

**Developing Web Applications with Flask**

**Course Number:** PYTH-140  
**Duration:** 3 days

**Overview**

Accelebrate's Flask Training: Developing Web Applications with Flask course teaches Python developers to create professional web applications with the Flask microframework.

**Prerequisites**

All attendees must have basic Python programming skills and an understanding of HTML fundamentals.

**Materials**

All attendees receive comprehensive courseware and a textbook.

**Software Needed on Each Student PC**

* Any Windows, Linux, or macOS operating system
* Python 3.x installed (Anaconda bundle recommended)
* The Flask Library
* A text editor or IDE (PyCharm Community Edition recommended)

**Objectives**

* Create complete Flask applications
* Work with session data
* Design Jinja templates using inheritance
* Integrate a SQLite database
* Test and debug Flask applications

**Outline**

* Introduction
* An Overview of Flask
  + Origins and purpose
  + Views, controllers, but no models
  + What Flask can and cannot do
* Diving Right In
  + A simple application
  + Configuring routes
  + Defining view functions
  + Using templates
  + Deploying the application
* Simple Views
  + HTTP Methods
  + Returning content
  + Templates and variables
* Organizing the Application
  + Configuring routes
  + Static files
  + Configuration
  + Context locals
  + Sessions
* Integrating a SQLite Database
  + The g (global) object
  + Creating a table
  + Inserting rows
  + Making queries
  + Walkthrough of minor changes necessary for integrating other databases (SQL Server, Oracle, MySQL, etc.)
* Jinja Templates
  + The big picture
  + Simple syntax
  + Block statements
  + Loading and rendering
  + Inheritance
  + Advanced syntax
  + Filters and tests
* HTTP Responses
  + String responses
  + Setting the status code
  + Getting the response object
  + Adding response headers
* HTML Forms
  + Simple forms
  + Form submission
  + Retrieving user data
  + Re-submitting forms
* Advanced Views
  + Redirects
  + Auto-escaping HTML
  + Message flashing
  + Built-in decorators
* Error Handling
  + Handling an unrouted URL
  + Aborting a page view
  + Customizing the error page
* Testing and Debugging
  + Using unittest
  + Simple tests
  + Accessing sessions
  + Mocking resources
* Advanced Topics
  + Custom filters and tests
  + Class-based views
  + Support for JSON
  + Blueprints
* Conclusion