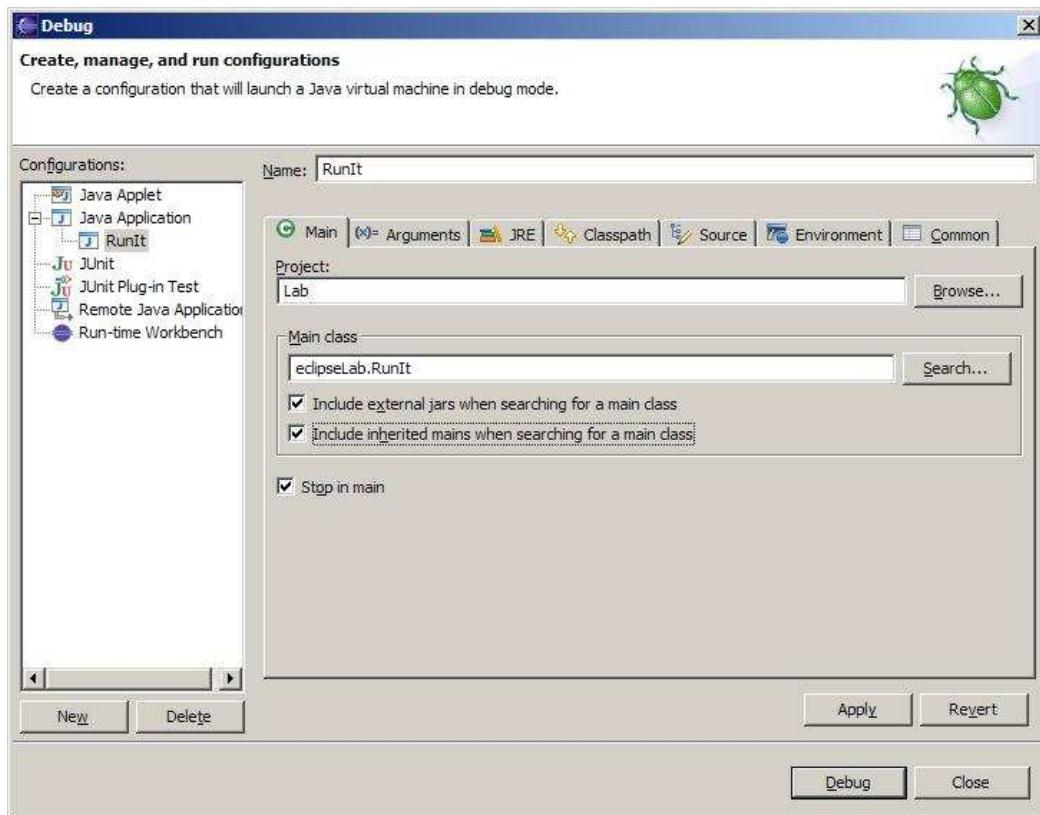


Java Development with Eclipse

Lab 2 The debug Perspective

1. Debugging functionality

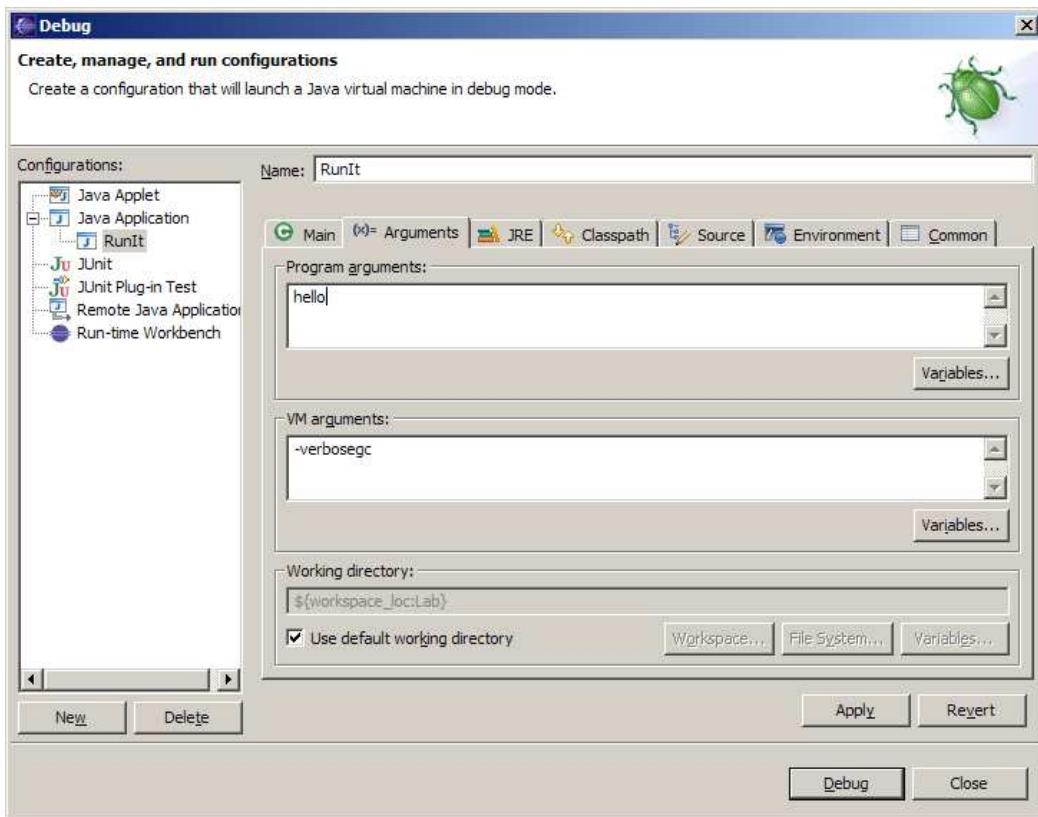
1. In the Resource perspective open the RunIt class in the java window.
2. Enter **Run>Debug** and the following window is displayed :



This is the debug configuration

Check that the Stop in main check box is selected.

3. 'Click' on the **Argument** tab and enter 'hello' in the 'Program Arguments' panel. See below.



4. Select the **Debug** button.

This opens the 'Debug' Perspective shown in the current slide in the presentation.

The RunIt application is being executed and is suspended at the entry into method main.

The blue arrow in the margin and the greyed line indicate where the program is suspended.

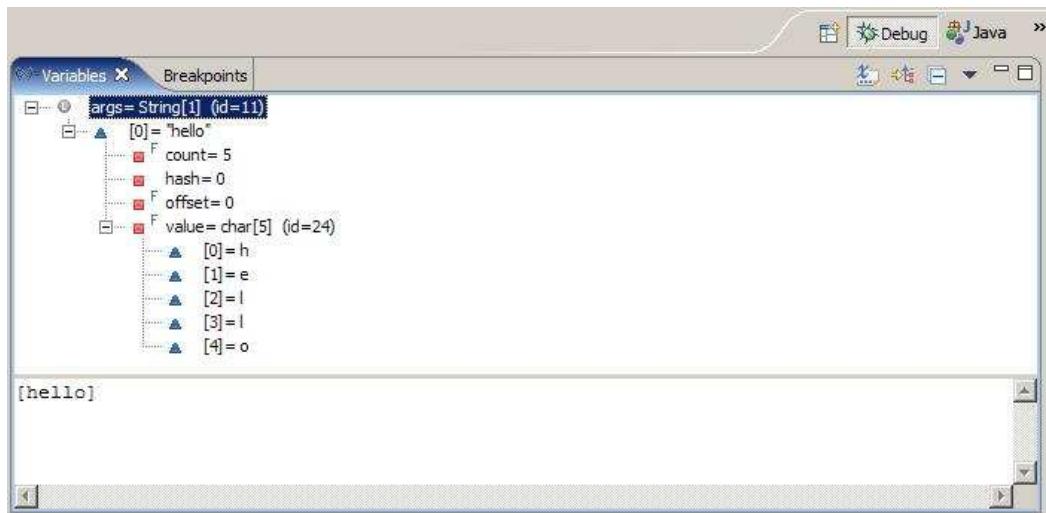
```
/* To change the template for this generated type
 * Window->Preferences->Java->Code Generation
 */
public class RunIt {

    public static void main(String[] args) {
        int i=0;
        System.out.println("Lab 1");
        while (i++ < 1000) {
            MemGrab aGrab = new MemGrab();
        }
    }
}
```

5. Look at the other windows in the debug perspective

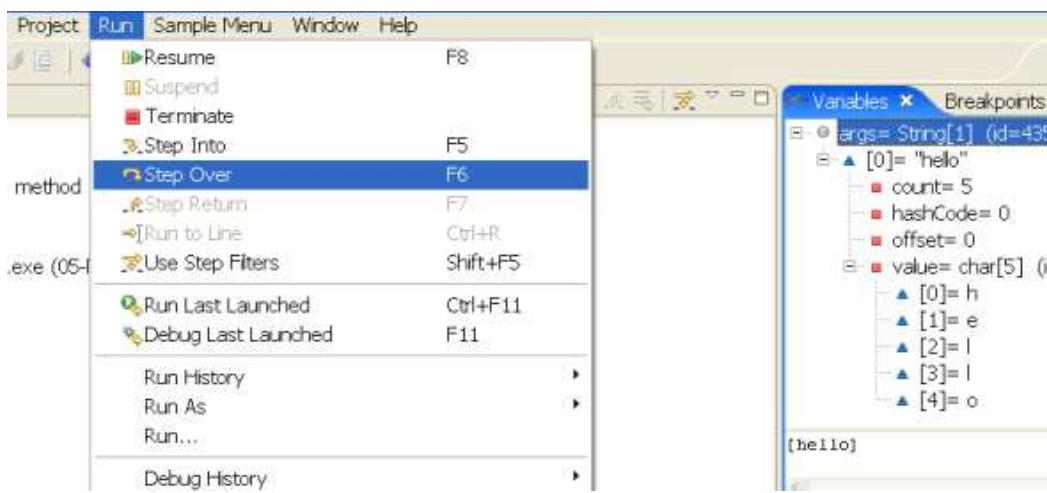
In the attributes window's **variables** tab the only known 'variable' the program argument 'hello' is displayed.

Try 'opening' the 'args' variable and see the various components of a String array exposed.

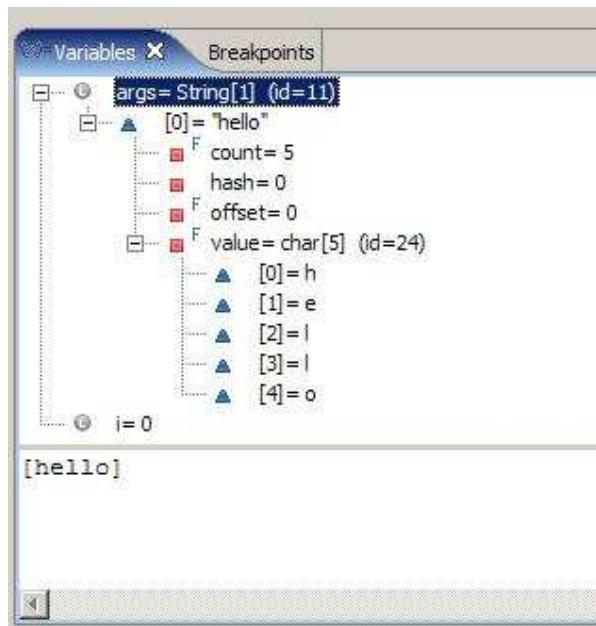


6. Click on the run menu option and see the debugging functionality now enabled:

Resume, terminate, step with filters, step into ...



7. Select **Step Over**. The variable 'i' now appears in the variable tab:



8. Select **Step Over** or press **F6** until 'i' is 10.

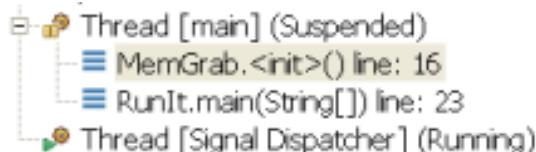
See how the program is executing 1 line at a time.

9. Step through the program until the execution is suspended at line

```
MemGrab aGrab = new MemGrab();
```

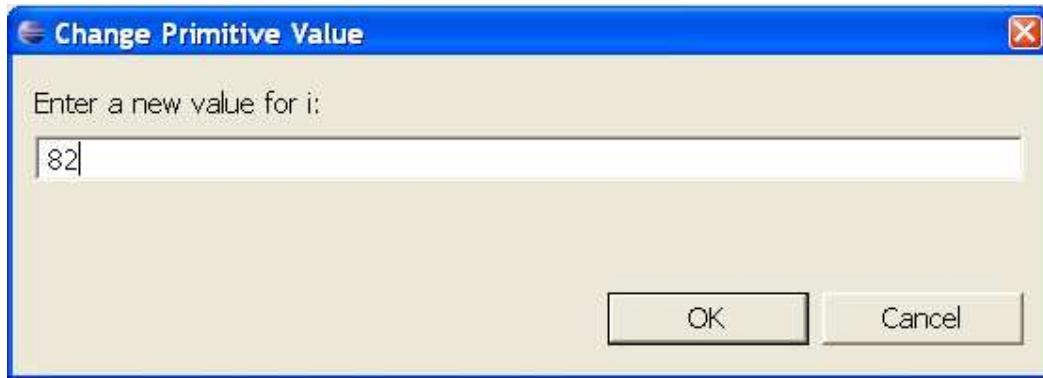
Now enter **F5** or **Step Into** and see the program suspend in the `MemGrab()` constructor.

In the thread window the java stack can be seen. `RunIt.main(String[])` method calls `MemGrab.<init>()` method,



10. Now enter **F7** or **Step Return** to return to the `RunIt.main` method.

11. Place the cursor over 'i' in the **variable** tab and 'right click' and select **Change Value** to relieve the following window. 'i' can now be changed. Change it to **82** and click on **OK**.



12. Step through the program (using **F6**) until the execution is suspended at line
MemGrab aGrab = **new** MemGrab();
Now depress the **Ctrl + Shift + b** keys. A breakpoint has been set at this source code line.
Now enter **F8** or **Resume**, program execution now proceeds to the next breakpoint.
Enter **F8** a few times and each time see 'i' incremented to indicate that a whole loop
Iteration has been executed.

13. Click on the **breakpoints** tab to see the breakpoint added in section 12.