Learning appliance F[y]

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Dear fellow student,

This document is a high level description of the F[y] appliance I compiled for the ADM course. The appliance contains a Debian 7 system with IPython (notebook) and the PyDev Eclipse development platform. A virtual appliance is an export file of a complete virtual machine. This file can be imported into a virtualizer on other computers to recreate a copy of the original virtual machine.

Downloading the appliance.

You can download the F[y] appliance as a file via the short url http://frii.nl/fydesktop
Save the file somewhere on your harddisk and remember where to find it. The file is about 3 GB in size so you will have to wait some time.

How to install.

First of all you will need a virtualization platform. Although in theory any such platform should be able to import an ".ova" file I recommend to use Virtualbox. This Oracle platform is free software. If you use an operating system with a decent package management repository tool, like apt or yum, I recommend you to use this to install Virtualbox. For other OS's you can download and install Virtualbox from: https://www.virtualbox.org/wiki/Downloads. In the latter case you will need to select the correct version for your host OS. Your host OS is the operation system, version and variant that is installed on your laptop or desktop PC.

The guest OS will be Debian 7. You don't need to select or indicate this OS manually anywhere.

After the download has finished you can install the virtual appliance "f[y].ova" by stating up Virtualbox and selecting file, import appliance from the menu. You select the f[y].ova file and after some time your machine will be ready.

Before booting this machine consider the following settings:

Settings

After importing the appliance you can tweak the settings of the virtual machine to match your computer's capabilities and your desires. Let me indicate some of the important settings:

System

On the system tab you will find options to alter the size of the internal memory of the virtual machine. Take into account that RAM can only be assigned to either your host or one of your virtual machines. If you have only 2 GB of RAM you should not give more than 1 GB of RAM to the virtual machine. I have only bad experiences with assigning more than one core to a VM but if you want to experiment with this, be my guest.

You don't need to change anything else on this page but it is wise to make sure that the VT-x/AMD-V extension is not grayed out on the Acceleration tab. If so, consider using a more advanced device for your python development.

Display

On the display page you might want to unselect "3D" acceleration if your 3D hardware is less advanced. This way your display manager will be more static and this is what some people prefer. If the "3D" option is grayed out your hardware does not support it.

Storage

The Virtual machine has a virtual hard disk of 40 GB. This disk space is only actually used on your host computer's hard drive if you store something on it. You can locate the file that is used to store the virtual hard disk data by looking at the information in this tab.

Network

I provided the machine with 1 network card that uses NAT technology to provide the virtual machine with internet access. If your host system, the PC or laptop that runs virtualbox, has a connection to a network the virtual machine can access the same networks by means of network address translation.

In the advanced part of the adapter settings I have forwarded 2 ports from the host to the guest machine: 2222 → 22 is used to be able to connect to your system using 'ssh -p 2222 localhost' . If you do not intent to use this feature you should remove this line. 8888 → 8888 is provided so you can access the ipython notebook, after you stated it, from the usual environment of your own browser.

If you want to know more about Virtualbox you can read the extensive documentation or I could prepare a workshop on the subject if enough student think this would be a good idea.

Booting

If you have revised the settings it is time to boot your new system. After the startup process you can login with the username “user” with password “resu”. If you need or want to do some maintenance you can become “root” by using the ‘su -’ command. The “root” password is “toor”. one of the first things you should do is starting up a terminal, ‘su -’ into the administrator account and use the passwd command to set the root password to a different password that you will remember. After that you can use the ‘passwd user’ command to change the user’s password.

The software

Python version 2.7 is initially installed. If you desire Python 3.0 you can add it yourself. The following Python extensions, libraries and applications are alsoinstalled: python-matplotlib python-scipy python-pandas python-sympy python-nose python-numpy.

You can use the menu to start the ipython notebook or Eclipse. In Eclipse you can create a new pydev project to start coding Python.

Happy coding!