

3. Hello World! for IDEA

Java

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Outline

- Java IDEs
- Creating A Project
- Making A Java Class
- Building the Project
- Running the Project
- References



Java IDEs



Java IDEs

- *Integrated Development Environments (IDE)* provide benefits to programmers.
- IDE allows advanced features like code generators, auto-completion, and debuggers.

Hello World! for IDEA

Some Popular Java IDEs

Java IDE	Free/Commercial	Company
Eclipse	Free	Open source
Netbeans	Free	Sun Microsystems
Sun Java Studio	Commercial	Sun Microsystems
JBuilder	Commercial	Borland
IntelliJ IDEA	Commercial	JetBrains
JDeveloper	Commercial	Oracle
SlickEdit	Commercial	
jEdit	Free	
JCreator	Free	
IBM WebSphere Studio	Commercial	IBM
WebLogic Workshop	Commercial	

A Checklist

- To write your program, you'll need:
 1. The Java SE Development Kit 6 (JDK 6)
 2. The IntelliJ IDEA IDE
- The screen captures shown in this section reflect IntelliJ IDEA 7.0 running on JDK 6.



Installing IDEA



Installing IDEA

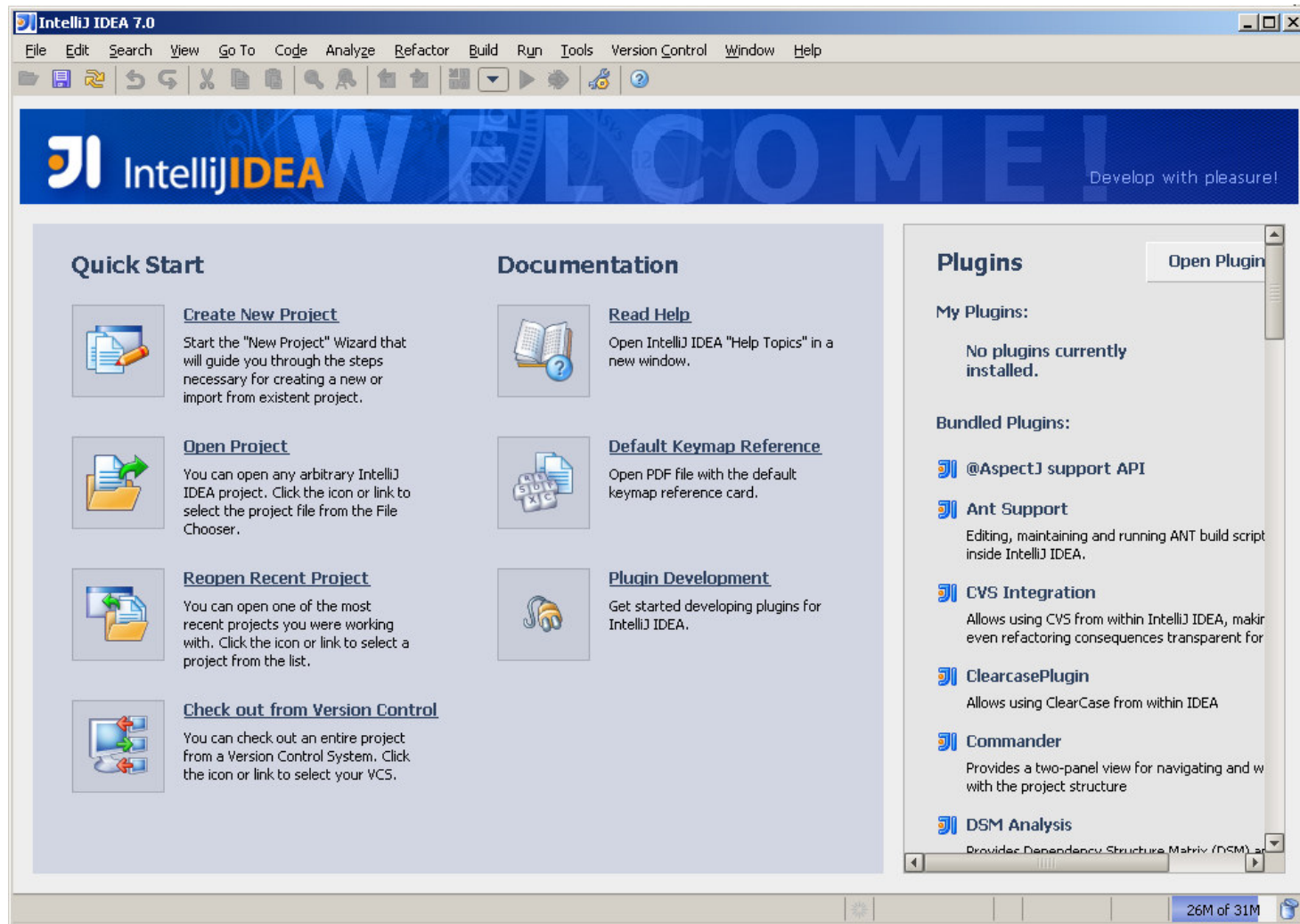
- For Windows users, the installer is a self-executing Java application.
- Run it by double-clicking its icon and following the installation instructions.
- ***Selecting an installation folder***
 - The first important step of the installation process (after accepting the license agreement) is selecting an installation folder.
 - The installer will suggest a reasonable default value, or you can use the file browser to pick your own.

Installing IDEA

- ***Importing IDEA settings from a previous version***
 - If you're upgrading IDEA from an older release, the installer can migrate your settings and license information to the new version.
 - Select the option to import settings, and choose the installation folder of your previous version.
- ***Entering the license key information***
 - After entering the license key information, the software is licensed and running.

Hello World! for IDEA

The Welcome screen



The image features a large green shape on the left side, which has a white, rounded rectangular cutout. The text "Creating A Project" is centered within this white area. Below the green shape, a dark blue horizontal bar extends across the width of the page.

Creating A Project

Creating a project

- All Java development done in IDEA occurs within the concept of a ***project***.
- In IDEA, a project represents the context around a software development product.
- Project configuration and management is a key concept in IDEA.

Creating a project

Step 1:

- Select the **File | New Project** menu option from the menu bar
- Or alternatively, click the **Create New Project** button on the **Welcome** screen).

Creating a project

Step 2:

- The first dialog in the **New Project Wizard** appears and prompts you for a project name and the location on disk where the project file should be stored.
- In the dialog, enter **HelloWorld** as the name of your project, and accept the default for the project file location.
- Click **Next** when you're finished.

Creating a project

Step 3:

- Specify a directory where Java source files for your project can be found.
- Those Java source files that are located under this directory will be recognized.
- ***src*** is default value for this directory.

Creating a project

Step 4 (for first time):

- The next dialog appears and prompts you for the target JDK of this project.
- Typically, you can select one of the JDKs on your computer that has been previously configured.
- Click the plus button (+) at the top of the window to choose a JDK.
- The **Select Path** dialog appears and prompts you to choose a directory from the file system.
- Use the tree control to navigate to the home directory of your JDK installation
- For example, C:\Program Files\Java\jdk1.6.0_06 for the latest release of the 1.6.0.6 JDK on Windows.



Making A Java Class



Making a Java class

Step 1:

- The toolbar on the left side of the window contains two *tool window buttons*, **Project** and **Structure**.
- These represent *tool windows*
- The **Project** tool window permits you to view and control your project
- The **Structure** tool window lets you view and maneuver around the structure of the current file in the editor
- Click the **Project** tool window button to open that tool window.

Making a Java class

Step 2:

- Open the HelloWorld subnode by clicking its attached plus sign (+) or by double-clicking the node itself.

Making a Java class

Step 3:

- Within the HelloWorld module is a src directory marked by a folder icon with small blue dot
- Right-click the folder to bring up a context menu, and select **New | Package** from that menu.
- Alternatively, you can begin using IDEA's huge library of keyboard shortcuts: Press **Alt+Insert** to open a New context menu.

Making a Java class

Step 4:

- You're prompted for the name of this new package.
- Type in the name *HelloWorld*, and click **OK** (or press **Enter**).

Making a Java class

Step 5:

- With the HelloWorld package created, right-click the **HelloWorld package** icon and select **New | Class** from the context menu (**Alt+Insert**).
- Enter the name **HelloWorld** as the new class name, and click **OK**.
- IDEA creates a simple Java source file with the appropriate package and class declarations.
- It also opens that file in the source code editor.
- Now that you can edit the file to suit your needs.

Making a Java class

Step 6:

- Inside the HelloWorld class, type the letters *psvm* and then press **Tab**.
- The *main()* method should be roughed out for you by IDEA's Live Template mechanism, a customizable code generation facility.

Making a Java class

Step 7:

- Inside the main() method, type the letters ***sout***, and then press **Tab**.
- The call to println() is added for you, and your cursor is placed
- Within the double quotes, waiting for the String you wish to print.

The image features a large green shape on the left side, which has a white rounded rectangular cutout. The text "Building the Project" is centered within this white area. Below the text, a dark blue horizontal bar extends from the green shape towards the right edge of the frame.

Building the Project

Building the Project

- Now that your class is finished, you can build the project.
- ***Building***, in this case, involves compiling the Java source into a class file
- The task can be a much more complicated, multistage process for complex Java projects.

Building the Project

- Select the **Build | Make Project** menu option
- If you prefer, click the **Make Project** button on the toolbar, or use the keyboard shortcut **Ctrl+F9**.
- If you navigate your file system and look in that output directory,

The slide features a large green rectangular area on the left side. Within this green area, there is a white rounded rectangle. The text "Running the Project" is centered within this white shape. Below the green area, a dark blue horizontal bar extends across the width of the slide.

Running the Project

Running the Project

- you can directly run and test this class to ensure its behavior operates as expected.

Step 1:

- Select the **Run | Edit Configurations** menu option.

Step 2:

- The **Run/Debug Configurations** window appears, allowing you to manage the different ways to execute and test code that you write.
- Click the plus button (+) to create a new Java application.
- This sample is a simple Java application, so choose the **Application**.

Running the Project

Step 3:

- A new configuration is immediately added with the title *Unnamed*.
- Change the name of the configuration from Unnamed to *Hello World* in the **Name** text field.

Step 4:

- Click the button (...) to the right of the **Main Class** text field.
- Doing so causes the **Choose Main Class** dialog to appear.

Running the Project

Step 5:

- The **Choose Main Class** dialog allows you to select the class to execute either by name or by navigating the source tree.
- This project has only one class, so finding it is simple.
- Click once on the class name in the list, and then click **OK** to select it.

Running the Project

Step 6:

- Uncheck the **Display settings before running/debugging** option
- To prevent IDEA from showing this configuration screen every time you try to run or debug your project.

Running the Project

Step 7:

- Click **OK** at the bottom of the **Run/Debug Configurations** window to execute the program.
- Doing so makes these options an acceptable configuration that you can subsequently run and returns you to the editor.
- Be sure the HelloWorld run/debug configuration is chosen in the selector on the toolbar.

Running the Project

Step 8:

- To execute that configuration, select **Run | Run**.
- Alternatively, click the **Run** button next to the configuration selector or use the **Shift+F10** keyboard shortcut.



References



References

- D. K. Fields, S. Saunders, E. Belyaev, IntelliJ IDEA in Action, Manning Publications Co., 2006. (Chapter 1)



The End