



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)

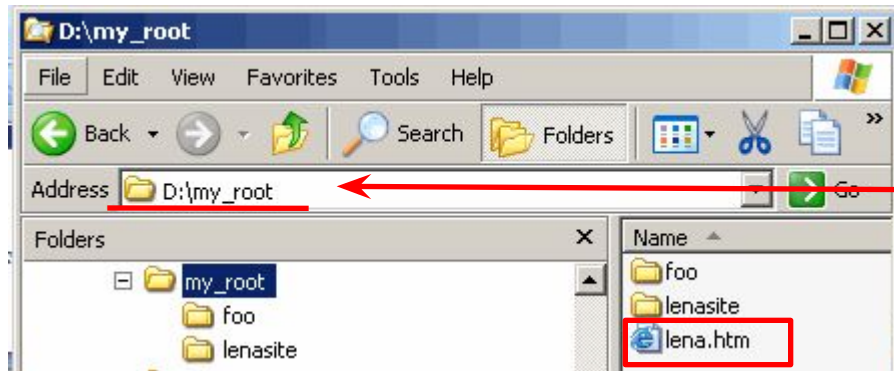
Application server:

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

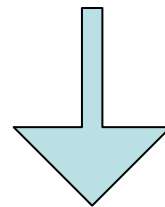
Servlet container:

- Something that can run Java servlets

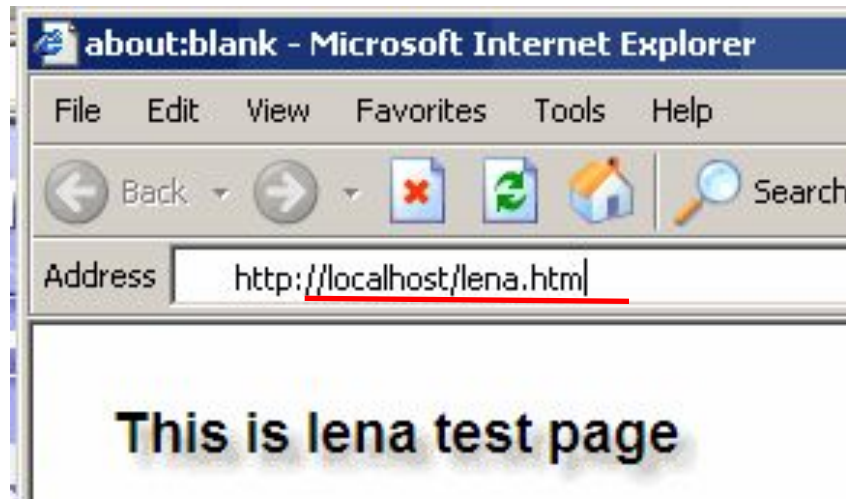
Web server: Path Translation



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

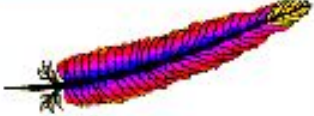
Administrator's Email Address (e.g. webmaster@somenet.com):
alena_yermokhina@epam.com

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.

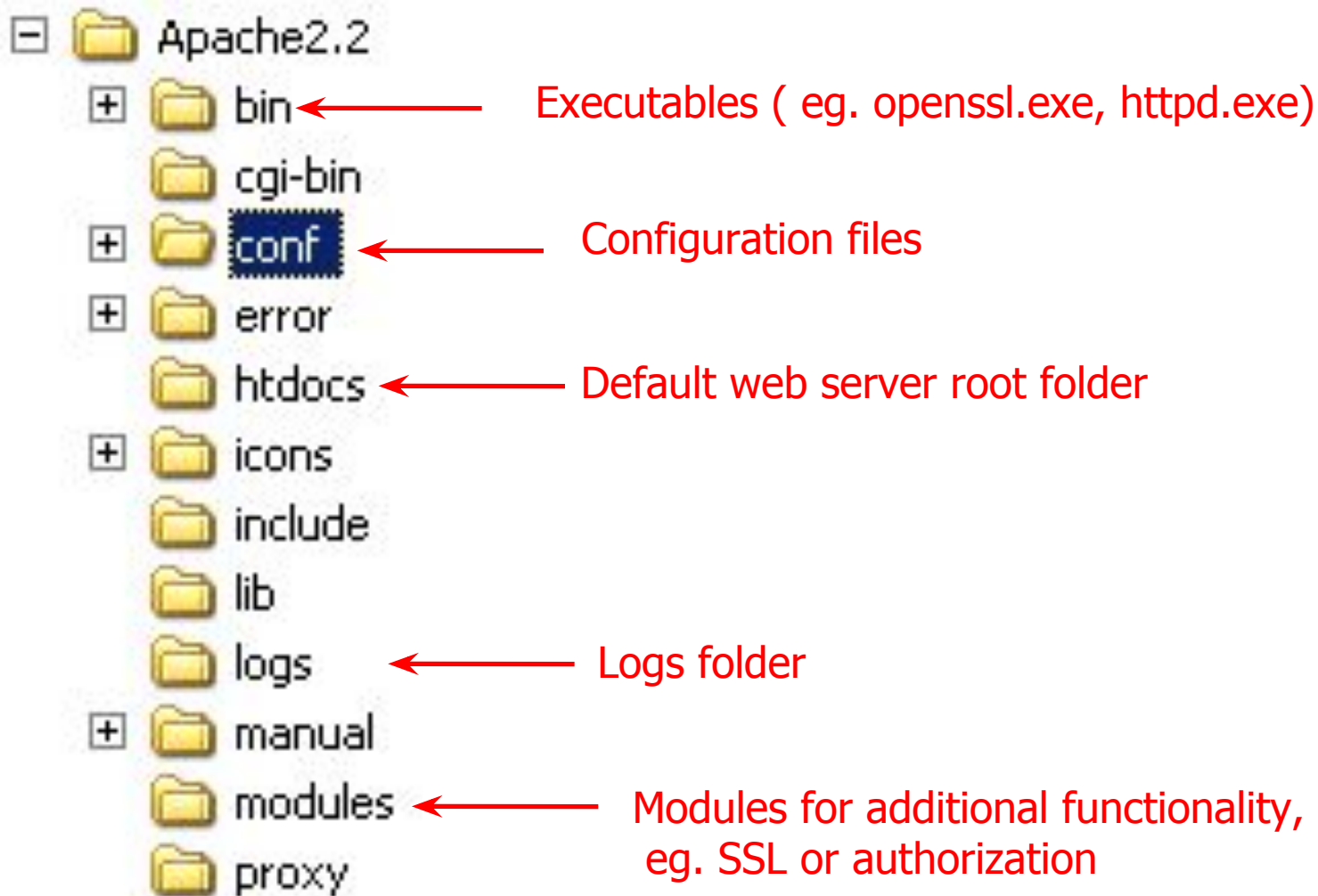
C:\Program Files\Apache Software Foundation\Apache2.2\bin>net start Apache2.2
The Apache2.2 service is starting.
The Apache2.2 service was started successfully.

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

<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>

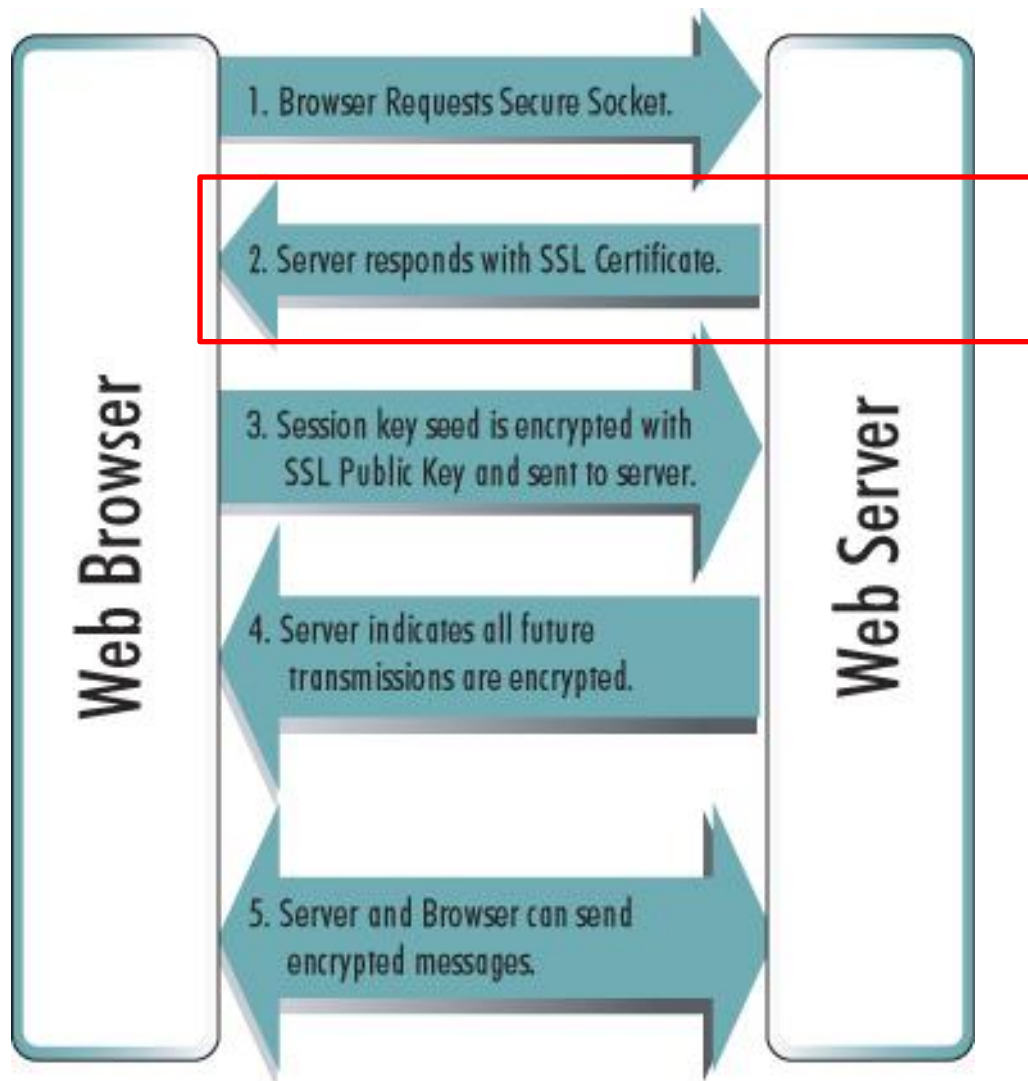
Insert Alias /111 D:/111

- `<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
1. We need only test certificate (self signed)
1. 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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