What is ASP.NET Web API?

ASP.NET Web API is a framework that simplifies building HTTP services for broader range of clients (including browsers as well as mobile devices) on top of .NET Framework. Using ASP.NET Web API we can create non-SOAP based services like plain XML or JSON strings etc. with many other advantages including:

- Create resource-oriented services using the full features of HTTP.
- Exposing services to a variety of clients easily like browsers or mobile devices etc.

What are the advantages of using ASP.NET Web API?

Using ASP.NET Web API has a number of advantages, but core of the advantages are:

- It works the HTTP way using standard HTTP verbs like GET, POST, PUT, DELETE etc for all CRUD operations.
- Complete support for routing.
- Response generated in JSON or XML format using MediaTypeFormatter.
- It has the ability to be hosted in IIS as well as self-host outside of IIS.
- Supports Model binding and Validation.
- Support for OData.
- and more….

For implementation on performing all CRUD operations using ASP.NET Web API, click here.

What new features are introduced in ASP.NET Web API 2.0?

More new features introduced in ASP.NET Web API framework v2.0 are as follows:

- Attribute Routing
- External Authentication
- CORS (Cross-Origin Resource Sharing)
- OWIN (Open Web Interface for .NET) Self Hosting
- IHttpActionResult
- Web API OData

You can follow a good Web API new feature details on Top 5 New Features in ASP.NET Web API 2 here.

WCF Vs ASP.NET Web API?

Actually, **Windows Communication Foundation** is designed to exchange standard SOAP-based messages using variety of transport protocols like HTTP, TCP, NamedPipes or MSMQ etc. On the other hand, **ASP.NET API** is a framework for building non-SOAP based services over HTTP only. For more details, please follow here.

Is it true that ASP.NET Web API has replaced WCF?

It's a misconception that ASP.NET Web API has replaced WCF. It's another way of building non-SOAP based services, for example, plain XML or JSON string etc.

Yes, it has some added advantages like utilizing full features of HTTP and reaching more clients such as mobile devices etc.

But WCF is still a good choice for following scenarios:
- If we intended to use transport other than HTTP e.g. TCP, UDP or Named Pipes.
- Messag Queuing scenario using MSMQ.
- One-way communication or Duplex communication

A good understanding for WCF(Windows Communication Foundation), please follow WCF Tutorial.

MVC Vs ASP.NET Web API?

As in previous ASP.NET Web API Interview Questions, we discussed that purpose of Web API framework is to generate HTTP services that reaches more clients by generating data in raw format, for example, plain XML or JSON string. So, ASP.NET Web API creates simple HTTP services that renders raw data. On the other hand, ASP.NET MVC framework is used to develop web applications that generates Views as well as data. ASP.NET MVC facilitates in rendering HTML easy.

How to return View from ASP.NET Web API method?

(A tricky Interview Question) No, we can't return view from ASP.NET Web API Method. As we discussed in earlier interview question about difference between ASP.NET MVC and Web API that ASP.NET Web API creates HTTP services that renders raw data. Although, it's quite possible in ASP.NET MVC application.

How to restrict access to Web API method to specific HTTP Verb?

Attribute programming plays it's role here. We can easily restrict access to an ASP.NET Web API method to be called using a specific HTTP method. For example, we may required in a scenario to restrict access to a Web API method through HTTP POST only as follows:

[HttpPost] public void UpdateStudent(Student aStudent)
{ StudentRepository.AddStudent(aStudent); }

Can we use Web API with ASP.NET Web Form?

Yes, ASP.NET Web API is bundled with ASP.NET MVC framework but still it can be used with ASP.NET Web Form. It can be done in three simple steps as follows:

1. Create a Web API Controller.
2. Add a routing table to Application_Start method of Global.asax.
3. Make a jQuery AJAX Call to Web API method and get data.

jQuery call to Web API for all CRUD (Create, Retrieve, Update, Delete) operations can be found here.

How we can provide an alias name for ASP.NET Web API action?

We can provide an alias name for ASP.NET Web API action same as in case of ASP.NET MVC by using "ActionName" attribute as follows:[HttpPost]
[ActionName("SaveStudentInfo")] public void UpdateStudent(Student aStudent) { StudentRepository.AddStudent(aStudent); }

In this ASP.NET Tutorial, we covered most important Interview Questions on ASP.NET Web API framework. Hopefully, it will be helpful for Web API developer Interview but along with these questions, do the practical implementation as much as you can. In **Practical guide to ASP.NET Web API**, you can find a good step by step approach for understanding and implementing ASP.NET Web API services.