

# ASP.NET Core Web API – Full Interview Guide

Comprehensive interview questions and answers covering ASP.NET Core Web API, EF Core, Authentication, React integration, and common interview traps.

## ASP.NET Core Web API Basics

**Q:** What is ASP.NET Core Web API?

**A:** It is a framework for building RESTful HTTP services that return JSON/XML and run cross-platform.

**Q:** What is REST?

**A:** REST is an architectural style using HTTP methods like GET, POST, PUT, DELETE.

## Controllers & Routing

**Q:** What is ApiController?

**A:** It provides automatic validation, binding, and error responses.

**Q:** Attribute routing vs conventional routing?

**A:** Attribute routing defines routes on controllers, conventional uses central config.

## Async & EF Core

**Q:** Why async/await?

**A:** Prevents thread blocking and improves scalability.

**Q:** FirstOrDefault vs FirstOrDefaultAsync?

**A:** Async version is non-blocking and recommended in Web API.

## Dependency Injection

**Q:** What is DI?

**A:** A design pattern to inject dependencies instead of creating them manually.

**Q:** Transient vs Scoped vs Singleton?

**A:** Transient: new instance. Scoped: per request. Singleton: one instance.

## Authentication & Authorization

**Q:** What is JWT?

**A:** JSON Web Token used for stateless authentication.

**Q:** Authentication vs Authorization?

**A:** Authentication checks identity, authorization checks permissions.

## DTOs

**Q:** Why use DTOs?

**A:** To prevent overposting and hide sensitive fields.

## Final Interview Tips

Explain your approach clearly, use async methods, mention DTOs and DI, and stay calm. Interviewers value clarity over perfection.