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### ### \*\*1. Prerequisites\*\*

- Basic understanding of programming concepts (variables, loops, conditionals).
- Familiarity with using a **command-line interface (CLI)**.
- A code editor (e.g., VS Code, PyCharm).

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### ### \*\*2. Phase 1: Python Basics\*\*

\*(1–2 Weeks)\*

#### - **Topics to Learn**:

- Variables, data types, operators.
- Control flow (`if-else`, loops).
- Functions and modules.
- Basic OOP (classes, objects, inheritance).
- Working with files and exceptions.

#### - **Resources**:

- [Python Crash Course (Book)](<https://nostarch.com/pythoncrashcourse2e>)
- [Automate the Boring Stuff (Free Online)](<https://automatetheboringstuff.com/>)

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### ### \*\*3. Phase 2: Web Fundamentals\*\*

\*(1 Week)\*

#### - **Topics to Learn**:

- How the web works (HTTP, client-server model).
- Basics of HTML/CSS (no need for mastery).
- Frontend vs. backend overview.
- RESTful APIs (conceptual understanding).

#### - **Resources**:

- MDN Web Docs: [Introduction to HTTP](<https://developer.mozilla.org/en-US/docs/Web/HTTP/Overview>)

- FreeCodeCamp: [HTML/CSS Basics](https://www.freecodecamp.org/learn/)

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### ### \*\*4. Phase 3: Django Core Concepts\*\*

\*(2–3 Weeks)\*

#### - \*\*Topics to Learn\*\*:

- \*\*Django Architecture\*\*: MVT (Model-View-Template) pattern.
- Setting up Django: Installation with `pip`, starting a project.
- Building a simple app:
  - Models (database tables with `models.py`).
  - Views (logic handling with `views.py`).
  - Templates (HTML rendering with Django syntax).
  - URLs (routing with `urls.py`).
- Django Admin Panel.
- Basic forms and user input.

#### - \*\*Resources\*\*:

- [Django Official Tutorial](https://docs.djangoproject.com/en/4.2/intro/tutorial01/)
- Video: [Django for Everybody

(Coursera)](https://www.coursera.org/specializations/django)

- \*\*Project\*\*: Build a \*\*Todo App\*\* with CRUD operations.

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### ### \*\*5. Phase 4: Intermediate Django\*\*

\*(2 Weeks)\*

#### - \*\*Topics to Learn\*\*:

- User authentication (login, signup, sessions).
- Static files (CSS, JS, images).
- Working with databases (SQLite/PostgreSQL).
- Django Forms (validation, custom forms).
- Class-Based Views (CBVs).
- Middleware and context processors.
- \*\*Project\*\*: Build a \*\*Blog\*\* with user accounts and comments.

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### ### \*\*6. Phase 5: Advanced Topics\*\*

\*(2–3 Weeks)\*

#### - \*\*Topics to Learn\*\*:

- Django REST Framework (building APIs).
- Testing (unit tests, integration tests).
- Security best practices (XSS, CSRF, SQL injection).
- Caching and performance optimization.
- Custom template tags/filters.
- \*\*Project\*\*: Build an \*\*E-commerce API\*\* with DRF.

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### ### \*\*7. Phase 6: Deployment & Best Practices\*\*

\*(1 Week)\*

#### - \*\*Topics to Learn\*\*:

- Deploying to platforms:
  - Heroku
  - PythonAnywhere
  - AWS/EC2
- Setting up `gunicorn` and `nginx`.
- Environment variables with `.env`.
- Version control with Git/GitHub.

#### - \*\*Resource\*\*: [Django Deployment

Checklist](<https://docs.djangoproject.com/en/4.2/howto/deployment/checklist/>)

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### ### \*\*8. Projects to Build\*\*

- \*\*Beginner\*\*: Todo App, Blog, Weather App.
- \*\*Intermediate\*\*: E-commerce Site, Social Media Clone.
- \*\*Advanced\*\*: Job Board with APIs, Real-time Chat (WebSockets).

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### ### \*\*9. Resources & Communities\*\*

#### - \*\*Books\*\*:

- \*Django for Beginners\* by William S. Vincent
- \*Two Scoops of Django\* (Best Practices)

#### - \*\*Courses\*\*:

- [Django Official Docs](<https://docs.djangoproject.com/>)
- [MDN Django Tutorial](<https://developer.mozilla.org/en-US/docs/Learn/Server-side/Django>)

#### - \*\*Communities\*\*:

- Django Forum: [[forum.djangoproject.com](https://forum.djangoproject.com/)](<https://forum.djangoproject.com/>)
- Reddit: r/django

#### - \*\*Tools\*\*:

- Django Extensions, Django Debug Toolbar.
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