



SkillSprintTech
From Basics To Breakthrough

**Learn the Skills
That
Tech Companies
Hire for**

Python with Flask & sql

What Sets Us Apart:

- Industry-Driven Curriculum
- Trainer with 10+ Years of Experience
- Hands-On Projects & Capstone Assignments
- Hybrid Learning: Online & Offline in Pune
- Career Support & Interview Prep

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Module 1: Python Basics

This module introduces the fundamental concepts of Python programming.

KEY TOPICS :

- Syntax and Data Type (integers, floats, strings, boolean, complex)
- Variable and Operators
- Control Flow (if, else, elif statements)
- Loops (for and while loops)
- Functions (defining and calling functions)
- Lists, Tuples and Dictionaries
- Basic Input and Output

Module 2: Advanced Python

This module delves into more advanced Python concepts.

KEY TOPICS :

- Object-Oriented Programming (OOP) principles: Classes and Objects
- Modules and Packages (importing and creating modules)
- Exception Handling (try, except blocks)
- File Handling (reading and writing files)
- List Comprehensions and Generators
- Decorators
- Regular expressions (regexp)

Module 3: SQL Basics

This module covers the fundamentals of SQL for database management.

KEY TOPICS :

- Introduction to Relational databases
- SQL Syntax and Data Types
- Creating and Managing Databases and Tables
- Basic SQL Queries (SELECT, INSERT, UPDATE, DELETE)
- Filtering and Sorting Data (WHERE, ORDER BY)
- Aggregate Functions (COUNT, SUM, AVG, MIN, MAX)
- Grouping Data (GROUP BY)

Module 4: Advanced SQL

This module explores advanced SQL techniques for complex data manipulation.

KEY TOPICS :

- Joining Tables (INNER JOIN, LEFT JOIN, RIGHT JOIN, FULL JOIN)
- Subqueries
- Views
- Indexes, Transactions
- Stored Procedures and Functions
- Database Design Principles (Normalization)

Module 5: Flask Basics

This module introduces the Flask web framework for building web applications.

KEY TOPICS :

- Introduction to Web Development with Flask
- Setting up a Flask environment
- Creating Basic routes and views
- Templates (using Jinja2)
- Handling User Input (Forms)
- HTTP Methods (GET, POST)

Module 6: Advanced Flask

This module delves into more advanced Flask features for building robust web applications.

KEY TOPICS :

- Flask Blueprints
- Flask Extensions (e.g., Flask-WTF, Flask-SQLAlchemy)
- User Authentication and Authorization
- Session Management
- Working with Databases in Flask (Flask-SQLITE-3)
- RESTful APIs
- Testing Flask Applications

Module 7: Integrating Python, Flask and SQL

This module focuses on integrating python, Flask and SQL to build complete web applications.

KEY TOPICS :

- Connecting Flask Applications to SQL Databases
- Performing CRUD (Create, Read, Update, Delete) Operations
- Building Dynamic Web Page with Database Data
- Implementing User Authentication and Authorization with SQL
- Designing and Implementing a Complete Web Application
- Best Practices for Flask, SQL and Python Integration
- Deployment Strategies

Summary

This curriculum provides a structured path for learning Python, Flask and SQL, starting from the basics and progressing to advanced topics. By completing these modules, learners will gain the skills necessary to build full-stack web applications.