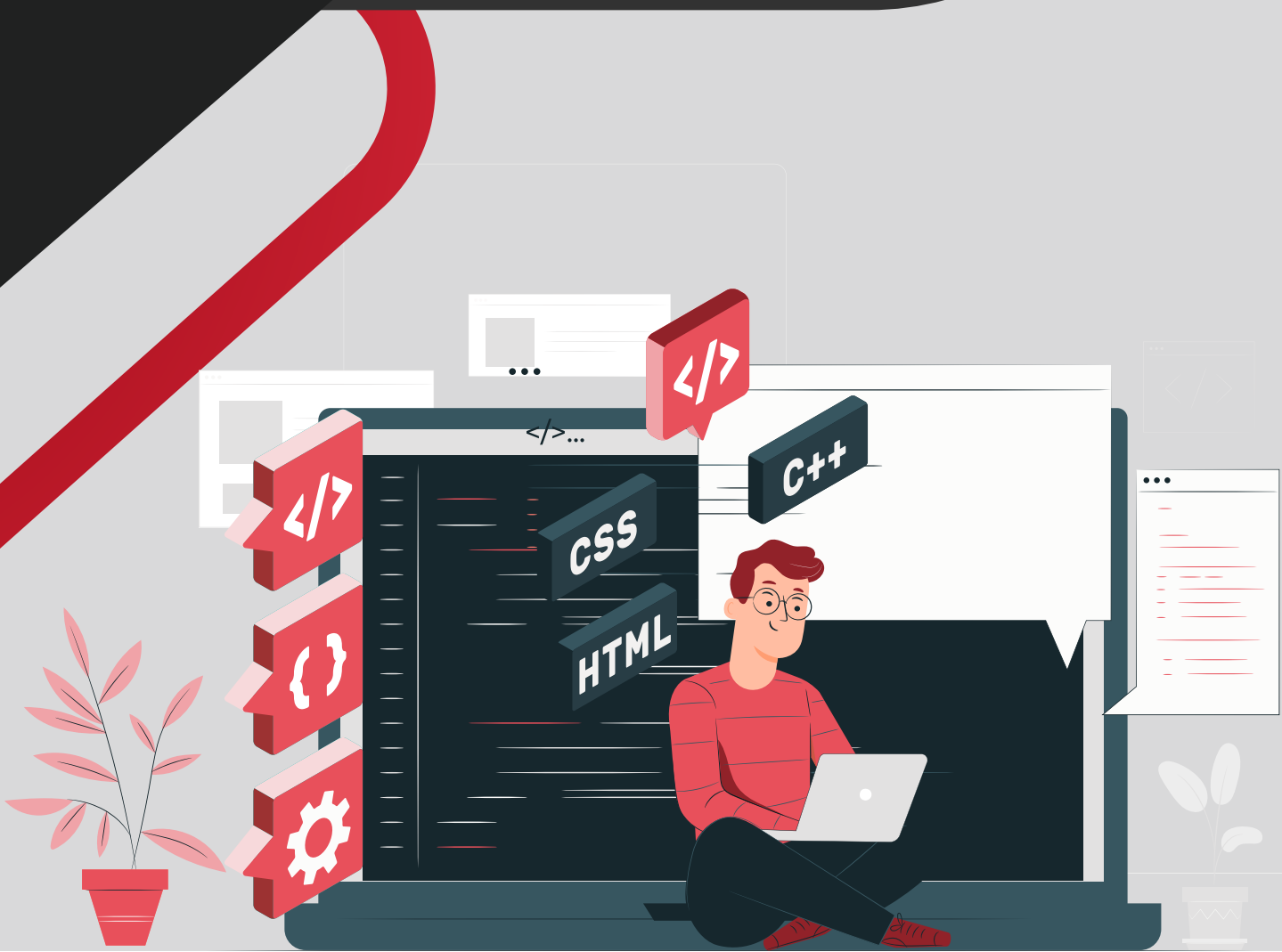




IT EDUCATION
CENTRE

Fullstack Development With Python



HTML & HTML 5

- ▶ Introduction to HTML and HTML 5
- ▶ Difference between HTML and HTML 5
- ▶ What is HTML 5?
- ▶ HTML Tags
- ▶ HTML Attributes
- ▶ HTML Heading, Paragraph, Anchor, Image, Table, Lists
- ▶ HTML Form
- ▶ HTML Classes
- ▶ HTML File Path
- ▶ HTML Layouts & Its Techniques
- ▶ HTML Responsive
- ▶ HTML Symbols
- ▶ HTML 5 Tags list – article, aside, audio, bdi, canvas, data, datalist, details, dialog, figcaption, figure, footer, header, main, mark, menuitem, nav, progress, section, summary, time, video.
- ▶ HTML API

CSS and CSS3

- ▶ Introduction to CSS
- ▶ What is CSS?
- ▶ CSS Syntax
- ▶ CSS Selector
- ▶ How to add CSS?
- ▶ CSS Properties
- ▶ CSS Advance
- ▶ CSS Animation
- ▶ CSS radient-gradients
- ▶ CSS translate
- ▶ CSS z-index
- ▶ CSS Loader
- ▶ CSS Transition
- ▶ CSS Tooltip
- ▶ CSS Flexbox
- ▶ CSS Flex Properties
- ▶ CSS User Interface
- ▶ CSS Pagination
- ▶ CSS Design - Grid, Layout, Table, Box Model

BootStrap

- ▶ Introduction to Bootstrap
- ▶ Bootstrap version difference
- ▶ What is Bootstrap?
- ▶ Bootstrap container
- ▶ Bootstrap Examples on Button, Grid, Jumbotron, Table, Form, Alert, Wells, Label, Panels, Pagination, Pager, Image, Glyphicon, Progress Bar, List Group, Dropdown, Collapse
- ▶ Bootstrap Advance
- ▶ Tabs/Pills
- ▶ Navbar
- ▶ Input type
- ▶ Modals
- ▶ Popover
- ▶ Scrollply
- ▶ Bootstrap Utilities with examples

JavaScript

- ▶ Introduction to HTML and HTML 5
- ▶ What is JavaScript?
- ▶ JavaScript Techniques
- ▶ JavaScript Basics – Comment, Variable, Data types, Operator, Conditional Statement, Looping statement, Function
- ▶ JavaScript Object – Object, Math, Date, Array, String, Number, Boolean
- ▶ JavaScript DOM & BOM
- ▶ JavaScript OOP
- ▶ JavaScript Validation
- ▶ JavaScript Cookies
- ▶ Exception Handling

Advance JavaScript

- ▶ JavaScript Advance – Typed Array, Set, Map, Redirect, Scroll, cope, Sleep, Form.
- ▶ JavaScript JSON
- ▶ JavaScript RegEx
- ▶ JavaScript Symbol
- ▶ JavaScript Web API
- ▶ JavaScript Ajax
- ▶ JavaScript Graphics
- ▶ Bootstrap version difference
- ▶ Promises – Async , Await

Jquery

- ▶ Introduction to JQuery
- ▶ What is JQuery?
- ▶ History
- ▶ Selectors
- ▶ JQuery Effects -
- ▶ JQuery with HTML/CSS
- ▶ JQuery Form
- ▶ JQuery Events
- ▶ JQuery AJAX method
- ▶ JQuery Examples

ReactJS

- ▶ ReactJS Introduction
- ▶ React Version
- ▶ Difference between ReactJS & React Native
- ▶ Difference between ReactJS & AngularJS
- ▶ React Installation
- ▶ How to create React first application?
- ▶ Features
- ▶ React JSX
- ▶ React Component, Life cycle & Component API, State, Props
- ▶ React Props validation
- ▶ React Constructor
- ▶ React Form - Controlled & Uncontrolled

- ▶ ReactJS – Events, Lists, Keys, Refs, Fragments, Router, CSS, Animation, Bootstrap, Map, Table, Context, Order Component.
- ▶ React Hooks – Use, Rules, Installation, useState, useEffect, useContext, useRef, useReducer, useCallback, useMemo
- ▶ Custom Hooks, Built-in Hooks,
- ▶ React Flux – Concept, Structure and Data Flow, Flux Vs MVC
- ▶ React Redux – Introduction, Redux Vs React Context, Architecture, Installation, Redux Store in React, Redux with Class Based Component, Redux State, Adding state slices.
- ▶ Demo project development

Angular JS

▶ Introduction of Angular Js

- What is Angular Js
- Use of Angular JS

▶ MVC Architecture

- Model
- View
- Controller

▶ Conceptual Overview

- ng-app
- ng-init
- ng-bind
- ng-model
- ng-controller
- ng-cloak
- G. ng-disabled

- **Setting up the Environment**
- **First Application**
- **Understanding module, controller, \$scope**
- **Data Binding in Angular Js**
- **Types of Data Binding**
 - One Way Data Binding
 - Two Way Data Binding
 - One time Data Binding
- **Digest Cycle and Dirty Checking Process**
- **Use of \$watch() and \$apply()**
- **Bootstrapping Process**
 - Auto Bootstrap Process
 - Manual Bootstrap Process
- **Controllers**
 - Nested Controllers
 - Multiple Controllers and their Scopes
- **Programming controllers & \$scope object**
- **Scope Hierarchies - \$rootScope & \$scope**
- **Adding behavior to a scope object
(Method,Array,Object,Property)**
- **ng-repeat,nested ng-repeat**
- **ng-if,ng-show,ng-hide**
- **Filters**
 - Types of inbuilt filter
 - Custom Filter

► **Validation**

- ng-valid
- ng-invalid
- ng-dirty
- ng-pristine
- ng-touched
- ng-untouched

► **Services**

- Factory
- Services
- Provider

► **Inbuilt Services**

- \$http
- \$location
- \$log
- \$timeout
- \$interval

► **Ajax and Communication From Server via http service**

► **Fetch data from JSON file**

► **Scope Event Propagation or Communication between**

Controllers via

- \$on
- \$Emit
- \$Broadcast

► **Custom Directive**

- Template
- templateUrl,
- Restrict Keyword in custom directive
- Link Function

▶ **Scope of Directive**

- Shared
- Inherited
- Isolated

▶ **Routing and view**

▶ **CRUD Operation**

MongoDB

- ▶ **Introduction to No SQL DataBAse**
- ▶ **Advantages over RDBMS**
- ▶ **MongoDB Data Types**
- ▶ **Installation**
- ▶ **MongoDB Data Modeling**
- ▶ **MongoDB Operators**
- ▶ **MongoDB Commands - Aggregation, Geospecial, Query & Write Operation, Query Catch Command, Authentication, User Management, Role Management, Replication, Session**
- ▶ **Collection**
- ▶ **Document**
- ▶ **CRUD Operation**
- ▶ **Schema Modelling**
- ▶ **MongoDB Shell**
- ▶ **MongoDB Tools - MongoDB Compass, MongoDB BI Connector**

Express.js

Express Framework - Installation, Request, Response, Get, Post, Routing, Cookies, File Upload, Middleware, Scaffolding, Template, Handling Form Data, Error Handling, Creating and Consuming RESTful Services, Using Template, MVC pattern, Building Front end controller, Defining Routes, Creating Action, Project Activity.

Node.js

- ▶ NodeJS Introduction
- ▶ Installation
- ▶ Node.js - Console, REPL, NPM, CL options, Globals, OS, Timer, Errors, DNS, Net, Crypto, TLS/SSL, Debugger, Process, Child Process, Buffers, Streams, File System, Callback, Events, Web Modules.
- ▶ Node.js to execute script
- ▶ Package Manager
- ▶ HTTP Protocol
- ▶ Building HTTP Server
- ▶ Rendering response
- ▶ Connecting to MongoDB Database
- ▶ Performing CRUD operation

Introduction to Python

- ▶ What is Python and history of Python?
- ▶ Unique features of Python
- ▶ Python-2 and Python-3 differences
- ▶ Install Python and Environment Setup
- ▶ First Python Program
- ▶ Python Identifiers, Keywords and Indentation
- ▶ Comments and document interlude in Python
- ▶ Command line arguments
- ▶ Getting User Input
- ▶ Python Data Types
- ▶ What are variables?
- ▶ Python Core objects and Functions
- ▶ Number and Maths
- ▶ Week 1 Assignments

Control Statements

- ▶ if-else
- ▶ if-elif-else
- ▶ while loop
- ▶ for loop
- ▶ break
- ▶ continue
- ▶ assert
- ▶ pass
- ▶ return

String

- ▶ Introduction
- ▶ string in Python
- ▶ Functions of string.
- ▶ Loops on String

List, Ranges & Tuples in Python

- ▶ List, Ranges & Tuples in Python
- ▶ Introduction
- ▶ Lists in Python
- ▶ More about Lists
- ▶ Understanding Iterators
- ▶ Generators, Comprehensions and Lambda Expressions
- ▶ Introduction
- ▶ Generators and Yield
- ▶ Next and Ranges
- ▶ Understanding and using Ranges
- ▶ More About Ranges
- ▶ Ordered Sets with tuples

Python Dictionaries, Sets, and Frozenset

- ▶ Introduction to the section
- ▶ Python Dictionaries
- ▶ Sets
- ▶ Python Sets Examples

Input and Output in Python

- ▶ Reading text files
- ▶ Writing text files
- ▶ Appending to files and challenge
- ▶ Writing Binary files manually
- ▶ Using pickle to write Binary files

Exceptions

- ▶ Errors in Python
- ▶ Compile-Time Errors
- ▶ Runtime Errors
- ▶ Logical Errors
- ▶ What is Exception?
- ▶ Handling an exception
- ▶ Try....except...else
- ▶ Try-finally clause
- ▶ Argument of an Exception
- ▶ Python Standard Exceptions
- ▶ Raising an Exception
- ▶ User-Defined Exceptions

Python Regular Expressions

- What are regular expressions?
- Match Function
- Search Function
- Matching vs searching
- Search and Replace
- Extended Regular Expressions
- Wildcard

Python Multithreaded Programming

- What is multithreading?
- Difference between a Process and Thread
- Concurrent Programming and GIL
- Uses of Thread
- Starting a New Thread
- Threading Module
- Thread Synchronization
- Locks
- Semaphore
- Deadlock in Threads
- Avoiding Deadlocks
- Daemon Threads

Using Databases in Python

- ▶ Python MySQL Database Access
- ▶ Install the MySQLdb and other packages
- ▶ Create Database Connection
- ▶ CREATE, INSERT, READ Operation
- ▶ DML and DDL Operation with Database

Graphical User Interface

- ▶ GUI in Python
- ▶ Button Widget
- ▶ Label Widget
- ▶ Text Widget

Django Web Framework in Python

- ▶ Introduction to MVC and MVT architecture on web development.
- ▶ Django folder structure flow of control.

Webscrapping in python

- ▶ Working with Beautiful Soap
- ▶ Parsing HTML and XML
- ▶ Navigating the document
- ▶ Handling CSV files
- ▶ Parsing JSON into Python

SQL

- ▶ Introduction to MySQL
- ▶ Basic SQL
- ▶ Restricting and Sorting Data
- ▶ DDL Commands
- ▶ DML statements
- ▶ DCL
- ▶ TCL
- ▶ DQL
- ▶ Retrieve records from multiple tables
- ▶ Subqueries Topic
- ▶ Built-in Functions of SQL
- ▶ Advance functions in SQL
- ▶ Windows Function/Analytical Function

GitHub

- ▶ **Creating a Git Account**
- ▶ **Cloning the repository**
- ▶ **Adding the file**
- ▶ **Committing the file**
- ▶ **Git push**
- ▶ **Removing the file**

