

## Angular Framework — Development & Deployment Guide

### Overview

Angular is a TypeScript-based web framework by Google for single-page applications.

### Core Concepts

- Components
- Templates
- Modules
- Services
- Routing

### Setup

1. Install Node.js and npm.
2. Install Angular CLI: `npm install -g @angular/cli`
3. Create new project: `ng new my-app`
4. Serve: `ng serve --open`

### Component Example

```
import { Component } from '@angular/core';
@Component({
  selector: 'app-hello',
  template: `Hello {{name}}`
})
export class HelloComponent { name = 'World'; }
```

### Common Errors

Issue	Cause	Solution
ng serve fails	Missing node modules	`npm install`
Blank page	Routing issue	Check `app-routing.module.ts`
API not working	CORS issue	Enable CORS on backend

### Integration with Backend

- Use `HttpClient` for API requests.
- Use JWT for authentication.

### Deployment

- Build production version: `ng build --prod`
- Host on Firebase or Nginx.

### Best Practices

- Use lazy loading.
- Keep components small.
- Use Angular Material for UI.