Lab Exercises

Assumptions:

Operating system: Windows 7

Location of the required installations:

JAVA\_INSTALL\_PATH=C:\Users\nasiruddin.shaikh\Downloads\jdk-7u71-windows-x64.exe

LABS\_SOURCE\_DIR = C:\Users\nasiruddin.shaikh\git\TechnicalDocs\training\core\_java\lab

# Java Setup

## Lab 1: Installing the Java Software and setting up the envrionment

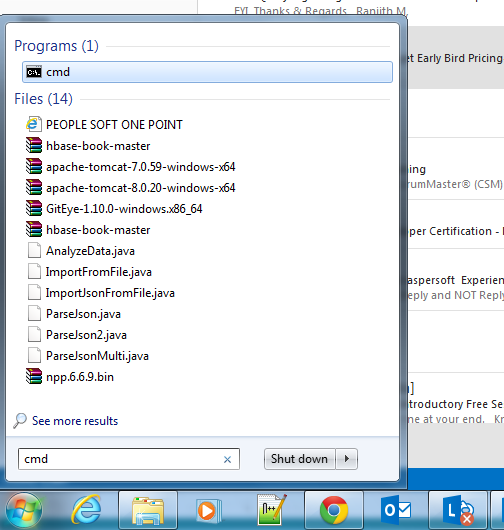
Task 1: Create a ‘softwares’, “Samples” directory under “D” drive on your system. i.e. (D:\softwares and D:\Samples).

Task 2: Copy the java installation exe from the <JAVA\_INSTALL\_PATH> to your directory created as per the task 1 i.e D:\softwares.

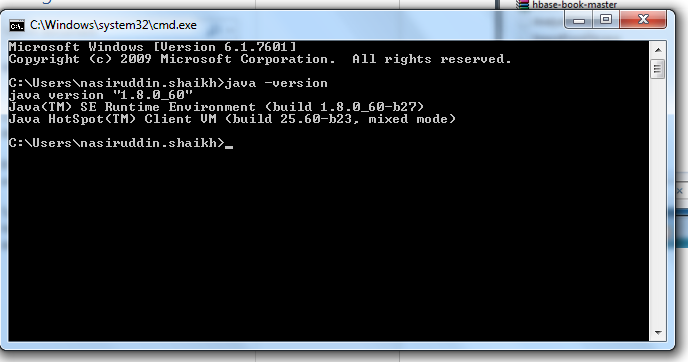
Task 3: Double click on the exe file located in D:\softwares.

Task 4: select all defaults to install the java software.

Task 5: Open a command prompt by navigating to “Start > Run “, type cmd and hit enter.



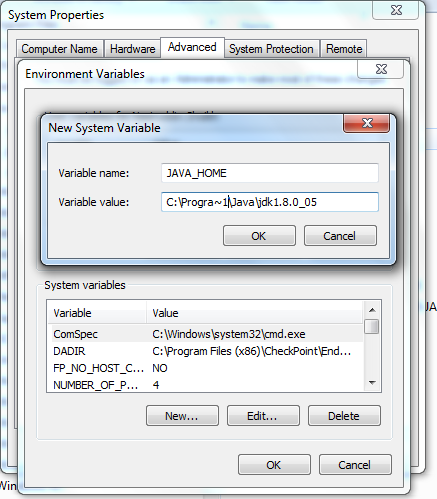
Task 6: Type “java –version” in the command prompt and you should be able to see the output something similar to the following.



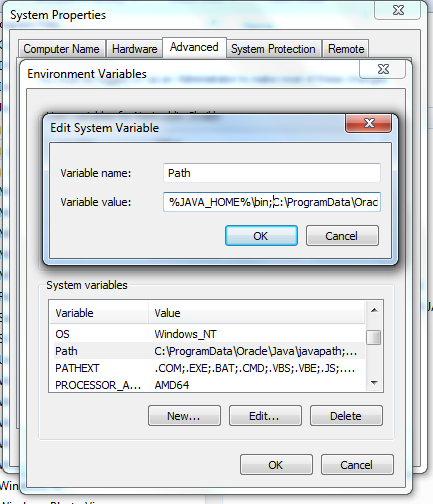
## Lab 2: Setting up the Java environment.

For Window 7 users:

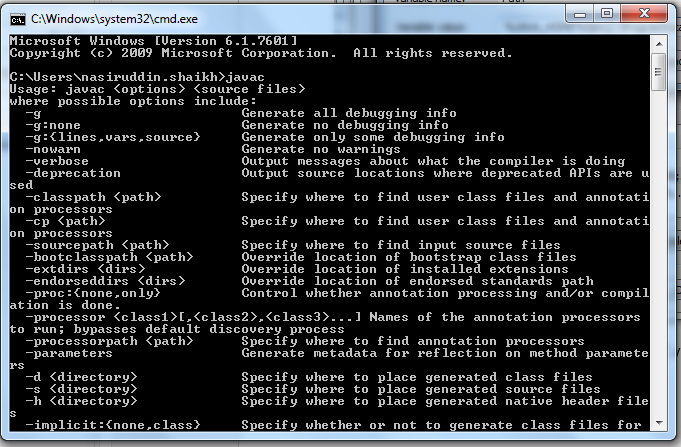
1. From the desktop, right click the **Computer** icon.
2. Choose **Properties** from the context menu.
3. Click the **Advanced system settings** link.
4. Click **Environment Variables**. In the section **System Variables**, find the PATH environment variable and select it. Click **Edit**. If the PATH environment variable does not exist, click New.
5. Create a new variable with the name “JAVA\_HOME” with value as the java installation folder. Eg: C:\Program Files\Java\jdk1.8.0\_05



1. Add JAVA\_HOME variable to the “Path” variable as specified below.



1. Now open a command prompt and type “javac”, you should get the output similar to the following



## Lab 3: Writing and executing java Hello World Programme

Task 1: Open a notepad (Type “notepad” in Start > Run prompt)

Task 2: Copy the file from “<LABS\_SOURCE\_DIR>\lab\lab3\HelloWorld.java” to local directory D:\Samples.

Task 3: Open a command prompt.

Task 4: Compile the java programme with following command

Javac HelloWorld.java

Task 5: Execute the programme

Java HelloWorld

Task 6: You will see following output

“Welcome to Java”

# Variables and Data Types

## Lab 4: Demonstration of defining variables

Task 1: Open a notepad (Type “notepad” in Start > Run prompt)

Task 2: Copy the file from “<LABS\_SOURCE\_DIR>\lab\lab4\ Car.java” to local directory D:\Samples.

Task 3: Open a command prompt

Task 4: Compile the java programme with following command

Javac Car.java

Task 5: Execute the programme

Java Car

Task 6: Go through the java programme “Car.java” to understand how the arrays are created and how the array elements are accessed.

# Arrays

## Lab 5: Working with Arrays

Task 1: Open a notepad (Type “notepad” in Start > Run prompt)

Task 2: Copy the file from “<LABS\_SOURCE\_DIR>\lab\lab4\ ArrayDemo.java” to local directory D:\Samples.

Task 3: Open a command prompt

Task 4: Compile the java programme with following command

Javac ArrayDemo.java

Task 5: Execute the programme

Java ArrayDemo

Task 6: Go through the java programme “ArrayDemo.java” to understand how the arrays are created and how the array elements are accessed.

# Operators

## Lab 6.1: Arithmetic operator demo

Task 1: Copy, Understand and execute the programme located at “<LABS\_SOURCE\_DIR>\lab\lab6\ ArithmeticDemo.java”

## Lab 6.2: Unary operator demo

Task 1: Copy, Understand and execute the programme located at “<LABS\_SOURCE\_DIR>\lab\lab6\ UnaryDemo.java”

## Lab 6.3: Relational operator demo

Task 1: Copy, Understand and execute the programme located at “<LABS\_SOURCE\_DIR>\lab\lab6\ ComparisonDemo.java”

## Lab 6.4: Conditional operator demo

Task 1: Copy, Understand and execute the programme located at “<LABS\_SOURCE\_DIR>\lab\lab6\ ConditionalDemo1.java

Task 2: Copy, Understand and execute the programme located at “<LABS\_SOURCE\_DIR>\lab\lab6\ ConditionalDemo2.java

# Control Flow

## Lab7.1: Demonstration of If Else control flow statements.

Task 1: Analyze the programme located at “<LABS\_SOURCE\_DIR>\lab\lab7\IfElseDemo.java”.

Task 2: Copy the programme locally and execute.

## Lab7.2: Demonstration of Switch control flow statements.

Task 1: Analyze the programme located at “<LABS\_SOURCE\_DIR>\lab\lab7\SwitchDemo.java”.

Task 2: Copy the programme locally and execute.

## Lab7.3: Demonstration of Switch control flow statements without break statement.

Task 1: Analyze the programme located at “<LABS\_SOURCE\_DIR>\lab\lab7\ SwitchDemoFallThrough.java”.

Task 2: Copy the programme locally and execute

## Lab7.4: Demonstration of Switch control flow statements with String object in switch control statement.

Task 1: Analyze the programme located at “<LABS\_SOURCE\_DIR>\lab\lab7\ StringSwitchDemo.java”.

Task 2: Copy the programme locally and execute

## Lab7.5: Demonstration of using while loop.

Task 1: Analyze the programme located at “<LABS\_SOURCE\_DIR>\lab\lab7\ WhileDemo.java”.

Task 2: Copy the programme locally and execute

## Lab7.6: Demonstration of using do-while loop.

Task 1: Analyze the programme located at “<LABS\_SOURCE\_DIR>\lab\lab7\ WhileDemo.java”.

Task 2: Copy the programme locally and execute