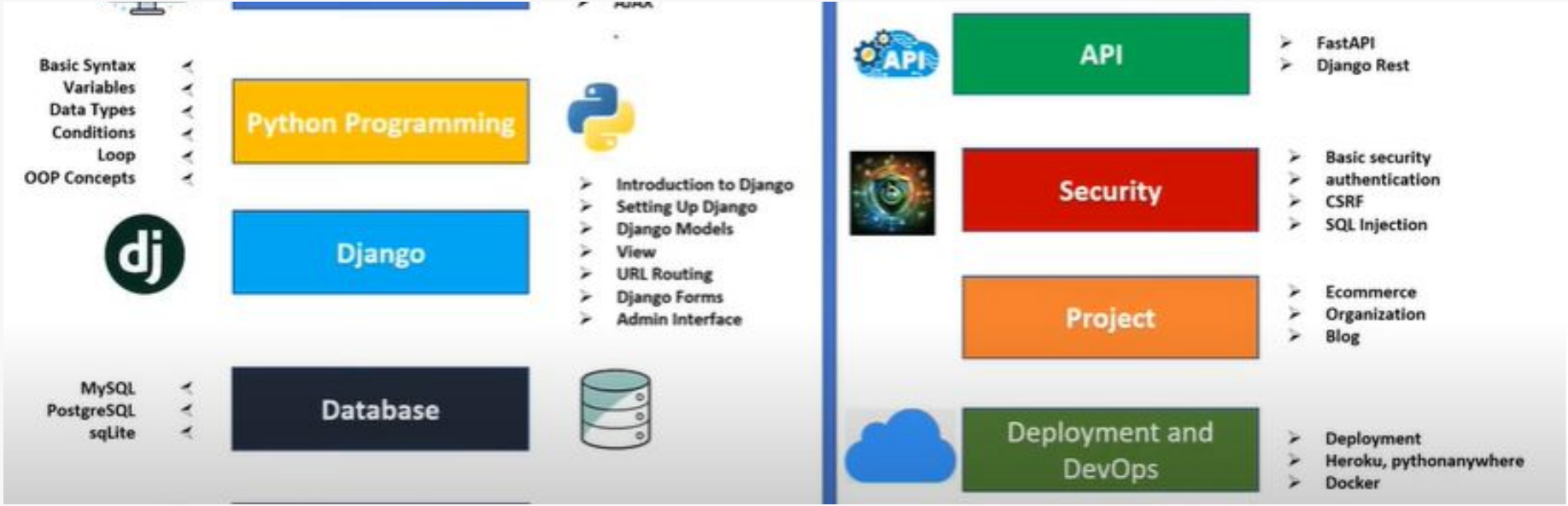
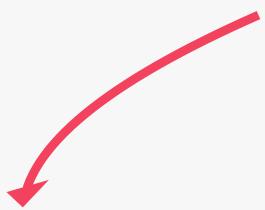
Back-End Engineering

Follow me here

Software Development Life Cycle.



THE BACK-END DEVELOP CLASS ROAD MAP



SOFTWARE DESIGN PROCESS

- 👉 SDLC Overview
- 👉 Data Structures and Algorithms
- 👉 Software design patterns and principles
- 👉 System Modeling, UML Diagrams
- 👉 Database design
  project planning
  flowchart
- 👉 Problem solving
- Debugging
- 👉
- 👉

Porgrmaining

2 Months

Python Programming(BEGINNER)

Variables in Python String Manipulation Input and Print Functions Variable Naming Rules Mathematical Operations in Python DataTypes Converting types Conditionals IF/ELIF/ELSE Logical Operators Randomisation Error Handling Functions For Loops Code blocks and I indentation While Loops Flowchart Programming Positional and Keyword Arguments Python Dictionaries and Lists Nested Collections Returning Functions Return vs. Print Doc Strings vs. Comments Scope and Local/Global Variables Debugging Techniques

Project for back-end

1 Months

Python Programming(INTERMEDIATE)

Local Development Environment Setup
PyCharm Tips and Tricks
Python Object Oriented Programming
Creating Classes in Python
Using External Python Modules/Import
Getting / Setting Attributes
Python Methods
Class Initialisers
Module Aliasing
Optional, Required and Default Parameters
Event Listenters
Python Instances and State
Python Turtle
Game Development with Python and OOP
Python Inheritance
Python Slice Function
File I/O Reading and Writing to Local Files
File Directories
Reading and Writing to CSV
Introduction to the Pandas Framework
List Comprehensions
Dictionary Comprehensions

Project for back-end

Django (Framework)

8 weeks

- Basic Concepts
- Models and ORM
- Templates
- Authentication
- Admin Interface
- View (function and class)
- Deployment
- URLS
- Setting
- Django app

Database(Django ORM)

2 weeks

- Introduction to ORM
- Setting Up the Environment
- Basic CRUD Operations
- One-to-One Relationships
- One-to-Many Relationships
- Many-to-Many Relationships
- Querying with ORM

Project for back-end

Rest API(Fast api, DRF)

Overview of REST APIs
Introduction to Django REST Framework
Getting Started with DRF
Setting Up the Environment
Creating a Simple API
Model Serializers
Advanced Serializers
Views and ViewSets
Class-Based Views (CBVs)
ViewSets and Routers

Permissions
Pagination, Filtering, and Ordering
token auth
jwt auth

5 weeks

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Project for back-end

Deployment

1 week

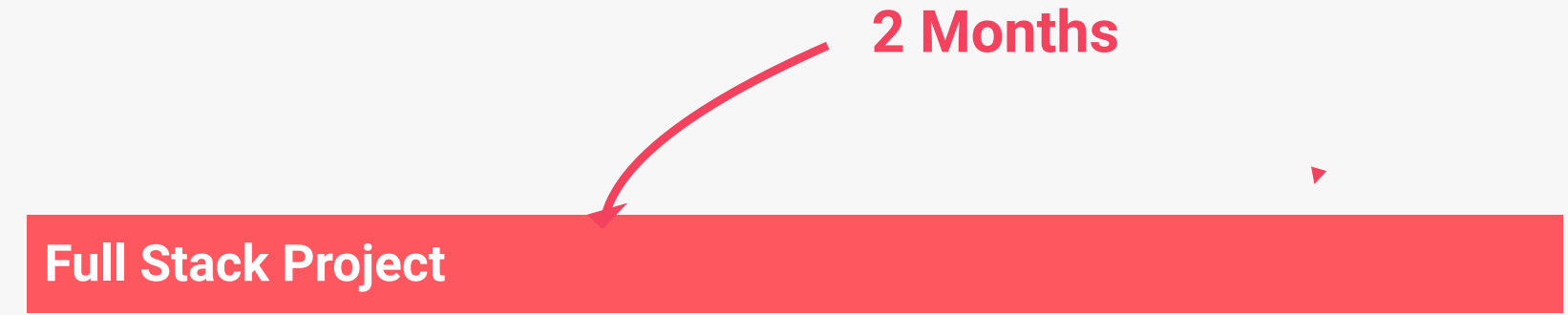
- Static and Media Files
- Database Configuration
- Settings Configuration
- Understanding Deployment
- Deployment Options
- Web Server Configuration

Database(Django ORM)

2 weeks

- Introduction to ORM
- Setting Up the Environment
- Basic CRUD Operations
- One-to-One Relationships
- One-to-Many Relationships
- Many-to-Many Relationships
- Querying with ORM

Project for back-end



- 👉 Content Management Software
- 👉 Bank Fintech App
- 👉 Marketplace Ecommerce

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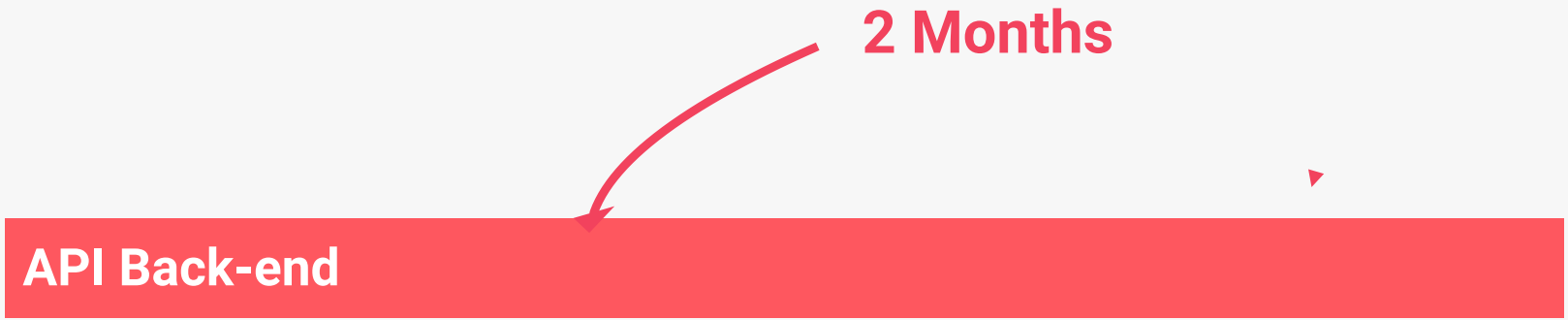
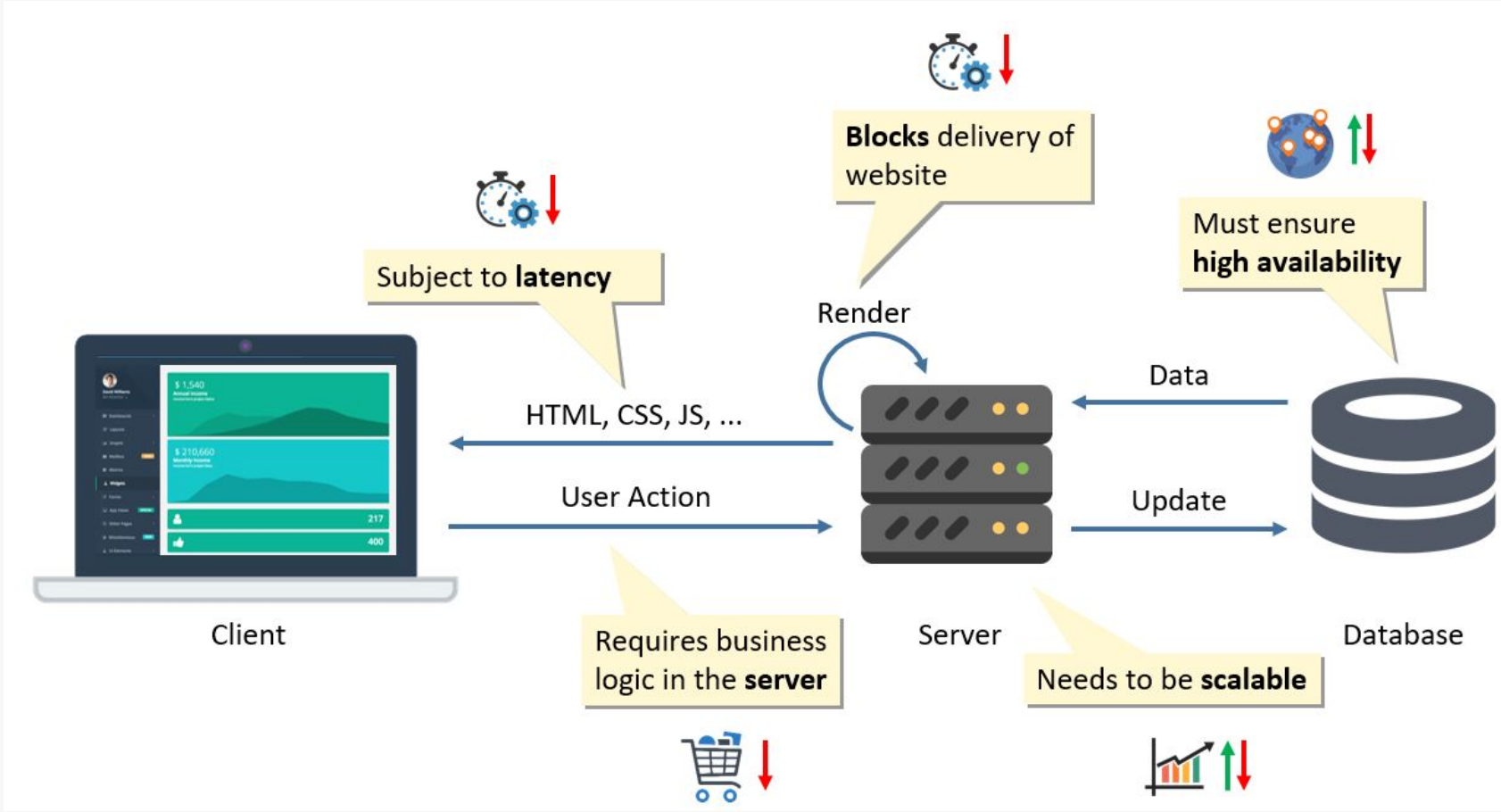
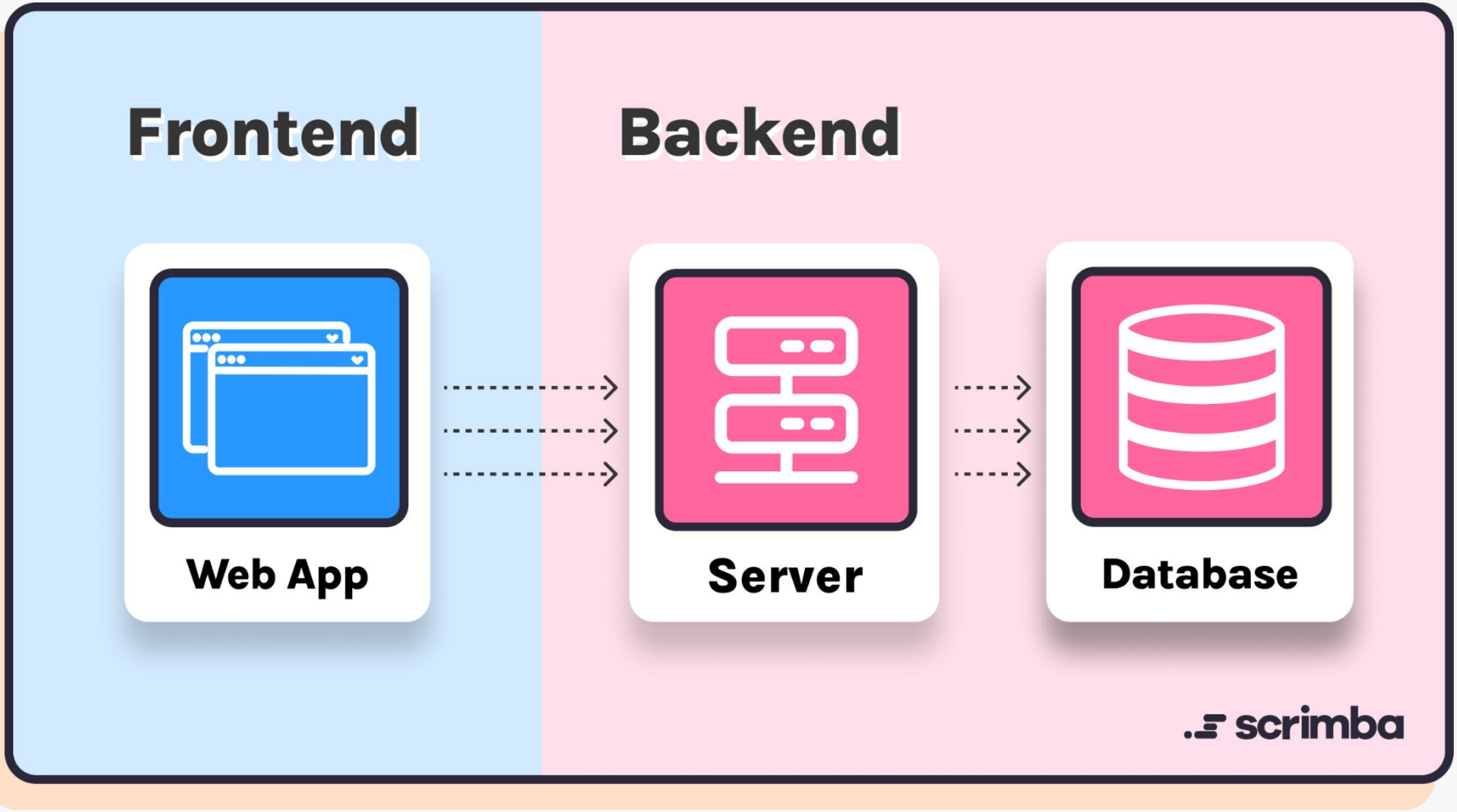
Project for back-end



- 👉 Customer Expense App
- 👉 E-Learning App
- 👉 Hotel,Travel,Flight booking


Blocks delivery of website
Must ensure high availability
Subject to latency
Render
Data
HTML, CSS, JS, ...
User Action
Update
Client
Server
Database
Requires business logic in the server
Needs to be scalable


Frontend
Backend
Web App
Server
Database
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