UNIT –II

Accessing the Cloud

**Web Application Framework:**

A web framework (WF) or web application framework (WAF) is software that is designed to support the development of dynamic web sites, web applications, web APIs and web services etc.

A **web application** (or web app) is [application software](https://en.wikipedia.org/wiki/Application_software) that runs on a [web server](https://en.wikipedia.org/wiki/Web_server), unlike computer-based software programs that are run locally on the [operating system](https://en.wikipedia.org/wiki/Operating_system) (OS) of the device. Web applications are accessed by the user through a web browser with an active network connection

Example: Gmail, Facebook, shopping carts etc.

**Web API** is a programming interface/application type that provides communication or interaction between software applications.

Example: YouTube API's, Google Maps API's etc.

A **Web service** is a method of communication between two electronic devices over a network.

Example: JSON, REST, SOAP etc.

Advantages of Web Application Framework:

* No need to write additional code for common activities
* Speed up custom web application development.
* Simplify web application maintenance.
* No need to increase web development cost.
* Work with databases more efficiently.
* Protect websites from targeted security attacks
* Automate common web development tasks
* Perform unit testing efficiently

Types of Web Application Frameworks:

* Server side Web Application Frameworks

Ex: Django (Python), ASP.NET (C#), Ruby on Rails (Ruby)

* Client side Web Application Frameworks

Ex: Bootstrap, Angular.js

**AJAX:**

AJAX stands for "Asynchronous JavaScript and XML". It is not exactly a client-side technology, nor a server-side technology: It's both! Ajax is a technique in which websites use JavaScript (client-side) to send data to, and retrieve data from, a server-side script.

How it works:

Ajax is used for creating interactive web applications

By using AJAX, web applications can retrieve data from the server asynchronously.

Because it is being done in the background, it won’t interfere with the display and

Behaviour of the current page.

What types of Technologies used in AJAX :

* Extensible Hypertext Mark-up Language (XHTML) and Cascading Style Sheets

(CSS) for presentation

* The Document Object Model for dynamic display of and interaction with data
* XML and Extensible Style Sheet Language Transformations (XSLT) for the

Interchange and manipulation of data

* The XMLHttpRequest object for asynchronous communication
* JavaScript to bring these technologies together

Advantages of AJAX:

* Connections to the server are reduced, because scripts and style sheets need only be

Downloaded once. So it increases the speed.

* Form validations at client slide.
* Bandwidth usage can be reduced.
* Process will be done in the background, it won’t interfere with the display and

Behaviour of the current page.

Dis advantages of AJAX:

* Dynamically created web pages do not show up in the browser ’s history engine, so

Clicking on the Back button would not re-create the last seen page.

* It is difficult to bookmark a dynamically created web page.
* If a browser does not support AJAX or if JavaScript is disabled, AJAX functionality

Cannot be used.

* There is no standards body behind AJAX, so there is no widely adopted best

Practice to test AJAX applications.