



# 300

## MOST ASKED

**REAL-TIME  
INTERVIEW  
QUESTIONS**

# OOP/SOLID Interview Questions

- Q1. What is Method Signature?
- Q2. What is the Order of constructor execution?
- Q3. What is destructor and how many can be there in a class ?
- Q4. What happens when constructor is private ?
- Q5. If an Abstract class has concrete method so can its child class have same method name and can it modify it ?
- Q6. Abstract vs Static class ?
- Q7. Abstract vs Interface ?

Q8. Why Abstract Class has Constructors?

Q9. When to use abstract and when to use interface give real time example in c#

Q10. Implicit and explicit interface ?

Q11. What are default interface and why do we need it ?

Q12. Polymorphism in C# ?

Q13. Method overriding with example ?

Q14. Method hiding with example ?

Q15. Is return type considered in method overloading? ?

Q16. Why and when to use method hiding?  
give real time scenario

Q17. How to extend a Sealed Class?

Q18. What is extension method?

Write an example ?

Q19. What is solid principle and why to implement?

Q20. State all the principles with example ?

Q21. What is Liskovs Substitute Principle, explain with example

Q22. Difference in Open close and Liskov principle ?

Q23. Difference between Liskov vs ISP ?

# C# Interview Questions

Q24. Value type vs Ref type.

Q25. Ref vs Out, give real time example and usage.

Q26. Can ref keyword be used in Async programming?

Q27. Const vs Readonly ?

Q28. What is Garbage Collector?

Q29. How to remove unmanaged code?  
(How we remove garbage in unmanaged code?)

Q30. Throw vs Throw ex.

Q31. What are access modifiers?

Q32. What is Partial class give real time scenario ?

Q33. What are generics? Have you implemented any in your project ?

Q34. What are collections and its type ?

Q35. What is Dictionary, List, HashTable ?

Q36. What is Stack and Queue ?

Q37. Difference between Generics and non generics ?

Q38. What is Concurrent Collection ?

Q39. What are delegates and built in delegates ?

Q40. What is LINQ?

Q41. Single vs SingleOrDefault ?

Q42. First vs FirstOrDefault ?

Q43. Select vs SelectMany ?

Q44. What is the effect of combining AsParallel with LINQ queries?

Q45. IEnumerable vs toList ?

Q46. IQueryable vs toList ?

Q47. IQueryable vs IEnumerable ?

Q48. What is Yield Keyword ?

Q49. Break vs Continue vs Return ?

Q50. Reflections in C# ?

Q51. What is TPL ?

Q52. TPL vs Thread

Q53. Async vs Thread ?

Q54. How to start a Task ?

Q55. what is Async and Await ?

Q56. difference between Async/Await and TPL ?

**Q57.** What is a concurrency issue in an application, and how do you handle it? Is this related to performance?

**Q58.** Suppose the database layer is already optimized, but performance issues still exist on the application side. What steps would you take to improve performance at the application level?

**Q59.** If an application has heavy database interactions, how can we optimize performance—whether it's a legacy application, a modern Web API, or a front-end app like React?



Q60. Imagine there's a production issue with very limited information available. How would you approach diagnosing and resolving the root cause of the issue?

Q61. Which code will perform better ?

```
string longString = "";
for (int i = 0; i < 1000; i++)
{
    longString += "one more ";
}
```

---

//--

---

```
StringBuilder sBuilder = new StringBuilder();
for (int i = 0; i < 1000; i++)
{
    sBuilder.Append("Add This");
}
string str = sBuilder.ToString();
```

# JAVASCRIPT QUESTIONS

- Q62. Difference in reassign & redeclaration ?
- Q63. VAR vs LET vs CONST ?
- Q64. Types of object creation in JS ?
- Q65. What is Hoisting concept in JS ?
- Q66. What do you mean by Temporal Dead Zone ?
- Q67. What is Closure in JS ?
- Q68. What is a Prototype ?
- Q69. What is Spread Operator ?
- Q70. What is Rest Operator ?
- Q71. Difference between Spread and Rest Operator ?

Q72. Splice vs Slice ?

Q73. What is Arrow Function ?

Q74. What is anonymous function ?

Q75. What is Array and its types ?

Q76. How to flatten multi-dimensional array?

Q77. = VS == VS === state the name of operators and explain the use ?

# ANGULAR QUESTIONS

Q78. Why Angular ?

Q79. Which is the latest version going on ?

Q80. Difference JS and Angular ?

Q81. How to install Angular ?

Q82. What is AOT ?

Q83. What are Decorators ?

Q84. How do you create a component ?

Q85. How does Angular App starts ?

Q86. Package.json vs package.lock.json file ?

Q87. How to download or install other packages ?

Q88. What is angular.json file ?

Q89. What are Modules ?

Q90. What is ngModel ?

Q91. What is routing and how it is implemented?

Q92. Lazy Loading in Routing ?

Q93. What are directives and its type. Explain with real examples.

Q94. How to create custom Directives ?

Q95. Types of data binding in angular with examples

Q96. What is String Interpolation?

**Q97. Difference between string interpolation and Property binding ?**

**Q98. What is Http Interceptor ?  
How to implement it ?**

**Q99. What are services in Angular ?**

**Q100. Dependency Injection in Angular ?**

**Q101. Ways to pass data from one component to another?**

**Q102. List down all Life cycle hooks in sequence with examples.**

**Q103. Constructor vs ngOnInit ?**

**Q104. ngOnChanges vs ngDoCheck ?**

**Q105. What is ViewChild ?**

Q106. How to create API calls in Angular ?

Q107. What are HTTP filters in Angular ?

Q108. How to add http headers or  
authorization in post call ?

Q109. What are Pipes and its type ?

Q110. How to create Pipes ?

Q111. Promise vs Observables ?

Q112. Observables vs Subject ?

Q113. Different Types of Subject ?

Q114. Can we do asynchronous programing in  
Angular? How?

Q115. How to implement asynchronous  
programing in Angular?

- Q116.** Template driven forms and Reactive forms with their difference.
- Q117.** What is auth guard in Angular ?
- Q118.** Types of Auth Guards in Angular.
- Q119.** What is Local Storage ?
- Q120.** Have you used RXJS ? Why it is used?
- Q121.** Give some operators of RXJS.
- Q122.** What is Map Operator ?
- Q123.** What is Template Reference Variable ?
- Q124.** How to do testing in Angular?
- Q125.** State management in Angular ?

# .NET CORE WEB API QUESTIONS

Q126. Framework vs Core ?

Q127. Advantages/features of .NET core

Q128. Disadvantages of WebAPI .

Q129. How does .NET Core starts?

Q130. What is Middleware in .NET core ?

Q131. What is request Delegate?

Q132. app.Use vs app.Run ?

Q133. What are Filters in dot net core ?

Q134. What is Authorization Filter ?

Q135. What is Exception filter ?

Q136. What is Action filter ?

Q137. Middleware vs filter ?

Q138. Configure vs Configure Services ?

Q139. .NET Core 5.0 vs .NET Core 6.0 ?

Q140. Can we implement startup.cs file in 6.0?

Q141. What is dependency injection and types ?

Q142. What is service life cycle?  
(addTransient, addSingleton, addScoped),  
State thier difference.

Q143. What is Routing and its types ?

Q144. What is an Attribute ?

Q145. Serialization and Deserialization

Q146. How to implement Global exception?

Q147. What is Session Management ?

Q148. What is caching and type of caching and how to implement it in dot net core ?

Q149. What is MVC pattern ?

Q150. What is MVVP Pattern?

Q151. What is CORS policy?

Q152. What is Restful API?

Q153. SOAP vs REST ?

Q154. What is JSON ?

Q155. JSON vs XML ?

Q156. POST vs PUT ?

Q157. If We can modify resource via Post call then why we need PUT call ?

Q158. Can GET call have request body ?

Q159. Can we add resource using GET call ?

Q160. What is Content negotiations in Web API ?

Q161. What is Api Versioning and its type?  
How to implement it

Q162. Return types in ..NET Core?

Q163. Can we have multiple return types in net core?

Q164. How to implement sorting and paging in .net core?

Q165. How to implement Authentication/Authorization in dot net core ?

Q166. What is JWT? State its parts.  
How it is implemented ?

Q167. How to save sensitive data in database ?

Q168. What are some common encryption techniques ?

Q169. What data encryption techniques you have used in project ?

Q170. What is API gateway ?

Q171. Suppose There is a requirement to upload a file with lakhs of records in database from mvc.

Q172. How to do it so transaction will be faster ?

Q173. Can you explain the MVC lifecycle and describe the flow of a request from the browser to the server and back?

Q174. What is cache management? How can it be implemented in a React front-end application? How do we manage caching in an ASP.NET MVC web application? What about in an ASP.NET Core Web API?

# ORM THEORY QUESTIONS

Q175. What is ORM ?

Q176. Have you used any ORM in your project ? Which one?

Q177. What is Dapper ?

Q178. What is EF core ?

Q179. EF Core vs Framework ?

Q180. What are navigation property in EF core ?

Q181. How did you implement EF core with relational database ?

**Q182. How did you implement EF core with relational database ?**

**Q183. Code first vs Database first**

**Q184. Commands used for code first ?**

**Q185. What are fluent APIs ?**

**Q186. How do you call a Stored Procedure from EF core?**

# SQL SERVER THEORY QUESTIONS

Q187. What is Normalization and state its form ?

Q188. What is BOYCE CODD normal form ?

Q189. Indexes in SQL ?

Q190. Cluster vs Non-Cluster ?

Q191. What is execution plan ?

Q192. Primary vs Unique ?

Q193. Union vs Union ALL ?

Q194. ISNULL vs Coalesce ?

Q195. Truncate vs Delete ?

Q196. Table vs Views ?

Q197. Stored Procedure vs Function ?

Q198. What is CTE ?

Q199. Temporary Table vs CTE ?

Q200. Temporary table vs Temporary Table variable ?

Q201. Sub Queries vs CTE ?

Q202. SQL Injection and how will you prevent it ?

Q203 Triggers in sql and its purpose ?

Q204. What is Rownumber ?

Q205. Rank vs DenseRank ?

Q206. What are Magic tables ?

Q207. What is Deadlock ?

Q208. What is WITH (NOLOCK) ?

Q209. What is Isolation Level ?

Q210. What is transaction and How to implement it?

Q211. Merged Statement .

Q212. Send unlimited parameters through stored procedures

# DESIGN PATTERN QUESTIONS

Q213. What is Design Pattern and why do we need ?

Q214. Types of Design Pattern - Creational, Structural, Behavioral ?

Q215. Which Design patterns you have used in your project ?

Q216. Which Design Patterns you know ?

Q217. What is Singleton DP? Type down the singleton pattern

Q218. Connection pooling many answer in singleton but that can be problematic. Especially from DB perspective.

Q219. Singleton Pattern Disadvantage ?

Q220. Breaking the Singleton using direct references. Iterator, IEnumerable

Q221. What is Strategy DP ?

Q222. What is Adapter DP ?

Q223. What is Abstract Factory DP?

Q224. What is Repository DP ? List its advantages.

Q225. What is CQRS DP ?

Q226. What are 3 important elements ?

Q227. Why is MediatR in CQRS ?

Q228. Why CQRS is important in MS ?

Q229. What is event sourcing in CQRS ?

Q230. Is SQL Server Event source ?

# ARCHITECTURE QUESTIONS

Q231. Have you worked on Clean Architecture ?

Q232. What are Microservices ?

Q233. Monolithic vs Microservices ?

Q234. Layer vs Tiered ?

Q235. How does one microservice call other microservice internally ?

## SCENARIO BASED QUESTIONS

Q236. How will you increase performance in angular application?

Q237. If there is case of bulk upload photos/videos, what will be your approach?

Q238. If you find slowness in angular application how will you optimize it?

Q239. If an abstract Employee class has abstract method GetManager() and one concrete method GetSalary().  
And Developer class and QA class inherits it.

Now your Client said there is a requirement to add a CEO class which does not have a manager but has salary.

## How you will implement this scenario?

**Option** - You can extend it as it is or you can change the existing code. But which one would be optimal ?

Q240. There are 2 different Interfaces A, B and both are having same method name.

Can a Class e.g. class C, implement both of them? If yes, then how will it use the method from Class A.

Q241. There is a sealed class and I want to add new methods to it without changing the existing logic.

Q242. Can a class have multiple constructor with different access modifiers also with static constructor, if yes then in what order it will execute ?

Q243. If you need to fetch data but parameter/query string is complex then you will use GET or POST call and why ?

Q244. If you need to fetch data but parameter/query string is complex then you will use GET or POST call and why ?

Q245. How to do bulk insert, update in dot net core?

Q246. How to limit the API hits in dot net core?

Q247. How to handle huge payloads that expires in 30 secs ?

Q248. In case of complex logic, will you use linq (dot net core) or SQL (database)?

Q249. How to optimize a Stored Procedure ?

Q250. If we told you to create a new project then by which approach you will choose Code first or Database first and why?

Q251. How to do bulk insert, update in EF core?

## API TESTING QUESTIONS

Q252. Why we need Testing ?

Q253. What is Unit Testing ?

Q254. What is Integration Testing ?

Q255. Difference Unit and Integration?

Q256. Which unit testing framework you used in your project ?

Q257. What is the Code Coverage Percentage ?

Q258. What is Moq ? Have you used it in project ?

Q259. How to handle exception in unit testing?

# CODING QUESTIONS

**Q260.** Finding two numbers in an array that add up to a target

**Q261.** Reverse word in a string

**Q262.** Find occurrence of each character in a given string.

**Q263.** Move 0's to end of the array

**Q264.** Find the First Non-Repeating Character.

**Q265.** Remove Duplicates from a String.

**Q266.** Reverse a String

**Q267.** Swapping two number

Q268. Extract the surname.

Q269. DSA based question.

Q270. Check if a String is a Palindrome.

Q271. Find the Longest Substring Without Repeating Characters

Q272. Remove All White Spaces from a String.

Q273. Find the Longest Palindromic Substring.

Q274. Can you write a code on Boxing and Unboxing in C#?

Q275. Left/Right rotate an array by K places.

Q276. Prime Numbers.

Q277. Factorial using Recursion.

Q278. They will give a snippet and we need to Spot errors and correct it.

Q279. They will give a snippet and we need to optimize it or refactor it.

Q280. Questions related to DSA e.g. Stack and Queue.

Q281. What is the next number: 1, 3, 7, 13

Q282. Create a countdown timer that will countdown from 30 and update every second. When the countdown hits 0, display 'Take Off'.

There is a Reset button next to the timer.

The Reset button will reset the timer to 30 sec if the takeoff has not already happened. After takeoff, reset is not possible.

Q283. Write example of Date Pipe with short date format.

Q284. Find Duplicate records in table.

Q285. Find Nth highest Salary

Q286. Find count of employees having 2nd highest salary in each department.

Q287. Find the Employee's Manager in the same table.

Q288. select Count(\*) vs select Count(name) vs select Count(address). Which one is faster?

Q289. Find max salary from employees.

Q290. Find employees having 2nd highest salary.

Q291. Left join in LINQ with any Method syntax or Query syntax