HTTP Push and Pull - Introduction

In this lesson, we provide an introduction to the HTTP Push and Pull mechanism.

We'll cover the following

In this lesson, you will get an insight into the HTTP Push and Pull mechanism. We know that the majority of the communication on the web happens over *HTTP*, especially whenever the client-server architecture is involved.

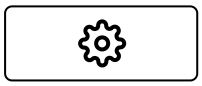
There are two modes of data transfer between the client and the server. *HTTP PUSH* and *HTTP PULL*.

Let’s find out what they are and what they do.

HTTP PULL#

As I stated earlier, for every response, there has to be a request first. The client sends the request and the server responds with the data. This is the default mode of HTTP communication, called the HTTP PULL mechanism.

The client pulls the data from the server whenever required. It keeps doing this over and over to fetch the updated data.



An important thing to note here is that every request to the server and the response to it consumes bandwidth. Every hit on the server costs the business money and adds more load on the server.

What if there is no updated data available on the server, every time the client sends a request?

The client doesn't know that, so naturally it would keep sending the requests to the server over and over. This is not ideal and a waste of resources. Excessive pulls by the clients have the potential to bring down the server.

HTTP PUSH#

To tackle this, we have the HTTP PUSH based mechanism. In this mechanism, the client sends the request for particular information to the server just once. After the first request, the server keeps pushing the new updates to the client whenever they are available.

The client doesn't have to worry about sending additional requests to the server for data. This saves a lot of network bandwidth and cuts down the load on the server by notches.

This is also known as a *callback*. The client phones the server for information. The server responds, "Hey!! I don't have the information right now but I'll call you back whenever it is available".

A very common example of this is user notifications. We have them in almost every web application today. We get notified whenever an event happens on the backend.

Clients use *Asynchronous JavaScript & XML (AJAX)* to send requests to the server in the HTTP PULL based mechanism.

There are multiple technologies involved in the *HTTP PUSH* based mechanism such as:

- *Ajax Long polling*
- *Web Sockets*
- *HTML5 Event Source*
- *Message Queues*
- *Streaming over HTTP*

We'll go over all of them in detail up next.

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