AJAX

**1. What is Ajax?**

Ajax is abbreviated as Asynchronous Javascript and XML. It is new technique used to create better, faster and more interactive web systems or applications. Ajax uses asynchronous data transfer between the Browser and the web server.

This technique is used to make internet faster and user friendly. It is not a programming language.

**2. What are Ajax applications?**

Browser based applications and platform independent applications are used by Ajax.

**3. How many types of triggers are present in update panel?**

There are two types of triggers used in update panel:

* PostBackTrigger – This works as full postback and it cannot work asynchronously
* AsyncPostBackTrigger – Partial post back asynchronously

**4. What are all the controls of Ajax?**

Following are the controls of Ajax:

* ScriptManager
* ScriptManagerProxy
* UpdatePanel
* UpdateProgress
* Timer

**5. What are the advantages of Ajax?**

Following are the advantages of Ajax:

* Bandwidth utilization – It saves memory when the data is fetched from the same page.
* More interactive
* Speeder retrieval of data

**6.  What are the disadvantages of Ajax?**

Following are the disadvantages of Ajax:

1. AJAX is dependent on Javascript. If there is some Javascript problem with the browser or in the OS, Ajax will not support
2. Ajax can be problematic in Search engines as it uses Javascript for most of its parts.
3. Source code written in AJAX is easily human readable. There will be some security issues in Ajax.
4. Debugging is difficult
5. Increases size of the requests
6. Slow and unreliable network connection.
7. Problem with browser back button when using AJAX enabled pages.

**7. What is update panel?**

Update panel  is a server control used to update the specified portion of a web page. Script Manager needs to be used whenever update panel is used. Using update panel, user cannot handle outside controls.

**8. Which are the two methods used for cross domain Ajax calls?**

There are two methods used to transfer data between the two more security domains:

* CORS – Cross Origin Resource Sharing and it works with the HTTP web browsers
* JSONP – JSON with Padding which works with the HTTP GET and on legacy browsers

**9. What are all the technologies used by Ajax?**

AJAX uses following technologies:

* JavaScript
* XMLHttpRequest
* Document Object Model (DOM)
* Extensible HTML (XHTML)
* Cascading Style Sheets (CSS)

**10. What are all the features of Ajax?**

Following are the features of Ajax and they are as follows:

* Live data binding
* Client-side template rendering
* Declarative instantiation of client components
* Observer pattern on JavaScript objects and arrays
* Invoking ADO.NET data services and data contexts
* DataView control

**11. What is JSON in Ajax?**

JSON is abbreviated as JavaScript Object Notation.

JSON is a safe and reliable data interchange format in JavaScript, which is easy to understand for both users and machines.

**12. What are the difference between AJAX and Javascript?**

|  |  |
| --- | --- |
| **AJAX** | **Javascript** |
| AJAX sends request to the server and does not wait for the response. It performs other operations on the page during that time | JavaScript make a request to the server and waits for response |
| AJAX does not require the page to refresh for downloading the whole page | JavaScript manages and controls a Web page after being downloaded |
| AJAX minimizes the overload on the server since the script needs to request once | JavaScript posts a request that updates the script every time |

The differences between AJAX and JavaScript are as follows:

**13. What are the components of the ASP.NET AJAX architecture?**

There are two components of AJAX Architecture:

* AJAX client architecture
* AJAX server architecture

**14. What is Script Manager?**

Script Manager helps manage the client side script of AJAX. Script Manager acts as a mediator as AJAX depends on JavaScript. Every page that uses AJAX has a Script Manager to enable AJAX libraries.

**15. How Ajax objects can be created?**

Following syntax can be used to create Ajax objects:

Var sample = New ajaxObject(‘path of the page’)

**16. What are the protocols used by Ajax?**

* HTTP’s GET or POST
* XMLHttpRequest for placing a request with the web server
* Uses JSON to communicate between the client and server
* UED or URL encoded data

**17. What are all the security issues of Ajax?**

Security issues that can be encountered

* When Ajax calls are sent through plain text and it may lead to know the database details
* Inserting scripts can also be possible and attackers can easily penetrate into the system

**18. How can we handle concurrent requests?**

Javascript functions should be written to handle concurrent requests and call back function can be passed as a parameter. Those parameters are passed to AjaxInteraction(URL, callback) object.

**19. Define the role of the Update Panel?**

Update Panel is used to add functionality to the existing ASP.NET applications. By using partial page rendering, it can be used to update the content. Refresh can be made for the partial page instead of whole page.

**20. Can we use nested update panel in Ajax?**

Yes, we can use nested update panel in Ajax. Update panels can be nested to have more control over the Page Refresh.

**21. What are the types of post back in Ajax?**

There are two types of post backs:

* Synchronous Postback
* Asynchronous Postback

**22. How can we handle exception handling in Ajax?**

ErrorTemplate which is the child tag of Script Manager is used to handle exception handling in Ajax.

**23. What are the components of the ASP.NET Ajax Client Library?**

Following components are used in Ajax client library:

* Component Layer
* Core Services Layer
* Browser Compatibility Layer

**24. What is the difference between RegisterClientScriptBlock, RegisterClientScriptInclude and RegisterClientScriptResource?**

Following are the functions:

* RegisterClientScriptBlock – The script is specified as a string parameter.
* RegisterClientScriptInclude – By setting the source attribute to a URL that point to a script file.
* RegisterClientScriptResource – specifies Resource name in an assembly. The source attribute is automatically populated with a URL by a call to an HTTP handler that retrieves the named script from the assembly.

**25. Which request is better, Get or Post?**

AJAX requests should use an HTTP GET request where the data does not change for a given URL requested.

An HTTP POST should be used when state is updated on the server. This is highly recommended for a consistent web application architecture.