

# ACADGILD

LEARN. DO. EARN

## FRONTEND WEB DEVELOPMENT

FUNDAMENTALS



- **AcadGild** is a technology education start-up which provides online courses in latest technologies.



CLOUD  
COMPUTING



DIGITAL  
MARKETING



MACHINE LEARNING  
WITH R



BIG DATA  
ANALYSIS



ANDROID  
DEVELOPMENT



FRONT END  
DEVELOPMENT  
(WITH ANGULARJS)



FULL STACK WEB  
DEVELOPMENT



BIG DATA & HADOOP  
ADMINISTRATION



NODE JS



JAVA FOR  
FRESHER

- **AcadGild** was started by IIT/IIM alumni.
- **Our aim** is to provide millions of high school graduates, college graduates and working professionals, skills to make them ready for jobs.

- Design Web Applications using HTML5
- Style the Web Application developed in HTML5 using CSS3
- Develop JavaScript code and integrate that within the HTML5 Application
- Using jQuery – a light weight JavaScript library.
- Applying Bootstrap to make the Web Application Responsive.

- 1. HTML5**
- 2. CSS3**
- 3. JavaScript**
- 4. jQuery**
- 5. Bootstrap**



# HTML5

**Session - 1**

Sl No	Agenda Title
1	How Web Works
2	Name Server
3	Client Server
4	Understanding the URL
5	HTTP
6	HTTPs
7	Full Web Request Cycle
8	Request Response Cycle
9	Introduction to HTML

Sl No	Agenda Title
10	Basic HTML Syntax
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12	DOCTYPE tag
13	Hello World Using HTML
14	Comments
15	Semantic HTML5
16	Legacy Browser Support
17	HTML5 Tags
18	Creating HTML5 Document

- **To Understand web,** let us understand how a computer works.

## Scenario:

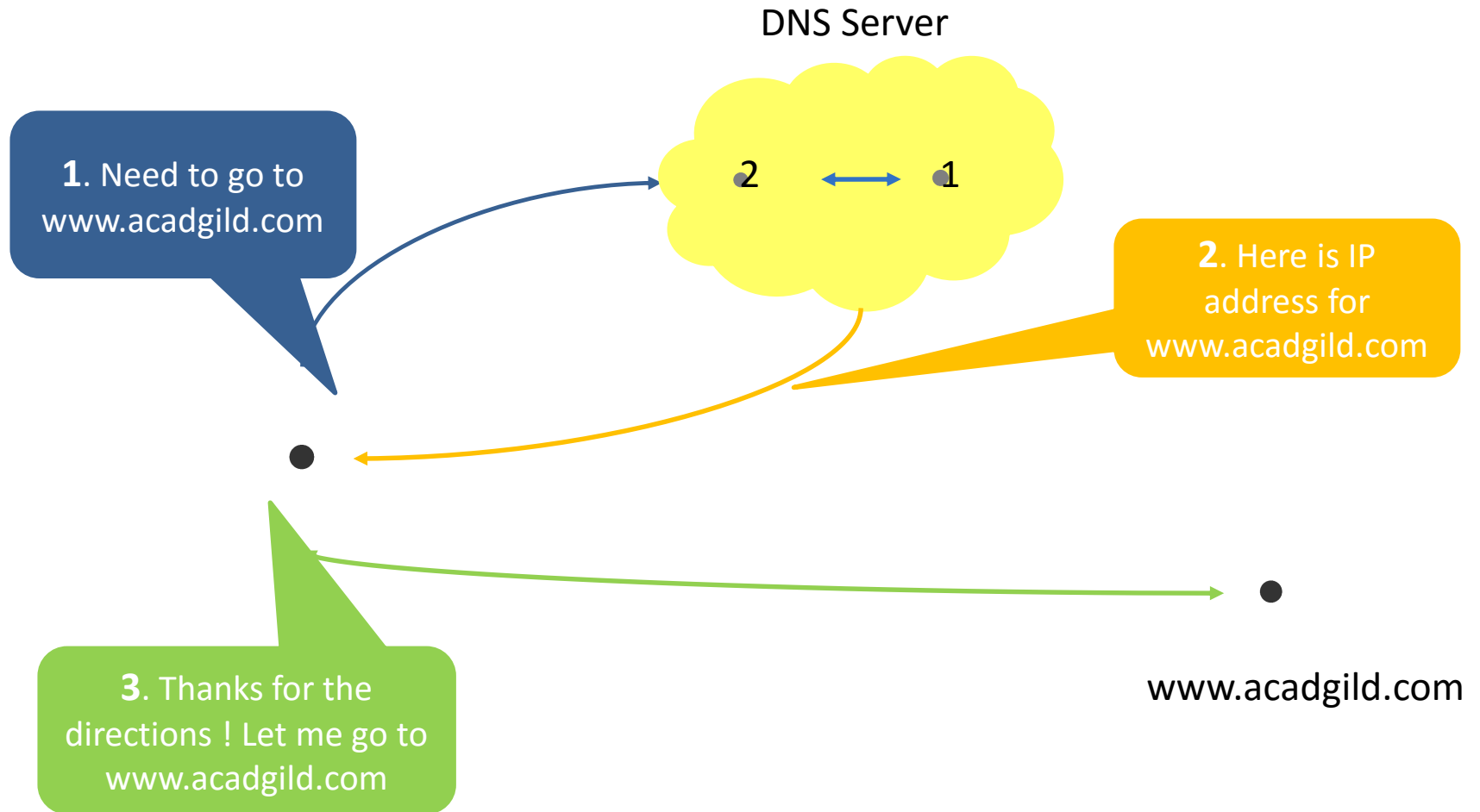
- We want to access a document named details.pdf kept in C:/docs/details.pdf of Machine1 -> Browse through the folder's path and access it.
- Let's say we want to access this document from a different machine, say Machine2. We assume sharing is enabled on Machine1. In that case we will need to know the IP address of Machine1.
- Go to Explorer Address Bar -> Type the IP address -> Click on folder and access the details.pdf.

**Note:** Remote machine's IP address is required to connect to Machine2 and access the document.



- **Web works** in the same manner as explained in the previous slide.
- Documents like images, HTML files etc. are accessed from a remote machine with the help of browser.
- **Browser** does the job of connecting to the remote machine.
- Each machine is recognized with unique **IP address**.
- It is difficult to remember all IP addresses. Therefore instead of accessing the remote machine via IP address, we access them using a domain name(example: [www.acadgild.com](http://www.acadgild.com)).
- The task of converting domain name to IP address is taken care by separate computers called **Name servers**.
- **Name Servers** are a cluster of servers containing domain to IP address mapping.





- **Servers** - Machines that provide service to other machines.
- **Clients** - Machines that request data from them.
- In previous example Machine 2 becomes the client and Machine 1 becomes the server.

**Example of URL:** *http://acadgild.com/tutorials.php*

- **The URL begins with http** which is the protocol for communication.
- This is the normal mode of communication.
- If we want a secure communication, we should use “https” protocol. More about http in next slide.
- **Next component is acadgild.com** which is the domain name.

- A Domain name comprises of two parts - name and extension. For acadgild.com, the name is acadgild and extension is .com.
- Next is the actual file requested namely **tutorials.php** (note that some webservers mask these files for security).
- In tutorials.php the extension **php** represents the server side language.

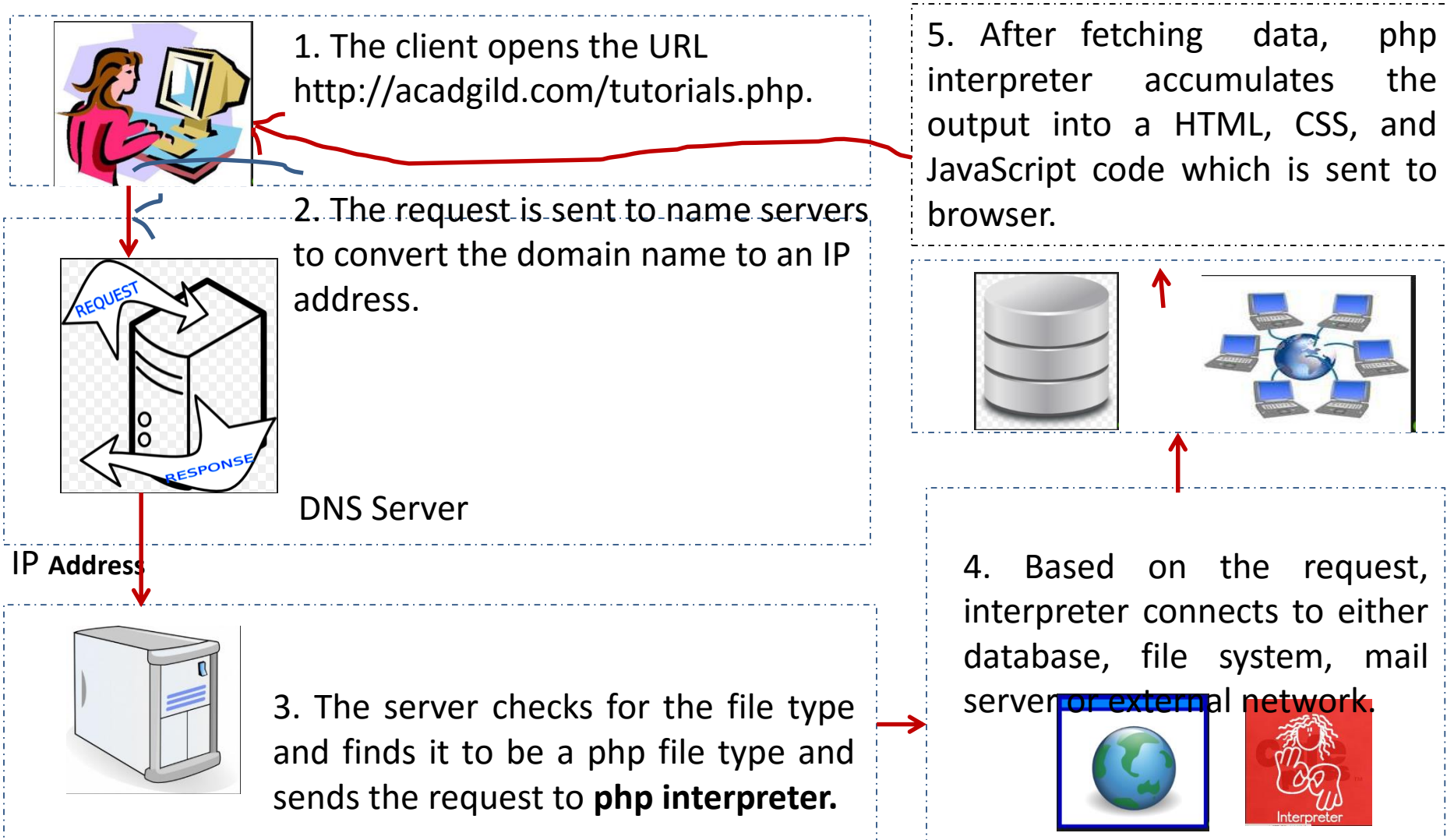
**Note:** Many sites hide the extension or change the URLs for security purposes.

- **HTTP** stands for ***H**yper **T**ext **T**ransfer **P**rotocol*.
- **HTTP** is the protocol used by World Wide Web or in other words by Internet.
- **HTTP** defines how messages are formatted and transmitted
- **HTTP** also defines what actions Web servers and browsers should take in response to various commands.

- When a URL is entered in browser it sends a **HTTP** command to the web server directing it to fetch and transmit the requested web page.
- **HTTP** is also called as a stateless protocol because each command is executed independently, without any knowledge of the commands that it encounters.

- **HTTPS** stands for **H**yper **T**ext **T**ransfer **P**rotocol **S**ecure
- **HTTPS** is a protocol for secure communication over a computer network which is widely used on the internet
- **HTTPS** consists of communication over HTTP with in a connection encrypted by Transport Layer Security(TLS) or Secure socket layer (SSL)
- Motivation of **HTTPS** is authentication of website and to protect the privacy of exchanged data
- **HTTPS** encrypts the message before the transmission and decrypts a message on arrival
- **HTTPS URL example:** <https://www.acadgild.com>

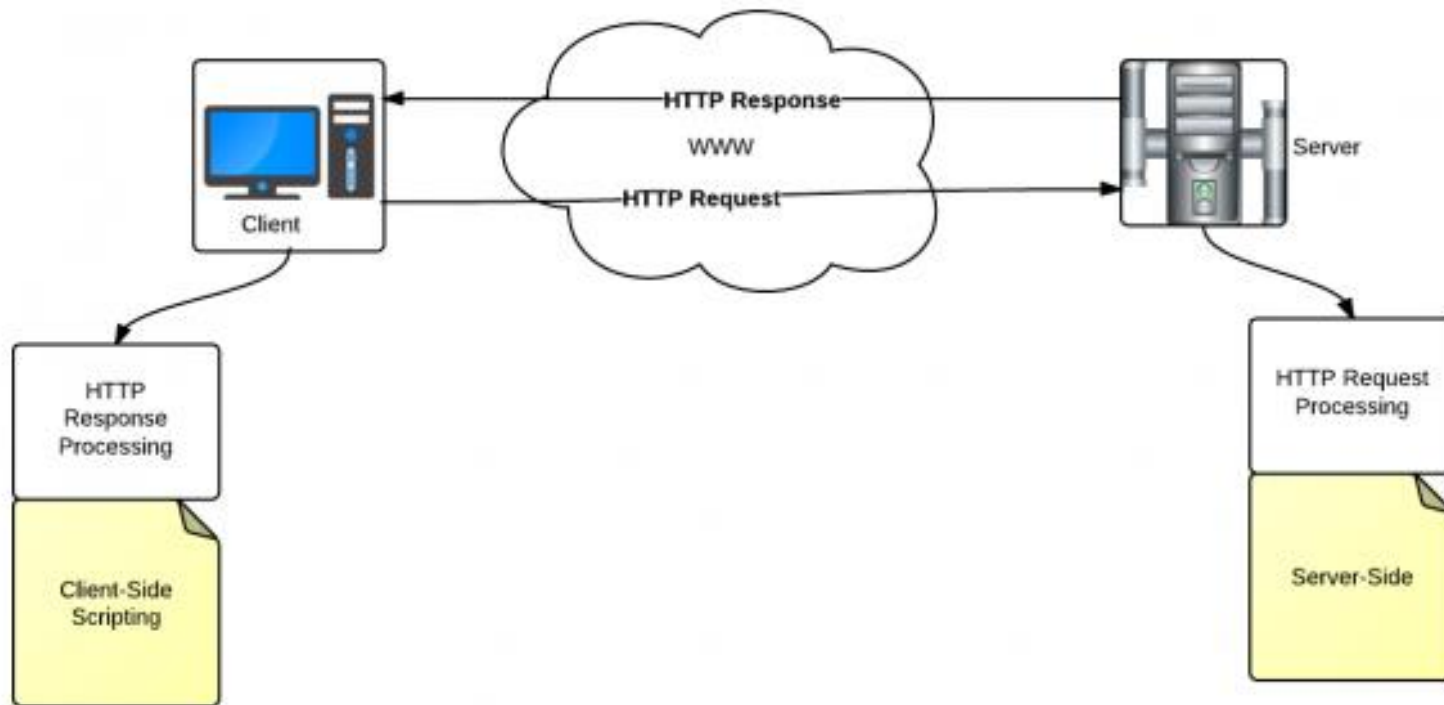
# Full Web Request Cycle





# Request Response Cycle

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- **HTML** stands for **Hyper Text Markup Language**, which is the most widely used language on Web to develop web pages.
- **HTML** is interpreted by browsers and hence we don't need to compile it.
- **HTML** documents are described by HTML tags.
- **HTML** describes the structure of the web page along with cues of presentation.
- **HTML5** is a W3C specification that defines the fifth major revision of the Hypertext Markup Language (HTML)

- **Header:** Provides information about the page. e.g. title.
- **Body:** Provides actual content of the page.
- **Document** starts with `<HTML>` and end with `</HTML>`

## Syntax:

```
<html>  
<head>  
<title>....</title>  
</head>  
<body> ... </body>  
</html>
```

Tag	Description
<code>&lt;h1&gt;...&lt;/h1&gt;</code>	To delimit a level in heading
<code>&lt;b&gt; ...&lt;/b&gt;</code>	To set the text between the tags to boldface
<code>&lt;i&gt;...&lt;/i&gt;</code>	To set the text between the tags to italics
<code>&lt;center&gt;...&lt;/center&gt;</code>	To align the text between the tags in center of the page horizontally
<code>&lt;p&gt;...&lt;/p&gt;</code>	To start a paragraph
<code>&lt;br&gt;</code>	To insert a line break
<code>&lt;hr&gt;</code>	To create a horizontal line in HTML page
<code>&lt;img src="..."&gt;</code>	To display image
<code>&lt;a href="..."&gt;...&lt;/a&gt;</code>	To define a hyperlink

- It declares which version of HTML is being followed by the document.
- **In HTML version 4.0, there are three types of DOCTYPEs:**
  - Strict
  - Transitional
  - Frameset

## Note :

- **<!Doctype> should be the first tag in HTML code.**
- **doctype is not a HTML tag;** it is just used to tell the browser about the version of the HTML to follow for the current code.

DOCTYPES	Description
Strict	<ul style="list-style-type: none"><li>• Does NOT INCLUDE presentational or deprecated elements (like font).</li><li>• Framesets are not allowed.</li></ul>
Transitional	<ul style="list-style-type: none"><li>• INCLUDEs presentational and deprecated elements (like font).</li><li>• Framesets are not allowed.</li></ul>
Frameset	<ul style="list-style-type: none"><li>• INCLUDE presentational and deprecated elements (like font).</li><li>• Framesets are allowed.</li></ul>

```
<html> // opening tag for HTML
  <head> //opening tag for Head
    <title> //opening tag for Title
      Hello World
    </title> //closing tag for Title
  </head> //closing tag for Head
  <body> //opening tag for Body
    Hello World
  </body> //closing tag for Body
</html> // Closing tag for HTML
```

- The comment tag is used to insert comments in the source code.
- Comments are not displayed in the browsers.

`<!-- This is an HTML comment-->`



- **Do all HTML tags come in pair?**
- **Does a hyperlink apply to text only?**
- **How do you insert a comment in html?**



- A **semantic element** clearly describes its meaning to both the browser and the developer.
- Improving semantics was a major focus of HTML5.
- HTML5 has introduces new semantic elements to expand the markup capabilities.
- **Semantic** HTML is the use of HTML **markup** to reinforce the **semantics**, or **meaning**, of the information in webpages.
  - Example of Semantic tags are `<img>`, `<form>`,`<table>`, `<header>`,`<footer>`,`<aside>`, `<nav>` etc
  - Example of non-semantic tags are `<div>`, `<span>` etc

- For supporting browsers less than IE9 , we should include the html5shiv.js
- This will make sure that all the HTML5 tags are identified and rendered properly on old browsers

```
<!DOCTYPE html>  
<html>  
<head>  
<meta charset="UTF-8">  
<title>Title of the document</title>
```

```
<script  
src="https://cdnjs.cloudflare.com/ajax/libs/html5shiv/3.7.3/html5shiv.js"></script>
```

```
</head>
```

```
<body>  
Content of the document.....  
</body>
```

```
</html>
```

Tag	Description
<code>&lt;section&gt;</code>	This tag represents a generic document or application section. It can be used together with h1-h6 to indicate the document structure.
<code>&lt;article&gt;</code>	This tag represents an independent piece of content of a document, such as a blog entry or newspaper article.
<code>&lt;aside&gt;</code>	This tag represents a piece of content that is only slightly related to the rest of the page.
<code>&lt;header&gt;</code>	This tag represents the header of a section.
<code>&lt;footer&gt;</code>	This tag represents a footer for a section and can contain information about the author, copyright information etc.
<code>&lt;nav&gt;</code>	This tag represents a section of the document intended for navigation.

- In any HTML5 document starts with a Doctype declaration.

`<!DOCTYPE html >`

- Declare an optional language within html tag

`<html lang="en">`

- Character encoding using meta tag within head

`<meta charset="utf-8">`



- What is the difference between HTML elements and tags?
- What is "Semantic HTML?"
- What does DOCTYPE mean?



Questions?



# THANK YOU

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