Experiment No.1

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Title:

Installation of TOMCAT/ WebSphere/ JBoss/ GlassFish Server and configuration of it.
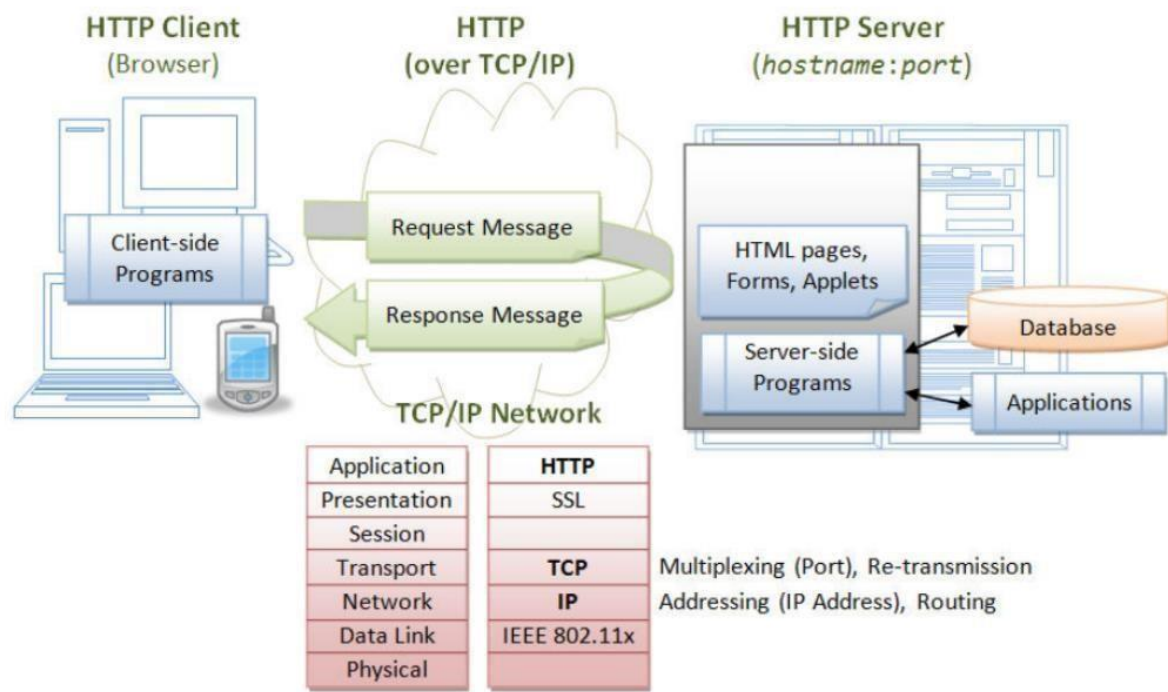
Theory:

Web Application:

A web application runs over the Internet. Eg. eBay, Amazon, Google, Facebook, etc.

A web app contains five components:

- HTTP Server: Examples are: Google Web Server, Apache HTTP Server, Apache Tomcat Server, Microsoft Internet Information Server (IIS) etc.

- HTTP Client (Web Browser): Examples are: Internet Explorer, Firefox, Google Chrome, Safari, etc.

- Database: Examples are: MySQL, Apache Derby, MS SQL Server, SQLite, PostgreSQL, Commercial Oracle, IBM DB2, SAP SyBase, MS Access, etc.

- Client-Side Programs: It can be written in HTML Form, VBScript, JavaScript, Flash, etc.

- Server-Side Programs: could be written in Java Servlet/JSP, ASP, PHP, Perl, Python, CGI, and others.

A web app is a 3-tier (or multi-tier) client-server database application which run over the Internet as shown in the following diagram:

Application	HTTP	
Presentation	SSL	
Session		
Transport	TCP	Multiplexing (Port), Re-transmission
Network	IP	Addressing (IP Address), Routing
Data Link	IEEE 802.11x	
Physical		

3-Tier Client-Server Architecture

1. To start a web app, A user, issues a URL request via a web browser (HTTP client), to HTTP server

2. The HTTP server returns an HTML form (client-side program), which is loaded into the client's browser

3. The user fills up the query data inside the form and submits that form

4. The client-side program sends the query parameters to a server-side program

5. The server-side program receives the query parameters, queries the database based on these parameters, and returns the query result to the client-side program

6. The client-side program displays the query result on the browser 7. The process repeats for the next request

Apache Tomcat:

Tomcat is an open-source project, under the "Apache Software Foundation". The mother site for Tomcat is http://tomcat.apache.org. Alternatively, you can find tomcat via the Apache mother site: http://tomcat.org.

Program:

Step 1:

To download the Apache Tomcat go to the URL http://tomcat.apache.org/download-80.cgi and download the zip file as shown below:

8.5.15
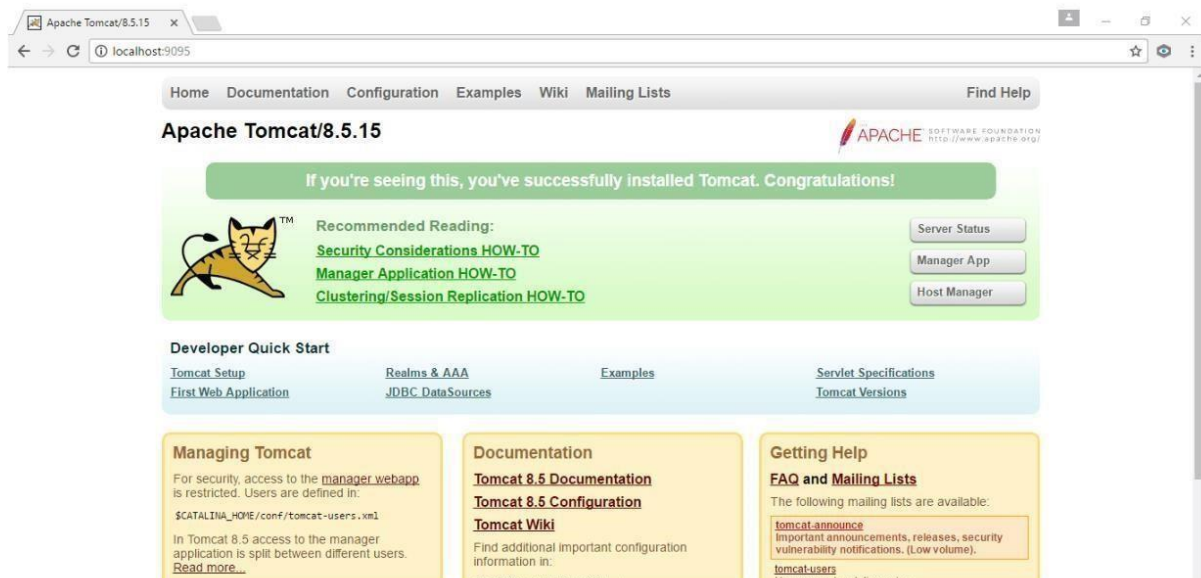
Please see the README file for packaging information. It explains what every distribution cont.

Binary Distributions

- Core:
    - zip (pgp, md5, sha1)
    - tar.gz (pgp, md5, sha1)
    - 32-bit Windows zip (pgp, md5, sha1)
    - 64-bit Windows zip (pgp, md5, sha1)
    - 32-bit/64-bit Windows Service Installer (pgp, md5, sha1)
- Full documentation:
    - tar.gz (pgp, md5, sha1)
- Deployer:
    - zip (pgp, md5, sha1)
    - tar.gz (pgp, md5, sha1)
- Extras:
    - JMX Remote jar (pgp, md5, sha1)
    - Web services jar (pgp, md5, sha1)
- Embedded:
    - tar.gz (pgp, md5, sha1)
    - zip (pgp, md5, sha1)

Step 2:

Unzip the downloaded Tomcat file to a specific folder on the computer.

Step 3:

Now we have to link the Tomcat with Eclipse. For this purpose, perform the following steps:

1. Open Eclipse and select Window>Preferences from Menu Bar.
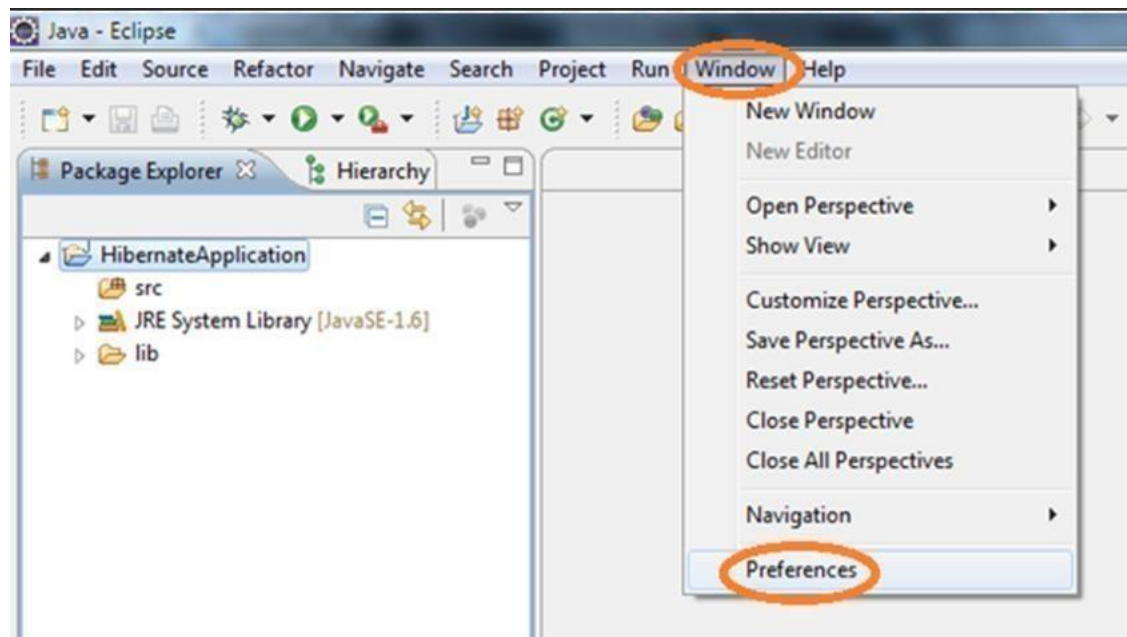
2. Create new **Runtime Server.**
3. Click on Add button following window will be appear. Now click on Apache folder and Select Tomcat 7 and click **next** button.
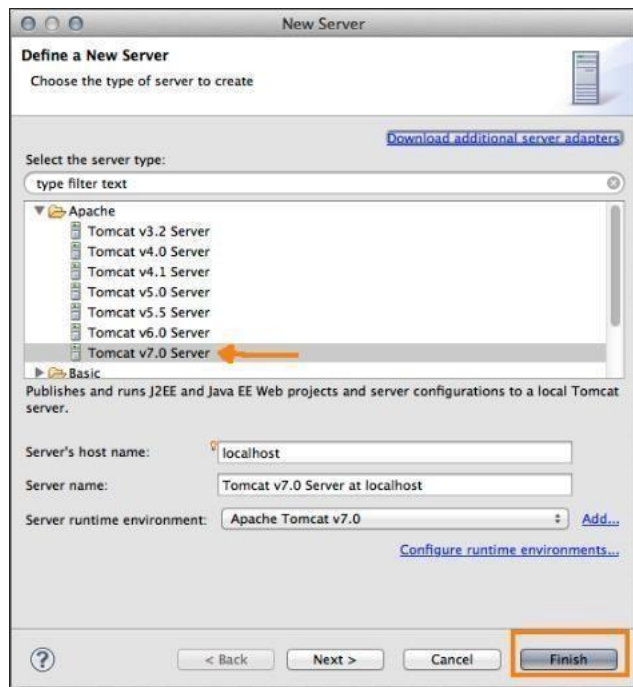
4. Enter the location of Tomcat
5. Click OK to finish

Conclusion:

We studied installation of Tomcat and its configuration.