

# Python Backend Development



**Flask**



**SQL/NoSQL  
Database**



**Web Apps/  
API**



**Authentication  
& Security**

# SOMAKODI

BROCHURE

## BACK-END DEVELOPMENT

Behind every modern application is a powerful backend that handles data, logic, security, and communication between users and systems. Python, combined with the lightweight Flask framework, provides a fast, flexible, and efficient way to build robust backend services.

The Backend Development with Python & Flask program introduces learners to the fundamentals of server-side programming and progressively advances into building real-world APIs, authentication systems, and database-driven applications. Designed for beginners, the curriculum starts with core Python concepts and then guides you step by step into structuring Flask applications, handling requests, managing data, and building scalable backend logic.

Every module emphasizes hands-on development, creating RESTful APIs, integrating databases, managing user sessions, handling forms, implementing secure authentication, and deploying applications.

By the end of the course, you will have mastered essential backend development skills, including Python programming, Flask application structure, API development, SQL databases, authentication, error handling, testing, and cloud deployment equipping you to build reliable, production-ready backend systems.

## PREREQUISITES

This is a beginner-friendly program with no prerequisites, although many students have engaged in self-learning previously or have worked at tech startups or in tech-adjacent roles. Whether you're new to the field or you're looking to formalize your practice, our curriculum helps you become fluent in the languages, frameworks, and libraries that modern employers demand and put them to work.

## Why learn Software Engineering

### 1. High Demand Career

The tech industry is growing rapidly, and software engineers are in high demand across all sectors, including finance, healthcare, education, entertainment, etc. This demand translates to excellent job security, competitive salaries, and global career opportunities.

### 3. Flexibility and Remote Work

Many software engineering roles offer the option to work remotely or freelance, giving you control over your schedule and location.

The skills are also globally applicable, allowing you to work for companies anywhere in the world.

### 5. Entrepreneurial Potential

With coding skills, you can launch your own apps or tech businesses with relatively low startup costs. Many successful tech startups started with just one or two software engineers.

### 2. Problem-Solving and Innovation

Software engineering teaches you how to think logically and solve complex problems.

You get the chance to build solutions that can improve lives and transform industries.

### 4. Versatile and Evolving Career Paths

You can specialize in areas like web development, mobile apps, data science, artificial intelligence, cybersecurity, and more. It also opens doors to roles in product management, entrepreneurship, and tech consulting.

### 6. Creativity and Real-World Impact

Learning coding combines problem-solving, designing, and innovation. You get to create, test, and iterate like building with digital LEGO. You will enjoy bringing great ideas to life.

## Why Study at Somakodi SChool

Somakodi is one of the most successful tech boot camps in Kenya. Join us and get top-tier learning & student experience.



Professional and experienced team



Practical hands-on learning



Enhanced digital-first learning



Financial Aid Opportunities



Immersive Curriculum



Job placement support

## Who is this course for?

This course is suitable for a wide range of people, not just those who already know how to code. It fits anyone who wants to build, design, or work with software systems.

- **Beginners with an interest in Tech.** You are curious about how websites, apps, and systems work, you don't need a strong math or coding background, just your interest and willingness to learn.
- **Career Switchers.** You have a background in finance, teaching, marketing, hospitality, etc., and are you looking to transition into tech for increased earnings, remote work opportunities, and more flexible careers
- **Individuals who are problem-solvers & critical thinkers** and enjoy solving puzzles, building things and logical thinking. If you enjoy structured problem-solving, software engineering will feel natural.
- **Professionals seeking high-demand, high-pay skills, stable employment, job security, International opportunities, freelancing, or remote work.** Tech talent is in demand globally.
- **Entrepreneurs, anyone planning to build or manage a tech startup.** Understanding how software works helps you lead teams, make better decisions, and avoid costly mistakes.

## What are the requirements for learners?

- Have Basic computer skills
- Desire and curiosity to learn.
- Have a Desktop computer or Laptop with stable internet access.

## Course Overview

● Class Timings	:	Flexible Schedule
● Program Fees	:	Kes. 45,000/=
● Course Model	:	Live classes and 100% Online
● Learning Duration	:	3 - Months
● Classes Schedule	:	Monday - Friday

## Teaching Method (Somakodi Classroom)

- Daily hands-on code sessions with tutor
- Assignment/Practice tasks after each lesson
- Weekly quizzes & mini-projects
- Mentorship from tutors
- End of Unit Project presentations

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- Have Basic computer skills
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## Course Overview

● Class Timings	:	Flexible Schedule
● Program Fees	:	Kes. 75,000/=
● Course Model	:	Live classes and 100% Online
● Learning Duration	:	8 - Months
● Classes Schedule	:	Monday - Friday

## Teaching Method (Somakodi Classroom)

- Daily hands-on code sessions with tutor
- Assignment/Practice tasks after each lesson
- Weekly quizzes & mini-projects
- Mentorship from tutors
- End of Unit Project presentations

**Throughout this expert-designed program, you'll:**

- Learn to write clean, efficient server-side code, solve complex backend challenges, and build confidence using essential development tools, frameworks, and architectural techniques.
- Master the foundations of backend development, including server logic, routing, middleware, authentication, API creation, and the principles that make modern applications scalable and secure.
- Develop strong skills in database design and management using SQL or NoSQL systems to structure data, write queries, model relationships, and connect applications to reliable, production-ready data stores.
- Learn how backend systems interact with front-end applications, mobile apps, and external services through well-designed REST APIs, webhook integrations, and secure communication protocols.
- Build professional development habits with Git and GitHub—managing branches, code reviews, version control, and collaborative workflows used by backend engineering teams.
- Deploy backend applications on modern cloud platforms, including AWS, Azure while developing essential career skills like debugging, problem-solving, teamwork, and interview readiness.

## CURRICULUM OVERVIEW

### Foundations of Backend Development & Python Essentials

Build a strong grounding in backend programming using Python while understanding the architecture behind modern server-side systems.

- Backend development concepts
- Python fundamentals
- AI-assisted coding
- Environment setup

### Flask Framework Core Concepts

Dive deep into Flask and learn how lightweight and flexible backend frameworks power modern applications.

- Flask architecture
- Routing & URL handling
- Templates & Jinja2
- AI integration in workflow

## Databases, ORM, and Data Modeling

Understand how to store, retrieve, and manipulate data using relational databases and Python's ORM tools.

- SQL fundamentals
- SQLite & PostgreSQL
- SQLAlchemy ORM
- AI-augmented data design

## Building and Securing RESTful APIs

Master the skills needed to create scalable and secure APIs used by mobile apps, web apps, and AI-powered systems.

- API architecture
- Flask Blueprints.
- Authentication & authorization
- AI-enhanced development

## Integrating AI & Automation into Backend Systems

Learn how AI models, automation tools, and cloud-based ML services can be integrated directly into Flask backends.

- AI integration fundamentals
- Building AI-powered endpoints
- Data preprocessing for AI
- Automation with Python

## Deployment, Production Workflows & DevOps Essentials

Prepare your backend projects for real production environments and learn modern deployment workflows.

- Deployment environments
- Cloud platforms
- Environment variables & configuration
- AI-supported DevOps

## Performance Optimization, Monitoring & Scalability

Learn how to optimize, monitor, and scale your backend applications to handle real-world traffic.

- Performance tuning
- Logging & monitoring
- Scalable architectures
- AI-powered optimization



# SOMAKODI SCHOOL ADMISSION

## WHERE LEARNING COMES TO LIFE!

A hub of academic excellence, creativity, and personal growth! We invite prospective students and families to embark on an exciting educational journey with us.

### Why Choose Somakodi School?

- Academic Excellence
- Inclusive Community
- Holistic Development
- State-of-the-Art Facilities

Join Somakodi School and let your educational journey begin

### What are the benefits of online learning?

- Flexibility and Convenience
- Personalized Learning Experience
- Develop Self-Discipline and Tech Skills
- Cost-Effective