

Microsoft .NET Interview Questions and Answers

We have a set of Microsoft .NET interview questions and answers for experienced to freshers, which will help you to crack the **Microsoft .NET interview**.

If you are looking to expand your career and look for better packages and higher positions in the Software Development field, your .NET skills are going to save the day. Microsoft's .NET framework is one of the most widely used ones for developing websites and designing various mobile and desktop applications. .NET developers often need to coordinate with teams to build the applications more effectively.

Given below is a list of the top 25 questions that you might face at an interview for the role of a .NET developer, along with their optimal answers.

What is the .NET framework?

.NET framework is a platform developed by Microsoft to aid developers with the necessary tools for developing and deploying libraries, classes, web services, and applications. This object-oriented framework supports a lot of languages which has increased its usability in the developer community.

Specify some of the most common components of .NET.

Some of the most common components of .NET are:

- .NET Class Library
- .NET Framework
- Language Runtime
- Application Domain
- Profiling

What is an assembly in .NET?

An assembly is a collection of all the logical units. Logical units are entities that are needed to build an application and then later deploy the same using the .NET framework. It can also be considered to be a collection of executables and DLL files. DLL (Dynamic Link Libraries) files contain functions, classes, variables, UIs, and resources that an EXE or other DLL uses.

What do you understand by the term caching?

Caching is the process by which copies of files are temporarily stored in a cache (a temporary storage location) so that an application can access the files quickly rather than looking for them in a hard drive. This speeds up the execution process exponentially and improves the performance by many folds.

Primarily, there are three types of caching:

- Data Caching
- Page Caching
- Fragment Caching

Which are the types of constructors present in C# .NET?

The five main types of constructor classes in C# are:

- Copy constructor
- Default constructor
- Parameterized constructor
- Private constructor
- Static constructor

Are there any advantages of using a session?

The total time spent on an activity is called a session. A user session begins when a user logs in or accesses a particular computer, network, or software service; and ends when the user logs out of the service. There are multiple advantages of using sessions. Some of them are:

- A session helps in storing user data across the span of an application.
- It is easy to implement and store any type of object in the program
- Individual entities of the user data can be stored separately if needed.
- A session is secure, and the objects get stored on the runtime server

Differentiate between a class and an object in .NET.

Object	Class
It is an instance of a class	It is the definition of an object
A class becomes an object after instantiation	The basic scaffolding of an object
An object is used to access properties from a class	A class contains the description of methods and properties

What are the differences between managed and unmanaged code in .NET?

Managed Code

It is managed by Common Language Runtime, which is the virtual machine component of Microsoft.

Garbage collection, in this case, is used to manage the available memory.

To execute managed code, the .NET framework is necessary

Unmanaged Code

It is not managed by any entity.

For unmanaged code, the runtime environment takes care of the management

Unmanaged code is independent of the .NET framework for execution

What is LINQ?

Language Integrated Query, or LINQ, equips users with many extra features while working on the .NET framework. One of the major advantages of LINQ is that it allows users to manipulate data without any dependency on its source.

Differentiate between a function and a stored procedure.

Function

A function can only return one value

In a function, there is no support for exception handling, like the try-catch blocks

The argument, in this case, consists of only one input parameter

A function can be called from a stored procedure

Stored Procedure

A stored procedure, on the other hand, can return any number of values

A stored procedure supports the usage of the try-catch blocks for handling exceptions

Here, both the input and the output parameters are present

A stored procedure, however, cannot be called from a function

What do you understand by boxing and unboxing in .NET?

Boxing in .NET refers to how users can convert a value type into a reference type directly.

The conversion of the reference type into a value type directly is called unboxing.

What is the use of manifest in the .NET framework?

The primary use of Manifest is to store the metadata of the assembly. It contains a variety of metadata that is needed for many applications like:

- Assembly version information
- Security identification
- Scope checking of the assembly
- Reference validation to classes

What do you understand by garbage collection?

Garbage collection is a form of automatic memory management. It is used to reclaim the runtime unused memory by destroying the unused objects. In Java programming language, it is performed automatically, but in C, the free() function needs to be mentioned, and in the case of C++, the delete() function is specified. The garbage collector performs checks on the references and objects used by the application and deallocates the memory wherever needed.

What are the three generations of garbage collection?

The primary three generations of garbage collection are:

- Gen 0: Stores the short-lived objects
- Gen 1: Objects that are moved from Gen 0, move here
- Gen 2: Stored the long-lived objects and the Gen 1 objects

How many elements can a tuple hold in .NET?

In .NET, a tuple can hold up to eight elements. In the case of more than eight elements at a time, each extra element is defined into a separate tuple. Tuples are advantageous to return type specifiers or being used as parameters.

What is the difference between user control and custom control in the .NET framework?

User Control	Custom Control
Static layout	Dynamic layout
Toolbox is not supported	Toolbox usage is supported
Tightly coupled control access	Loosely coupled control access
Branches from UserControl	Branches from the control group

What are the types of memories supported in the .NET framework?

There are two memory types present in .NET.

- **Stack:** It is used for static memory allocation
- **Heap:** It is used for dynamic memory allocation

What is the meaning of cross-page posting?

When the submitted form data is posted on a different page, it is called cross-page posting. The pages are linked to one another, and once a user has clicked on the submit button, the data gets stored on a different page instead of the current one.

Mention some of the security controls present in ASP.NET.

There are five primary controls present in ASP.NET.

- <asp: PasswordRecovery>: It is used to send an email to a user once a password reset operation has been completed successfully
- <asp: Login>: It gives the provisions of login controls with ID and password fields for users to login via their credentials
- <asp: LoginName>: It is used to display the name of the user who has logged into a particular system
- <asp: LoginStatus>: It is used to denote the authentication flag of a particular user who has logged into the system
- <asp: LoginView>: It is used to provide a variety of views based on the themes upon user login

What are the types of cookies in ASP.NET?

There are two types of cookies in ASP .NET.

- **Session cookies:** These cookies are present on the client machine and valid for only individual sessions
- **Persistent cookies:** These cookies are present on the user machine and have a specific period denoting their expiry

Elaborate on the order of the page life cycle.

Eight events take place in a specific order to successfully render a page which are:

- Page_PreInit
- Page_Init
- Page_InitComplete
- Page_PreLoad
- Page_Load
- Page_LoadComplete
- Page_PreRender
- Render

What is MIME? Mention its use.

MIME or Multipurpose Internet Mail Extensions is an add-on to the existing email protocols that allows a user to exchange files over electronic mail easily. During a web transmission, servers can add in a MIME header to the beginning to denote that as a MIME transaction.

Why are you applying for the .NET developer position in our organization?

Be specific with your answer to this particular question. Elaborate on your goals, interests, and your career prospects in the field of .NET. Explain to the panel why you are confident that the job profile offered by the organization is the right fit for you. Give a firm answer, and remember not to generalize your words.

What are the skills that a successful .NET developer must have?

Some of the important domains and skills that a .NET developer must have are:

- NET MVC architecture
- Database handling
- Client-side web development
- .NET core

Apart from these skills, if you have acquired any specialized skills, do mention them.

Have you earned any certification to boost your opportunities as a .NET developer?

This is a widespread question asked by panelists. They try to assess the seriousness of an applicant, especially with their building of skills. Certificates add immense value to your resume, especially if it's been authorized by a reputable organization. If you have industry-level projects on .NET, then they too must be present on your resume. Know each point of your contribution to that project.

Conclusion

.NET is one of the most popular skills that all companies are looking for in developers before hiring them. We hope you have gained a complete understanding of the type of questions that are frequently asked in interviews. If you have any additional queries, do reach out to us through the comment section.

All the Best! :)