



SPYPRO SECURITY SOLUTIONS Pvt. Ltd.,

C Y B E R S E C U R I T Y

5-Day Workshop on Python Full Stack Development

Day 1: Python Programming & Web Basics

Session 1: Introduction to Python

- What is Python? Importance & real-world applications
- Python syntax, variables & data types
- Control structures (if-else, loops)
- Functions & modules

Hands-On

- Writing basic Python programs
 - Building simple logic-based applications
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Session 2: Web Development Fundamentals

- Introduction to Web & Full Stack development
- HTML5 structure & elements
- CSS3 styling & layouts
- JavaScript basics

Hands-On

- Creating a static webpage
 - Adding basic interactivity using JavaScript
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Day 2: Backend Development with Python

Session 1: Backend Framework (Django / Flask)

- Introduction to backend & MVC/MVT architecture
- Setting up Django / Flask project
- URL routing & views
- Templates & static files

Hands-On

- Creating a backend project
 - Rendering dynamic data on web pages
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Session 2: Database & Data Handling

- Introduction to databases (MySQL / SQLite)
- Models & ORM concepts
- CRUD operations
- Forms & validations

Hands-On

- Connecting backend to database
 - Performing CRUD operations
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Day 3: Advanced Backend & APIs

Session 1: REST APIs Development

- Introduction to REST APIs
- HTTP methods (GET, POST, PUT, DELETE)
- Creating APIs using Django REST Framework / Flask
- JSON data handling

Hands-On

- Building REST APIs
 - Testing APIs using Postman
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Session 2: Authentication & Security

- User authentication & authorization
- Login, registration & role-based access
- Session & token-based authentication (JWT basics)

Hands-On

- Implementing user login & signup
 - Securing backend routes
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Day 4: Frontend Integration & Deployment

Session 1: Frontend-Backend Integration

- Connecting frontend with backend APIs
- Handling forms & API responses
- Basic UI enhancements

Hands-On

- Integrating APIs with frontend
- Displaying dynamic data

Session 2: Deployment & Tools

- Version control with Git & GitHub
- Deployment basics (Local / Cloud)
- Environment variables & settings

Hands-On

- Pushing project to GitHub
 - Deploying Python application
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Day 5: Project Development & Future Scope

Session 1: Project Development

- Full-stack project development
 - Debugging & error handling
 - Best practices in Python Full Stack
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Session 2: Presentation & Closing

- Project demos & presentations
 - Discussion on challenges & solutions
 - Career paths in Python Full Stack
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Capstone Project Example

Python Full Stack Web Application

- **Frontend:** HTML, CSS, JavaScript
- **Backend:** Python (Django / Flask)
- **Database:** MySQL / SQLite
- **Features:** User authentication , CRUD operations , REST API integration , Responsive UI

Tools Used:

- Python
 - Django / Flask
 - MySQL / SQLite
 - Postman
 - Git & GitHub
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Closing Session

- Certificates distribution
- Feedback & Q&A