PyDev:
Developing Python code in Eclipse

presented to the Python Interest Group

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http://www.rovio.com
Abstract

Aptana PyDev ([http://pydev.org](http://pydev.org)) is a Python IDE for Eclipse which may be used in Python, Jython, and IronPython development. It can be used anywhere that Eclipse runs (including Windows, Mac, Linux). Features include syntax highlighting, code completion, source code debugging with breakpoints and inspection of variables, and refactoring.

Note that Python must be installed separately. It is possible to configure PyDev to use a specific Python if more than one Python is installed.

This presentation will focus on how to install, configure PyDev for routine use including systems with more than one Python installation.
Topics

- Installation
  - Python
  - Java
  - Eclipse
  - PyDev
- Configuration
  - Setting up Python
- Routine Use
  - Workspace
  - Project
  - Package
  - Module
  - Debugger
- Systems with more than one Python
Python Distributions
(various distributions add extra packages)

- Python
  - http://python.org/download/

- Enthought Python Distribution (Win, Mac, Linux)

- Python X,Y (Win, Linux)
  - http://www.pythonxy.com/

- Active State Python, Community Edition (Win, Mac, Linux)
  - http://www.activestate.com/activepython

- Linux package installer (Linux)

Note:
Install Python in the default location unless you know better
Eclipse needs Java:  http://java.oracle.com  
click on “Java SE”
Select the Java Standard Edition (Java SE), Development Kit (JDK)
Start the download, then install it in the default place

**Download Java SE Development Kit 6u24 for Windows x64, Multi-language**

<table>
<thead>
<tr>
<th>File Description and Name</th>
<th>Size</th>
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<tbody>
<tr>
<td>Java SE Development Kit 6u24</td>
<td>66.85 MB</td>
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| Notes: |  |

Downloading Eclipse: [http://eclipse.org](http://eclipse.org)
Click on “Downloads”
Pick a version: “Classic” provides many tools. You can always edit/remove other parts later.
Downloads from a mirror

Eclipse downloads - mirror selection

All downloads are provided under the terms and conditions of the Eclipse Foundation Software User Agreement unless otherwise specified.

Download eclipse-SDK-3.6.2-win32-x86_64.zip from:

chksums: [MD5] [SHA1] BitTorrent

...or pick a mirror site below.

Get It Faster Here
Unzip the eclipse download anywhere that is convenient

Note:
Here, the ZIP file is on the desktop and extracted to the desktop
start the *eclipse* executable
(look in `<extracted_folder>/eclipse/`)

Welcome to eclipse
(this URL is an eclipse update site - use eclipse to get it)
Select PyDev

Note: click [Next] and click through, including License Agreement and Certificate, Then, restart eclipse as requested
Installation is complete, take a break
Configure PyDev for the Python Interpreter
Arrive at the empty workbench
(progressing to configure PyDev for Python interpreter ...)

New Python Project
(... still progressing to configure PyDev for Python interpreter ...)

Note:
There are other ways to get to the Properties dialog to configure PyDev for the Python interpreter. This one seems indirect at first but is very short.
Expand this entry ➔

Click this next ➔

Click [Next >] ➔
Make Project & Configure

Give some name ("test") →

Click here →
Run “Auto Config”
“Auto Config” found this ...

Click [OK] on next screen, also, then this step takes a few minutes ...
Finish making the project

Make sure the “Grammar Version” your installed Python
Switch to the “Python perspective”

The “Python perspective” provides all the PyDev tools for developing Python code.
Make a Package ...  
(be sure to select src first)
Make a Module

2. In the Create a new Python module window, set the Source Folder, Package, Name, and Template.
3. Select the Module: Main template.
4. Click Finish to create the module.
Your module in the PyDev eclipse editor
Add some test code

''' Created on Mar 16, 2011 @author: Pete

if __name__ == '__main__':
    print [i*i for i in range(5)]

'''
Select this once for each .py to be run
Results

```
Created on Mar 16, 2011

@Author: Pete

if __name__ == '__main__':
    print [i*i for i in range(5)]
```

Note: Set *at least* one breakpoint or the debugger will not stop
Debugging happens in the “Debug perspective”
Paused at first breakpoint
Example of debugging another project ...

Systems with more than one Python distribution

- Example Linux system has 3 Pythons to choose:
  - RedHat Enterprise License v5 server
    - Python 2.4 supplied by RedHat
    - Found by “Auto Config” in PyDev
  - User-installed Enthought Python Distribution in local directory
    - Python 2.6
    - Manually configured in PyDev
  - BCDA Python on /APSshare
    - Python 2.5 with CaChannel, CaPython, and ca_utils
    - Manually configured in PyDev
RHEL5 configuration
local EPD Python configuration
/APSshare/bin/python configuration
executable: /APSshare/python25_linux_fc6/bin/python
Confirm this selection (probably all OK)
(note my paths are probably different than yours here, maybe shown like yours on next slide)
Still more work to do ... (see next slide)
Add to the APSshare Python

- Add these folders:
  - /APSshare/epics/extension_caPython/lang/python
  - /APSshare/python25/lib
  - /APSshare/epics/extension_caPython/lib/linux-x86-fc6/2.5
  - /APSshare/pythonlib

- Add this environment variable (ENVIRONMENT tab)
  - LD_LIBRARY_PATH /APSshare/python25_linux_fc6/lib:/opt/local/lib

Click through the [Ok] buttons and accept the new configuration ...
Getting to the Properties ...

- Select your project ("topdoc" here)
- Right click on the project name in the Navigator
- Pop-up menu appears
- Select "Properties" item at bottom of list

- On next screen ...
- Select "PyDev – Interpreter/Grammar" in tree pane (on left)
- Select per next slide
Selection of Python configuration

PyDev - Interpreter/Grammar

- Choose the project type
  - Python
  - Jython
  - Iron Python

- Grammar Version
  - 2.6

- Interpreter
  - Default
  - /APShare python 2.5
  - EPD Python 2.6
  - RHEL5 python2.4

Apply
Thank you for your attention