

PYTHON FULL STACK DEVELOPMENT

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 **Job Assistance
Provided**

Project submitted by Wingslide
Technologies in partnership with
Design Shore Technologies.
Branches in NZ & AUS

Python Full Stack Development: Master Frontend, Backend, and Cloud Deployment

Build complete, end-to-end applications with our comprehensive Python Full Stack Development program. Designed for aspiring developers and IT professionals, this course takes you through the entire development lifecycle—from creating responsive UIs with HTML, CSS, JavaScript, React, and Angular to building robust backend systems using Python, Django, and Flask. You'll also gain hands-on experience with both SQL and NoSQL databases, perform CRUD operations, and design/consume RESTful & GraphQL APIs with proper authentication and documentation.

Strengthen your expertise in DevOps and cloud deployment by working with AWS, Azure, GCP, Docker, Gunicorn, and Nginx, and automate deployments using GitHub Actions and CI/CD pipelines. Alongside, you'll master Git, GitHub workflows, Agile collaboration, and learn to write efficient tests with Pytest, Django Test Framework, and Postman.

Technologies & Tools Covered by Category

- ✓ **Frontend** – HTML5, CSS3, Bootstrap, Tailwind, JavaScript (ES6+), React.js, Angular
- ✓ **Version Control** – Git, GitHub
- ✓ **Backend** – Core Python, Flask, Django, Django REST Framework
- ✓ **Databases** – PostgreSQL, MySQL, MongoDB
- ✓ **APIs & Security** – RESTful APIs, GraphQL, JWT Authentication, Swagger/DRF Docs
- ✓ **DevOps & Cloud** – AWS (EC2, RDS, S3), Azure, GCP, Docker, Nginx, Gunicorn, GitHub Actions
- ✓ **Testing** – Pytest, Django Test Framework, Postman

COURSES DETAILS

1. Introduction to Full Stack Development

- ✓ What is Full Stack Development?
- ✓ Web Architecture: Frontend, Backend, Database
- ✓ Python as a backend language – strengths & ecosystem
- ✓ Overview of technologies used: Python, Django, Flask, React/Angular, PostgreSQL, MongoDB, Docker, etc.
- ✓ Introduction to Git & GitHub

2. Front-End Development

- ✓ HTML5 & CSS3
 - Semantic HTML
 - Responsive Design
 - CSS Flexbox, Grid
 - Bootstrap / Tailwind CSS
- ✓ JavaScript (ES6+)
 - Variables, Functions, Arrays, Objects
 - DOM, Events, Arrow Functions
 - Promises, Async/Await

✓ React.js

- JSX, Components, State, Props
- Hooks: useState, useEffect
- Routing with React Router
- Axios integration
- Form Handling and Validation

✓ Angular

- Angular CLI & folder structure
- Components, Modules, Services
- Routing, Two-way binding, Forms
- HTTPClient, Observables
- RxJS, Pipes, DI

3. Version Control Systems

- ✓ Git: Initialization, add/commit, branches
- ✓ GitHub workflows
- ✓ Pull requests & collaboration

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4. Backend Development – Python



Core Python Review

- Data Types, Functions, Loops, OOP
- Exception Handling
- File Handling, Modules



Flask Framework (Micro Framework)

- App routing & templates (Jinja2)
- Request & Response objects
- Blueprints & app structure
- Flask-SQLAlchemy for DB interaction
- RESTful API building with Flask-RESTful
- Flask-JWT-Extended for auth



Django Framework (Full-Featured)

- Django project & app structure
- URL routing, Views, Templates
- Models & Django ORM
- Django REST Framework (DRF)
- Class-based Views & Serializers
- Built-in Admin panel
- Authentication & Permissions

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5. API Development – RESTful & GraphQL



RESTful APIs

- CRUD operations using Django REST & Flask
- API Documentation with Swagger or DRF Docs
- Authentication: Token & JWT-based
- Rate limiting, Throttling, Pagination



GraphQL (with Django or Flask)

- Intro to GraphQL vs REST
- Schema, Query, Mutation, Resolver
- Integration using Graphene (Python)
- GraphiQL Playground

6. Database Management



SQL (PostgreSQL / MySQL)

- Schema Design, Joins, Views
- SQLAlchemy / Django ORM usage
- Migrations (Flask-Migrate / Django Migrate)



NoSQL (MongoDB)

- Document model, collections
- CRUD operations via PyMongo or MongoEngine
- Flask + MongoDB integration

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7. DevOps and Cloud Deployment



Cloud Platforms

- AWS: EC2, RDS, S3, IAM
- Azure: Web App Service, Azure SQL, Blob Storage
- GCP: Compute Engine, Firebase Hosting, Cloud Run



Web Servers

- Gunicorn: WSGI server for Python apps
- Nginx/Apache: Reverse proxy setup
- Configuration & SSL via Let's Encrypt



Docker (Basics)

- Dockerfile for Python Apps
- Docker Compose
- Building & running containers



CI/CD Tools (Optional Advanced)

- GitHub Actions for Python Projects
- Automated tests, builds, and deployment

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8. Testing & Debugging

- ✓ Unit testing with unittest / pytest
- ✓ Django test framework
- ✓ Postman: API testing (REST + GraphQL)
- ✓ Error logging & debugging tools (Sentry, Loguru)

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Ready to Take Your Python Full Stack Development to the Next Level?

☀️ **Join the program today and turn your passion into a rewarding career!**

Why Choose Wingslide ?

- ✓ **Hands-On Learning:** Build full stack applications using React, Angular, Django, and Flask while working with SQL and NoSQL databases. Deploy real-world projects on AWS, Azure, and GCP.
- ✓ **Industry-Standard Tools:** Gain expertise in modern tools like HTML5, CSS3, JavaScript (ES6+), React, Angular, Django, Flask, MongoDB, Docker, Git, and Postman.
- ✓ **Advanced Concepts:** Master RESTful & GraphQL APIs, JWT authentication, CI/CD pipelines, and cloud deployment to become industry-ready.

Start your advanced Python Full Stack Development training at Wingslide to master the skills needed to anticipate, counter, and neutralize complex threats in any environment.

At Wingslide, we prepare developers to build scalable, secure, and production-ready applications with modern frontend, backend, database, and cloud technologies — mastering the complete Python Full Stack lifecycle.

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