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Academy

Python Development

(2 Days)

Preface

Welcome to the GSR Academy, where we believe in empowering individuals and teams with the skills they need to excel in today's dynamic and ever-evolving tech landscape.

At GSR Academy, we are not just committed to helping people gain new skills; it is our passion! Our workshops are curated and led by industry professionals, including Developers and System Architects, who have extensive experience working on real projects. This ensures that our training offerings are relevant, practical, and in line with the latest industry trends.

We understand that every team is unique, and their learning needs may vary. That's why we take pride in offering customized workshops that cater to your specific requirements. Whether you need to upskill your team in Ansible Development for seamless IT automation, implement a robust Single Sign-On Solution with Keycloak, or fine-tune your Linux systems for optimal performance, we've got you covered.

Introduction

Welcome to the Python Development Workshop, brought to you by GSR Academy! Python is a versatile and powerful programming language used in various domains such as web development, data analysis, artificial intelligence, scientific computing, and more. This workshop is designed to provide an in-depth understanding of Python programming and its applications.

Led by industry experts, this workshop covers everything from basic syntax and data structures to advanced topics like web development with Django and data analysis with Pandas. Through a combination of theoretical insights and hands-on exercises, participants will gain practical skills that can be immediately applied to their professional roles.

Whether you're a beginner looking to learn Python from scratch or an experienced developer aiming to enhance your Python skills, this workshop will provide valuable insights and tools to harness the power of Python. Join us to explore how Python can transform your programming capabilities and open up new opportunities in your career.

Training Modules

Module 1: Introduction to Python

- Overview of Python and Its Applications
- Setting Up the Python Environment
- Basic Syntax and Data Types
- Variables and Operators

Module 2: Control Structures

- Conditional Statements
- Looping Constructs (for, while)
- List Comprehensions
- Error Handling and Exceptions

Module 3: Functions and Modules

- Defining and Calling Functions
- Function Parameters and Return Values
- Lambda Functions
- Modules and Packages

Module 4: Data Structures

- Lists, Tuples, and Sets
- Dictionaries
- Strings and String Operations
- Working with Files

Module 5: Object-Oriented Programming

- Classes and Objects
- Inheritance and Polymorphism
- Encapsulation and Abstraction
- Magic Methods and Operator Overloading

Module 6: Advanced Python Concepts

- Decorators
- Generators and Iterators
- Context Managers
- Metaclasses

Module 7: Web Development with Django

- Introduction to Django Framework
- Setting Up Django Projects
- Creating Models, Views, and Templates
- Django Forms and User Authentication

Module 8: Data Analysis with Pandas

- Introduction to Pandas Library
- DataFrames and Series
- Data Cleaning and Preparation
- Data Visualization with Matplotlib and Seaborn