



Python Full Stack

Duration: 100 Hrs.

Course Highlights:

Basic Python

Introduction to Python

- Installing Python and Environment setup, basic Syntax.
- Variable, Identifier, Keywords, Comments, Indentation, Data types, Operators.

Decision Making & Control Flow

- if statement, if - else, if – elif -else, Nested if – else.
- While loop, for – in loop, Nested loop, Loop with else, pass statement, break and continue.

Functions

- Defining function, Function call, call by value or call by reference.
- Local and global variable, Recursion, Anonymous (lambda) function.
- Function: Types of Argument -Required argument, Keyword arguments, Default arguments, Variable-length arguments.

Modules & Packages

- Defining module, importing module, Module search path, Reloading a module.
- Defining & Importing package, Installing third party packages.

Numeric Types & Date-time

- Numeric type basics, Numbers-Hexadecimal, Octal and Binary Notation, Complex Numbers, Type casting, Numeric Functions, Random number generation.
- Date & Time.

String

- Creating a string, accessing characters of string, Immutability, Deleting and Updating string, String methods, String formatting Expressions.

List

- Creating a list, accessing list elements, adding, updating & deleting list.
- Functions used with list, List comprehension, Operations.

Tuple

- Creating a tuple, accessing elements of tuple, Immutability, Operations.
- Functions used with tuple.

Dictionary

- Creating a dictionary, accessing dictionary items, Adding, updating & deleting a dictionary
- Dictionary methods, Dictionary Comprehension.

Set

- Defining and creating set, set operations & Set methods, Set comprehension.

File Handling



- Defining a file, Types of files, File operations, File positions, File modes, File attributes.
- Pickle module.

Exception Handling

- Defining an exception, Exception handling techniques.
- Raising exception (raise), User defined exceptions, Nested try block, finally block.
- Python Logging, Python Assertion

Python Miscellaneous Topics

- Python Iterators, Python Generators.
- Python Closures, Python Decorators.

Advance Python

Object Oriented Programming

- OOP concepts, Method Overloading, Destroying Objects (Garbage Collection), Constructor.
- Inheritance, Method overriding, Operator overloading, Abstract method & class, Python Interface, Python Inner Class, Python Anonymous class & Objects.
- Python Singleton Class, Python Reflections, Python Enums, Wrapper Classes

Python Regular Expression

GUI Programming with Tkinter

- Introduction to tkinter, Creating a window, Tkinter widgets

XML Parser

JSON Concepts

MySQL & MongoDB

- Database Handling & CRUD Operation.

Python CGI Programming

- CGI Architecture, web Server Support and configuration, CGI Program.
- File Upload & Download

Database Programming

- Python CGI CRUD Application using MySQL

Python Framework

Flask:

- Flask Introduction & Environment, Routing & URL Building
- HTTP Methods, Templates & Static Files, Request Object, rendering external HTML Files, Redirect and Errors.
- Flask Cookies & Session, Message Flashing, Flask sjax
- File Uploading, Sending email.
- CRUD Application in Flask with SQLite & MySQL, SQL Alchemy & ORM.
- REST API using Flask.

Django

- Django Overview & Environment, creating a Project, Run Django Application on Server.



- Apps Life Cycle, URL Mapping, Creating Views, Index Page, Templates System, Add Master Template, static file.
- Django MVT, Django Admin, Django Migration, Django - Models
- Django with MySQL Database (CRUD)
- Working with Form, File Uploading
- Django REST API.

Project

