Agenda

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Java History
Platforms
JDK,JRE,JVM
OOSD
Major and Minor Pillars
Helloworld
Execution flow
Java Buzzwords
Command line compilation in src and bin.
```

SDK (Software Development kit)

```
- tools + libraries + docs + Runtime Environment
```

JDK (Java Development Kit)

```
- tools + libraries + docs + RuntimeEnvironment (JRE)
- tools + libraries + docs + rt.jar(jrt-fs.jar) + JVM (Java Virtual
Machine)
```

Difference Between JDK,JRE & JVM

```
JDK - Java Developemnt Kit
    - JRE (Java Tuntime Environment)
    - we can even download the JRE seperatly for the client machine
    - JVM (Java Virtual Machine)
        It is also called as Execution Engine
```

OOSD -> Object Oriented Software Developemnt

```
1. OOA -> Object Oriented Analysis
2. OOD -> Objet Oriented Design
3. OOP -> Object Oriented Programming
```

OOP (Object Oriented Programming)

```
- Abstraction, Encapsulation, inheritance, Polymorphism

1. Major Pillar
    a. Abstraction
    b. Encapuslation
    c. Modularity
    d. Hirerachy

2. Minor Pillar
    a. Typing/ Polymorphism
    b. Concurrency
    c. Persistance
```

Abstraction

```
To know only essential things is called as abstraction
eg - google, car, tab, mobile apps...
```

Encapuslation

```
To bind the data and code together is called as encapsulation
eg - google, car, tab, mobile apps...
```

Modularity

```
To divide the work into smaller tasks
- defining functions
- Keeping the code in multiple different different files
```

Hirerachy

Typing / Polymorphism

```
- one entity taking multiple forms
```

Concurrency

```
Concurrent execution
```

Persistance

```
To persist(Save) the data
```

Hello World

Steps for cmd Line

```
- Create a Program.java file
- Keep the name of the java file and the class name same starting with
capital letter
- to write the  main use below syntax
    public static void main(String args[]){}
- To display on cosole use
    System.out.println("Hello World");
-To compile the above code
    javac Program.java
- Once you compile the code .class file gets created
- To execute the code use the below command
    java Program
```

Steps of STS

```
1. Always switch the workspace for every new day
2. When the workspace is switched you have to change the perspective to
java
3. Create A new Java Project.
4. In this project inside src cretae a class (Program)
5. Write the hello world code inside it and click in the Run button to
execute
```

Execution flow

cmd_line execution in src and bin directories

```
1. Cretae a directory named cmd_line
2. Create sub directories src and bin
3. Inside src create a Program.java file
4. For compilation and execution from the parent directory(cmd_line) use
below steps.
    - javac -d ./bin ./src/Program.java
    - java -cp ./bin Program
```