

# Introduction to HTTP Servlets

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## Document History

Version No.	Authored/ Modified by	Remarks/ Change History	Date <dd- mon-yy >

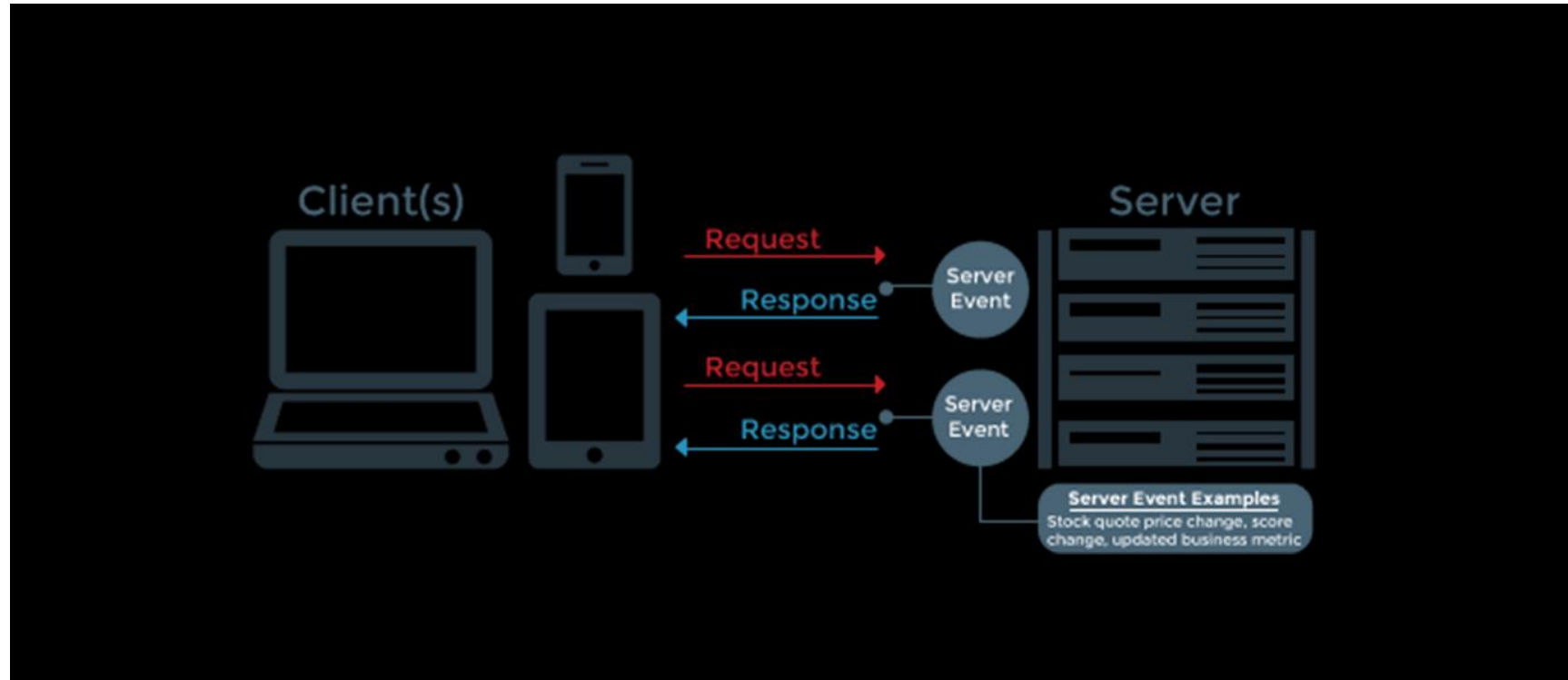
## Course Structure

<b>Target audience</b>	
<b>Level</b>	
<b>Pre-requisites</b>	
<b>Training methods</b>	
<b>Evaluation</b>	

## Agenda

- **Basics of HTTP**
- **What is Servlet**
- **Servlet API**
- **Servlets Lifecycle**
- **Servlet 3.0 Annotation**

## What is HTTP?



## What is HTTP?

- The term HTTP was coined by Ted Nelson.
- HTTP is the underlying protocol used by the World Wide Web.
- HTTP is a Stateless Protocol.
- The standard port for HTTP connections is port 80.
- It has its own methods and status codes.

HTTP method	Description
<b>Head</b>	To send header part data
<b>Trace</b>	To resend the receive request
<b>Put</b>	Help us to put file into server
<b>Delete</b>	Remove file from server
<b>Options</b>	It determines which of the HTTP method server support and return appropriate error
<b>Post</b>	It is used to post data into server
<b>Get</b>	It used to get data from server

# HTTP status Code

## 1xx - 2xx

[100](#) (Continue)  
[101](#) (Switch protocols)  
[102](#) (Processing)  
[200](#) (Success)  
[201](#) (Fulfilled)  
[202](#) (Accepted)  
[204](#) (No content)  
[205](#) (Reset content)  
[206](#) (Partial content)  
[207](#) (Multi-Status)

## 3xx - 4xx

[301](#) (Moved permanently)  
[302](#) (Moved temporarily)  
[304](#) (Loaded Cached copy)  
 307 (Internal redirect)  
[400](#) (Bad request)  
[401](#) (Authorization required)  
[402](#) (Payment required)  
[403](#) (Forbidden)  
[404](#) (Not found)  
[405](#) (Method not allowed)  
[406](#) (Not acceptable)  
[407](#) (Proxy authentication required)  
[408](#) (Request timeout)  
[409](#) (Conflict)  
[410](#) (Gone)  
 411 (Length required)  
 412 (Precondition failed)  
[413](#) (Request entity too large)  
[414](#) (Request URI too large)  
 415 (Unsupported media type)  
[416](#) (Request range not satisfiable)  
 417 (Expectation failed)  
 422 (Unprocessable entity)  
 423 (Locked)  
 424 (Failed dependency)

## 5xx

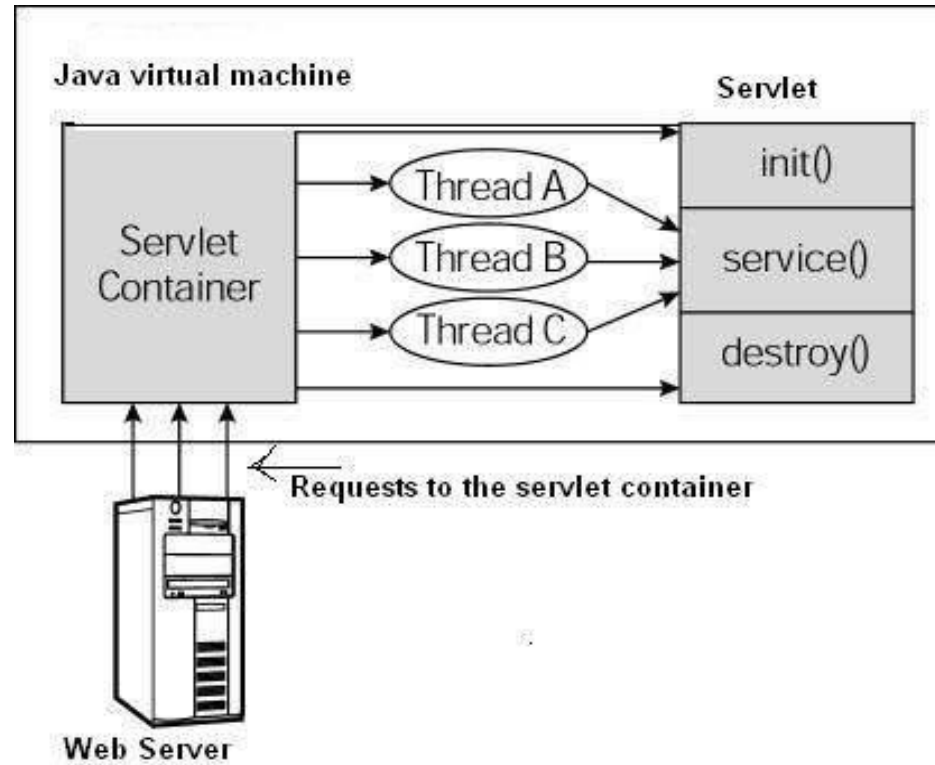
[500](#) (Internal server error)  
[501](#) (Not Implemented)  
 502 (Bad gateway)  
[503](#) (Service unavailable)  
 504 (Gateway timeout)  
[505](#) (HTTP version not supported)  
 506 (Variant also negotiates)  
 507 (Insufficient storage)  
 510 (Not extended)



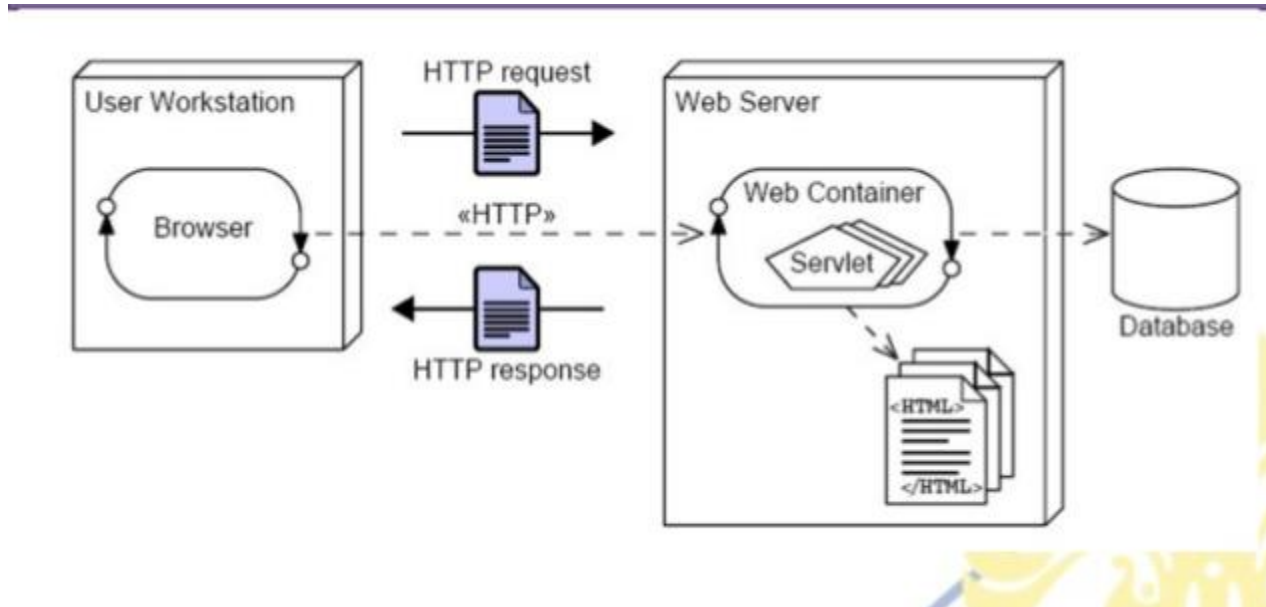
## What is Servlet?

- Servlet is a technology to create web application.
- Servlet is an interface that must be implemented for creating any servlet.
- Servlet is a class that extend the capabilities of the servers and respond to the incoming request.
- It's a web component deployed on the server to create dynamic web page.

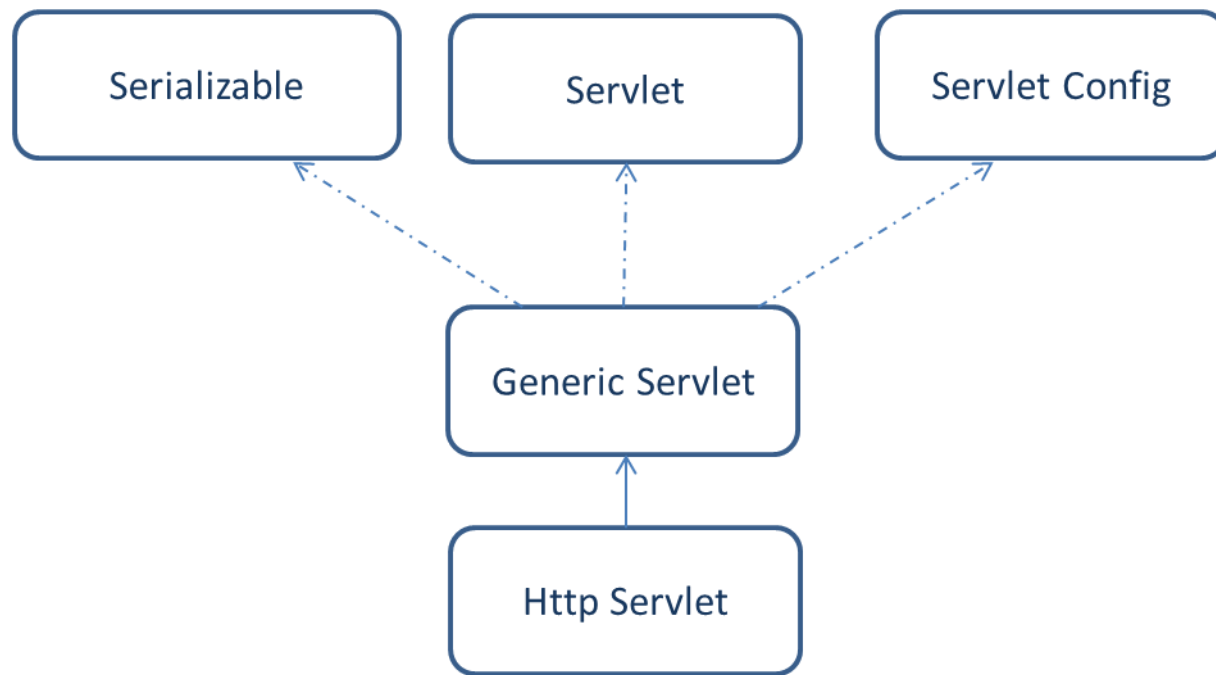
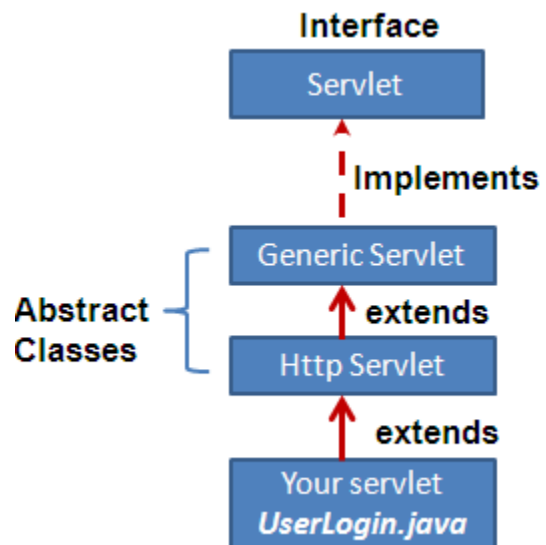
## Architecture Diagram



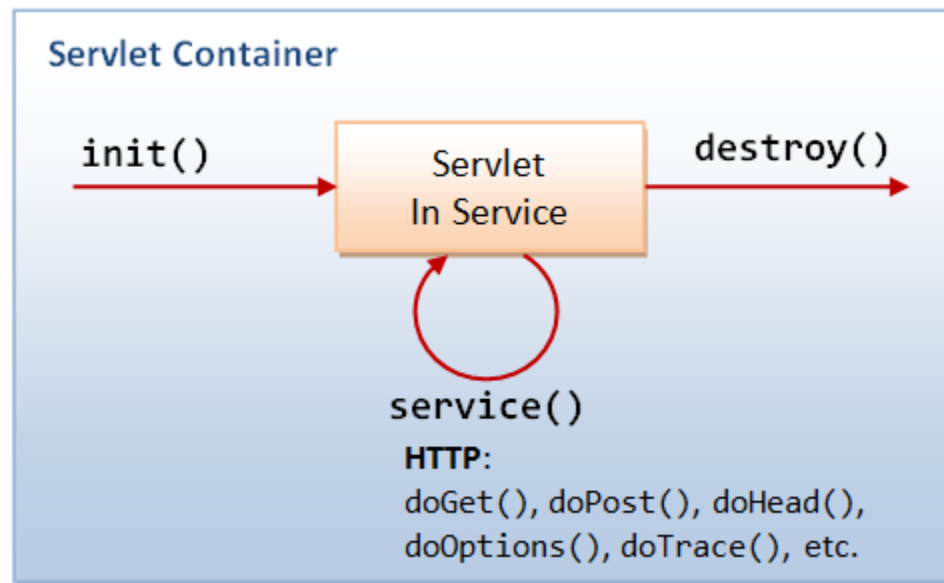
# Web Container Architecture



## Servlet API



## Servlet Lifecycle



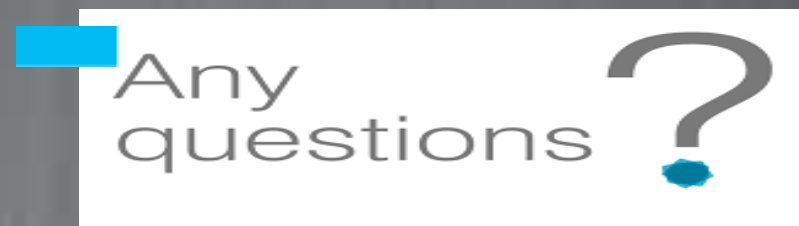
## Servlet 3.0 Annotation

- The **@WebServlet** annotation is used to declare a servlet.
- The annotated class must extend the `javax.servlet.http.HttpServlet` class.
- Syntax of @WebServlet Annotation:

```
@WebServlet(attribute1=value1,attribute2=value2,...)  
public class YourServlet extends javax.servlet.http.HttpServlet {  
    // servlet code...  
}
```

## Attributes of @WebServlet Annotation:

Name	Type	Required	Description
<b>value</b> or <b>urlPatterns</b>	<i>String[]</i>	Required	Specify one or more URL patterns of the servlet. Either of attribute can be used, but not both.
<b>name</b>	<i>String</i>	Optional	Name of the servlet
<b>displayName</b>	<i>String</i>	Optional	Display name of the servlet
<b>description</b>	<i>String</i>	Optional	Description of the servlet
<b>asyncSupported</b>	<i>boolean</i>	Optional	Specify whether the servlet supports asynchronous operation mode. Default is false.
<b>initParams</b>	<i>WebInitParam[]</i>	Optional	Specify one or more initialization parameters of the servlet. Each parameter is specified by <a href="#">@WebInitParam</a> annotation type.
<b>loadOnStartup</b>	<i>int</i>	Optional	Specify load-on-startup order of the servlet.
<b>smallIcon</b>	<i>String</i>	Optional	Specify name of the small icon of the servlet.
<b>largeIcon</b>	<i>String</i>	Optional	Specify name of the large icon of the servlet.





Thank You!