**LEVEL 1**

**1) What is Representational state transfer or REST?**

REST is architectural style, which has defined guidelines for creating services which are scalable. REST used with HTTP protocol using its verbs GET, POST, PUT and DELETE.

**2) Explain Web API Routing?**

Routing is the mechanism of pattern matching as we have in MVC. These routes will get registered in Route Tables. Below is the sample route in Web API –

Routes.MapHttpRoute(  
 Name: "MyFirstWebAPIRoute",  
 routeTemplate: “api/{controller}/{id}  
 defaults: new { id = RouteParameter.Optional}  
};

**3) List out the differences between WCF and Web API?**

WCF

* It is framework build for building or developing service oriented applications.
* WCF can be consumed by clients which can understand XML.
* WCF supports protocols like – HTTP, TCP, Named Pipes etc.

Web API

* It is a framework which helps us to build/develop HTTP services
* Web API is an open source platform.
* It supports most of the MVC features which keep Web API over WCF.

**4) List out differences between MVC and Web API?**

Below are some of the differences between MVC and Web API

MVC

* MVC is used to create a web app, in which we can build web pages.
* For JSON it will return JSONResult from action method.
* All requests are mapped to the respective action methods.

Web API

* This is used to create a service using HTTP verbs.
* This returns XML or JSON to client.
* All requests are mapped to actions using HTTP verbs.

LEVEL 2

**5) How we can restrict access to methods with specific HTTP verbs in Web API?**

Attribute programming is used for this functionality. Web API will support to restrict access of calling methods with specific HTTP verbs. We can define HTTP verbs as attribute over method as shown below

[HttpPost]  
 public void UpdateTestCustomer(Customer c)  
 {  
 TestCustomerRepository.AddCustomer(c);   
 }

**6) What is the difference between MVC Routing and Web API Routing?**

There should be atleast one route defined for MVC and Web API to run MVC and Web API application respectively. In Web API pattern we can find “api/” at the beginning which makes it distinct from MVC routing. In Web API routing “action” parameter is not mandatory but it can be a part of routing.

**7) Explain about the new features added in Web API 2.0 version?**

Below are the list of features introduced in Web API 2.0 –

* OWIN
* Attribute Routing
* External Authentication
* Web API OData

LEVEL 3

**8) Write a code snippet for passing arraylist in Web API?**

Below is the code snippet for passing arraylist –

ArrayList paramList = new ArrayList();

Category c = new Category { CategoryId = 1, CategoryName = "SmartPhones"};  
Product p = new Product { ProductId = 1, Name = "Iphone", Price = 500, CategoryID = 1 };  
   
paramList.Add(c);  
paramList.Add(p);

**9) How we can handle errors in Web API?**

Below are the list of classes which can be used for error handling -

* HttpResponseException
* Exception Filters
* Registering Exception Filters
* HttpError

**10) How to enable tracing in Web API?**

* To enable tracing place below code in –“Register” method of WebAPIConfig.cs file.
* config.EnableSystemDiagnosticsTracing();