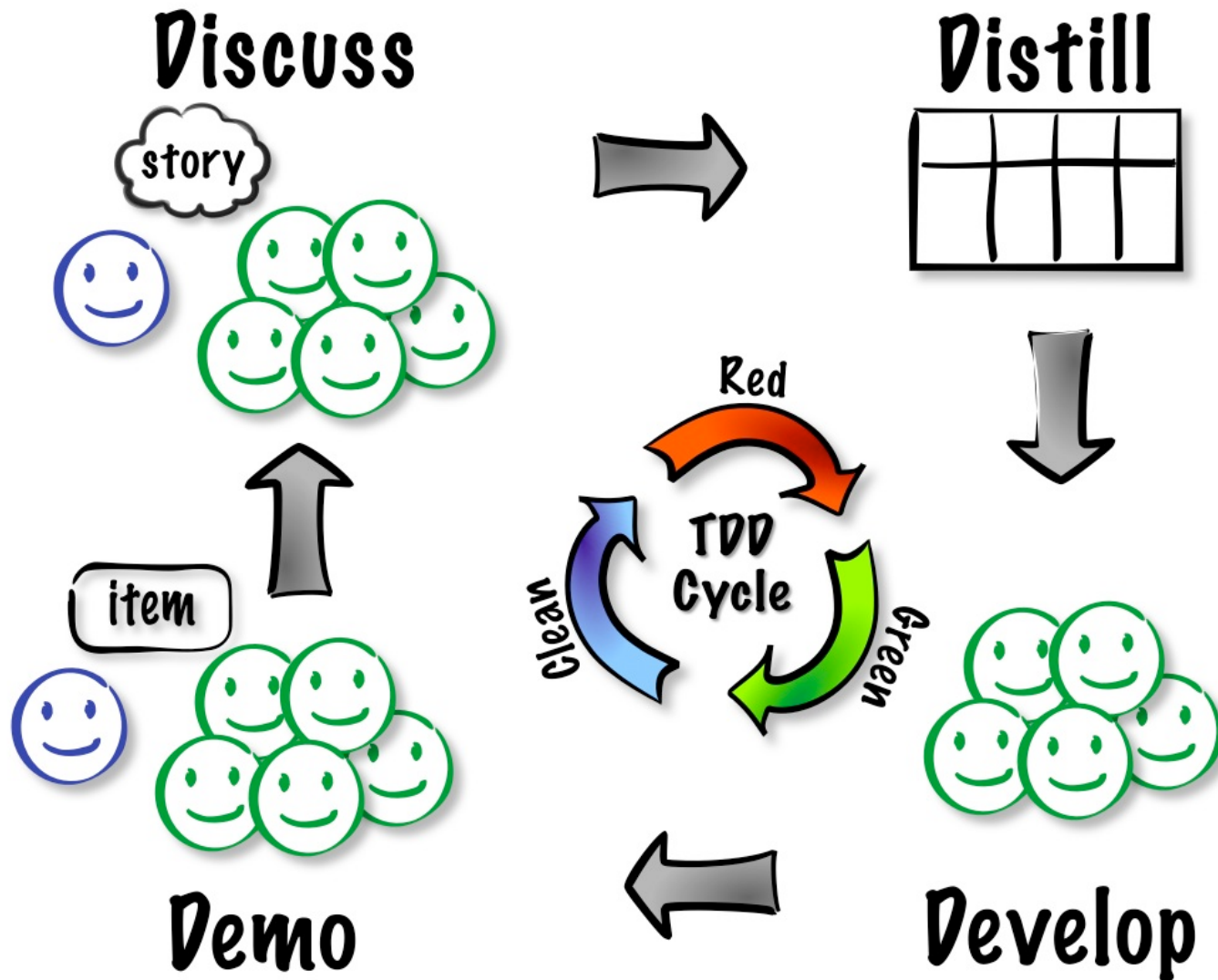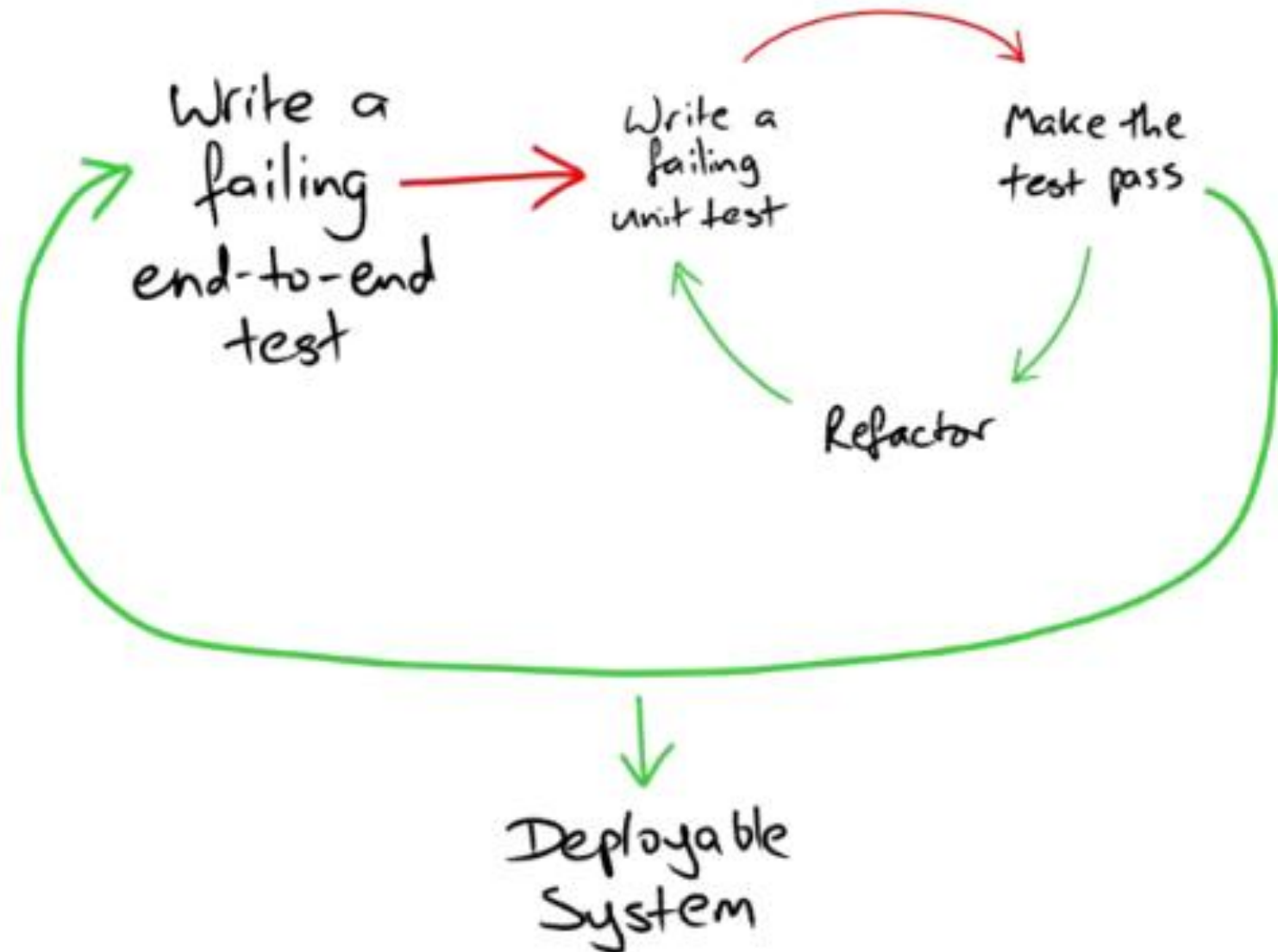# Robot Framework

Agenda

- Introduction to Robot Framework
- Installation
- Robot Framework – Standard Library
- Robot Framework – External Library
- Selenium2Library
- Simple Command
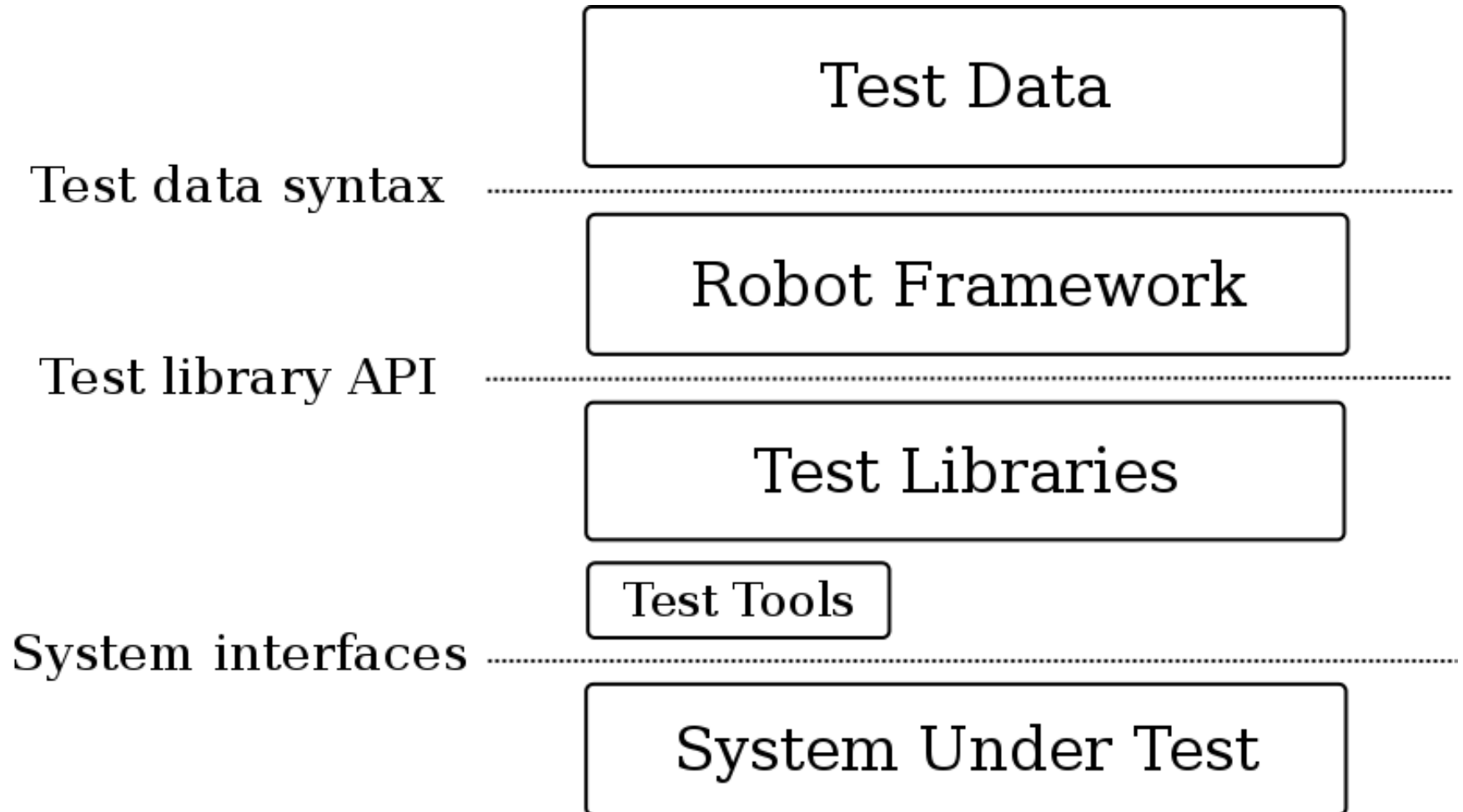- Workshop
- Reviews Code

Development Cycle

Cycle

Robot Framework

- Test automation framework
- https://code.google.com/p/ robotframework/
- Keyword-Driven Development
- Based on Python
- Open source
- Sponsor by Nokia Siemens Networks

Modular

Test data syntax ··

Test library API ··

System interfaces ··

Test Data
Robot Framework
Test Libraries
Test Tools
System Under Test

Installation

- Python 2.7/2.8
- pip
- Robot Framework
- Selenium2Library for Robot Framework

Install python (1)

- Download from https://www.python.org/
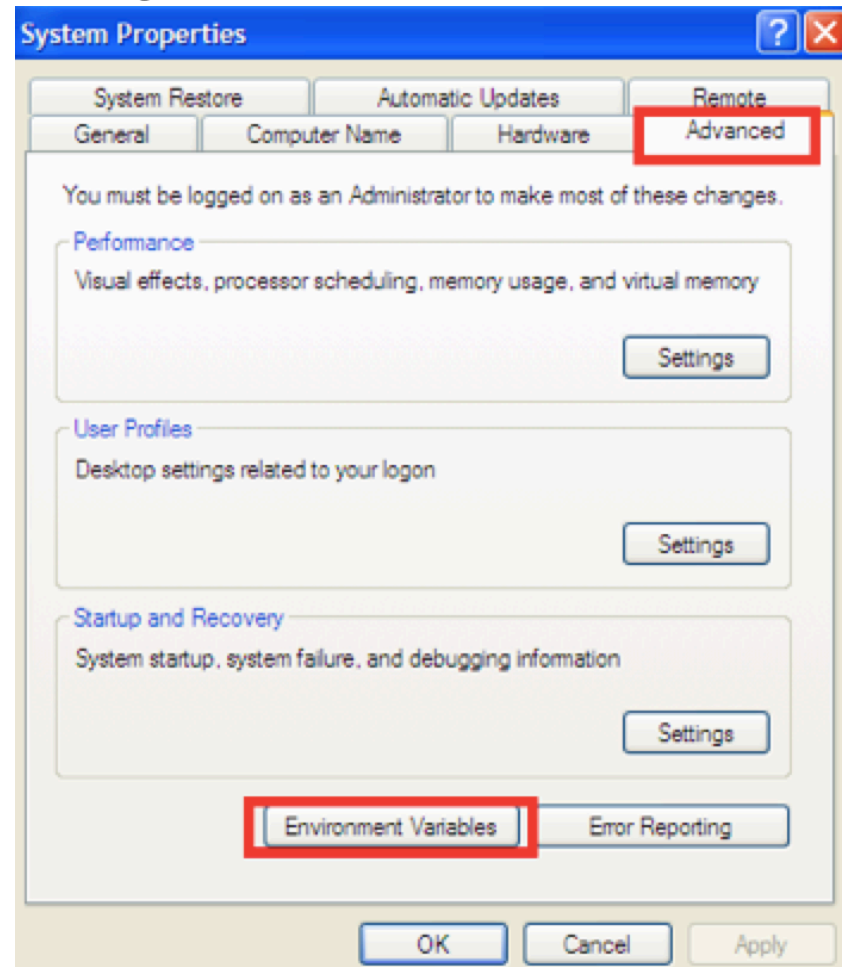- Version 2.7/2.8
- Run -> python-2.7.12.msi
- $python

Install python (2)

- **For Windows OS!**
  - set PYTHON_HOME=c:\python27
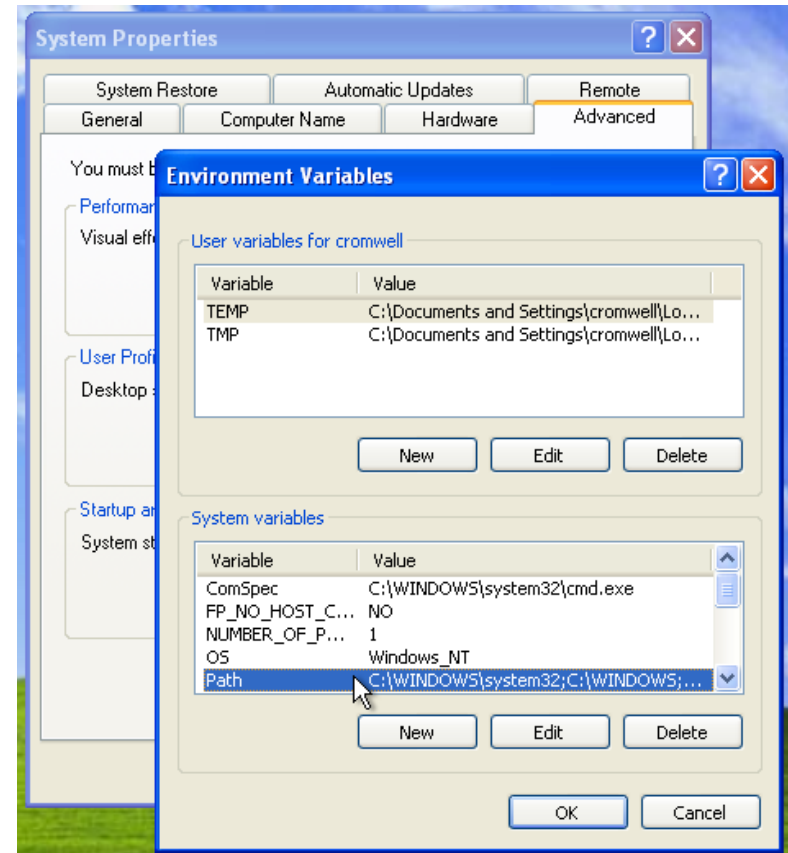 - set PATH=.;c:\Python27;c:\Python27\Scripts; %PATH%

Install python (3)

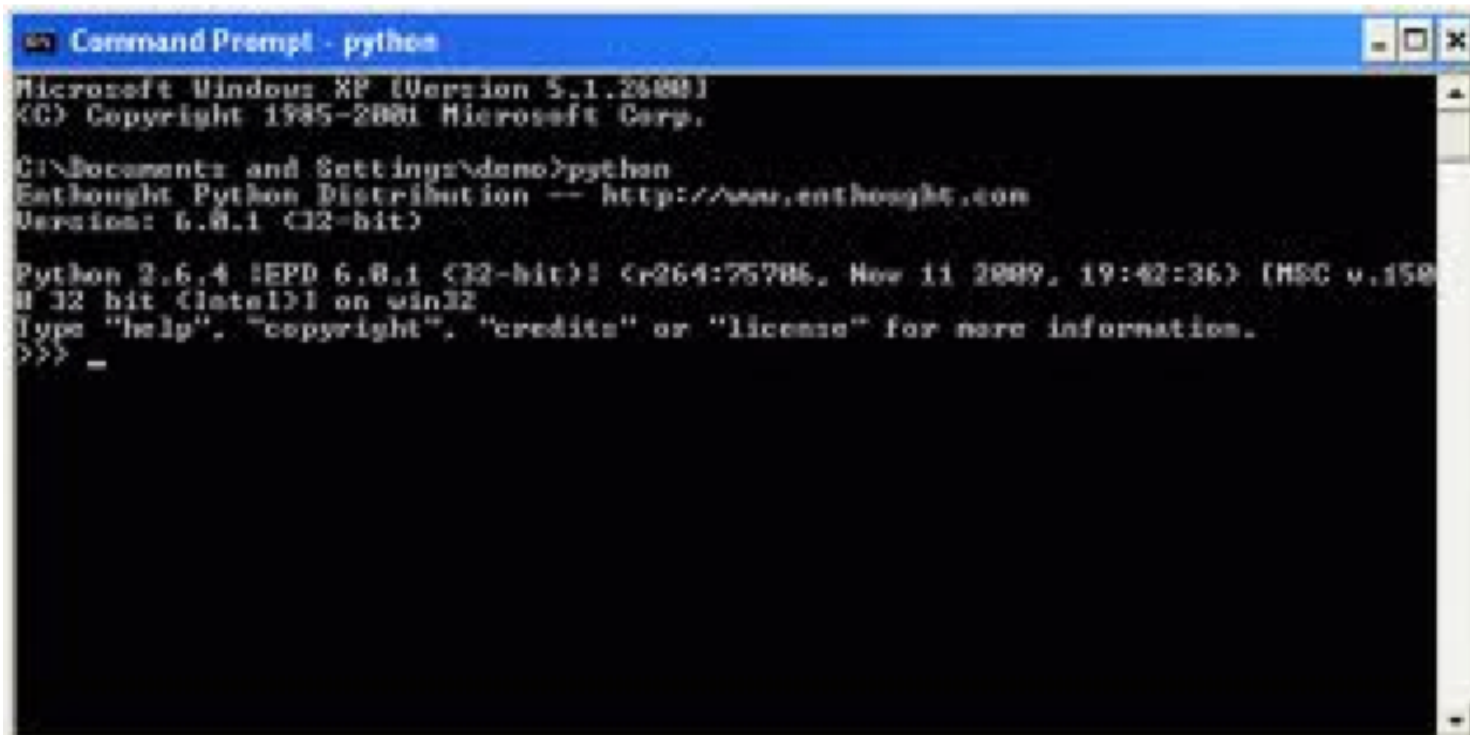- Go to My Computer -> Right Click -> Properties
  - Choose tab Advanced

Install python (4)

- Add Environment Variable
  - PATH =.;c:\Python27;c:\Python27\Scripts; %PATH%

Install python (5)

- Install Completed

Install pip (1)

- PIP = Package Installation for Python
- http://www.pip-installer.org/en/latest/installing.html
- Download file get-pip.py
- $python get-pip.py

Install pip (2)

- $pip

```
Usage:
  pip <command> [options]

Commands:
  install                        Install packages.
  uninstall                      Uninstall packages.
  freeze                         Output installed packages in requirements format.
  list                           List installed packages.
  show                           Show information about installed packages.
  search                         Search PyPI for packages.
  wheel                          Build wheels from your requirements.
  zip                            Zip individual packages.
  unzip                          Unzip individual packages.
  bundle                         Create pybundles.
  help                           Show help for commands.

General Options:
  -h, --help                     Show help.
  -v, --verbose                  Give more output. Option is additive, and can be used up to 3 times.
  -V, --version                  Show version and exit.
  -q, --quiet                    Give less output.
  --log-file <path>              Path to a verbose non-appending log, that only logs failures. This
                                 log is active by default at /Users/spock/Library/Logs/pip.log.
  --log <path>                   Path to a verbose appending log. This log is inactive by default.
  --proxy <proxy>                Specify a proxy in the form [user:passwd@]proxy.server:port.
  --timeout <sec>                Set the socket timeout (default 15 seconds).
  --exists-action <action>       Default action when a path already exists: (s)witch, (i)gnore,
                                 (w)ipe, (b)ackup.
  --cert <path>                  Path to alternate CA bundle.
```

Install Robot Framework

- $pip install robotframework
- $pybot

```
[ ERROR ] Expected at least 1 argument, got 0.

Try --help for usage information.
```

Install Selenium

$pip install robotframework-selenium2library

https://github.com/robotframework/Selenium2Library
http://robotframework.org/Selenium2Library/Selenium2Library.html

Robot Framework – Test Report

Install Sublime 3 (Editor)

- Sublime 3
  - http://www.sublimetext.com/
  - Sublime Text Build 3114 x64 Setup.exe
  - Open Sublime3
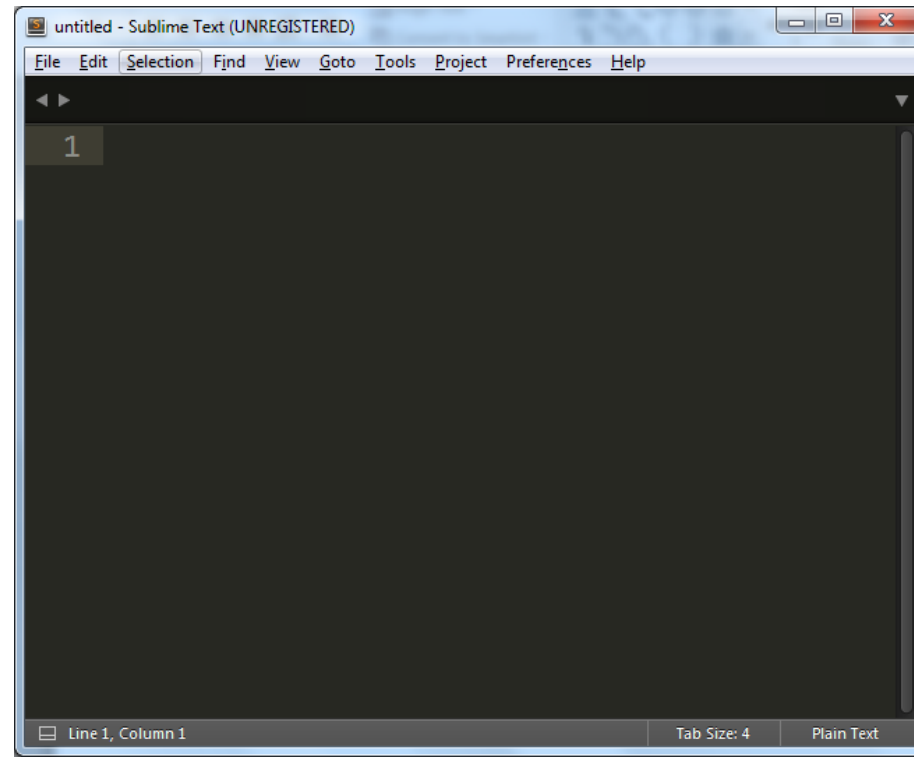
Install Robot Framework – Sublime Extension

- Goto Preferences -> Browse Packages …
- Double Click Folder "User"
- Copy "Robot Framework Assistant" into this (User) Folder

Sublime – Robot Framework

Test Structure

Standard Library

Builtin
Provides a set of often needed generic keywords. Always automatically available without imports.

OperatingSystem
Enables various operating system related tasks to be performed in the system where Robot Framework is running.

String
Library for generating, modifying and verifying strings.

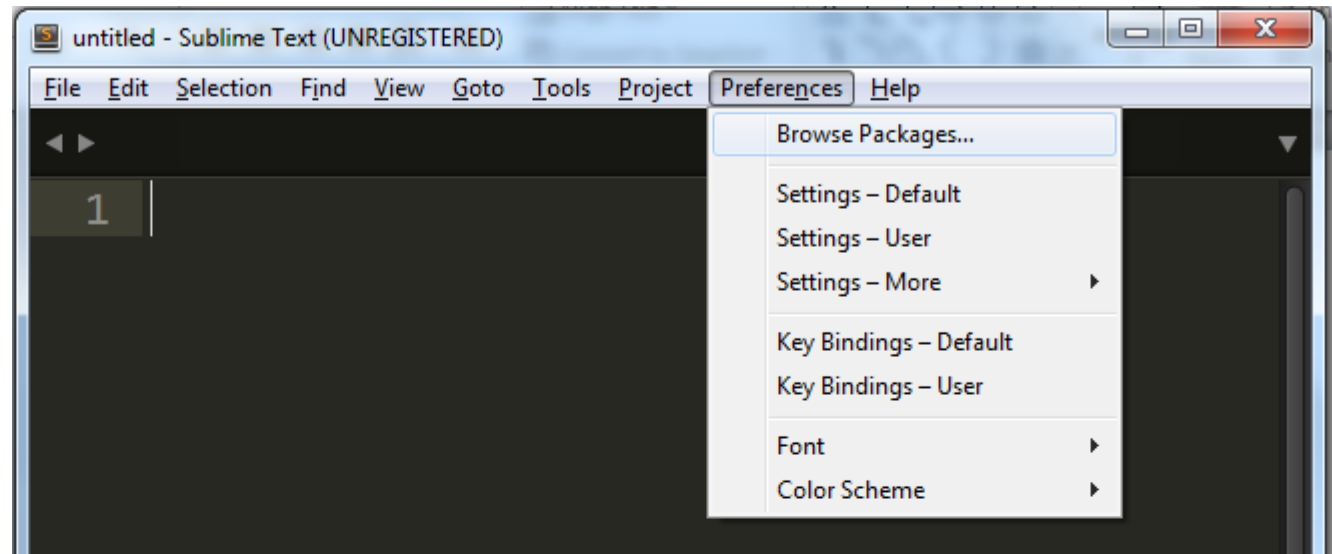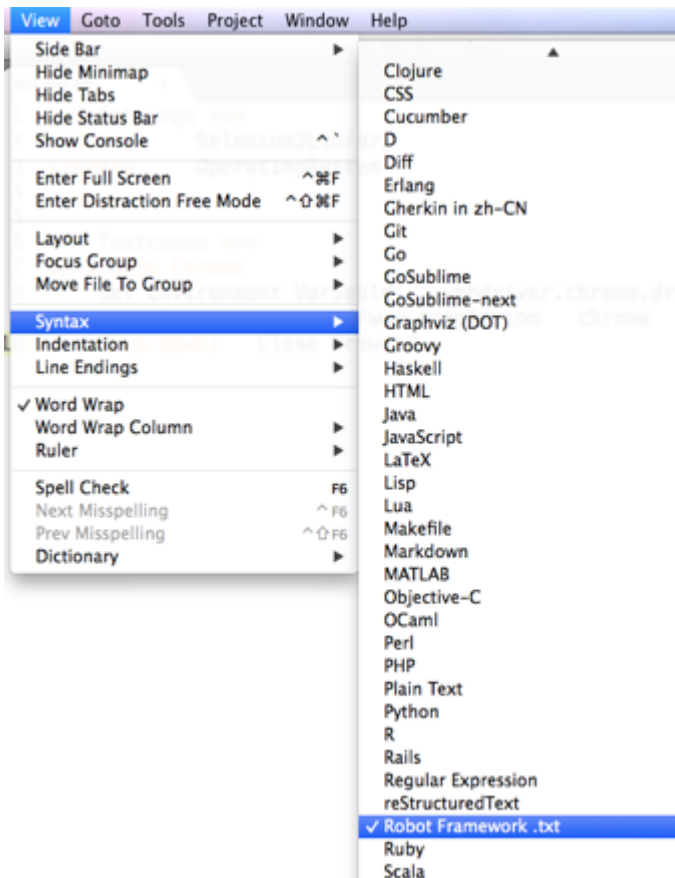**Dialogs**
Provides means for pausing the test execution and getting input from users.

Remote
Special library acting as a proxy between Robot Framework and test libraries elsewhere. Actual test libraries can be running on different machines and be implemented using any programming language supporting XML-RPC protocol.

Telnet
Makes it possible to connect to Telnet servers and execute commands on the opened connections.

Collections
Provides a set of keywords for handling Python lists and dictionaries.

XML
Library for generating, modifying and verifying XML files.

Screenshot
Provides keywords to capture screenshots of the desktop.

Process
Library for running processes in the system. New in Robot Framework 2.8.

DateTime
Library for date and time conversions. New in Robot Framework 2.8.5.

External Library

Android library
Library for all your Android automation needs. It uses Calabash Android internally.

AnywhereLibrary
Library for testing Single-Page Apps (SPA). Uses Selenium Webdriver and Appium internally.

AppiumLibrary
Library for Android- and iOS-testing. It uses Appium internally.

Archive library
Library for handling zip- and tar-archives.

AutoItLibrary
Windows GUI testing library that uses AutoIt freeware tool as a driver.

Database Library (Java)
Java-based library for database testing. Usable with Jython. Available also at Maven central.

Database Library (Python)
Python based library for database testing. Works with any Python interpreter, including Jython.

Diff Library
Library to diff two files together.

Django Library
Library for Django, a Python web framework.

robotframework-faker
Library for Faker, a fake test data generator.

FTP library
Library for testing and using FTP server with Robot Framework.

HTTP library (livetest)
Library for HTTP level testing using livetest tool internally.

HTTP library (Requests)
Library for HTTP level testing using Request internally.

iOS library
Library for all your iOS automation needs. It uses Calabash iOS Server internally.

ImageHorizonLibrary
Cross-platform, pure Python library for GUI automation based on image recognition.

MongoDB library
Library for interacting with MongoDB using pymongo.

MQTT library
Library for testing MQTT brokers and applications.

Rammbock
Generic network protocol test library that offers easy way to specify network packets and inspect the results of sent and received packets.

RemoteSwingLibrary
Library for testing and connecting to a java process and using SwingLibrary, especially Java Web Start applications.

SeleniumLibrary
Web testing library that uses popular Selenium tool internally. Uses deprecated Selenium 1.0 and is also itself deprecated.

Selenium2Library
Web testing library that uses Selenium 2. For most parts drop-in-replacement for old SeleniumLibrary.

Selenium2Library for Java
Java port of the Selenium2Library.

SSHLibrary
Enables executing commands on remote machines over an SSH connection. Also supports transfering files using SFTP.

SudsLibrary
A library for functional testing of SOAP-based web services based on Suds, a dynamic SOAP 1.1 client.

SwingLibrary
Library for testing Java applications with Swing GUI.

watir-robot
Web testing library that uses Watir tool.

Selenium Keyword

- Open Browser <url> <browser>
- Input Text <locator> <value>
- Click Button <locator>
- Click Link <locator>
- Close Browser

Selenium Keyword

- Wait Until Page Contains <text>
- Page Should Contain <text>
- Title Should Be <text>

More ...

Add Cookie · Alert Should Be Present · Assign Id To Element · Capture Page Screenshot · Checkbox Should Be Selected · Checkbox Should Not Be Selected · Choose Cancel On Next Confirmation · Choose File · Choose Ok On Next Confirmation · Click Button · Click Element · Click Element At Coordinates · Click Image · Click Link · Close All Browsers · Close Browser · Close Window · Confirm Action · Create Webdriver · Current Frame Contains · Current Frame Should Not Contain · Delete All Cookies · Delete Cookie · Double Click Element · Drag And Drop · Drag And Drop By Offset · Element Should Be Disabled · Element Should Be Enabled · Element Should Be Visible · Element Should Contain · Element Should Not Be Visible · Element Text Should Be · Execute Async Javascript · Execute Javascript · Focus · Frame Should Contain · Get Alert Message · Get All Links · Get Cookie Value · Get Cookies · Get Element Attribute · Get Horizontal Position · Get List Items · Get Location · Get Matching Xpath Count · Get Selected List Label · Get Selected List Labels · Get Selected List Value · Get Selected List Values · Get Selenium Implicit Wait · Get Selenium Speed · Get Selenium Timeout · Get Source · Get Table Cell · Get Text · Get Title · Get Value · Get Vertical Position · Get Window Identifiers · Get Window Names · Get Window Size · Get Window Titles · Go Back · Go To · Input Password · Input Text · List Selection Should Be · List Should Have No Selections · Location Should Be · Location Should Contain · Log Location · Log Source · Log Title · Maximize Browser Window · Mouse Down · Mouse Down On Image · Mouse Down On Link · Mouse Out · Mouse Over · Mouse Up · Open Browser · Open Context Menu · Page Should Contain · Page Should Contain Button · Page Should Contain Checkbox · Page Should Contain Element · Page Should Contain Image · Page Should Contain Link · Page Should Contain List · Page Should Contain Radio Button · Page Should Contain Textfield · Page Should Not Contain · Page Should Not Contain Button · Page Should Not Contain Checkbox · Page Should Not Contain Element · Page Should Not Contain Image · Page Should Not Contain Link · Page Should Not Contain List · Page Should Not Contain Radio Button · Page Should Not Contain Textfield · Press Key · Radio Button Should Be Set To · Radio Button Should Not Be Selected · Register Keyword To Run On Failure · Reload Page · Select All From List · Select Checkbox · Select Frame · Select From List · Select From List By Index · Select From List By Label · Select From List By Value · Select Radio Button · Select Window · Set Browser Implicit Wait · Set Selenium Implicit Wait · Set Selenium Speed · Set Selenium Timeout · Set Window Size · Simulate · Submit Form · Switch Browser · Table Cell Should Contain · Table Column Should Contain · Table Footer Should Contain · Table Header Should Contain · Table Row Should Contain · Table Should Contain · Textarea Should Contain · Textarea Value Should Be · Textfield Should Contain · Textfield Value Should Be · Title Should Be · Unselect Checkbox · Unselect Frame · Unselect From List · Unselect From List By Index · Unselect From List By Label · Unselect From List By Value · Wait For Condition · Wait Until Element Is Visible · Wait Until Page Contains · Wait Until Page Contains Element · Xpath Should Match X Times

http://robotframework.org/Selenium2Library/Selenium2Library.html

Hello Robot

- Create file **hello.txt**

```
hello.txt                    ×
1  *** Settings ***
2  Library        Selenium2Library
3
4
5  *** Testcases ***
6  Hello World
7      Open Browser      http://www.google.com
```

- Run with
  - $**pybot hello.txt**

Keyword Driven Development
(Be careful)

4 Spacebars

Open Browser ⬌ Robot Framework

Only 1 Spacebars   **Only 1 Spacebars**

Multi Arguments with Empty Value

4 Spacebars   4 Spacebars   4 Spacebars

Control Click ⬌ Calculator ⬌ *${EMPTY}* ⬌ *Button29*

Only 1 Spacebars

Report

```
spocks-MacBook-Pro:demo spock$ pybot 02_hello.txt
==============================================================================
02 Hello
==============================================================================
Hello World                                                           | PASS |
------------------------------------------------------------------------------
02 Hello                                                              | PASS |
1 critical test, 1 passed, 0 failed
1 test total, 1 passed, 0 failed
==============================================================================
Output:   /Users/spock/somkiat/training/KIMBERLY-CLARK/robotframework/demo/output.xml
Log:      /Users/spock/somkiat/training/KIMBERLY-CLARK/robotframework/demo/log.html
Report:   /Users/spock/somkiat/training/KIMBERLY-CLARK/robotframework/demo/report.html
```

Report

Workshop

- Create test case with Robot Framework
  - Test www.google.com

```
work_01.txt                    •
 1  *** Settings ***
 2  Library        Selenium2Library
 3
 4
 5  *** Testcases ***
 6  Search Data From Google.com
 7       XXXXX
 8       XXXXX
 9       XXXXX
10       XXXXX
11       XXXXX
```

Search with Google

```
work_01.txt              ×

 1   *** Settings ***
 2   Library        Selenium2Library
 3
 4
 5   *** Testcases ***
 6   Search Data From Google.com
 7       Open Browser        http://google.com
 8       Input Text          gbqfq       Somkiat
 9       Click Button        gbqfb
10       Wait Until Page Contains      Somkiat
11       Close Browser
```

Question & Answer

References

- http://robotframework.org/#test-libraries
- http://robotframework.org/robotframework/latest/libraries/BuiltIn.html
- http://robotframework.org/Selenium2Library/Selenium2Library.html
- https://www.autoitscript.com/site/