



Delivering Excellence in Software Engineering



# Apache HTTP.

By Alena Yermokhina

Application server. Web server.

# What is application server? Web server?

## Web server:

- gets HTTP request
- sends HTTP response ( HTML page + images, etc)

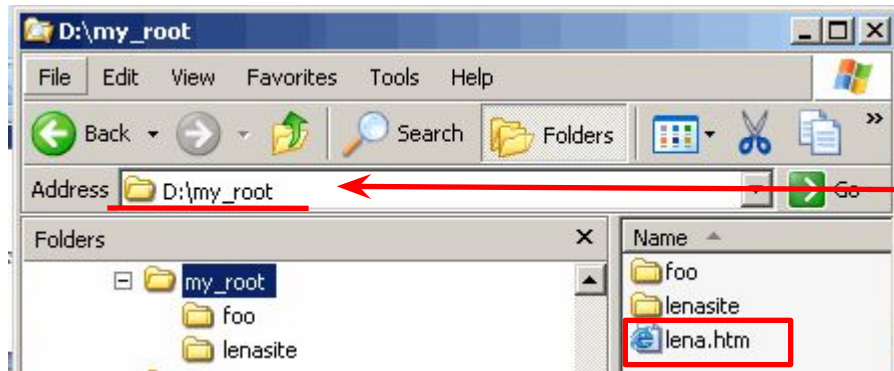
## Application server:

- Normally has web server functions
- Focused on **server-side dynamic content**
- Interaction with database

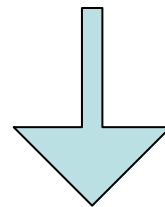
## Servlet container:

- Something that can run Java servlets

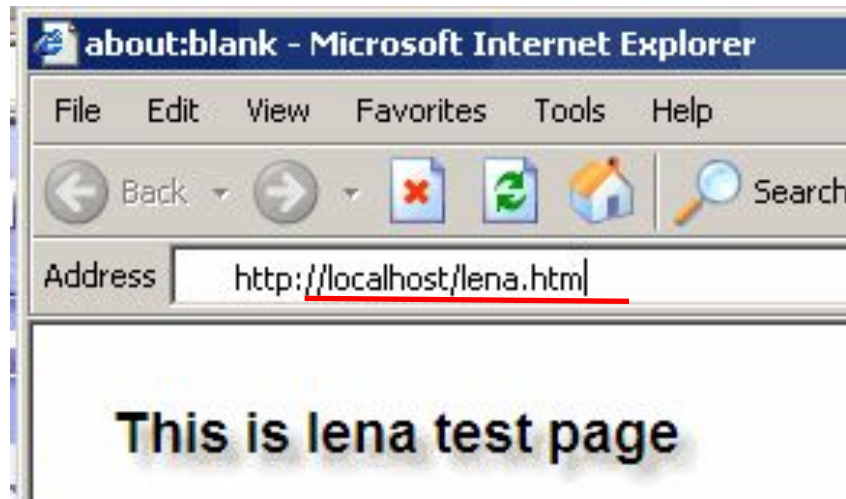
# Web server: Path Translation



Web server root directory



## Path translation



# What web server can do?

## All web servers

- HTTP
- Logging

## + Some can

- Authentication
- Handling of not only static content
- HTTPS support
- Content compression (i.e. by gzip encoding) to reduce the size of the responses (to lower bandwidth usage, etc.).
- Virtual hosting
- Large file support
- Bandwidth throttling

Application servers	Web servers
Apache Tomcat	Apache HTTP
JBoss	IIS
WebSphere	IBM HTTP server
WebLogic	Sun ONE

- Apache Tomcat: 5.5.29, 6.0.35, 7.0.23
- Apache HTTP: 2.0, 2.2, 2.4
- IBM HTTP (based on Apache HTTP): 6.1.0.31

# What tester normally does with web\app servers?

## Basics

- Start/stop
- Access admin GUI, check version installed
- View/delete logs
- Clear cache

## Intern \Advanced

- Deploy application
- Configure virtual folder
- Configure HTTPS
- Configure Application server + Web server
- 2 instances on 1 box



# **Apache HTTP \ IBM HTTP (on the example of Apache)**

<http://apache.org/>

->HTTP Server ->from a mirror ->Other files ->binaries/  
->win32/->  
httpd-2.2.21-win32-x86-openssl-0.9.8m-r2.msi

2 choices:

- httpd-2.2.15-win32-x86-openssl-0.9.8m-r2.msi - with SSL (https) support – **we select this one**
- httpd-2.2.15-win32-x86-no\_ssl.msi - without SSL (https) support

# Apache HTTPd: Install

**Apache HTTP Server 2.2 - Installation Wizard**

**Server Information**

Please enter your server's information.

Network Domain (e.g. somenet.com)  
minsk.epam.com

Server Name (e.g. www.somenet.com):  
EPBYMINW0332.minsk.epam.com

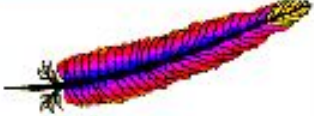
Administrator's Email Address (e.g. webmaster@somenet.com):  
alena\_yermokhina@epam.com

Install Apache HTTP Server 2.2 programs and shortcuts for:

for All Users, on Port 80, as a Service -- Recommended.  
 only for the Current User, on Port 8080, when started Manually.

InstallShield

< Back    Next >    Cancel



# Apache HTTPd: Start, Stop – 3 ways

- 1. via apache monitor in task bar



- 2. via services



- 3. via command line: httpd ( good for troubleshooting purposes)

```
C:\WINDOWS\system32\cmd.exe

C:\Program Files\Apache Software Foundation\Apache2.2\bin>httpd -k start
C:\Program Files\Apache Software Foundation\Apache2.2\bin>httpd -k stop
The Apache2.2 service is stopping.
The Apache2.2 service has stopped.

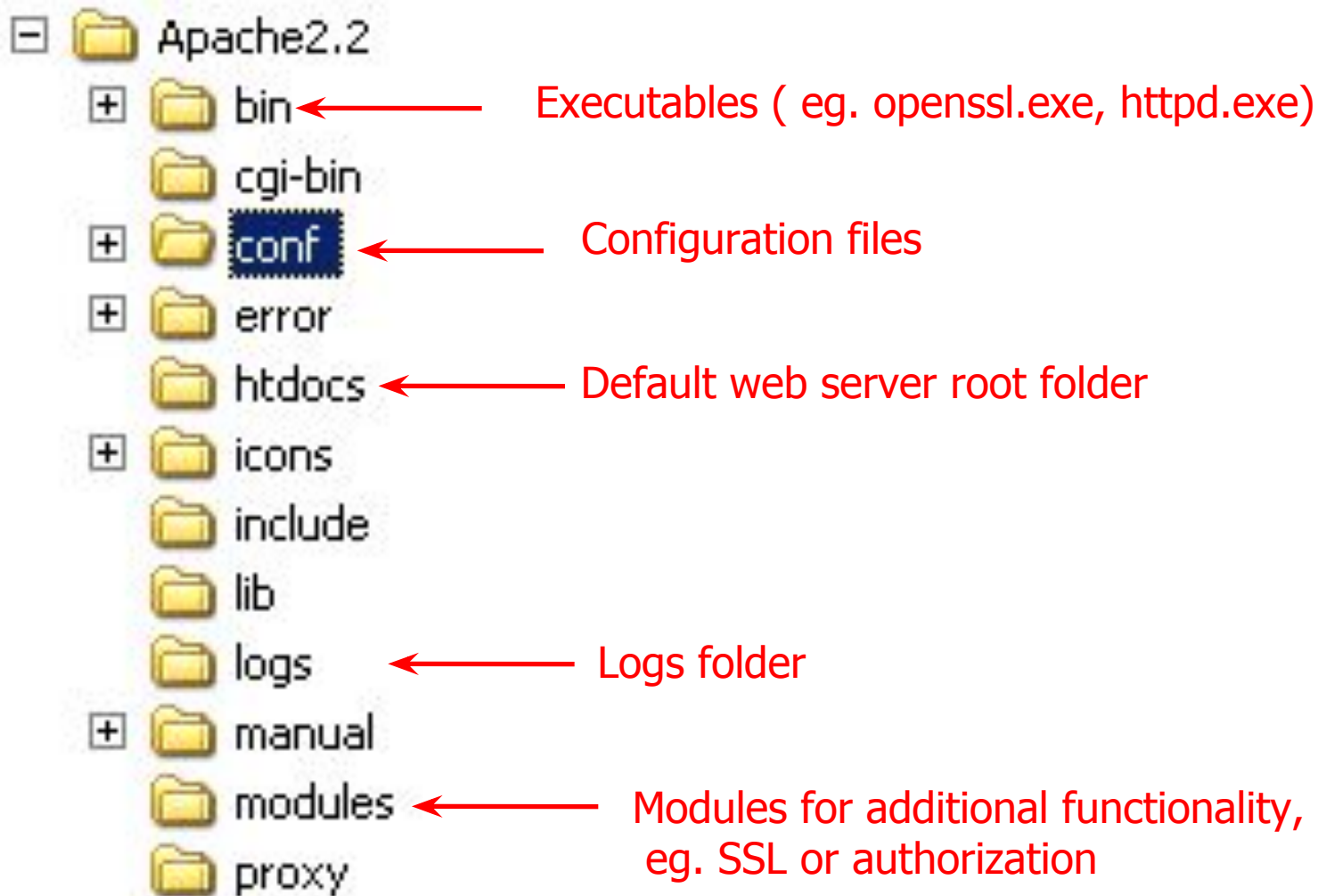
C:\Program Files\Apache Software Foundation\Apache2.2\bin>net start Apache2.2
The Apache2.2 service is starting.
The Apache2.2 service was started successfully.

C:\Program Files\Apache Software Foundation\Apache2.2\bin>net stop Apache2.2
The Apache2.2 service is stopping.
The Apache2.2 service was stopped successfully.

C:\Program Files\Apache Software Foundation\Apache2.2\bin>httpd -t
Syntax OK

C:\Program Files\Apache Software Foundation\Apache2.2\bin>
```

# Apache HTTPd: Important folders



**C:\Program Files\Apache Software Foundation\Apache2.2\logs**

## access.log

host	Date/time	What was requested	Status, size
127.0.0.1 - -	[17/Jan/2008:13:04:08 +0200]	"GET /blablabla.htm HTTP/1.1"	404 211
127.0.0.1 - -	[17/Jan/2008:13:04:23 +0200]	"GET /lena.htm HTTP/1.1"	200 9

## error.log

[Thu Jan 17 13:03:54 2008] [warn] RSA server certificate CommonName (CN) `test certificate' does NOT match server name!?

[Thu Jan 17 13:03:54 2008] [warn] Init: (EPBYMINW0332.minsk.epam.com:443) You configured HTTP(80) on the standard HTTPS(443) port!

[Thu Jan 17 13:03:54 2008] [notice] Child 5368: Child process is running

[Thu Jan 17 13:03:54 2008] [notice] Child 5368: Acquired the start mutex.

[Thu Jan 17 13:03:54 2008] [notice] Child 5368: Starting 250 worker threads.

[Thu Jan 17 13:03:54 2008] [notice] Child 5368: Starting thread to listen on port 80.

[Thu Jan 17 13:03:54 2008] [notice] Child 5368: Starting thread to listen on port 443.

[Thu Jan 17 13:04:08 2008] [error] [client 127.0.0.1] File does not exist: D:/apachetest/blablabla.htm

# Apache HTTPd: main configuration file HTTPD.conf

**#**- comment

**Listen** 80 – port on which server listens

**LoadModule** ssl\_module modules/mod\_ssl.so – adds additional module ( just uncomment)

**DocumentRoot** "D:/apachetest"

**ServerName** [www.domain.tld](http://www.domain.tld)

**<Directory >**

Options FollowSymLinks

AllowOverride None

Order deny,allow

Deny from all

Satisfy all

**</Directory>**

## 1. file:

put file (eg, test.htm) here: C:\Program Files\Apache Software Foundation\Apache2.2\htdocs

Go to <http://localhost/test.htm>

## 2. make other folder document root folder:

Httpd.conf:

modify DocumentRoot

modify <directory>

## 3. make accessible folder outside DocumentRoot:

After <IfModule alias\_module>, create <directory entry>

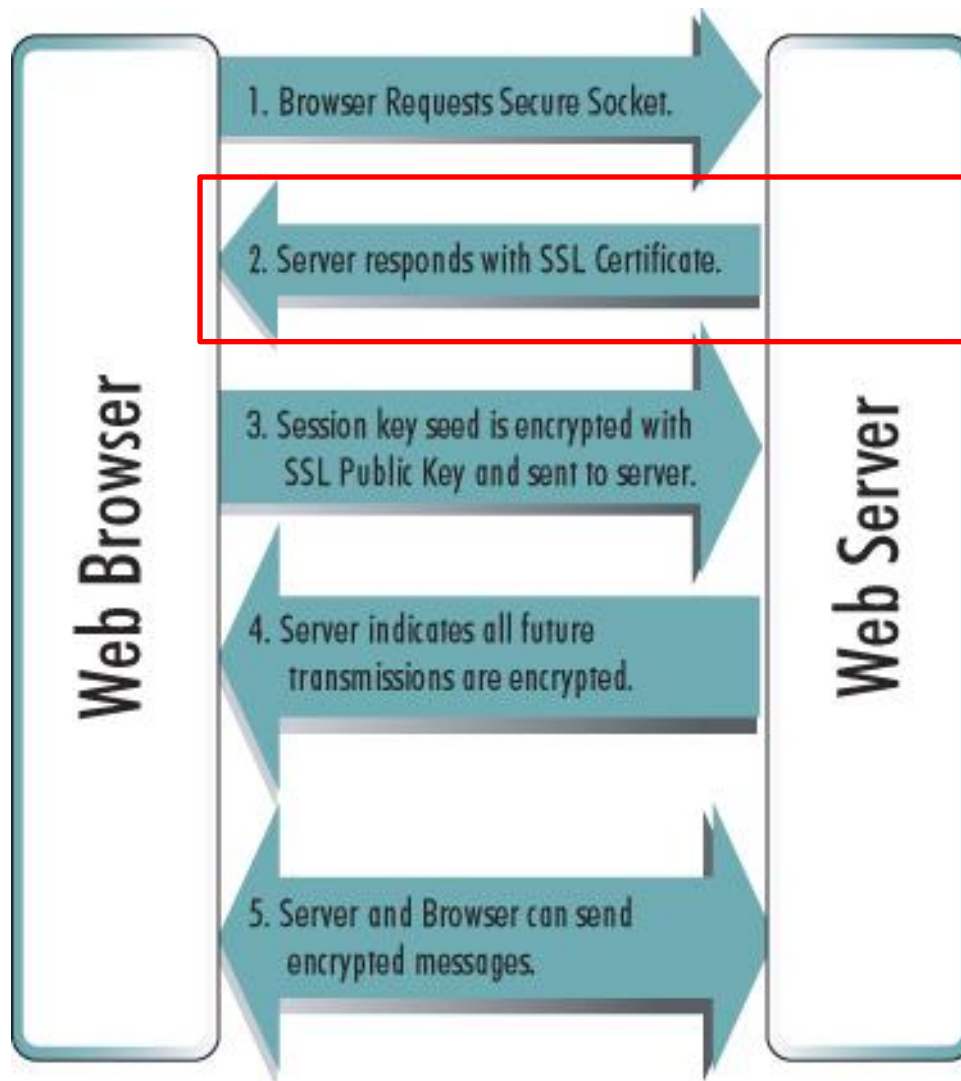
Insert Alias /111 D:/111



- `<IfModule dir_module>`
- `DirectoryIndex lena.htm`
- `</IfModule>`

- Listen 81
- Listen 443
  
- Server can listen several ports at the same time

- **Set up SSL**
- **Configure Apache + Tomcat**
- **Configure Apache authorization**



1. We need to generate certificate and tell web server about it
2. We need only test certificate ( self signed)
3. If user says "trust certificate, the rest is done automatically, by browser/server

- **Make sure openssl installed**
- **Get certificate**
  - private key
  - certificate signing request
  - certificate
  - certificate in DER form
- **HTTPD.conf:**
  - Listen port 443
  - Turn on SSL

**Detailed instructions : Apache and SSL.doc**

## Why this is needed?

- Apache has better performance for production needs
- Apache: more flexibility to configure than Tomcat as web server
- Apache load balances several tomcats
- Customers have this configuration, so we may have to test it.

**Detailed instructions :**  
**Tomcat\_Apache\_Configuration.doc**

Set up apache authorization.

## **Detailed instructions: Apache SSO Setup.doc**



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# Apache HTTP.

For more information, please contact:

**Name**

Title

EPAM Systems, Inc.

Address

City, State, Zip Code

Phone:

Fax:

Email:

<http://www.epam.com>

