

MVC = tell what is full form , tell what is M , V ,C with example from servlet ,JSP , Spring

Difference between-----

bean and normal Java class } what is bean , what is java class, similarity , difference

entity and bean } what is bean ? Entity ? ORM , managed class

statement and prepared statement ? Common --- execute, executeQuery, executeUpdate, Difference ??

MVCController and Rest Controller ? JSP , JSON

DI , Auto wiring !!!!

JPA ---- ORM !!!!

JDBC --- DB Driver

Why we use beans. Xml or Java Config , ?

WPT = Web Programming Technologies ----

Communication !!!

| | |
|--------------------|-----------------------|
| internet answer??? | YOUR code ???? |
| Visit once | Visit again and again |

Full Stack Programming -----

| | | |
|-----------|--------------|----------|
| Front End | Middle Layer | Back End |
|-----------|--------------|----------|

Using Java Full Stack

| Front End | Middle Layer | Back End |
|--|--|---------------------------------------|
| Html +JSP + Servlet Html +ThymeLeaf | Servlet, DAO , Spring Controllers(mvc, rest) Beans , Transaction management, session management | JDBC Hibernate JPA MySQL |
| | | |

WPT ---- HTML , CSS ,
Javascript(Plain , Vanilla) ,
Node (server side java script) ,
React (client side java script framework)

Full stack using **MERN** stack

| Front End | Middle Layer | Back end |
|---------------------------------|------------------------|-------------------------|
| Html CSS Javascript React | Express Server Node | MySqlIDB MongoDB |
| | | |

Full stack Using React and Java

| Front End | Middle Layer | Back end |
|---------------------------------|----------------------------------|---|
| Html CSS Javascript React | Spring REST controllers, DAO etc | MySQL JDBC,JPA, JdbcTemplate, Hibernate |
| Html CSS Javascript JSP | Spring MVC controllers DAO etc | MySQL JDBC,JPA, JdbcTemplate, Hibernate |

Java Script ---- Plain / Vanilla

Script language ----- Interpreted Language!!

| | | |
|--|---|---|
| Interpreted Language that we discussed | Shell script , Html , Java, python , JavaScript | No output file Translated and executed immediately |
| Compiled Language | C, C++, Java | |

You get the Javascript interpreter ----- Along with Browser (javascript plugin)
OR
node installation has the JS interpreter

Editor = VSCode !!

Embed Java script in HTML ---- DISPLAY hello world !!!

| | | |
|---|--|--|
| 1 | Write a script tag in html - add console.log | Observe output in HTML Console |
| 2 | Write multiple script tags in the same html- with different console.logs | Observe the flow of execution ---TOP to BOTTOM |
| 3 | Write console log that prints two strings | |
| 4 | Create a variable in Javascript | var x |
| | while declaring variables we do not give DATA TYPE !!! | DATA TYPES are IMPLIED = Javascript figures it out by observing data assigned to it |
| | Java script is CASE SENSITIVE | |

| | |
|---|---|
| What are the different data types that are implied in java script ? | use typeof() API to find out ---- 1. undefined 2. number 3. string 4. boolean 5. object |
| Arrays are objects in java script [JUST like in core Java in both the places array is stored on the HEAP] | |
| JSON = Java script Object Notation | |
| Use API alert("hi") -- this gives a MODAL DIALOG BOX | Modal = USER should compulsorily click OK |

| | |
|-------------------------|--|
| Write a Javascript file | extension first.js |
| 1. | Embed the first.js in HTML and run on browser |
| 2 | Run the first.js directly using node interpreter |
| WHY to have external JS | 1. Code readability 2. Reuse of code from different vendors in many htmls 3. Easy maintenance 4. Easy change management |

DOM structure = Document Object Model

Each HTML that is displayed by the BROWSER (**RENDERED**) is first converted to DOM by the browser !!

FOR A STATIC HTML ----- the DOM is fixed

When we use Java script --- we may modify the DOM while the HTML is displayed (@RUN TIME)

| | |
|--------------|--|
| We are using | document object |
| | getElementById API/method of Document class |
| | innerText property of HTMLElement class |
| | innerHTML property of HTMLElement class |

| | |
|-----------------------|--|
| innerText / innerHTML | <tag> innerText /innerHTML </tag> |
| value | <tag value="rrr" > </tag> |

We added script code in a function ?? Because we did not want it to run in FLOW (top to bottom)
We execute it on an **EVENT = onclick**

When we click a button ---- show a dropdown list having number 1 to 120
