

Python & Flask Training Syllabus

Provided by CorporateSpace.in

Master Web Development with Python & Flask

Duration: 25–30 Hours

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<https://corporatespace.in/python-flask-training>

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1 Training Overview

The Python & Flask Training for Professionals, offered by CorporateSpace.in, is designed to master web development through hands-on, project-based learning. This program equips participants with the skills to build lightweight, scalable web applications using Python and the Flask framework, with applications in fintech, edtech, and SaaS industries. Participants will develop a real-time project (e.g., Job Portal or CRM system) and gain expertise in REST API development, database integration, and cloud deployment. Delivered by an Assistant Professor and Full-Stack Developer with over 6 years of experience, the training ensures career growth and measurable outcomes.

1.1 Training Objectives

- Master core Python programming and Flask framework for web development.
- Build and deploy a functional web application (e.g., Job Portal or CRM).
- Learn REST API development with Flask-RESTful.
- Gain proficiency in database integration (MySQL/PostgreSQL) and cloud deployment (Heroku/AWS).
- Enhance career prospects with resume-building and project-based certification.

1.2 Training Duration

- Total: 25–30 hours.
- Format: Live, hands-on coding, and assignments (onsite, online, or hybrid).
- Schedule: Flexible, with weekend batches available for corporate teams.

1.3 Target Audience

- Software Engineers seeking backend development expertise.
- Professionals transitioning from PHP/JavaScript to Python.
- College Students (BCA, MCA, BE) targeting web development projects.
- Startups and Founders building Flask-based Minimum Viable Products (MVPs).

1.4 Prerequisites

- Basic programming knowledge (recommended but not mandatory).
- Familiarity with web development concepts (e.g., HTML, CSS) is helpful.
- Access to a laptop with VS Code, Python, and MySQL/PostgreSQL installed.

2 Training Agenda

2.1 Course Modules

- **Module 1:** Introduction to Python and Setup (3–4 hours)
- **Module 2:** Core Python Programming (5–6 hours)

- **Module 3:** Flask Fundamentals (5–6 hours)
- **Module 4:** Advanced Flask Features (5–6 hours)
- **Module 5:** REST API Development with Flask-RESTful (3–4 hours)
- **Module 6:** Real-Time Project: Job Portal or CRM System (4–5 hours)
- **Module 7:** Deployment and Wrap-Up (2–3 hours)

3 Module 1: Introduction to Python and Setup (3–4 Hours)

3.1 Setup and Tools

- Installing Python, VS Code, and necessary libraries (e.g., Flask, Flask-RESTful).
- Configuring Git and GitHub for version control.
- Setting up MySQL/PostgreSQL and Postman for API testing.

3.2 Why Python and Flask?

- Overview of Python's role in web development, automation, and data science.
- Benefits of Flask: Lightweight, flexible, and rapid development.
- Real-world use cases (e.g., Pinterest, small-scale SaaS applications).

4 Module 2: Core Python Programming (5–6 Hours)

4.1 Python Basics

- Variables, data types, and control structures.
- Functions and modular programming.
- Exception handling and file I/O.

4.2 Object-Oriented Programming (OOP)

- Classes, objects, and inheritance.
- Encapsulation and polymorphism.
- Practical exercises: Building reusable Python modules.

4.3 Lab: Python Exercises

- Coding exercises on functions, OOP, and file handling.
- Mini-project: File-based data processing script.

5 Module 3: Flask Fundamentals (5–6 Hours)

5.1 Flask Basics

- Setting up a Flask application.
- Routing, templates, and static files.
- Introduction to Flask blueprints for modular code.

5.2 Database Integration

- Configuring MySQL/PostgreSQL with Flask-SQLAlchemy.
- Creating and managing database models.
- Querying data with SQLAlchemy ORM.

5.3 Lab: Flask Setup

- Building a simple Flask application (e.g., To-Do List).
- Integrating a database and testing routes.

6 Module 4: Advanced Flask Features (5–6 Hours)

6.1 Authentication and Forms

- Implementing user authentication (login, logout, registration) with Flask-Login.
- Building and validating forms with Flask-WTF.
- Managing user sessions and permissions.

6.2 Templates and Static Files

- Designing dynamic templates with Jinja2.
- Managing CSS, JavaScript, and static assets.

6.3 Lab: Authentication and Forms

- Building a login system with Flask-Login.
- Creating a form-based data entry system.

7 Module 5: REST API Development with Flask-RESTful (3–4 Hours)

7.1 API Fundamentals

- Introduction to RESTful APIs and Flask-RESTful.
- Designing API endpoints and handling requests.
- Implementing authentication with JWT.

7.2 Lab: Building a REST API

- Creating CRUD APIs for a sample application.
- Testing APIs with Postman.

8 Module 6: Real-Time Project: Job Portal or CRM System (4–5 Hours)

8.1 Project Development

- Planning and designing a Job Portal or CRM system.
- Implementing CRUD operations, authentication, and user interfaces.
- Integrating MySQL/PostgreSQL for data storage.

8.2 Lab: Project Implementation

- Coding the project with instructor guidance.
- Testing and debugging the application.

9 Module 7: Deployment and Wrap-Up (2–3 Hours)

9.1 Cloud Deployment

- Deploying Flask apps on Heroku or AWS.
- Configuring environment variables and databases.
- Best practices for production deployment.

9.2 Lab: Deployment

- Deploying the Job Portal/CRM project to Heroku.
- Testing the deployed application.

9.3 Wrap-Up

- Recap of key concepts and project deliverables.
- Resume-building with Flask project highlights.
- Certificate of Completion distribution.

10 Training Materials and Resources

10.1 Provided Materials

- Course deck with slides and code snippets (accessible via QR code).
- Project codebase hosted on GitHub.
- Sample project templates and datasets.

10.2 Tools and Platforms

- Python, Flask, Flask-RESTful, Flask-SQLAlchemy, Flask-Login, Flask-WTF.
- VS Code, GitHub, Postman.
- MySQL/PostgreSQL for database management.
- Heroku/AWS for cloud deployment.

11 Delivery Options

- **Onsite Training:** At your company premises (India-wide).
- **Online Live Sessions:** Via Zoom or Google Meet.
- **Hybrid Format:** Weekend batches for corporate teams.
- **Customization:** Tailored modules and schedules for corporate needs.

12 Instructor Profile

Pratibha Rajawat

Assistant Professor | Full-Stack Developer | Founder, CorporateSpace.in

With over 6 years of experience, Pratibha Rajawat is a passionate full-stack developer and corporate trainer. She has trained 1200+ professionals across 15+ corporate clients, delivering hands-on, project-based training in Python, Flask, and other web technologies. Her bilingual (Hindi + English) approach ensures accessibility, with a focus on real-world applications and measurable skill improvement (avg. 72% ROI within 3 months).

13 Bonus Add-Ons

- Resume-building guidance with Flask project highlights.
- Access to project codebase on GitHub.
- Certificate of Completion for all participants.
- 30 days of post-training doubt-solving and code support.
- Job and internship references (on request).

14 Frequently Asked Questions (FAQ)

14.1 Do I need prior coding experience?

- Basic programming knowledge is recommended but not mandatory. The course caters to all levels with beginner-friendly modules.

14.2 Will we build a real project in the course?

- Yes, participants will build a Job Portal or CRM system with CRUD, login, and user interface features.

14.3 Will I get help after the course ends?

- Yes, 30 days of doubt-solving and code support are provided post-training.

14.4 Can I customize the training for my company team?

- Absolutely, CorporateSpace.in offers custom modules and flexible scheduling for corporate needs.

15 Contact Information

Prepared by CorporateSpace.in

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For inquiries: <https://corporatespace.in/python-flask-training>