

Angular – Introduction (Session 1)

What is Angular?

Angular is a **Web Framework**.

What is a Framework?

A framework is:

- ✓ A set of rules
- ✓ A collection of libraries
- ✓ A predefined structure

that provides a **standard way to develop applications**.

When using a framework:

The framework controls the flow of the application means Developers write code according to framework rules

Real-life example:

A framework is like a **railway track**.

The train (your code) must run on that track.

◆ Purpose of Angular

The main purpose of Angular is:

👉 **To develop frontend web applications**

Angular is mainly used for:

- ✓ Single Page Applications (SPA)
- ✓ Large-scale applications
- ✓ Applications with complex UI logic

It helps developers create:

- 🚀 Fast applications
- 📈 Scalable applications
- 🔧 Maintainable applications

📌 Examples of apps built using Angular:

- Admin Dashboards
 - Banking Applications
 - E-commerce Websites
 - Enterprise-level Applications
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◆ Why Angular is Preferred?

Angular is preferred because it provides everything required to develop Application like:

✓ Inbuilt Tools and Libraries

Angular already provides:

- ✓ Routing
- ✓ Forms (Template-driven & Reactive Forms)
- ✓ HTTP Client (API calls)
- ✓ Validations
- ✓ Dependency Injection

👉 Developers do not need to install many third-party libraries.

✅ Powerful Angular CLI

Angular provides a **Command Line Interface (CLI)** that helps in:

- ⚙️ Creating projects
 - ⚙️ Generating components, services, modules
 - ⚙️ Building applications
 - ⚙️ Testing applications
 - ⚙️ Deploying applications
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✅ Standard Project Structure

Angular provides a **Standard and well-defined project structure** so:

- ✓ Code becomes easy to understand
- ✓ Easy maintenance
- ✓ Better team collaboration
- ✓ Industry-level coding standards

👉 Very useful in company and enterprise projects.

✅ Built-in TypeScript Support

Angular uses **TypeScript by default**.

Benefits of TypeScript:

- ✓ Type safety
- ✓ Early error detection
- ✓ Better scalability
- ✓ Cleaner and readable code

🧠 **Result:** Fewer runtime errors and better code quality.

◆ How Angular is Different from React JS ?

✂ Angular vs React JS (Easy Comparison Notes)

◆ Angular and React – Basic Difference

● Angular is a **Framework**

● React JS is a **Library**

👉 Angular provides a complete structure for application development

👉 React mainly focuses on building UI

◆ Usage Difference

● Angular is used to develop complete frontend applications

● React JS is used to create UI for frontend applications

👉 Angular handles routing, forms, API calls, etc.

👉 React handles only the UI part, other features need extra libraries

◆ Architecture Difference

● Angular follows **MVC Architecture**

● React JS follows **Component-Based Architecture**


● Angular (MVC)

- Model → Data
- View → UI
- Controller → Business Logic


React

- Application is divided into small reusable components
 - Each component controls its own UI and logic
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Built-in Features

 Angular contains many built-in features:

- ✓ Routing
- ✓ Forms
- ✓ HTTP Client
- ✓ Validations

 React JS contains fewer built-in features:

- Mainly focuses on UI rendering
 - Needs external libraries for routing, forms, API calls
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Learning & Structure

Angular

- Fixed structure
- Better for large and enterprise applications

React

- Flexible structure
 - Easier to start for beginners
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One-Line Summary

 **Angular** → Complete frontend framework

 **React JS** → UI-focused library



Final Note

Both Angular and React are popular frontend technologies.
The choice depends on project size, team requirements, and application complexity.

◆ Control Flow Difference

- Angular: Framework controls the application flow
 - React: Developer controls the application structure
 - 👉 Angular tells how to build
 - 👉 React lets you decide how to build
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◆ When to Choose Angular?

Choose Angular if:

- ✓ You are building large applications
 - ✓ You want all features built-in
 - ✓ You are working in a team environment
 - ✓ You want enterprise-level structure
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◆ When to Choose React?

Choose React if:

- ✓ You want flexibility
 - ✓ You are building small or medium apps
 - ✓ You want faster initial learning
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Session 1 Summary

- 📌 Angular is a complete frontend framework
- 📌 It provides structure, tools, and scalability
- 📌 Best suited for enterprise-level applications