Member and Member Functions
- Creating Objects
- Differences between Class and Structure
- Objects as arguments
- Returning Objects
- Static Members
- Friend Functions
- Friend Classes

### **Constructors and Destructors**

- Introduction
- Defining Constructor
- Comparing Constructor Member Function
- Default Constructor
- Argument Constructor
- Copy Constructor
- Constructor Overloading
- Default Argument in Constructor
- Destructor
- Defining Destructor

### **Operator Overloading**

- Need of Overloading
- Defining Operator Overloaded Function
- Operator Overloading Rules
- Overloading Unary Operators

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- Overloading Unary Operators using Friend
- Overloading Binary Operators
- Overloading Binary Operators using Friend
- Overloading Other Operators

### **Inheritance**

- Introduction
- Types of Inheritance
- Single Level Inheritance
- Multilevel Inheritance
- Multiple Inheritance
- Hybrid Inheritance
- Hierarchical Inheritance
- Base Class
- Derived Class
- Inheritance Scope
- Protected Members
- Virtual Base Class
- Virtual Destructors

### **Advanced Class Concepts**

- Container Class & Contained Class
- Local Classes
- Inheritance v/s Containershi

### **Polymorphism and Virtual Functions**

- Type Polymorphism
- Dynamic Binding
- Function Overriding

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- Difference between Function Overloading and Overriding
- Need of Virtual Functions
- Pure Virtual Functions

### Templates

- Need of Template
- Defining Template
- Function Templates
- Class Templates

### Exception Handling

- What is Exception?
- Need of Handling Exceptions
- Types Of Exceptions
- Exception Handling Mechanism

### Streams

- Hierarchy of I/O Streams
- Istream Class Functions
- Ostream Class Functions
- IOS Class Functions
- Manipulators

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## Files

- Hierarchy of File Streams
- Opening a File
- File Opening Modes
- Sequential Access Files
- Random Access Files
- Command Line Arguments

## Oracle Training Course Overview

### Introduction to DBMS:

- Approach to Data Management
- Introduction to prerequisites
- File and File system
- Disadvantages of file
- Review of Database Management Terminology
- Database Models
- Hierarchal Model
- Network Model
- Relational Model

### Introduction to RDBMS

- Feature of RDBMS
- Advantages of RDBMS over FMS ad DBMS
- The 12 rules (E.F Codd's Rules –RDBMS)
- Support of Normalization Process for Data Management
- Oracle Corporation Products
- Oracle Versions
- About SQL&SQL\*PLUS

### Sub Language Commands:

- Data Definition Language (DDL)
- Data Retrieval Language (DRL)
- Data Manipulation Language (DML)
- Transaction Control Language (TCL)
- Database Security and Privileges (DCL)

### Introduction to SQL Database Object

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## Our Courses

Java Full Stack, Dotnet Full Stack, Python Full Stack, Data Science (AI & ML), Front End – Angular, Front End – React, Testing, Tools – QA, Digital Marketing, Tally, MS Office, C & DS, Java, Advanced Java, Azure Devops, UI Technologies

- Oracle Pre Defined Data types
- DDL Commands
- Create, Alter (add, modify, rename, drop)Columns, Rename, truncate, drop
- DML-Insert, update, delete
- DQL-SELECT Statements using WHERE clause
- Comparison and Conditional Operators
- Arithmetic and Logical Operators
- Set Operators (UNION, UNION ALL, INTERSECT, MINUS)
- Special Operators – IN (NOT IN), BETWEEN (NOT BETWEEN), LIKE (NOTLIKE), IS NULL (IS NOT NULL)
- Working with DML, DDL Commands
- Operators Support

### **Built in Functions**

- Arithmetic Functions, Character Functions, Date Functions, Conversion Functions
- Aggregate Functions, OLAP Functions & General Functions

### **Grouping the Result of a Query**

- Using Group by and Having Clause of DDL Statement
- Using Order by clause

### **Working with Integrity Constraints**

- Importance of Data Integrity
- Support of Integrity Constraints for Relating Table in RDBMS
- NOT NULL constraint
- UNIQUE constraint
- PRIMARY KEY constraint
- FOREIGN KEY constraint
- CHECK constraint
- Working with different types of integrity Constraints

### **REF constraint**

- Understanding ON DELETE clause in referential integrity constraint
- Working with composite constraint
- Applying DEFAULT option to columns
- Working with multiple constraints upon a column
- Adding constraints to a table
- Dropping of constraints
- Enabling / Disable constraints
- Querying for constraints information

### **Querying Multiple Tables (Joins)**

- Equi Join/Inner Join/Simple Join

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- Cartesian Join
- Non-Equi Join
- Outer Joins
- Self Join

### **Working with Sub Queries**

- Understanding the practical approach to Sub Queries/Nested Select/Sub Select/Inner Select/Outer Select
- What is the purpose of a Sub Query?
- Sub Query Principle and Usage
- Type of Sub Queries
- Single Row
- Multiple Row
- Applying Group Functions in Sub Queries
- The impact of Having Clause in Sub Queries
- IN, ANY/SOME, ALL Operators in Sub Queries
- Correlated Sub Queries
- Handling Data Retrieval with EXISTS and NOT EXISTS Operators

### **Working with DCL, TCL Commands**

- Grant, Revoke
- Commit, Rollback, Savepoint
- SQL Editor Commands
- SQL Environment settings

### **Maintaining Database Objects VIEWS in Oracle**

- Understanding the Standards of VIEWS in Oracle
- Types of VIEWS
- Relational Views
- Object Views
- Prerequisites to work with views
- Practical approach of SIMPLE VIEWS and COMPLEX VIEWS
- Column definitions in VIEWS
- Using VIEWS for DML Operations
- Putting CHECK Constraint upon VIEWS
- Creation of READ ONLY VIEWS
- Understanding the IN LINE VIEWS
- About Materialized Views
- View Triggers

### **Working with Sequences Working with Synonyms Pseudo Columns in Oracle**

- Understanding Pseudo Columns in Oracle
- Types of Pseudo Columns in Oracle

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- CURRVAL and NEXTVAL
- LEVEL
- ROWID
- ROWNUM

#### **Data Partitions & Parallel Process**

- Types of Partitions
- Range Partitions

#### **Locks**

- Row level Locks
- Table Level Locks
- Shared Lock
- Exclusive Lock
- Dead Lock

#### **PL-SQL (Procedure Language – SQL)**

- Introduction to Programming Languages
- Introduction to PL/SQL
- The Advantages of PL/SQL
- PL/SQL Architecture
- PL/SQL Data types
- Variable and Constants
- Using Built\_in Functions
- Conditional and Unconditional Statements
- Simple if, if... else, nested if..else, if..else Ladder
- Selection Case, Simple Case, GOTO Label and EXIT
- Iterations in PL/SQL
- Simple LOOP,WHILE LOOP,FOR LOOP and NESTED LOOPS
- SQL within PL/SQL
- Composite Data types (Complete)
- Cursor Management in PL/SQL
- Implicit Cursors
- Explicit Cursors
- Cursor Attributes
- Cursor with Parameters
- Cursors with LOOPS Nested Cursors
- Cursors with Sub Queries
- Ref. Cursors
- Record and PL/SQL Table Types

#### **Advanced PL/SQL**

- **Procedures in PL/SQL**

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- STORED PROCEDURES
- PROCEDURE with Parameters (IN,OUT and IN OUT)
- POSITIONAL Notation and NAMED Notation
- Procedure with Cursors
- Dropping a Procedure
- **Functions in PL/SQL**
- Difference between Procedures and Functions
- User Defined Functions
- Nested Functions
- Using stored function in SQL statements
- **ⓧ Packages in PL/SQL**
- **ⓧ Creating PACKAGE Specification and PACKAGE Body**
- Private and Public Objects in PACKAGE

#### **EXCEPTIONS in PL/SQL**

- **Types of exceptions**
- User Defined Exceptions
- Pre Defined Exceptions
- RAISE\_APPLICATION\_ERROR
- SQL Error Code Values

#### **Database Triggers in PL/SQL**

- Types of Triggers
- Row Level Triggers
- Statement Level Triggers
- DDL Triggers

### **Core Java Syllabus**

#### **About Core Java Training**

- ⓧ Entire SCJP syllabus will be covered
- ⓧ Every program execution will be explained with Compiler and JVM Architectures
- ⓧ Every program memory diagram will be clearly explained with JVM Architecture
- ⓧ large Programs will be covered in training as well as in practice material
- ⓧ Entire list of interview questions will be covered on every concept
- ⓧ Every concept will be clearly explained with real-time project scenarios
- ⓧ Therefore you will get good knowledge in designing and developing projects
- ⓧ So that you can clear all interviews as a fresher or as an experienced

#### **Core Java Training Course Prerequisite**

- ⓧ C-Language , Anyone Can Learn

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### **Our Courses**

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### **Core Java Training Course Duration**

- ☑ Normal Track 45 Working days, daily one hour
- ☑ Core Java Training Course Overview

### **Volume -1: Java Language, OOPS, Programming**

1. Introduction to Java and OOPS
2. Java Tokens
  1. Comments,
  2. Identifiers,
  3. Keywords,
  4. Character Set
5. Variables
6. Datatypes
  1. Primitive Datatypes
  2. Reference Datatypes
3. Working with Java Editor Softwares and IDE
  1. Editplus,
  2. NetBeans
  3. Eclipse
4. Type Conversion, Casting & Promotion
  1. Widening Type Casting
  2. Narrowing Type Casting
5. Operators and Control Statements
6. Method and Types of methods
  1. Mutable Methods
  2. Immutable Methods
  3. Initialize Methods
7. Constructor and Types of constructors
  1. Compiled Constructor
  2. Default Constructor
  3. Parameterized Contractor
  4. Constructor Overloading
  5. Constructor nesting
  6. Copy Constructor
  8. Block and Types of Blocks
9. Declarations, Invocations and Executions
10. Compiler & JVM Architecture
11. Static Members and their execution control flow
  1. Static Fields
  2. Static Methods
  3. Static Blocks
12. Non-Static Members and their execution control flow
13. Final

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1. Final Variables
2. Final Methods
3. Final Classes
14. Deleting an Object
  1. Garbage Collection
  2. Garbage Collector
15. Arrays
  1. Single Dimension
  2. Double Dimension
  3. Jagged Arrays
16. Var-arg types
17. Classes and Types of classes
18. Abstract Method and Abstract Classes
19. Interface
20. Packages with static imports
21. Working with jar
22. Modifiers
  1. Non Access Modifiers
    1. Static, Final, Transient, volatile, synchronized , abstract, strictfp
  1. Access Modifiers
    1. Private, protected , public and default
23. Reading runtime values from keyboard and Properties File
  1. Using BufferedReader
  2. Using Command Line Arguments
  3. Using Scanner Class
  4. Using DataInputStream
24. OOPS- Fundamentals,
  1. Class and Object
  2. Inheritance
  3. Single
  4. Multi-Level
  5. Multiple
  6. Hierarchical
  7. Hybrid
  8. Multi-Path
25. Polymorphism
  1. Compile-time
  2. Run-Time polymorphism
26. Coupling and Cohesion
27. Enum and Annotation

### **Volume -2: Java API and Project**

1. Fundamental Classes – Object, Class, System, Runtime
2. String Manipulation

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1. Using String
2. Using StringBuffer
3. Using StringBuilder
4. Using String Tokenizer
3. Exception Handling
  1. Working With try,catch, throw, throws and Finally
  2. Checked Exception
  3. UnChecked Exception
  4. Userdefined Exception
4. Multithreading
  1. Thread Based Multi Tasking
  2. Process Based Multi Tasking
  3. Thread Life Cycle
  4. Thread Implementation Using
1. Java.lang.Thread
  1. Working start( ), stop( ), join( ), notify( ),notifyAll( ),..
  2. Java.lang.Runnable
5. IO Streams (java.io)
  1. Differences Between 8 bit Stream and 16 Bit Streams
  2. OutputStreams
    1. FileOutputStream
    2. BufferedOutputStream
    3. ByteArrayOutputStream
    4. DataOutputStream
    5. ObjectOutputStream
  3. InputStreams
    1. FileInputStream
    2. BufferedInputStream
    3. ByteArrayInputStream
    4. DataInputStream
    5. ObjectInputStream
  6. Working with transient
  7. File inflater and File Defalter
  6. Networking (Socket Programming)
  7. Wrapper Classes with Auto boxing & unboxing
  8. Collections
    1. Collection
    2. List
    3. Set
    4. SortedSet
    5. NavigableSet
    6. Queue

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### Our Courses

Java Full Stack, Dotnet Full Stack, Python Full Stack, Data Science (AI & ML), Front End – Angular, Front End – React, Testing, Tools – QA, Digital Marketing, Tally, MS Office, C & DS, Java, Advanced Java, Azure Devops, UI Technologies

7. Map
8. SortedMap
9. NavigableMap
9. Generics
10. Java 5, 6, 7, 8 new features
11. Inner classes
  1. Static Inner Class
  2. Anonyms Inner Class
  3. Inner Class Inside Methods
12. AWT, Swings,
  1. LayoutManager
  1. BorderLayout
  2. FlowLayout
  3. GridLayout....
2. Event Delegation Model
  1. Window Listener
  2. ActionListener
  3. MouseListener
  4. ItemListener
13. Applet
  1. Loading UserInterface
  2. Animation Using Strings
  3. Animation Using Circle and Other Objects
4. Loading Images
14. Regular Expressions
15. Formatting date, time (java.text package)

### **Advanced Java Syllabus**

#### **About Advanced Java Training**

The course builds a strong understanding of JDBC Technology. It gives in to demonstrate why Servlets are the cornerstone of Java's Web platform. It then shows how JSP is built on the Servlet architecture. Additionally, the class shows students how to use JSTL, custom tags and expression language to reduce Java code in Web pages while adding tremendous power and capability to those pages. The class culminates in an exploration of Java MVC frameworks like Struts at a high level. This is not a class that focuses on theory. Participants will find the course is loaded with practical labs and simulations. After taking this class,

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#### **Our Courses**

Java Full Stack, Dotnet Full Stack, Python Full Stack, Data Science (AI & ML), Front End – Angular, Front End – React, Testing, Tools – QA, Digital Marketing, Tally, MS Office, C & DS, Java, Advanced Java, Azure Devops, UI Technologies

developers will be able to build Web applications that perform well, are scalable, and that are easier to maintain.

### **Advanced Java Training Course Prerequisite**

Basic Knowledge of Core Java is required. An understanding of Web technologies like HTML and HTTP is helpful.

### **Advanced Java Training Course Objective**

Learn the fundamentals of JDBC and using the different interfaces in the JDBC API. Learn how to use Java servlets in the role of Web application control. Identify the options to state management in a Java Web application and understand the pros/cons of each. Understand how JSPs can help to separate Web logic and functionality from page layout. Explore how to make JSPs smaller and more powerful with JSTL, custom tags and expression language. Explore strategies in the exchange of data between Web pages (views) and business processing (model). Learn the meaning and importance of MVC

### **Advanced Java Training Course Duration**

45 Working days, daily one hour

### **Advanced Java Training Course Overview**

#### **JDBC 4.0**

- Introduction to JDBC
- JDBC architecture
- java.sql Package
- Connection, Statement, ResultSet
- Prepared Statement
- Callable Statement
- Scrollable and Updatable ResultSet
- Batch Updates

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- ResultSetMetaData
- Simple Transaction Management
- Four Levels of JDBC drivers, their pros & cons
- Features of JDBC 3.0

### **Servlets 3.0**

- Need of Server side Programming
- Introduction to Servlets
- Servlet Life Cycle
- javax.servlet package
- ServletConfig, ServletContext, ServletResponse
- Supplying initialization parameters to Servlets
- Performing database operations in Servlets
- Include and forward mechanisms
- Applying filters to Servlets
- javax.servlet.http Package
- HttpServlet Life Cycle
- Http request methods GET vs POST
- HttpServletRequest, HttpServletResponse
- Session Tracking, purpose
- Cookies
- Http Session, URL rewriting
- Event listeners

### **JSP 2.2**

- Disadvantages of Servlets
- Introduction to JSP
- JSP Life Cycle

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- Creating dynamic Web content with JSP
- Scripting elements
- Scriptlet
- Declaration
- Expression
- XML syntax for JSP elements
- JSP directives page, include and taglib
- JSP implicit objects
- JSP scopes
- Include and forward mechanism
- Using a Java bean in a jsp
- Classic Tags, Simple Tags
- Error Handling in a jsp

### Introduction to HTML 5

- How it works
- Structure of an HTML Doc HTML First Application Rules of HTML coding HTML Headings
- HTML Paragraphs
- HTML DIV Tag
- HTML Span Tag
- HTML Text Formatting Tags
- HTML Un ordered Lists
- HTML Ordered Lists
- HTML Images
- HTML Tables
- HTML Links
- HTML Entities
- HTML I frames

### **(A Food Website)**

### HTML forms(20 input types)

- Introduction to HTML Forms
- HTML Form Elements like Input, text area, select Box, data list etc.
- HTML Form Input Types HTML Form Attributes

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- HTML Field Set & Legend Tags (**Online Job Application Form**)

### Layout Elements in HTML 5

- Introduction HTML Header Tag HTML footer Tag
- HTML Section, Article Tags HTML Aside Tag
- HTML Nav Tag

HTML figure, figcaption tags HTML Details, Summary tags HTML Audio, and Video tags  
(**Documentation Website**)

### Introduction to CSS3

- Introduction,
- CSS Selectors,
- CSS Pseudo classes selection Inline CSS,
- Internal CSS,
- External CSS
- CSS Basics
- CSS Colors RGB, HEX, HSL, RGBA, HSLA
- CSS Backgrounds
- CSS Borders
- CSS Margins
- CSS Paddings
- CSS Outlines
- CSS Text Formatting
- CSS Fonts
- CSS Links
- CSS Tables
- CSS Positions
- CSS Box Model
- CSS Display Properties
- CSS Floats
- CSS Vertical Navigation bar
- CSS Horizontal Navigation bar
- CSS Dropdowns
- CSS Dropdown Navigation bar
- CSS Tooltips CSS Forms
- CSS Image Gallery
- CSS 2D Transformation
- CSS 3D Transformation
- CSS3 Transitions
- CSS3 Animations
- CSS3 Advanced Animations

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- CSS3 Flex boxes
- CSS3 Media Queries (**Electronic Gadgets Website**) (**Online Resume Website**) (**OYO Rooms Website**)

### JavaScript with ES6

- Introduction to JavaScript JavaScript features
- Understanding Runtime Env Why to Learn JavaScript Setting up Development Env JavaScript
- Variable Declaration
- JavaScript Data Types
- JavaScript Operators
- JavaScript Conditional Statements
- JavaScript Intro Data Structures
- JavaScript Objects
- JavaScript Arrays
- JavaScript Functions
- JavaScript Math object ,
- Javascript Date object,
- Javascript String object,
- Javascript Number Objects
- JavaScript DOM Intro
- JavaScript DOM Manipulations
- JavaScript Event Handling
- JavaScript Event Listeners
- JavaScript Form validation
- JavaScript Number App
- JavaScript Calculator App
- JavaScript SMS App
- JavaScript Digital clocks
- JavaScript Dependent Select Boxes
- **(JavaScript Typing Tester App)**

### Advanced JavaScript

- JavaScript Call back Functions
- JavaScript Promises
- JavaScript Scopes & Closures ES6 features
- ES6 Template Strings

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- ES6 for-of loops
- ES6 Arrow Functions
- ES6 DE structuring Concept
- ES6 Spread Operators
- ES6 Classes
- ES6 Inheritance with Classes
- ES6 Collections like Map,
- Set JavaScript Exception Handling

## PYTHON

### CORE PYTHON

- What is Python ?
- Uses of Python
- Features of Python

### PYTHON ENVIRONMENT

- Installation of Python
- Path Settings of Python
- Python Shell, Editors , IDLE's
- Basic Syntax
- Running Python Scripting
- Getting Started
- Language fundamentals
- Keywords
- Data types
- Static Data types Vs Dynamic Data types
- Collection Types
- Mutable Objects vs Immutable Objects
- Naming Conventions
- Print( ) , type( ) , id( ) functions
- Input( ) and Raw\_input( )
- Type conversion Function
- Del keyword

### STRING HANDLING

- What is String ?
- String-quoted String literals
- Triple-quoted String Literals

- While Loop
- While..else
- For loop
- Using Range( ) in for loop
- Nested Loops
- Break Statement
- Continue Statement
- Pass Statement

### COLLECTIONS

- Introduction Of Collections
- List
- Tuple
- Set
- Dict
- Collection indexing and slicing
- Functions for all Collections
- Working with methods of Collections
- Nested Collections
- Implementation of SET operations
- Getting dictionary values
- Reading file data into a dictionary
- Counting with dictionary
- Difference between list , set and dictionary

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- String Indexing
- String Slicing
- Working with String Functions
- Working With String methods
- String multiplication

#### **OPERATORS**

- Arithmetic Operators
- Relation Operations
- Logical Operations
- Assignment Operators
- Short hand Assignment Operators
- Membership Operators
- Bitwise Operators
- Identity Operators
- Evaluating expressions

#### **FLOW CONTROLS**

- Conditional Statements
- Simple if
- If..else
- If..elif
- Looping Statements

- Sorting Collections

#### **FUNCTIONS**

- Defining a function
- Calling function
- Types of arguments
- Default arguments
- Non default arguments
- Keyword arguments
- Non keyword arguments
- Arbitrary arguments
- Return statement in function
- Handling returning values
- Global vs local variables
- Scope of global variables and local variables
- Call by values
- Call by reference
- Passing function to functions
- Lambda functions / anonymous functions

#### **MODULES**

- What is modules ?
- Types of Modules
- The import Statement
- Module Aliases / renaming a module

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## JQuery

- Introduction JQuery Basics
- JQuery Selectors
- JQuery Events
- JQuery Effects
- JQuery Examples
- JQuery DOM Manipulation
- JQuery forms Manual
- JQuery forms Automatic
- JQuery with Bootstrap App
- JQuery html dom methods
- JQuery Css dom methos
- JQuery Animations
- JQuery effects
- JQuery selectors
- JQuery hide, show, slide show more effects
- AJAX Basics JSON Basics
- JavaScript AJAX JQuery AJAX
- JQuery AJAX with Bootstrap

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## Bootstrap 5

- What is Bootstrap? Features of Bootstrap History of Bootstrap Bootstrap Overview Bootstrap Installation
- Tools Used for Web Development Setting Development Environment Bootstrap First Application Bootstrap Components Overview
- Basic Typography
- Text Alignment & Display Floats
- Position in Bootstrap
- Colors Background
- Spacing in Bootstrap
- Sizing in Bootstrap
- Breakpoints in Bootstrap
- Buttons in Bootstrap
- Navigation bars in Bootstrap
- List groups and Badges in Bootstrap
- Forms in Bootstrap
- Input groups in Bootstrap
- Alerts & Progress bars in Bootstrap
- Tables & Pagination in Bootstrap
- Cards in Bootstrap
- Media Objects
- Grid System in Bootstrap Grid Alignments in
- Bootstrap Flex boxes in Bootstrap
- Auto margin & wrapping order in
- Carousels in bootstrap
- Collapse classes in Bootstrap
- Tooltips in Bootstrap
- Popovers in Bootstrap
- Modals in bootstrap

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