**MODULE 6 [ Deployment & Implementation]**

1. **What is Nuget packages?**

* An essential tool for any modern development platform is a mechanism through which developers can create, share, and consume useful code. Often such code is bundled into "packages" that contain compiled code (as DLLs) along with other content needed in the projects that consume these packages.

1. **What is WebService?**

* On the World Wide Web, a web service is a standardized method for propagating messages between client and server applications. A web service is a software module that is intended to carry out a specific set of functions.
* The web service would be able to deliver functionality to the client that invoked the web service.
* A web service is a set of open protocols and standards that allow data to be exchanged between different applications or systems. Web services can be used by software programs written in a variety of programming languages and running on a variety of platforms to exchange data via computer networks such as the Internet in a similar way to inter-process communication on a single computer.
* Any software, application, or cloud technology that uses standardized web protocols (HTTP or HTTPS) to connect, interoperate, and exchange data messages – commonly XML (Extensible Markup Language) – across the internet is considered a web service.
* Web services have the advantage of allowing programs developed in different languages to connect with one another by exchanging data over a web service between clients and servers. A client invokes a web service by submitting an XML request, which the service responds with an XML response.

1. **What is request and response?**

* The client (usually a web browser or an application) initiates the communication by sending an HTTP request to a specific URL or endpoint on the server.
* The request includes the HTTP method (such as GET, POST, PUT, DELETE) that indicates the desired action to be performed on the server, along with additional headers and sometimes a message body containing data.
* When the server receives a request from client, It needs to parse the request to understand the desired action needs to be performed. The request parsing step has many task to do (like extracting the request method, request Headers, determining start and end of a request, etc.)
* After parsing the request, Server knows the required action to perform, That action may performing various operations, such as retrieving data from a database, processing the data, or generating a response dynamically.
* After processing the request, the server formulates an appropriate response and sends it back to the client. The response includes the necessary information, such as status codes, headers, and a response body containing data or resources.

1. **What is postback?**

* Gets a value that indicates whether the page is being rendered for the first time or is being loaded in response to a postback.

1. **What is IIS?**

* Internet Information Services (IIS) is a flexible, general-purpose web server from Microsoft that runs on Windows systems to serve requested HTML pages or files.
* An IIS web server accepts requests from remote client computers and returns the appropriate response. This basic functionality allows web servers to share and deliver information across local area networks (LAN), such as corporate intranets, and wide area networks (WAN), such as the Internet.
* A web server can deliver information to users in several forms, such as static webpages coded in HTML; through file exchanges as downloads and uploads; and text documents, image files and more.

1. **What is web.config?**

* Web.config is an XML-based configuration file used to define an application's custom settings. This is a flexible way of handling all the requirements at the application level. This file is read by IIS to configure a hosted application.

1. **Which is the type of WebService?**

* There are two types of web services:

1. RESTful Web Servies
2. SOAP Web Services

* **RESTful Web Services :** REST stands for REpresentational State Transfer. The main goal of RESTful web services is to make web services more effective. We can build REST services with both XML and JSON. JSON is more popular format with REST. The key abstraction is a resource in REST. A resource can be anything. It can be accessed through a Uniform Resource Identifier (URI).
* **SOAP Web Services :** REST defines an architectural approach whereas SOAP poses a restriction on the format of the XML. XML transfer data between the service provider and service consumer. Remember that SOAP and REST are not comparable. SOAP acronym for Simple Object Access Protocol. It defines the standard XML format. It also defines the way of building web services. We use Web Service Definition Language (WSDL) to define the format of request XML and the response XML.

1. **What is XML and Json?**

* JSON and XML are data representations used in data exchange between applications. JSON is an open data interchange format that is readable by both people and machines. JSON is independent of any programming language and is a common API output in a wide variety of applications. XML is a markup language that provides rules to define any data. It uses tags to differentiate between data attributes and the actual data. While both formats are used in data exchange, JSON is the newer, more flexible, and more popular option.