

# A 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

---

## ◆ 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
- 

## ✓ 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
- 

## 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
- 

## Learning & Structure

 Angular

- Fixed structure
- Better for large and enterprise applications

 React

- Flexible structure
  - Easier to start for beginners
- 

## 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
- 

## ◆ 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
- 

## ◆ When to Choose React?

Choose React if:

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



## Session 1 Summary

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