

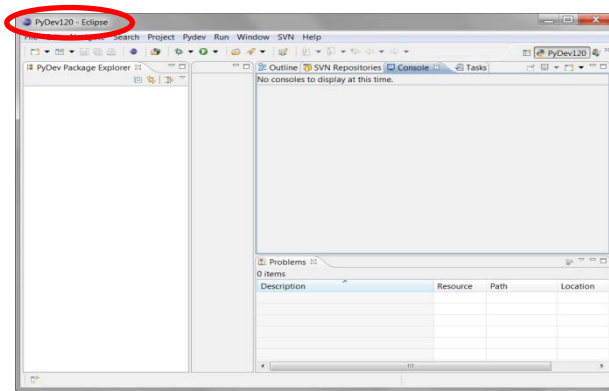
The PyDev Console, by Pictures

Here's an introduction to the *PyDev Console*, by pictures. It assumes that you are in Eclipse and in the *PyDev 120* (or *PyDev*) perspective. If not, your mileage may vary.

Follow the pictures (and associated instructions), one by one. **Turn to a neighbor or an assistant quickly whenever you get a bit lost** – most of this is much easier to show than to explain.

The PyDev Console lets you type and run Python commands (aka statements), one at a time.

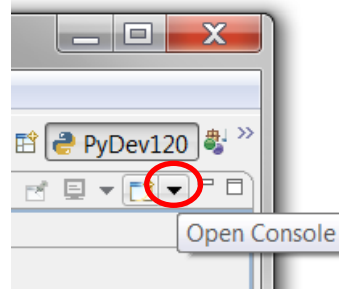
1. Your window should look like this, except perhaps for the window sizes.



- I kept my window small only to make it fit better in these instructions. **You'll want your Eclipse window maximized.**

2. **Open a PyDev Console**, as shown in the *next several pictures* (all of which are blow-ups of parts of the above picture, near the upper-right corner).

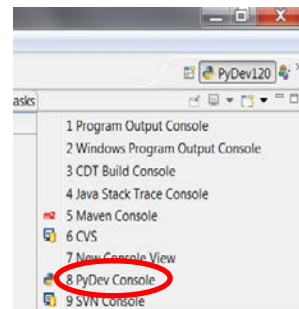
Start with the pull-down arrow that brings up an Open Console pop-up if you hover. (It's tricky to locate, ask someone to show you).



From the pull-down menu, select

PyDev Console

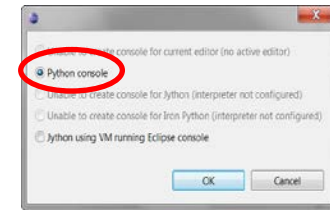
NOTE: if the following fails, try Window ~ Preferences, expand PyDev, select Interpreter-Python and use New to set the Interpreter to wherever you put Python.



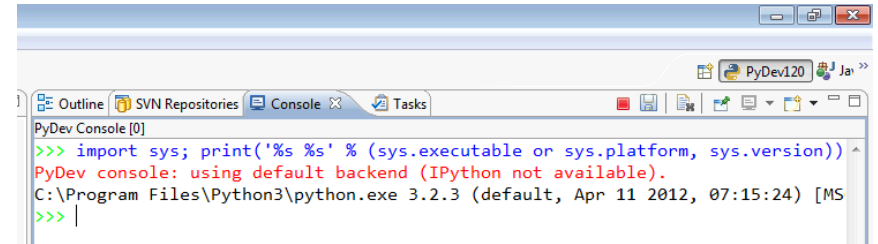
and then in the dialog box that pops up:

Python console

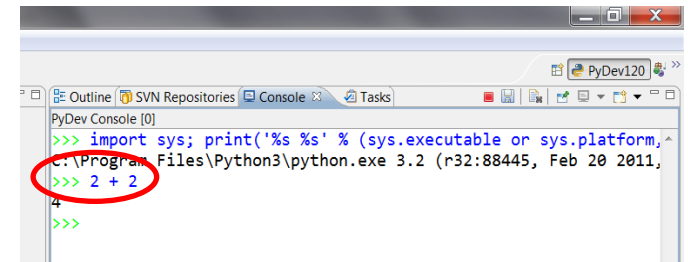
The result should be something like the picture below.



3. This window, with the **green triple arrows >>>**, is a *PyDev Console*. Use it whenever you want to try out a single command (aka statement).

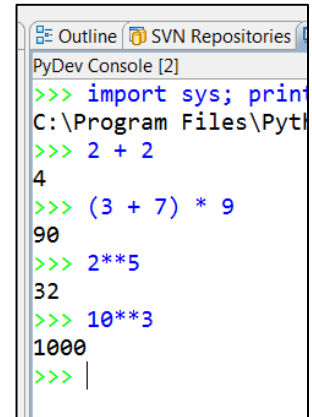


For now, try typing some arithmetic (the picture to the right shows **2 + 2**) at the triple green arrows and press **Enter**.

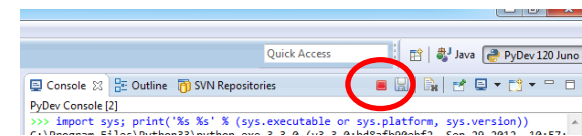


Once you do so – congratulations! You have successfully executed your first Python command (aka statement).

4. **Do a few more arithmetic expressions**, until you feel comfortable with arithmetic in the PyDev Console. Choose your own numbers, including some with decimal points (which we call *floating point numbers*, or simply *floats*); the example to the right is just a guide. Can you make a very, very large number show up as the result of a calculation?



BTW, if you ever need to "kill" your Console, click on the red square to do so.



- Now let's try **strings** – *sequences of characters*. Try typing some word (whatever word you want) in double quotes, in single quotes and with no quotes. You should see something similar to the picture below.

```

PyDev Console [0]
>>> import sys; print('%s %s' % (sys.executable or sys.platform,
C:\Program Files\Python3\python.exe 3.2 (r32:88445, Feb 20 2011,
>>> 2 + 2
4
>>> "hello"
'hello'
>>> 'hello'
'hello'
>>> hello
Traceback (most recent call last):
  File "<console>", line 1, in <module>
NameError: name 'hello' is not defined
>>> |
    
```

Pause for a moment to think briefly about what the last line of that error message might mean:

NameError: name 'hello' is not defined

What's a name? Can you guess?

- We'll talk lots more about **names** (aka **variables**) in the next few sessions. For now, take a quick look at the picture to the right to see how you can define names to have **values**:

The name **hello** is given the **integer** value 54

and the name **greeting** is given the **string** value 'hello'.

If you have time, **try some string "arithmetic"** as shown to the right, with your own strings and numbers. Don't hesitate to ask an assistant or a neighbor questions. This is just play time!

```

PyDev Console [0]
C:\Program Files\Python3\python.exe 3.2 (r3:
>>> 2 + 2
4
>>> "hello"
'hello'
>>> 'hello'
'hello'
>>> hello
Traceback (most recent call last):
  File "<console>", line 1, in <module>
NameError: name 'hello' is not defined
>>> hello = 54
>>> hello
54
>>> greeting = 'hello'
>>> greeting
'hello'
>>> 'hello' + 'goodbye'
'hellogoodbye'
>>> greeting + greeting
'hellohello'
>>> greeting * 6
'hellohellohellohellohellohello'
>>>
    
```

String arithmetic

- Last concept for now: You can call **functions** somewhat like you do in math class. Try statements like the ones below, including the two that yield error messages.

```

PyDev Console [2]
>>> sin(3.14)
Traceback (most recent call last):
  File "<console>", line 1, in <module>
NameError: name 'sin' is not defined
>>> import math
>>> sin(3.14)
Traceback (most recent call last):
  File "<console>", line 1, in <module>
NameError: name 'sin' is not defined
>>> math.sin(3.14)
0.0015926529164868282
>>> math.
    
```

acos(x)
Return the arc cosine (measured in radians) of x.

- acos(x)
- acosh(x)
- asin(x)
- asinh(x)
- atan(x)
- atan2(y, x)
- atanh(x)
- ceil(x)
- copysign(x, y)
- cos(x)
- cosh(x)
- degrees(x)

Next session, we'll talk more about the need to **import** the **math** module and why we need to write **math.sin** instead of just **sin**.

Notice that when you type

math.

(**note the DOT**) and then **PAUSE for a second or two**, a pop-up window shows you all the functions in the math module. Cool, no?!

- Finally, some functions are **built-in**. The **abs** function shown below is one such.

You don't have to import the built-in's or precede those functions with the name **builtins** and a dot, but you can if you wish. So really, built-ins are much like functions in other modules.

```

>>>
>>> math.abs(-4)
Traceback (most recent call last):
  File "<console>", line 1, in <module>
AttributeError: 'module' object has no attribute 'abs'
>>> abs(-4)
4
>>> builtins.abs(-4)
4
>>> |
    
```