

Python

Overview: **Python** is a general-purpose interpreted, interactive, object-oriented, and high-level programming language. It was created by Guido van Rossum during 1985- 1990. Like Perl, Python source code is also available under the GNU General Public License (GPL). This **tutorial** gives enough understanding on **Python programming** language.

Python is a MUST for students and working professionals to become a great Software Engineer especially when they are working in Web Development Domain. I will list down some of the key advantages of learning Python:

Course Objectives

- Understand the python and technical concepts behind python
- Structure a python application in modules
- Understand and use the Modules
- Understand packages
- Understand the built-in modules Json, Date time, Regular Expression
- Use camel case packages
- Understanding file handling and exception handling
- Connect to mySQL database

Module 1:- Fundamentals of Python

- ❖ Introduction to Python
- ❖ Running Python Programs
- ❖ Writing Python Code

Module 2:- Working with Data

- ❖ Data Types and Variables
- ❖ Using Numeric Variables
- ❖ Using String Variables

Module 3:- Input and Output

- ❖ Printing with Parameters
- ❖ Getting Input from a User
- ❖ String Formatting

Module 4:- Operators

- ❖ Arithmetic operators
- ❖ Assignment operators
- ❖ Comparison operators
- ❖ Logical operators
- ❖ Identity operators
- ❖ Membership operators

- ❖ Bitwise operators

Module 5:- Making Decisions

- ❖ Logical Expressions
- ❖ The “if” Statement
- ❖ Logical Operators
- ❖ More Complex Expressions

Module 6:- Finding and Fixing Problems

- ❖ Types of Errors
- ❖ Troubleshooting Tools
- ❖ Using the Python Debugger

Module 7:- Lists and Loops

- ❖ Lists and Tuples
- ❖ List Functions
- ❖ “For” Loop
- ❖ “While” Loops
- ❖ Sets and Dictionary

Module 8:- Numeric and Date Functions

- ❖ Dates and Times
- ❖ Advanced Data and Time Management
- ❖ Random Numbers
- ❖ The Math Library

Module 9:- Working with Strings

- ❖ Character Data
- ❖ String Functions
- ❖ Input Validation with “try / except”

Module 10:- Functions

- ❖ Writing and Calling Functions
- ❖ Function Inputs and Outputs
- ❖ Local and Global Scope
- ❖ Lambda functions and recursive function

Module 11:- Python Classes

- ❖ Thinking about Objects
- ❖ Class Variables and Methods
- ❖ Managing Class Files

Module 12:- Class Instances

- ❖ Creating Objects with Instance Data
- ❖ Instance Methods
- ❖ Managing Objects

Module 12:- Modules

- ❖ Creating modules
- ❖ Use Module
- ❖ Built-in Modules

Module 13:- PIP

- ❖ What are packages?
- ❖ Install packages
- ❖ Uninstall Packages
- ❖ Download and Remove package
- ❖ Example

Module 14:- File Handling

- ❖ Handling Files
- ❖ Read and Write files
- ❖ Delete files
- ❖ Files Mode

Module 14:- Exception Handling

- ❖ Handling Exception
- ❖ Try catch block
- ❖ Finally block

Module 15:- Database Connection

- ❖ Create database with MYSQL
- ❖ Create tables
- ❖ Select , Insert and Delete data

At the end of the course participants will be able to do some assignments