# Back-End Web Development Overview

## 6 months (20 hrs / week)

## What is Back-End Web Development?

- A meticulously crafted 18-week journey designed to turn learners from novices into job-ready developers.
- Experience hands-on, practical learning for real-world application that covers essential web technologies, modern back-end frameworks, and key languages like Javascript, Node.js, and Python
- As a back-end developer, you're like the electrician of a website, ensuring the essential connections behind the scenes for proper functionality and contributing vitally to the success of digital platforms.

## Why Back-End Web Development?

The relevance of the programme is highlighted by its alignment with the growing industry demand for skilled back-end developers, addressing the rising complexity of businesses and applications. With an industry-standard capstone project, learners receive expert mentorship from experienced software engineers and programme alumni, fostering a supportive learning environment and providing valuable industry insights.

## Programme Objectives

- Basic proficiency in back-end languages like Python, Node.js, and Express.js
- Database management with SQL (e.g., MySQL) and NoSQL (e.g., MongoDB) databases
- REST API, Authentication, and other back-end concepts
- How to build a basic, functional web application from the ground up
- To problem-solve based on real-world scenarios

## What makes this programme unique?

### Hands-on Learning

The programme emphasises practical application through industry-standard project-based learning, enabling learners to apply theoretical knowledge directly to real-world scenarios for a deep understanding of concepts.

### Mentor Support

Offers mentorship from seasoned engineers and alumni, providing valuable insights and support that enhance the learning journey with a direct link to real-world experiences and industry best practices.

### Comprehensive Curriculum

Covering a broad spectrum of back-end technologies and best practices ensuring participants develop a well-rounded skill set for job readiness.

# **Weekly Foundations** Schedule

## **08 Weeks** (20-30hrs / week)

## What is ALX Foundations?

- A career-readiness training module to kick-start your ALX learning journey before moving on to your chosen specialisation.
- Learn exceptional communication, teamwork, and leadership skills that make ALX graduates top picks in the job market.
- Be ready for a real-world career with soft skills that keep you ahead in the rapidly changing tech industry.

## 8 Key Meta Skills

1. **Leading Self**
2. **Leading Others**
3. **Communicating for Impact**
4. **Quantitative Reasoning**
5. **Entrepreneurial Thinking**
6. **Critical Thinking**
7. **Managing Complex Tasks**
8. **Tech Skills**

## Weekly Content

### Week 01

- Values & Community
- Grand Challenges and Grand Opportunities for Africa

### Week 02

- Self Awareness & Emotional Intelligence
- Growth Mindset & Grit
- Self Regulation & Improvement
- Time Management

### Week 03

- Problem Solving
- Research Methodology & Ethics
- Goal Setting

### Week 04

- Creating Presentations & Technical Writing
- Communication in Tech Teams
- Design Thinking
- Work Planning

### Week 05

- Working in Technology Teams
- Data Research & Visualization
- Understanding the Market

### Week 06

- Wireframes & Prototypes
- Human Centered Design
- Conflict Management & Negotiation

### Week 07

- Identifying Opportunities
- Professional Career Skills

### Week 08

- Resume Writing
- Cover Letters
- Interview Skills
- Job Seeking Skills

# **Weekly Specialisation** Schedule

- **Project releases:** Projects are released on Saturdays and ends by end of Thursdays
- **Live learning sessions:** Twice weekly live learning sessions. Learners will be introduced to the projects for the coming week during the first session and then there will be a deep dive into the concepts during the second session.
- **Peer learning days:** There is a dedicated day for learners to connect with one another and study together.

## Weekly Content

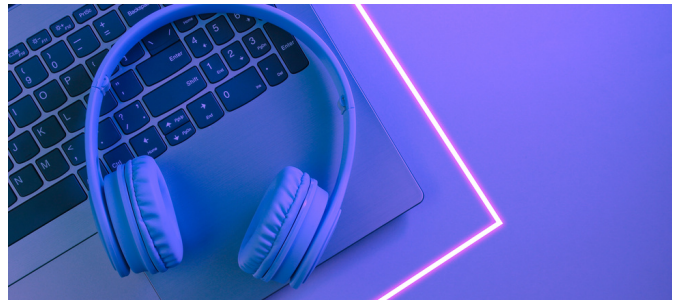**Week 00 –** Onboarding & Fundamentals of the web

**Week 01 –** Version Control

**Week 02, 03 & 04 –** Python

**Week 05 & 06 –** Python & Databases

**Week 07 & 08 –** Python Web Framework

**Week 9, 10, 11, & 12 –** Javascript & Node JS

**Week 13 –** RESTFUL APIs & Express JS

**Week 14 –** NoSQL databases and Authentication

**Week 15 –** Express JS project

**Week 16 & 17 –** Capstone Project