Java Programming

8-1: JDK Tools

Practice Activities

Lesson Objectives:

- Introduce the javac command
- Introduce the java command
- How to use the jps command
- How to use the jstat command
- Introduce and use the javap command
- How to use the jdb command
- Introduce the jvisualvm tool
- Introduce the hsdis plugin

Vocabulary:

Identify the vocabulary word for each definition below.

	A command used to convert the java source code to bytecode
	A java tool for viewing information about running java processes
	A Java command that disassembles class files and prints a human-readable version of those classes
	A Command that Monitors Java Virtual Machine (JVM) statistics

Try It/Solve It:

JDB

```
public class Example{
        public static int x=1;
        public static void main(String[] args){
                if(Math.random()<0.5)
                        method1();
                else
                        method2();
        }
        public static void method1(){
                x=100;
        }
        public static void method2(){
                x=200;
        }
}
```

This exercise uses a sample Java program classed Example to explore the jdb commands.

1. **Examine the source code of Example.java file**

2. **Compile this program with the option –g to generate the debugging information.**

3. **Execute the jdb command**

4. **Stop in the main method**

5. **Start the program**

6. **List the source code**

7. **Use the javap command to find the corresponding bytecode**

8. Execute the step command

9. Execute the stepi command

10. Execute stepi two times, and then check the source code line (list) and the byecode index (javap).

11. Print the value of the x variable.

jvisualvm

1. Start the jvisualvm tool
2. Install the Visual GC Plugin

Integration of the Visual Garbage Collection Monitoring Tool into VisualVM. Visual GC attaches to an application and col-lects and graphically displays garbage collection, class loader, and HotSpot compiler performance data.

3. Run the consume application
4. Use the Visual GC to check the memory activity of consume activity.
5. Generate the heap dump from the jvisualvm, and look for the data stored in new allocated 4MB Memory.