

Introduction To Web Application

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What is web application?

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- Web application is software used to perform particular task like sending email, watching videos online, send money from one account to another account etc.
- Web application work on internet or intranet.
- Web application runs in another software called a web browser.
- **what is web browser?**
- Web browser is built in software on O.S that is used to view web pages of web application

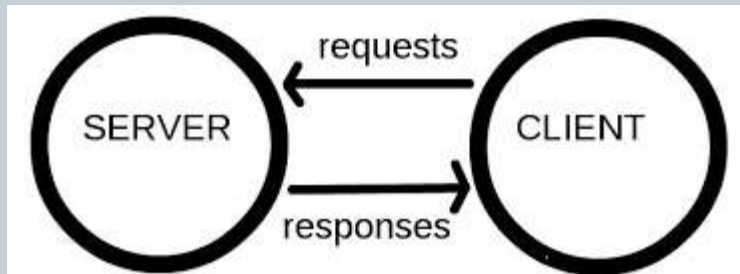
Components of web application

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- Each web application has multiple parts given below
 1. Client
 2. Web server
 3. Database server
 4. Communication channel
 5. Web browser

What is client?

- Client is simple node, machine, terminal, computer that send request for the information or some resources to sever computer using communication channel.
- To do this Client computer must be connected with network/internet.



What is web server?

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- Web Server is computer which accept request and provide response to client computer.
- Web server generally give response in **HTML** format which is universal standard for W.W.W.
- When you are developing web application it is possible that client and server are same.
- You will learn later how to do this

What is Database Server?

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- A **database server** is a software that provides database services to other computer programs or computers.
- Database services means SQL queries execution like insert, update, delete, select queries
- Database server is accessed via Front-end web server.
- It is used to generate dynamic content of web page.
- Some popular database servers are Oracle, DB2, Informix, Ingres, MSSQL Server, **MySQL**, **mariaDB**, **MongoDB**.
- In our course we will use MySQL RDBMS package.

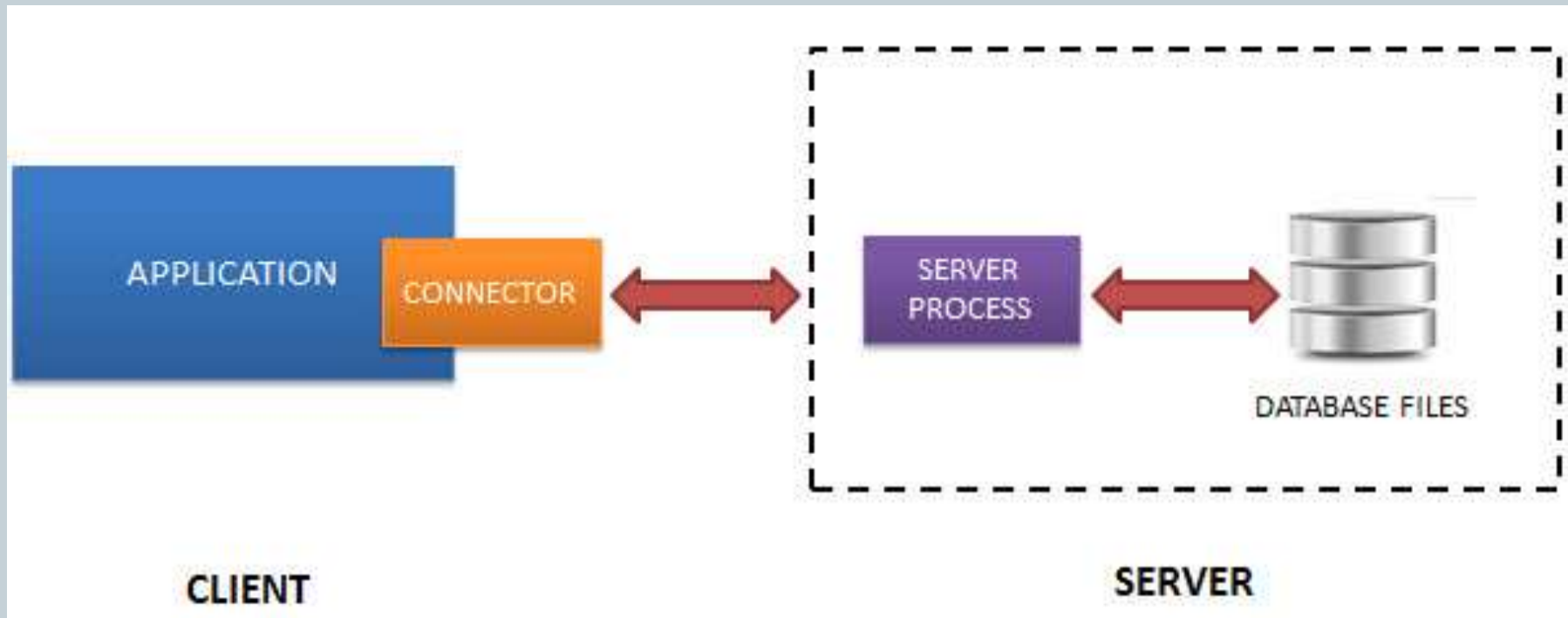
Communication channel

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- A communication channel, or channel, is medium to send & receive request and response between client and server.
- It can be wired or wireless.
- Communication channel has capacity which effect how much data can be send & receive at a time between client and server
- It is called bandwidth and it is measured in KB and MB.

How client server architecture works?

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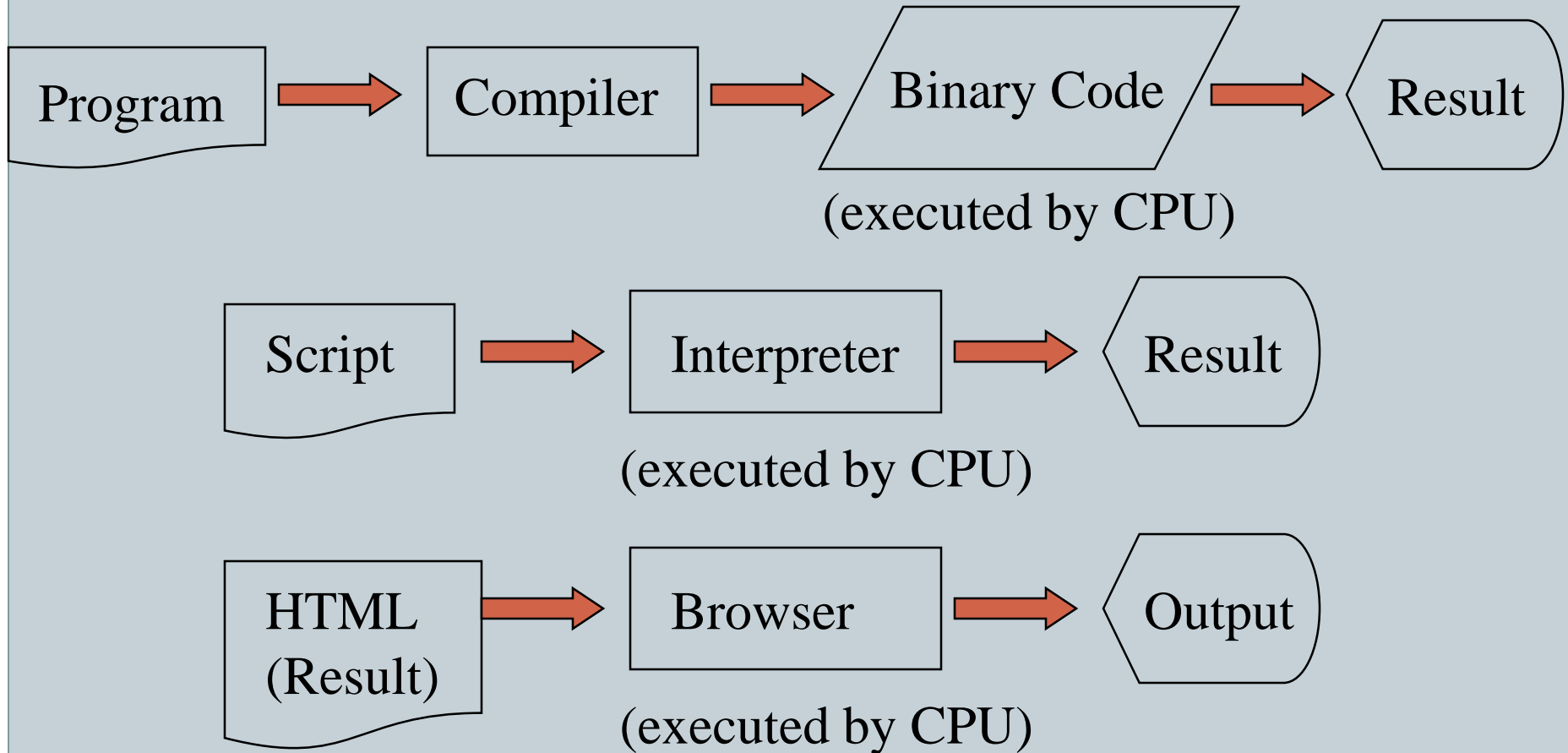
What is difference between script and program?

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- **Program** is set of instruction that is converted into machine code using program known as compiler in one pass or two pass.
- C, C++, VB etc use compiler to convert source code into machine code.
- Script is set of instruction that is converted into machine code using a program called interpreter.
- Interpreter convert code in line by line fashion.
- Javascript, vbscript, P.H.P etc use interpreter to convert source code into machine code
- Compare to compiler, interpreter require less resource (hard disk, main memory, processing power) to perform conversion.

Programs vs. Scripts

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Types of scripting language

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- Client side scripting language
 - (VB SCRIPT, JAVA SCRIPT)
- Server side scripting language
 - (PHP, node JS, ASP.NET, perl, Python, Ruby)

Client side scripting language

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- Client side scripting language execute code using client side resource (CPU, main memory, secondary memory)
- So client side script does not send data back to server for processing. It saves lots of time wasted in data transmission so code runs very fast.
- It is used to perform input validation & animation & effects.
- User can read & change client side code in browser so it is not safe.

Server side scripting language

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- server side scripting language execute using server side resource (CPU, main memory, secondary memory),
- It send data back to server for processing so it takes more time to run code.
- After Server side code execute it is converted into HTML and then send back to client for display so it hides important logic from end user.
- It is used to access data from database.

What is static web page & dynamic web page?

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- Static web page content remain same no matter how many times it is requested, how it is requested, who have it is requested.
- This web pages contain information that remain same for long amount of duration.
- Static web page do not need server side scripting.
- In most cases static web pages are made by only HTML .
- While dynamic page's content are either retrieved from database or it may be result of some extensive processing of server side scripting language.
- Dynamic pages content is generated as and when needed using server side script and database servers.
- E-commerce web sites, banking web sites etc has dynamic web pages.

Advantages of web application

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- No installation is required on each and every machine.
- Web application are very easy to update and maintain.
- Higher security of confidential and important data.
- Lower infrastructure IT Cost.
- Remote access of application and data is possible.
- Update are available to each person in time.