Python Django Full Stack Development

Understanding HTML4 & HTML5

- What is Markup Language
- Basic Structure of HTML
- Head Section and Elements
- Meta Tags
- External Link Tags
- HTML Structure Tags
- Create Table, Div and Frame Tag
- Content and Header Tags
- Paragraph, Span, Pre Tags
- Anchor Links and Named Anchors
- Object,Iframe and Image Tag
- Implementing iFrame in Realtime
- Working with Forms
- Form Tag and Attributes
- POST and GET Method
- Text Input, TextArea, Checkbox and Radio
- Password Field
- Select Option, Option Group
- File Field and Hidden Fields
- Submit, Reset, Image Buttons
- Relation between HTML Form and PHP
- XHTM
- What is XHTML
- Difference between HTML & XHTML
- XHTML Basics
- Introduction to Doc Types
- XHTML Validation
- HTML5 (Latest Version)

• Introduction to HTML5

• Whats new in HTML5

• HTML5 Apis

• HTML5 Semanticg Tag

• HTML5 Multimedia

• Search, Email and Url Tel Input

Cascading Style Sheets (CSS2 & CSS3)

• Introduction to Cascading Style Sheets

• Types of Style Sheets

• Media Type

• Default CSS Properties

• Types of CSS Selectors

• Adjacent Sibling Selector

• Other Selectors

• CSS properties

• Type Properties

• Background Properties

• Block Properties

• Box Model Properties

• List Properties

• Border Properties

• Positioning Properties

• CSS Optimization Tips

• CSS Compression

• (CSS 3.0 - Latest Version)

• Introduction to CSS 3

• Basic CSS3 Selectors

• Advanced CSS3 Selectors

• New CSS3 Properties

• CSS Rounded Corners

• Border Image

• Box and Text Shadow

• Multiple Backgrounds

• Background Origin

• Background Resize

• CSS Clip, Gradients, Opacity

• Transitions & Transform

Bootstrap

• Bootstrap Setup

• Benifits of Bootstrap

• Basics of Bootstrap

• Project Design Using Bootstrap

Java Script

• Introduction to Client Side Scripting

• Introduction to Java Script

• Javascript Types

• Variables in JS

• Operators in JS

• Conditions Statements

• Java Script Loops

• JS Popup Boxes

• JS Events

• JS Arrays

• Working with Arrays

• JS Objects

• JS Functions

• Using Java Script in Realtime

• Validation of Forms

• Related Examples

Jquery and jQuery UI

• Introduction to jQuery

• jQuery Features

• Installing jQuery

• jQuery Syntax

• jQuery Ready Function

• jQuery Selectors

• jQuery Actions

• jQuery Custom Functionality

• jQuery Libraries

• jQuery Validation

• jQuery Slideshow

• jQuery Dropdown

• JS Functions

• jQuery UI

• Working with jQueryUI

• jQuery Accordions

• jQuery Tabs

• jQuery Tooltips

• jQuery Autocomplete

Python

Overview

• Why do we need Python?

• Program structure

Environment Setup

• Python Installation

• Execution Types

• What is an interpreter?

• Interpreters vs Compilers

• Using the Python Interpreter

• Interactive Mode

• Running python files

• Working with Python shell

• Integrated Development Environments (IDES)

• Interactive Mode Programming

• Script Mode Programming

Basic Concepts

• Basic Operators

• Types of Operator

• Python Arithmetic Operators

• Python Comparison Operators

• Python Assignment Operators

• Python Bitwise Operators

• Python Logical Operators

• Python Membership Operators (in, not in)

• Python Identity Operators (is, is not)

• Python Operators Precedence

Basic Concepts

• Data Types

• Variables

• Assigning Values to Variables

• Multiple Assignment

• Python Numbers

• Python Strings

• Accessing Values in Strings

• String Special Operators

• String Formatting Operator

• Triple Quotes

• Built-in String Operations

• Python Lists

• Accessing Values in Lists

• Updating Lists

• Delete List Elements

• Basic List Operations

• Indexing, Slicing, and Matrixes

• Built-in List Functions & Methods

• Python Tuples

• Accessing Values in Tuples

• Updating Tuples

• Delete Tuple Elements

• Basic Tuples Operations

• Indexing, Slicing, and Matrixes

• No Enclosing Delimiters

• Built-in Tuple Functions

• Python Dictionary

• Accessing Values in Dictionary

• Updating Dictionary

Delete Dictionary Elements

• Properties of Dictionary Keys

• Built-in Dictionary Functions & Methods

Basic Operators in Python

• Types of Operator

• Python Arithmetic Operators

• Python Comparison Operators

• Python Assignment Operators

• Python Bitwise Operators

• Python Logical Operators

• Python Membership Operators (in, not in)

• Python Identity Operators (is, is not)

• Python Operators Precedence

Loops and Decision Making

• if statements

• ..else statements

• nested if statements

• while loop

• for loop

- nested loops
- Loop Control Statements
- 1) break statement
- 2) continue statement
- 3) pass statement

SECTION – II

Functions

- Defining a Function
- Syntax
- Calling a Function
- Pass by reference vs value
- Function Arguments
- Required arguments
- Keyword arguments
- Default arguments
- Variable-length arguments
- The return Statement
- Scope of Variables
- Global vs. Local variables

Python Modules and Packages

- Framework vs Packages
- Folium Introduction
- Why are modules used?
- Creating modules
- The import Statement
- The from...import Statement
- The from...import * Statement
- Locating Modules
- The PYTHONPATH Variable
- Namespaces and Scoping
- The dir( ) Function

• The globals() and locals() Functions

• The reload() Function

• Packages in Python

Basic OOPs Concept

• Creating class in Python

• Documented String

• Private Identifier

• Constructor

• Inheritance

• Polymorphism

Decorator, Iterator and Generator

Anonymous Function

• Lambda

• Map

• Filter

• Reduce

SECTION -III

File Manipulation

• Opening Text File

• Working with a File on Python

• The open function

• File modes

• The file object attributes

• close() method

• write() method

• read() method

• Files: Input

• Files: Output

• Reading files

• Renaming & deleting files

• Writing into a file

• remove() method

Python GUI

• Basic Operations using Tkinter

• Buttons and Textbox

• Menu Bar

• Message Box and Radio Button

• Checkbox and Event Creating

• Creating Application in GUI

SQL and Python

• Overview of SQLite

• Integrating Python with SQLite

Other Concepts

• Errors and Exception Handling

• Standard exceptions

• Assertions in Python

• The assert Statement

• What is Exception?

• Handling an exception

• Syntax

• The except Clause with No Exceptions

• The except Clause with Multiple Exceptions

• The try-finally Clause

• Argument of an Exception

• Example with Tkinter Application

• Regular Expression

Django Web Framework

• What is a Framework?

• Introduction to Django

• Django – Design Philosophies

• History of Django

• Why Django and Features?

• Environment setup

• Web Server

• MVC Pattern

• MVC Architecture vs MVT Architecture

• Django MVC – MVT Pattern

Getting Started with Django

• Creating the first Project

• Integrating the Project to sublime text

• The Project Structure

• Running the server

• Solving the issues and Migrations

• Database Setup

• Setting Up Your Project.

Create an Application

• What Django Follows?

• Structure of Django framework

• Model Layer

• What are models?

• Model fields

• Query sets

• Django – Admin Interface

• Starting the Admin Interface

• Migrations

• Views Layer

• Simple View

• Basic view (displaying hello world)

• Functional views, class based views

Django – URL Mapping

• Organizing Your URLs

• Role of URLs in Django

• Working URLs

• Forms

• Sending Parameters to Views

• Templates layer

• The Render Function

Django Template Language (DTL)

• Role of template layer in Django

• Filters, Tags, Tag if, tag for, Block and Extend Tags

• Comment Tag, Usage of templates

• Extending base template

Django – Models

• Creating a Model

• Manipulating Data (CRUD)

• Linking Models

• Django – Page Redirection

Django – Sending E-mails

• Sending a Simple E-mail

• Sending Multiple Mails with send-mass-mail option

• Sending HTML E-mail

• Sending HTML E-mail with Attachments

Django – Form Processing/file handling/cooking handling

• Using Form in a View

• Usage of forms

• Crud operations using forms

• Crispy forms in Django

• Django – File Uploading

• Uploading an Image

• Django – Apache Setup

• Django – Cookies Handling

• Django – Sessions

• Django – Comments

Django Admin

• Creating Super User

• Using admin in Django

• Adding models to admin

• Adding model objects using admin

• Displaying in cmd using query sets

• Admin interface Customization

• Django ORM (Object Relational Mapping)

Django API (Application Program Interface)

• Creating a serializer.

• Working with API views.

• Filtering back ends.

• Enabling pagination.

• Executing CRUD operations.

• Managing serializer fields.

• Testing API views

Static files

• Loading CSS files into templates

• Loading JS files into templates

• Uploading image using models

• User authentication

• Sample Projects and websites

Networking Overview

• Sending and Receiving Email by Python

• Basics of Pandas and Numpy

• How to use Anaconda

• How to create dashboard

• Overview of Django