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| |  | | --- | |  |  Servlet Servlet technology is used to create web application (resides at server side and generates dynamic web page).  Servlet technology is robust and scalable as it uses the java language. Before Servlet, CGI (Common Gateway Interface) scripting language was used as a server-side programming language. But there were many disadvantages of this technology. What is a Servlet?  |  | | --- | | Servlet can be described in many ways, depending on the context.   * Servlet is a technology i.e. used to create web application. * Servlet is an API that provides many interfaces and classes including documentations. * Servlet is an interface that must be implemented for creating any servlet. * Servlet is a class that extend the capabilities of the servers and respond to the incoming request. It can respond to any type of requests. * Servlet is a web component that is deployed on the server to create dynamic web page. |    What is web application?  |  | | --- | | A web application is an application accessible from the web. A web application is composed of web components like Servlet, JSP, Filter etc. and other components such as HTML. The web components typically execute in Web Server and respond to HTTP request. |  CGI(Commmon Gateway Interface)  |  | | --- | | CGI technology enables the web server to call an external program and pass HTTP request information to the external program to process the request. For each request, it starts a new process. |    Disadvantages of CGI  |  | | --- | | There are many problems in CGI technology:   1. If number of clients increases, it takes more time for sending response. 2. For each request, it starts a process and Web server is limited to start processes. 3. It uses platform dependent language e.g. C, C++, perl. |  Advantage of Servlet  |  | | --- | | There are many advantages of Servlet over CGI. The web container creates threads for handling the multiple requests to the servlet. Threads have a lot of benefits over the Processes such as they share a common memory area, lighweight, cost of communication between the threads are low. The basic benefits of servlet are as follows:   1. **better performance:** because it creates a thread for each request not process. 2. **Portability:** because it uses java language. 3. **Robust:** Servlets are managed by JVM so no need to worry about memory leak, garbage collection etc. 4. **Secure:** because it uses java language.. |  Static vs Dynamic website  |  |  | | --- | --- | | **Static Website** | **Dynamic Website** | | Prebuilt content is same every time the page is loaded. | Content is generated quickly and changes regularly. | | It uses the **HTML**code for developing a website. | It uses the server side languages such as **PHP,SERVLET, JSP, and ASP.NET**etc. for developing a website. | | It sends exactly the same response for every request. | It may generate different HTML for each of the request. | | The content is only changes when someone publishes and updates the file (sends it to the web server). | The page contains "server-side" code it allows the server to generate the unique content when the page is loaded. | | Flexibility is the main advantage of static website. | Content Management System (CMS) is the main advantage of dynamic website. |  HTTP (Hyper Text Transfer Protocol)  |  | | --- | | Http is the protocol that allows web servers and browsers to exchange data over the web.It is a request response protocol.Http uses reliable TCP connections bydefault on TCP port 80. |  Http Request Methods  |  | | --- | | Every request has a header that tells the status of the client. There are many request methods. Get and Post requests are mostly used. The http request methods are:   * GET * POST * HEAD * PUT * DELETE * OPTIONS * TRACE |  What is the difference between Get and Post Requests? There are many differences between the Get and Post request. Let's see these differences:   |  |  | | --- | --- | | **GET** | **POST** | | 1) In case of Get request, only limited amount of data can be sent because data is sent in header. | In case of post request, large amount of data can be sent because data is sent in body. | | 2) Get request is not secured because data is exposed in URL bar. | Post request is secured because data is not exposed in URL bar. | | 3) Get request can be bookmarked | Post request cannot be bookmarked | | 4) Get request is more efficient and used than Post | Post request is less efficient and used. | | 5)we can not upload file by get request | we can upload file by post request |  Content Type  |  | | --- | | Content Type is also known as MIME (Multipurpose internet Mail Extension) Type.It is a HTTP header that provides the description about what are you sending to the browser.There are many content types:   * text/html * text/plain * application/msword * application/vnd.ms-excel * application/jar * application/pdf * application/octet-stream * application/x-zip * images/jpeg * vedio/quicktime etc. | |