Web Server & Apache

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Agenda

- How Internet works?
- Internet and Client Server Architecture.
- HTTP Protocol.
- What is Web Server?
- Apache as a web server.
- How Apache works.
- Nginx Overview

Learning Objectives

- Client Server Architecture with respect to web.
- How a clients request is served by the server.
- What is a web server.
- How apache serves as a web server.
- What is Nginx?

What is Internet & How it works?

- The Internet is a global system of interconnected computer networks that use the standard Internet protocol suite (TCP/IP) to serve several billion users worldwide.
- Use of Internet
  - WWW Site
  - Media
  - Communications
    - VOIP
    - Image storage
    - Social Networking
    - E-Commerce
- Tools for Internet.
  - Browser
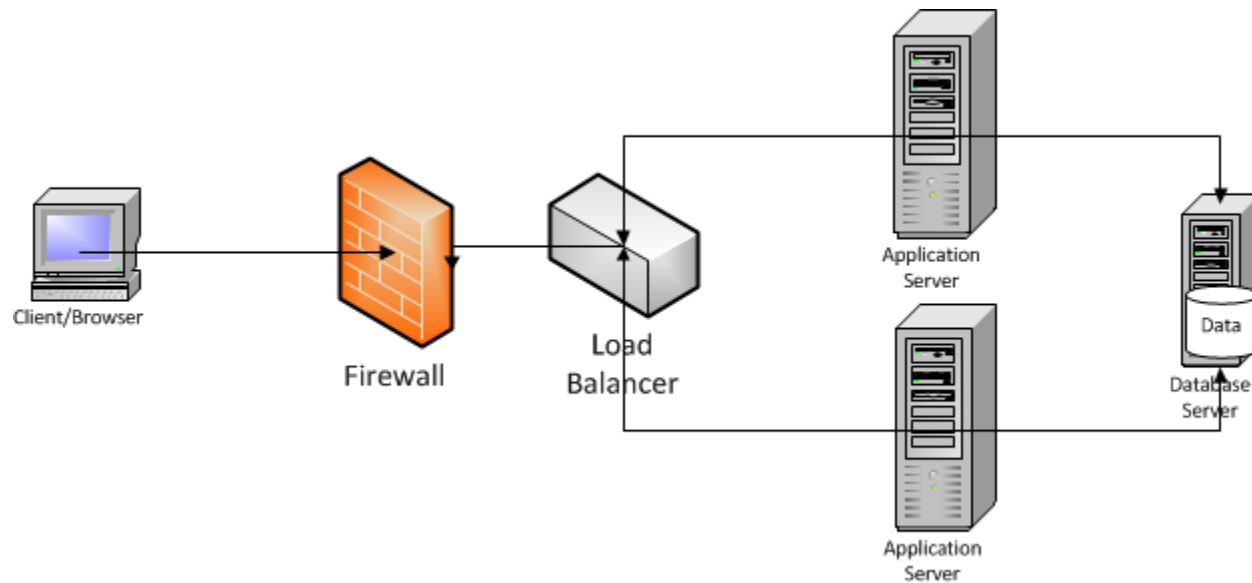 - Server
- How Internet Works

Internet and Client Server Architecture.

Client/server describes the relationship between two computer programs in which one program, the client, makes a service request from another program, the server, which fulfills the request.

- Terms of Internet
  - ✓ Request
  - ✓ Response
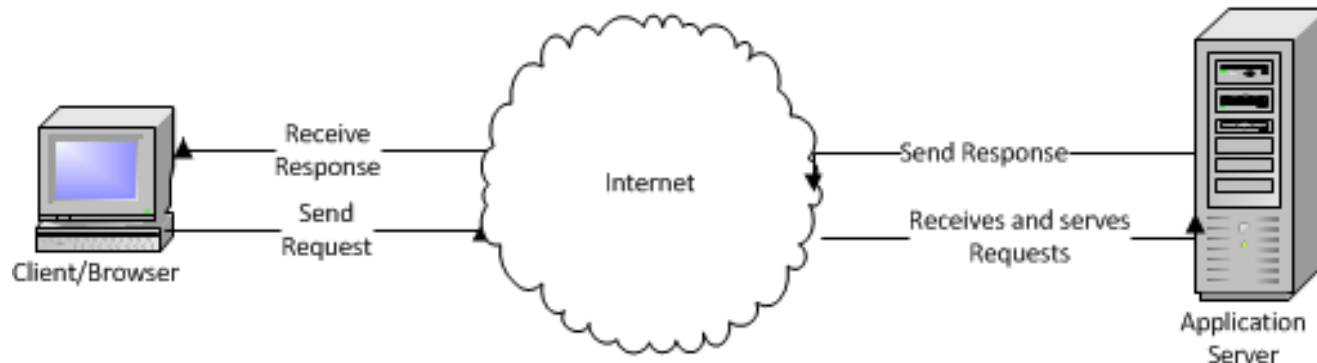
Internet and Client Server Architecture.

HTTP Protocol

- What is a protocol?
- HTTP is a set of rules, which functions as a request-response protocol in the **client-server** computing model.
- A web browser is the **client.**
- Application running on a computer hosting a web site may be the **server.**
- The client submits an HTTP **request** message, **in a GET or POST or other format**, to the server.
- The server, which provides resources such as HTML files and other content, or performs other functions on behalf of the client, returns a **response** message to the client with a status code.
  - Response status Code
    - 200 OK
    - 404 Not Found
    - 500 Internal Server Error
    - More @: http://en.wikipedia.org/wiki/List_of_HTTP_status_codes

What is Web Server?

A Web server is a program that, using the client/server model and the World Wide Web's Hypertext Transfer Protocol (HTTP), serves the files that form Web pages to Web users , whose computers contain HTTP clients that forward their requests.

The primary function of a web server is to deliver web pages on the request to clients. This means delivery of HTML documents and any additional content that may be included by a document, such as images, style sheets and scripts.

Other Functions:

1. Filtering
2. SSL
3. Virtual Hosting

How Apache works.

Configuration.

- Apache httpd.conf file.
    - Document Root
    - ErrorDocument
    - AllowOverride
    - Listen
- Configuring PHP
    - LoadModule php5_module modules/libphp5.so
    - AddType application/x-httpd-php .php
- Start and Stop Apache
- Request & Response handling.
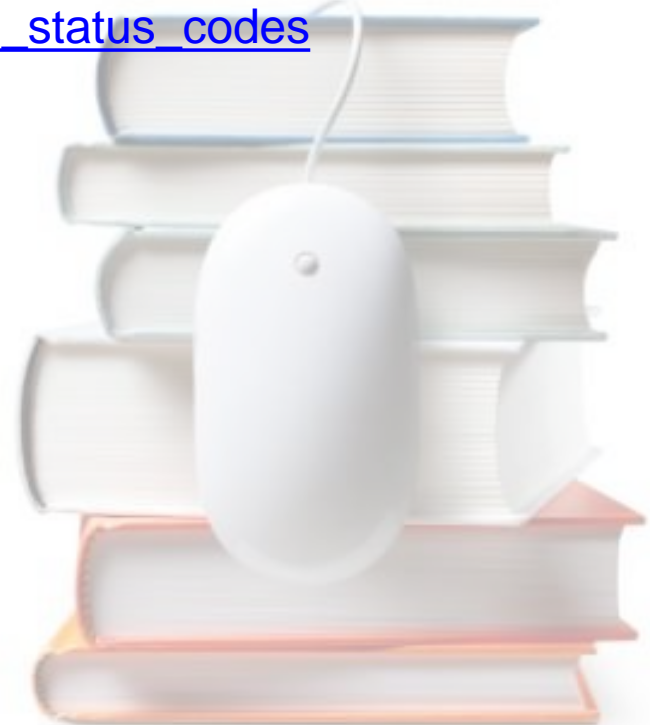- Creating Virtual Host.
- Apache .htaccess File

NginX

Overview

✓ nginx [engine x] is an HTTP and reverse proxy server, as well as a mail proxy server, written by Igor Sysoev.

✓ What is proxy

✓ A reverse proxy is a type of proxy server that retrieves resources on behalf of a client from one or more servers. These resources are then returned to the client as though they originated from the proxy server itself.

Features

✓ Load Balancing
✓ Gzip Compression
✓ Geolocation on IP.
✓ Caching Static contents.

Bibliography, Important Links

- http://www.apache.org/
- http://en.wikipedia.org/wiki/Web_server#Common_features
- http://en.wikipedia.org/wiki/List_of_HTTP_status_codes
- http://nginx.org/

Any Questions?

Thank you!