

PYTHON FULL STACK COURSE CURRICULUM

INTRODUCTION

The Full Stack Overview, Python Full Stack – Why all the excitement? Demand for Python Full Stack Professionals, Brief Introduction to Applications of Full Stack, and Application Architecture.

FRONT-END

HTML – Introduction to HTML, Basic Structure of HTML, HTML Editors, HTML Tags, Paragraphs, Headings and Text, Formatting Tags, HTML Lists, HTML Images, HTML Tables, HTML Forms, and HTML Media

CSS – Introduction to CSS, Types of CSS, CSS Properties, Selectors and Values, Applying CSS to HTML, CSS colors, CSS Box Model, Margins, Padding, Borders, CSS Text and font Formats, and CSS Advanced Topics (Effects, Animations, Shadows, etc.,)

JAVASCRIPT – Introduction to JavaScript, How to apply JavaScript, Displaying Output in JavaScript, Understanding JavaScript Syntax, Variables and datatypes, Operators, Math, and String Manipulations Conditional and Looping Statements, Functions, Validations and Events.

BOOTSTRAP – Introduction to Bootstrap, Bootstrap Setup, Bootstrap Containers, Bootstrap Grids, Bootstrap Tables, Bootstrap Buttons, Navbars, Alerts, Bootstrap Carousel, and Bootstrap Forms.

ANGULARJS – Introduction to Angular, Environment Setup, Installing Angular CLI, Directory Structure of Angular, Angular Fundamentals, Angular Building Blocks, Angular Data Binding, String Interpolation Directives and Pipes, Forms, Approaches (Driven and Reactive), Validators, and Routing.



BACK-END

INTRODUCTION TO PYTHON – What is Python and the 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 Assignments.

CONTROL STATEMENTS – if-else, if-else if, while loop, for loop, break, continue, assert, pass, and return.

LIST, RANGES, AND TUPLES IN PYTHON – Introduction, Lists in Python, More about Lists, Understanding Iterators, Generators, Comprehensions, and Lambda, Expressions, Generators, and Yield Next and Ranges, Understanding and using Ranges, More About Ranges, and Ordered Sets with tuples.

PYTHON DICTIONARIES AND SETS – Introduction to the section, Python Dictionaries, More on Dictionaries, Sets, Python Sets Examples, Input and Output in Python, Reading and writing text files, Appending to Files and Challenge, Writing Binary Files Manually and Using Pickle to Write Binary Files.

PYTHON BUILT-IN FUNCTION – Python user-defined functions, Python package functions, Defining and calling FunctionThe anonymous, Functions, Loops and statements in Python, and Python Modules and packages.

PYTHON OBJECT ORIENTED – Overview of OOP, The self variable, Constructor, Types Of Variables Namespaces Creating Classes and Objects, Inheritance, Types of Methods, Instance Methods, Static Methods, Class Methods, Accessing attributes, Built-In Class Attributes, Destroying Objects, Abstract classes and Interfaces, and Abstract Methods.

EXCEPTIONS – Errors in Python, Compile-Time Errors, Runtime Errors, Logical Errors, What is Exception?, Handling an exception try....except...else try-finally and clause, Argument of an Exception Python Standard Exceptions, Raising Exceptions, and User-Defined Exceptions.

PYTHON REGULAR EXPRESSIONS – What are regular expressions?, The match Function, The search Function, Matching vs Searching, Search and Replace, Extended Regular Expressions, and Wildcard.

PYTHON MULTITHREADED PROGRAMMING – What is Multithreading?, Difference between a Process and a Thread, Concurrent Programming and GIL, Uses of Thread, Starting a New Thread, The Threading Module, Thread Synchronization, Locks, Semaphore, Deadlock of 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 Databases, and Web Scraping in Python.

GRAPHICAL USER INTERFACE – HTML, CSS, JQuery, Bootstrap, GUI in Python, Button Widget, Label Widget, Text Widget, and Rest API.

FRAMEWORKS FOR WEB DEVELOPMENT – Django overview, Creating a project, Apps life cycle Admin interface, Creating views, URL Mapping, Template system, Models, Form details, Testing, Page redirection, Sending Emails, Deploying Django framework, Form processing, File uploading, Cookie handling, Sessions, caching, and comments, RSS, AJAX, Sending Emails, GitHub, Bigbucket, Flask Framework & TkInter GUI Framework, Overview of Flask Framework, Installation of Flask and, Demo Application.

DATABASE

DataBase handling with MySQL and MongoDB, PyMongo, Python MySQL DataBase access, Create DataBase Connection, DML and DDL Operations with DataBases, Performing Transactions, Handling DataBase Errors, Disconnecting DataBase, and SQL vs NoSQL.