

RESEARCH TOOLS 2012

LECTURE 2

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2012-Oct-18

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<http://schwehr.org>

Google & UHC CCOM/JHC

<http://tinyurl.com/rt2012ccom>

TinyURL.com

Making over a billion long URLs usable! Serving billions of redirects per month.

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[Make Toolbar Button](#)

[Redirection](#)

[Hide URLs](#)

[Preview Feature](#)

[Link to Us!](#)

[Terms of use](#)

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No joke! You have been chosen!

Because you are online right on this website!

Congratulations! You have been chosen as a possible winner! Main prize: **Apple MacBook Ai**

If you have been chosen, [Click Here](#)

No purchase necessary. Void w

TinyURL was created!

The following URL:

<http://vislab-ccom.unh.edu/~schwehr/Cla ses/2012/>

has a length of 49 characters and resulted in the following TinyURL which has a length of 29 characters

<http://tinyurl.com/rt2012ccom>
[Open in new window]

Or, give your recipients confidence with a preview TinyURL:

<http://preview.tinyurl.com/rt2012ccom>
[Open in new window]

This TinyURL may have been copied to your clipboard. (This no longer works for those who have upgraded to Flash 10.) To paste it in a document, press and hold down the ctrl key (command key for Mac users) while pressing the V key, or choose the "paste" option from the edit menu.

DONATE



LECTURE INFO:

<http://vislab-ccom.unh.edu/~schwwehr/Classes/2012>

<http://tinyurl.com/rt2012ccom>

Known Networks 12

ChatZilla 0.9.89

Connected Networks 0

[HELLO] **Welcome to ChatZilla...**
Below is a short selection of information to help you get started using ChatZilla.

[HELLO] **Help is available from many places:**

- **| /commands | lists all the built-in commands in ChatZilla. Use | /help <command-name> | to get help on individual commands.**
- **The IRC Help website <<http://www.irchelp.org/>> provides introductory material for new IRC users.**
- **The ChatZilla website <<http://chatzilla.hacksrus.com/>> provides more information about IRC and ChatZilla, including the ChatZilla FAQ <<http://chatzilla.hacksrus.com/faq/>>, which answers many common questions about using ChatZilla.**

[INFO] Available networks are [**dalnet, efnet, freenode, hispano, ircnet, moznnet, quakenet, serenia, slashnet, solidirc, undernet, webbnnet**].

client

kurt

Input field for chat messages

- Change nickname...
- ✓ Back
- Away (I'm not here right now.)
- Away (custom)...

New! Sharing and enhanced search in Google Earth 6.2
 Share your world like never before with Google+! Enjoy improved search features
 seamless beautiful view of our planet. [Download now](#)

serenia, slashnet, s

client

kurt /attach researchtools.ccom.nh

Welcome to ChatZilla!

Firefox ChatZilla IRC Edit View Help

User kurt on ``researchtools.ccom.nh" (researchtools.ccom.nh:6667)

URL <irc://researchtools.ccom.nh/> **Connected** Lag 1.01 seconds

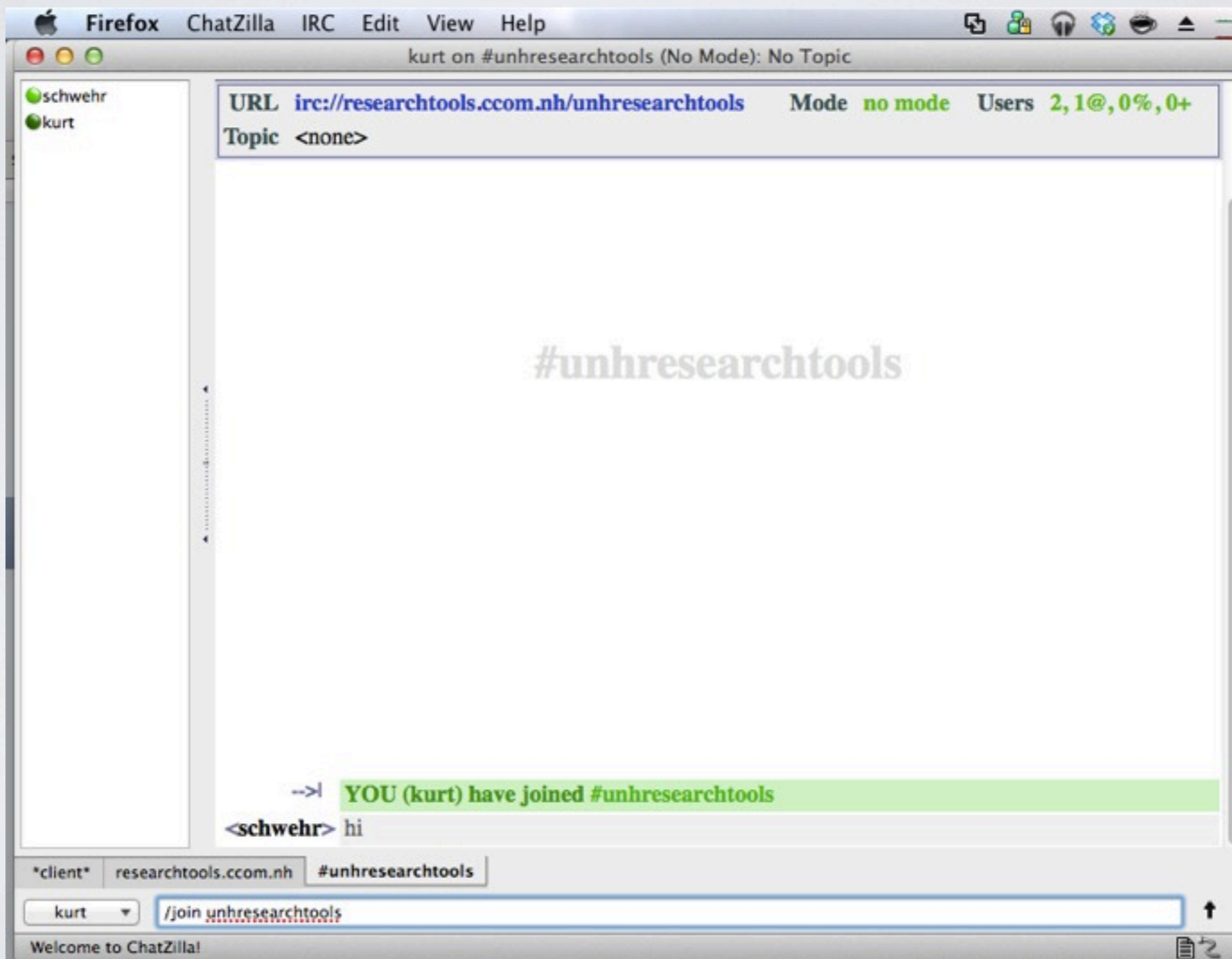
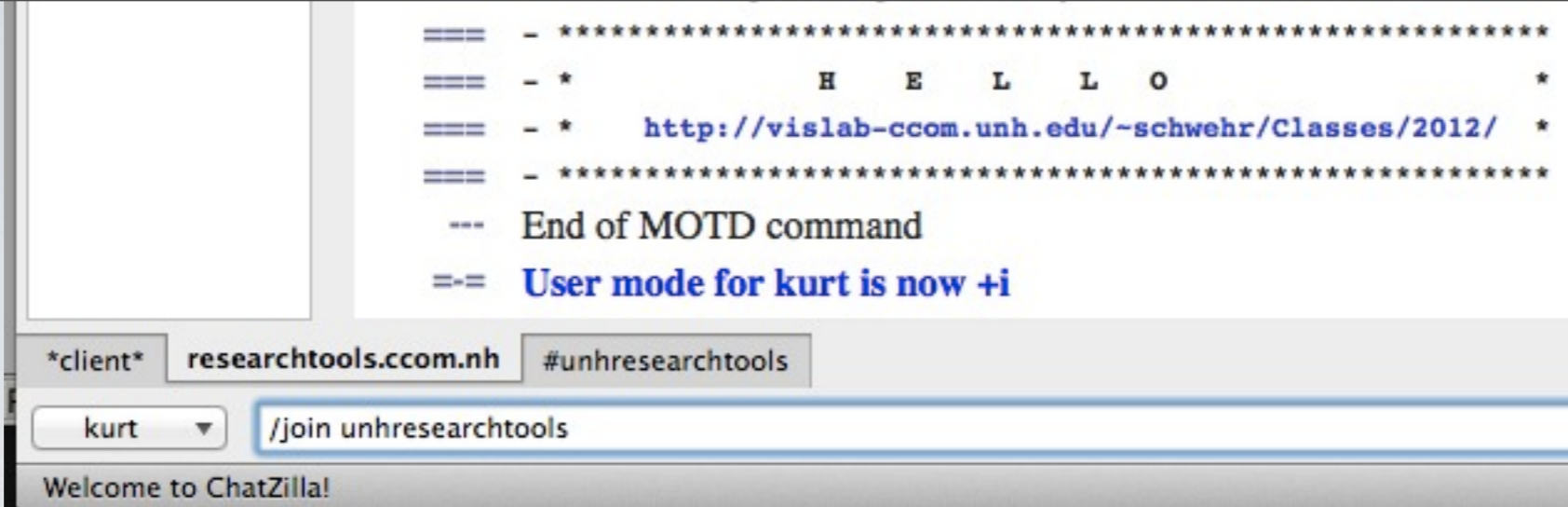
[INFO] Attempting to connect to "researchtools.ccom.nh". Use /cancel to abort.
[INFO] Connecting to <irc://researchtools.ccom.nh/> (<irc://researchtools.ccom.nh/>)... [Cancel]

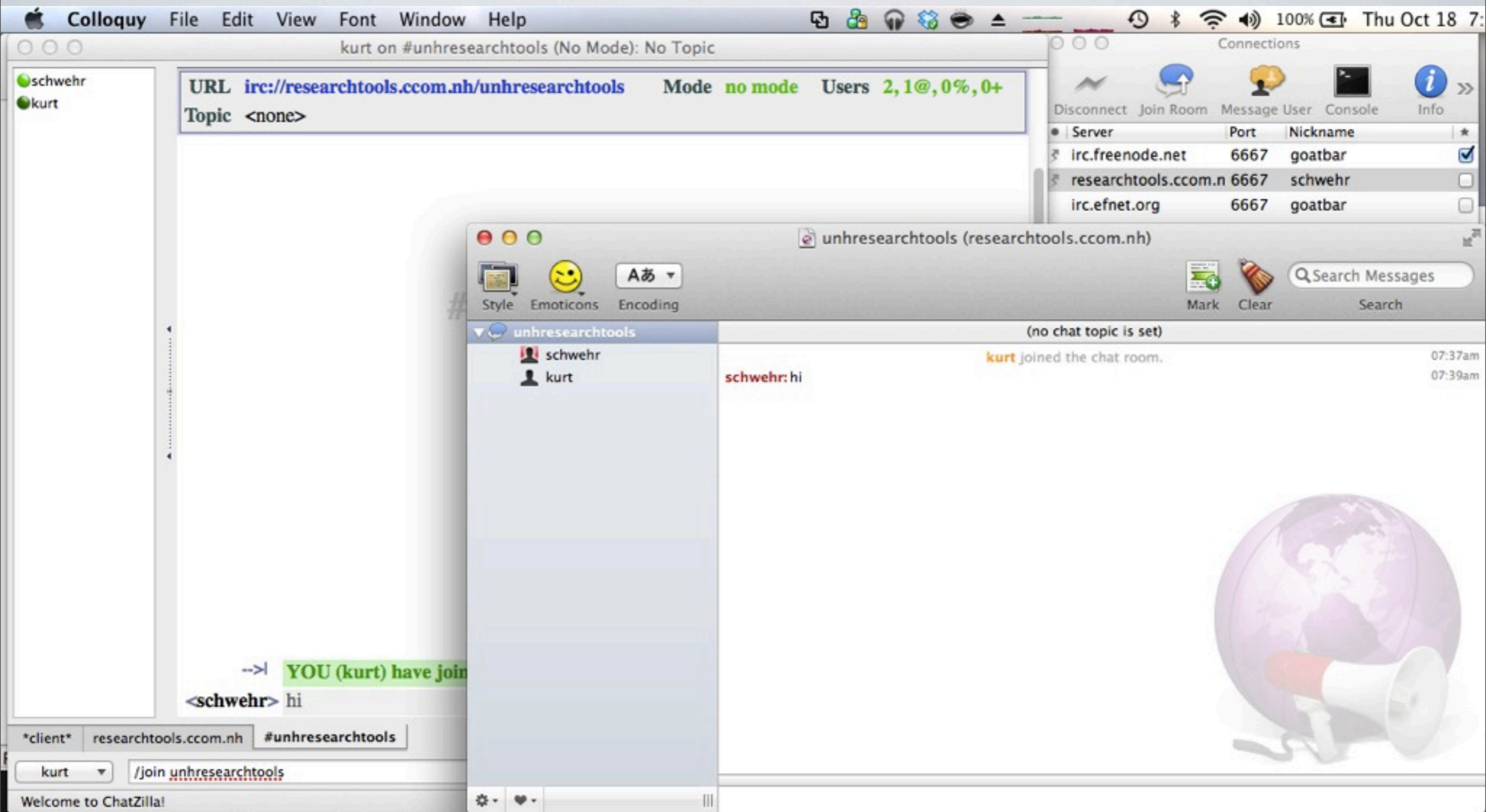
=== Welcome to the Internet Relay Network kurt!~chatzill@192.168.12.132
=== Your host is irc.debian.org, running version ngircd-15 (i486/pc/linux-gnu)
=== This server has been started Thu Oct 18 2012 at 10:34:08 (EDT)
=== irc.debian.org ngircd-15 aios biIklmnoPstv
=== RFC2812 CASEMAPPING=ascii PREFIX=(ov)@+ CHANTYPES=#&+
CHANMODES=bI,k,l,imnPst CHANLIMIT=#&+:40 are supported on this server
=== CHANNELLEN=50 NICKLEN=9 TOPICLEN=490 AWAYLEN=127 KICKLEN=400
PENALTY are supported on this server
=== There are 1 users and 0 services on 1 servers
=== 1 channels formed
=== I have 1 users, 0 services and 0 servers
=== 1 Current local users: 1, Max: 1
=== 1 Current global users: 1, Max: 1
=== - irc.debian.org message of the day
=== - *****
=== - * H E L L O *
=== - * <http://vislab-ccom.unh.edu/~schwehr/Classes/2012/> *
=== - *****
--- End of MOTD command
==> **User mode for kurt is now +i**

client researchtools.ccom.nh

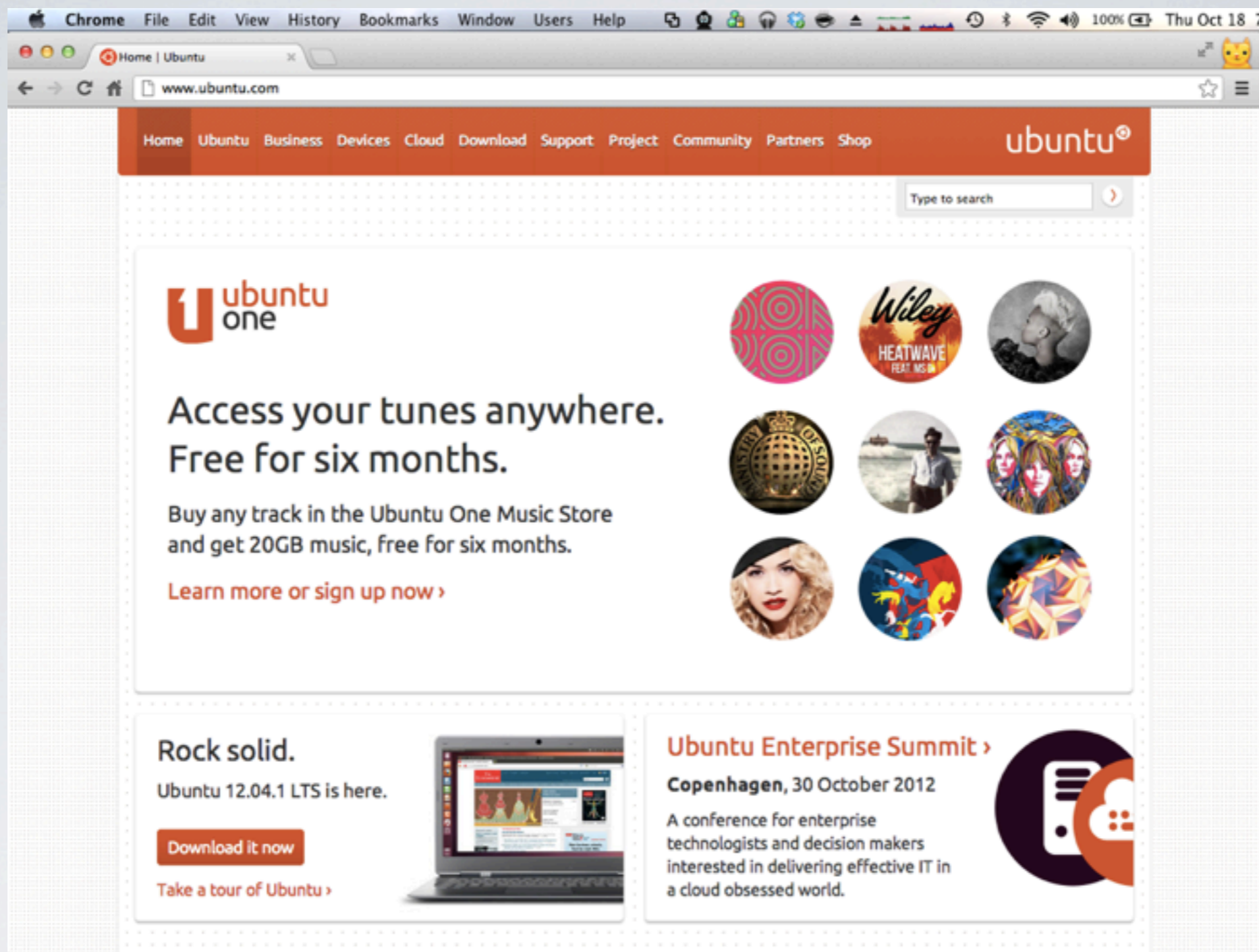
kurt

<http://vislab-ccom.unh.edu/~schwehr/Classes/2012/>



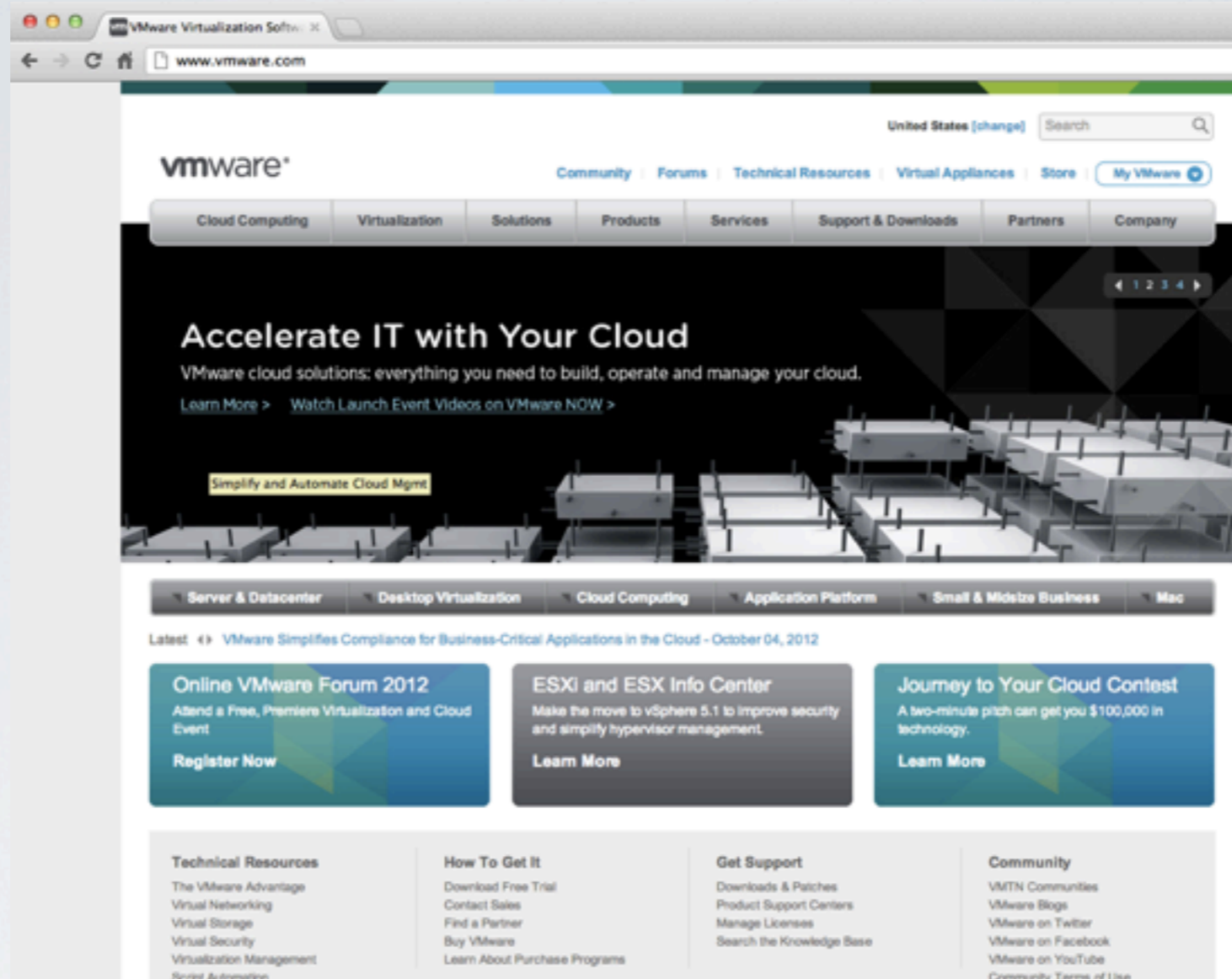


Colloquy works nicely on the mac

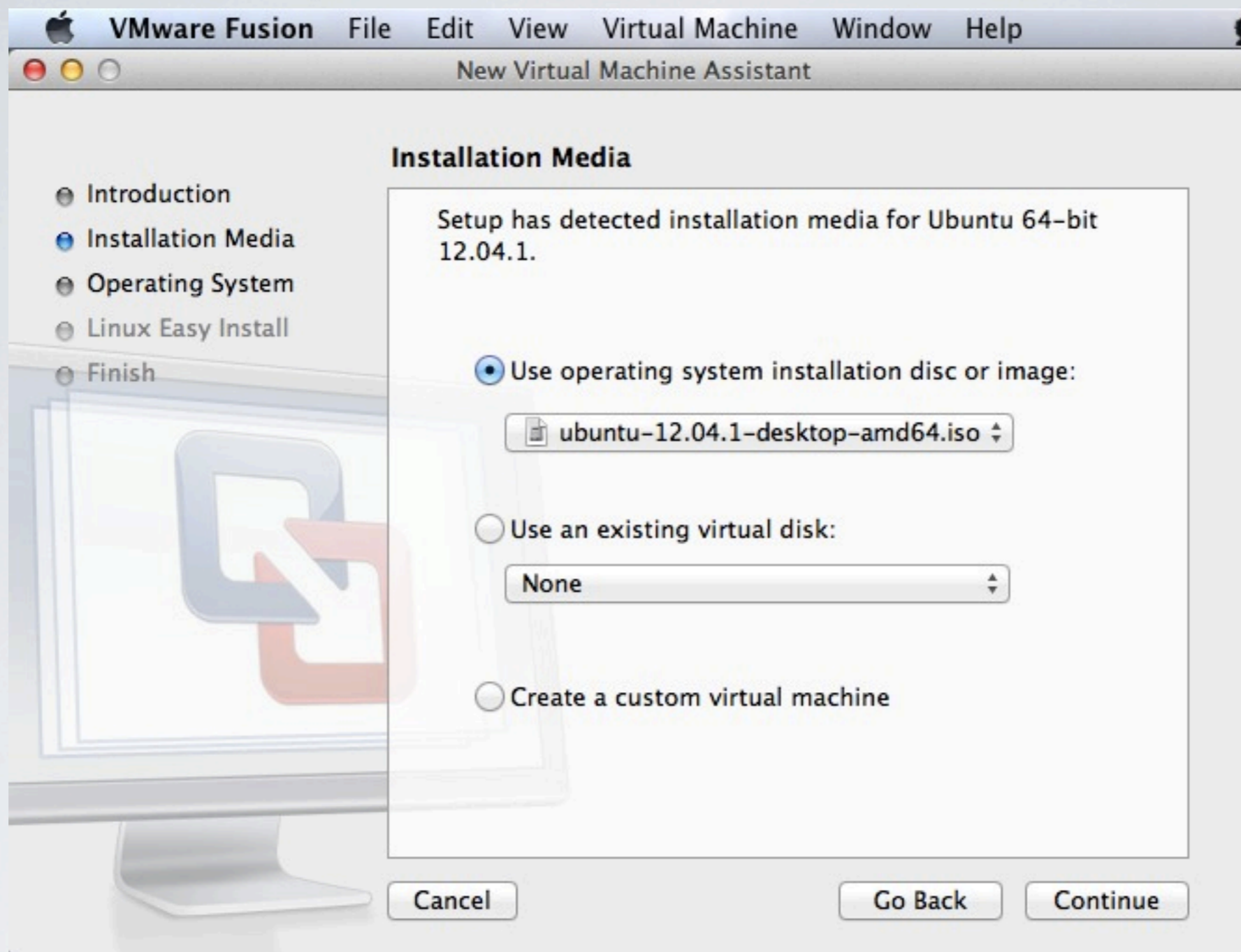


LINUX ON WINDOWS/MAC/LINUX

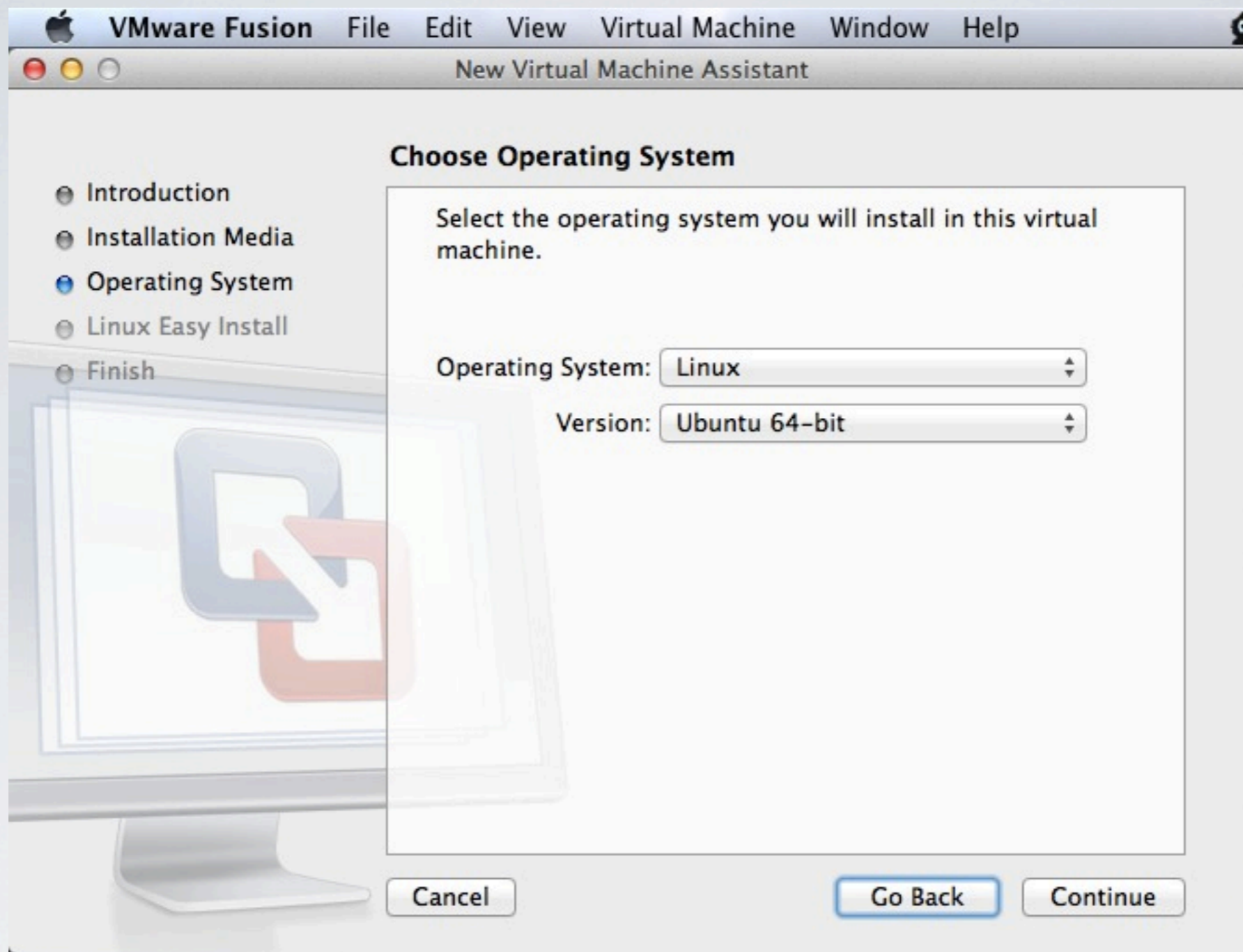
VMWare Ubuntu 12.04.1 LTS Linux Virtual Machine
user: researchtools password: rt2012!vm

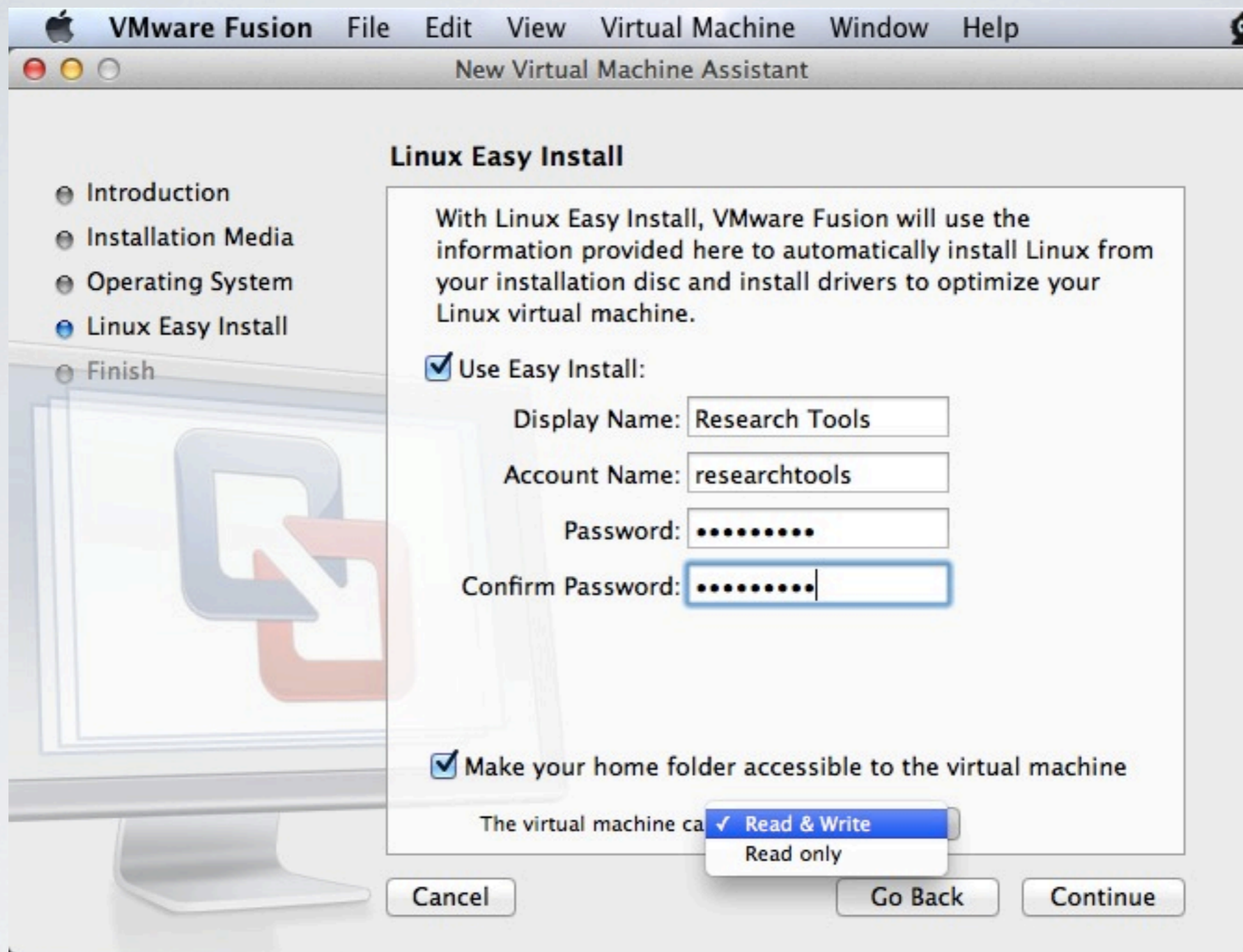


Building a Virtual Machine
Done on: Mac OSX 10.8.2 / VMWare Fusion 4.1.3



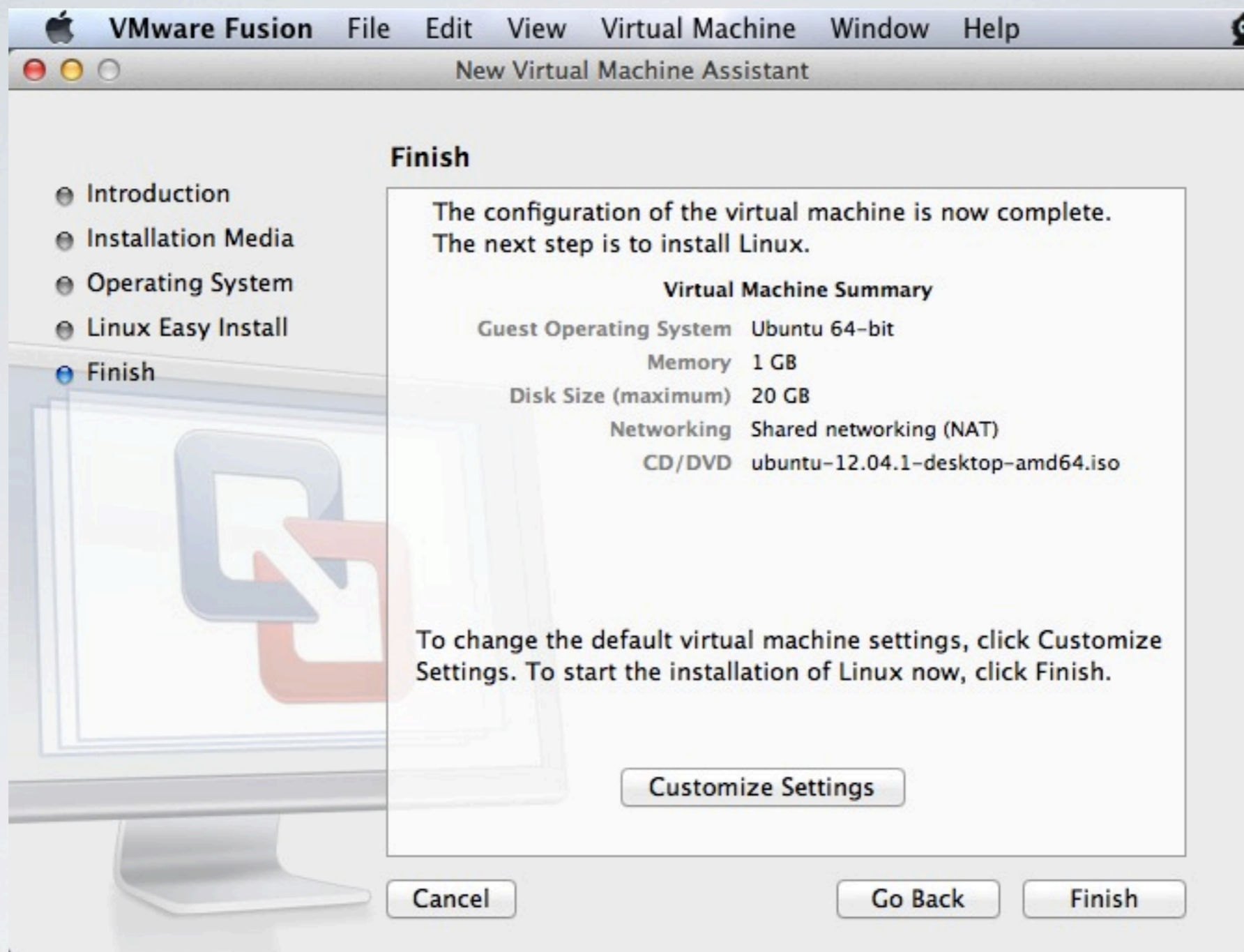
Start with an ISO image of Ubuntu 12.04.1 64bit
64bit computing has been with us since 1992 (Dec Alpha)
Time to stop using 32bit Operating Systems!

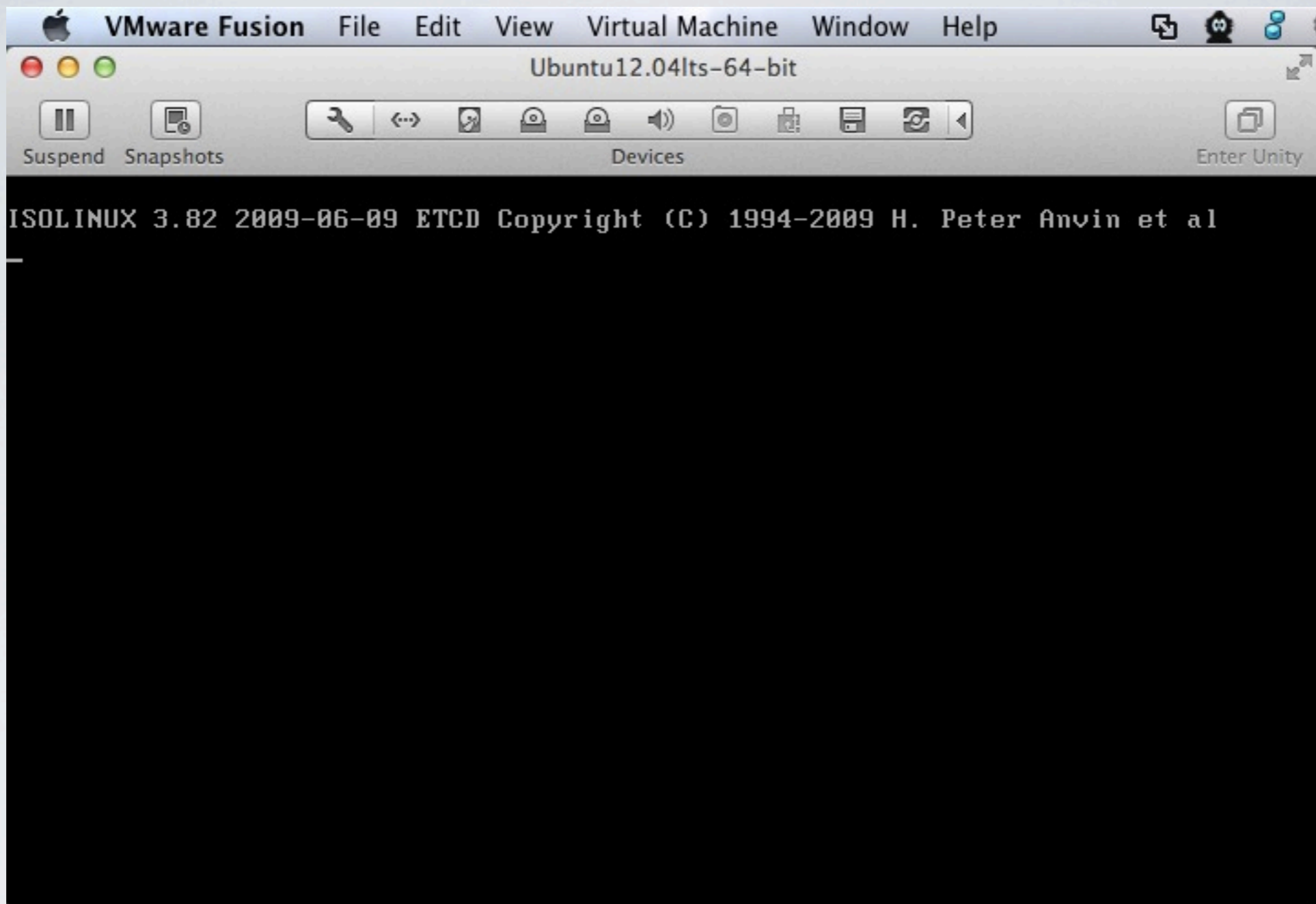




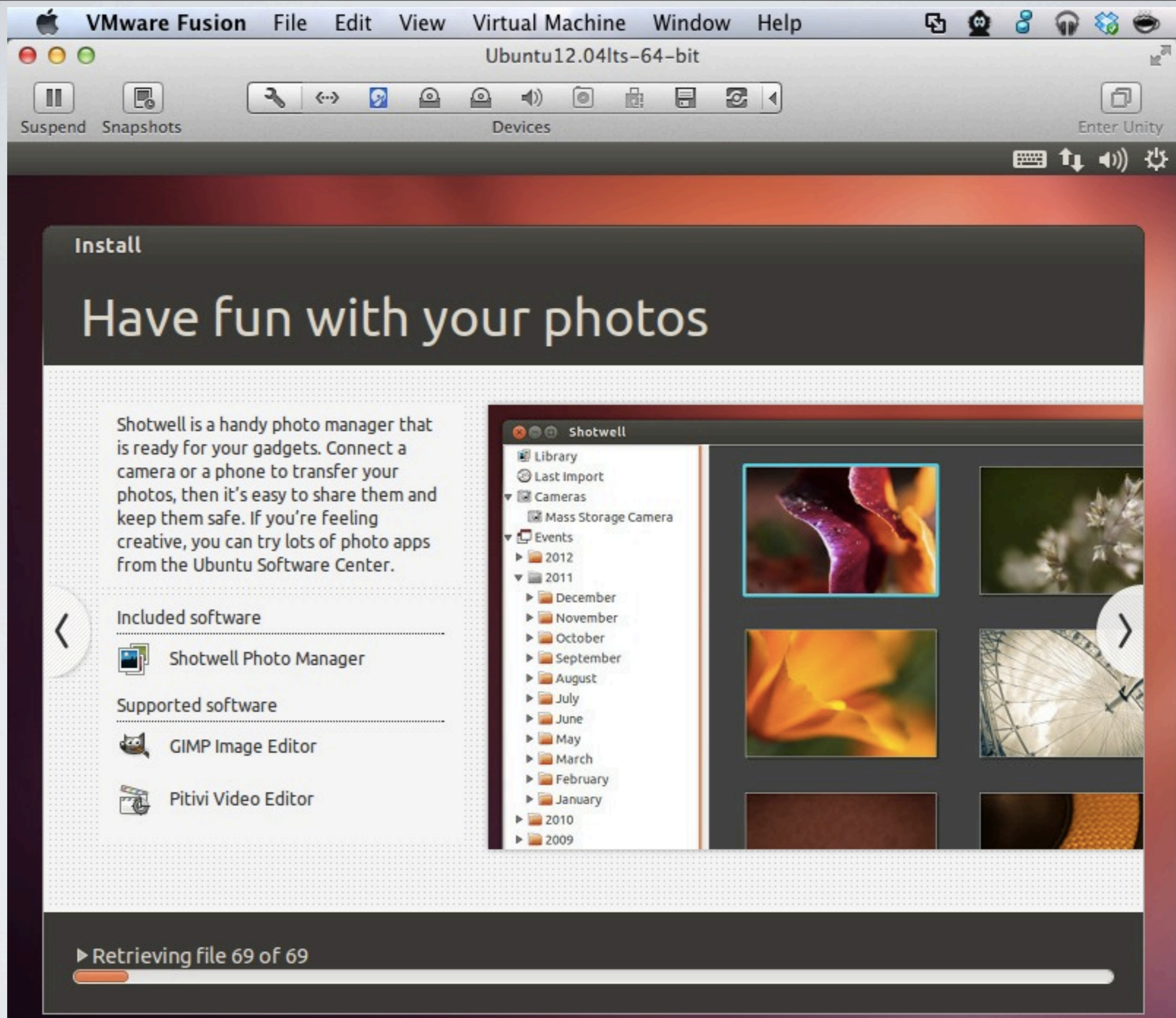
Set the password to: rt2012!vm

Users should change this password when they get the vm
Letting the VM read and write your "host" means BE CAREFUL
and CHANGE THE PASSWORD!

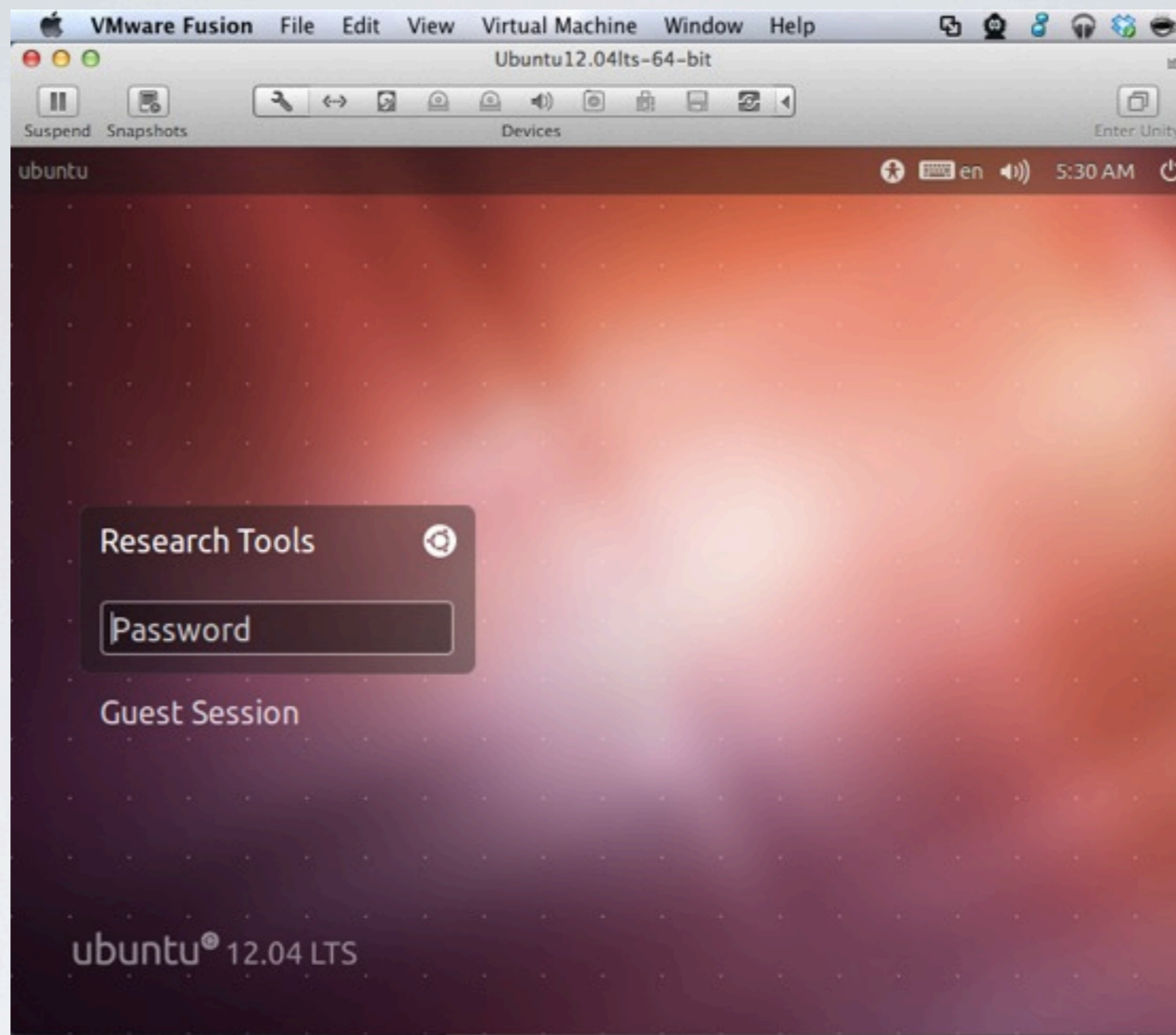




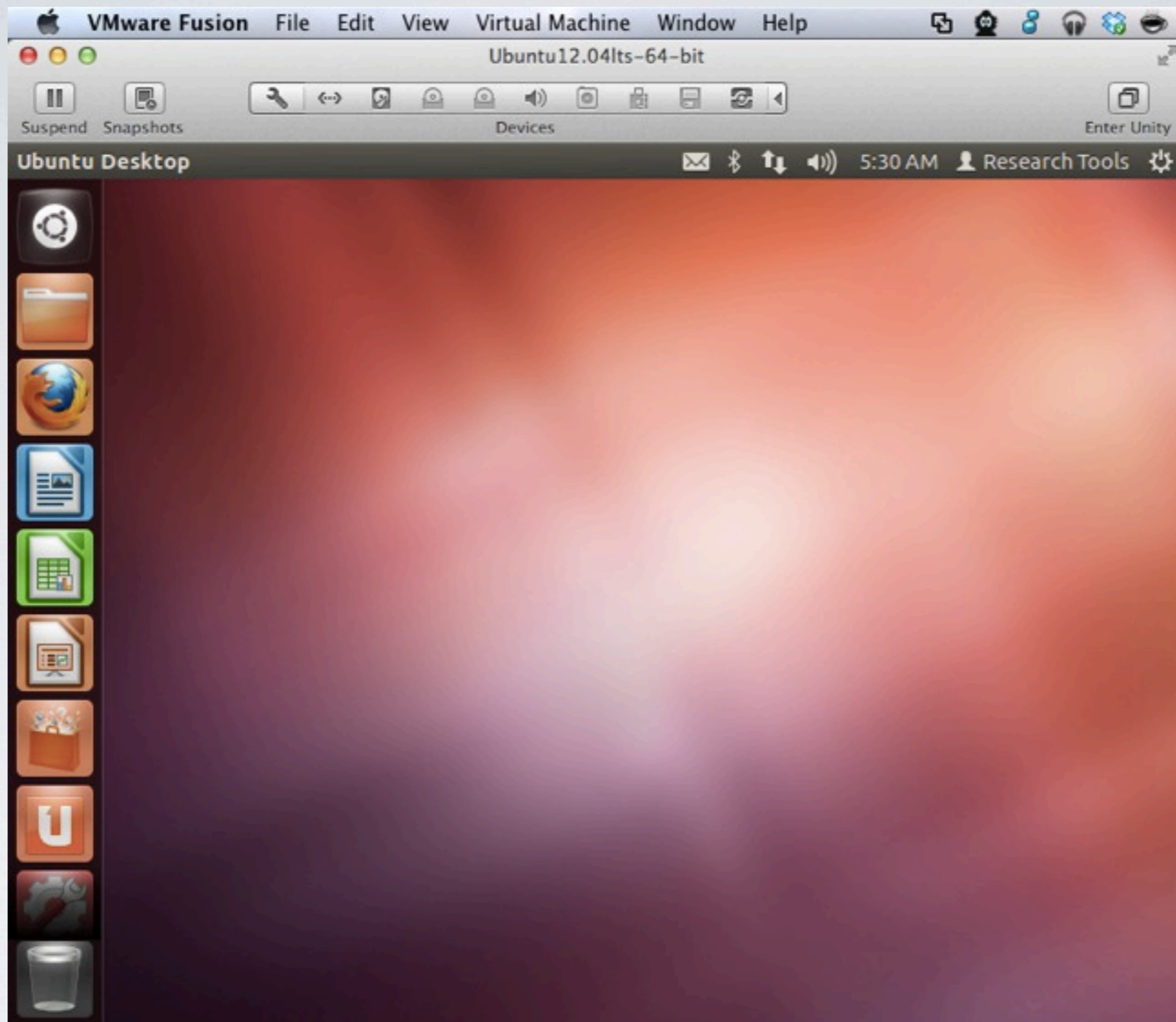
VMWare boots the ISO and gets the installer going



The installer gets a basic copy of Ubuntu 12.04 LTS ready to use



The is Ubuntu ready for you to log in.
If you click on the circular Ubuntu logo to the right of "Research
Tools," you will get some options
Password: rt20 | 2!vm



This is the starting look when you are in Ubuntu 12.04
You are seeing the new “Unity” desktop

Chrome File Edit View History Bookmarks Window Users Help

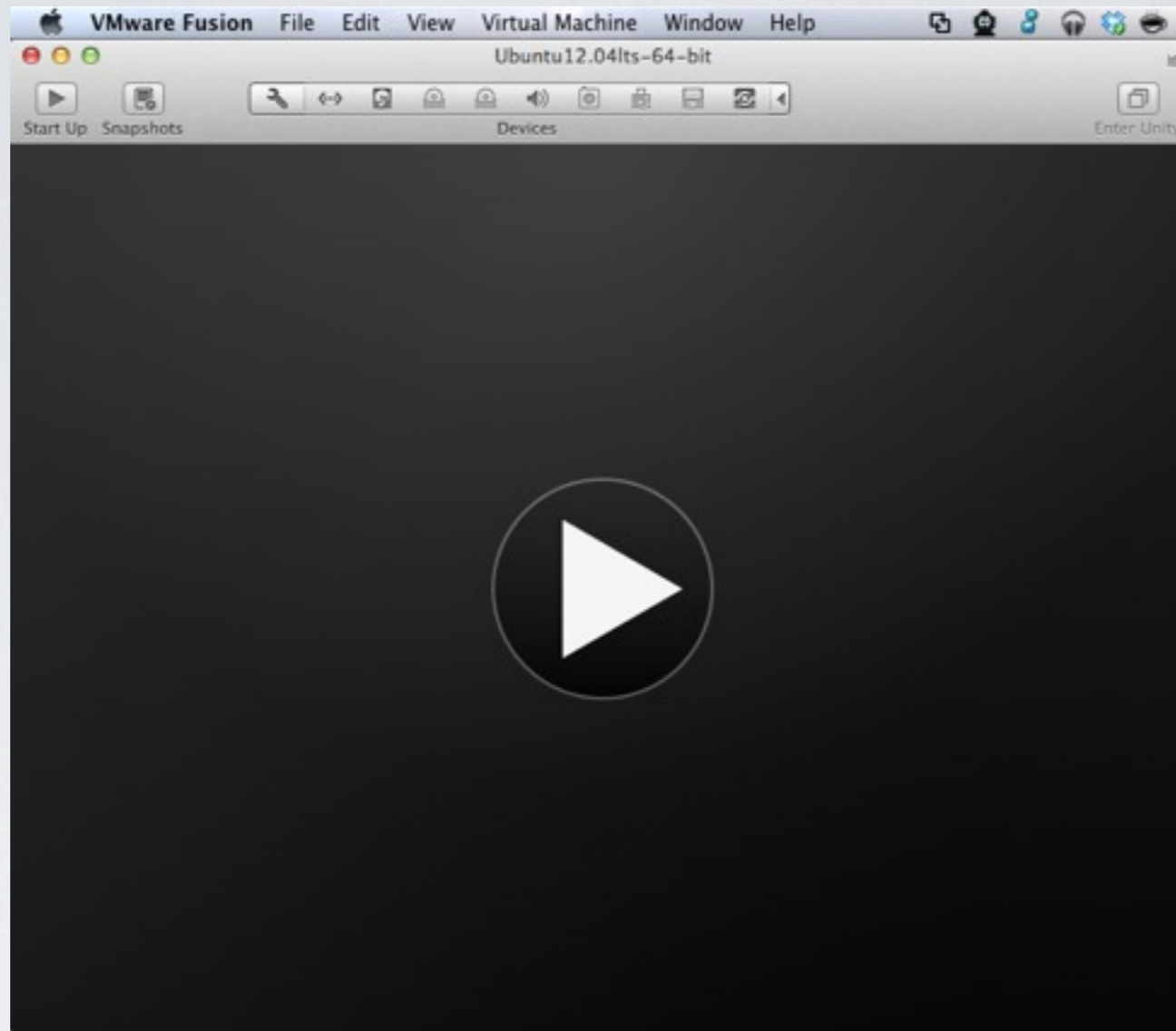
Index of /~schwehr/Classes/ *
vislab-ccom.unh.edu/~schwehr/Classes/2012/VirtualMachines/

Index of /~schwehr/Classes/2012/VirtualMachines

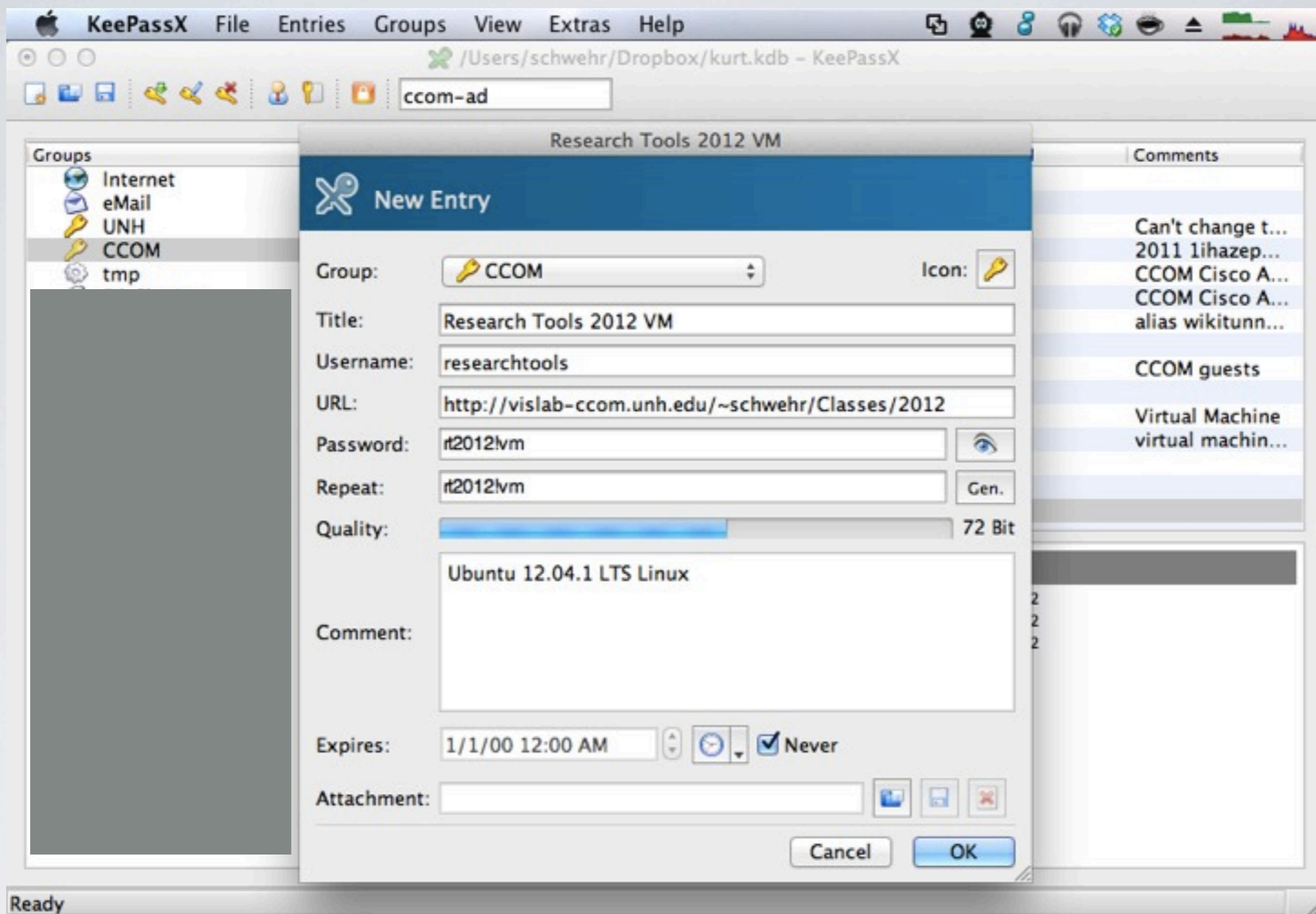
| <u>Name</u> | <u>Last modified</u> | <u>Size</u> | <u>Description</u> |
|--|----------------------|-------------|--------------------|
|  Parent Directory | - | | |
|  Ubuntu 12.04 LTS | | | |
| Apache/2.2.20 | | | |

- Open Link in New Tab
- Open Link in New Window
- Open Link in Incognito Window
- Save Link As...**
- Copy Link Address
- Copy
- Search Google for 'Ubuntu12.04lts-64-bit.zip'
- Inspect Element
- Look Up in Dictionary
- Speech
- Search With Google
- Add to iTunes as a Spoken Track

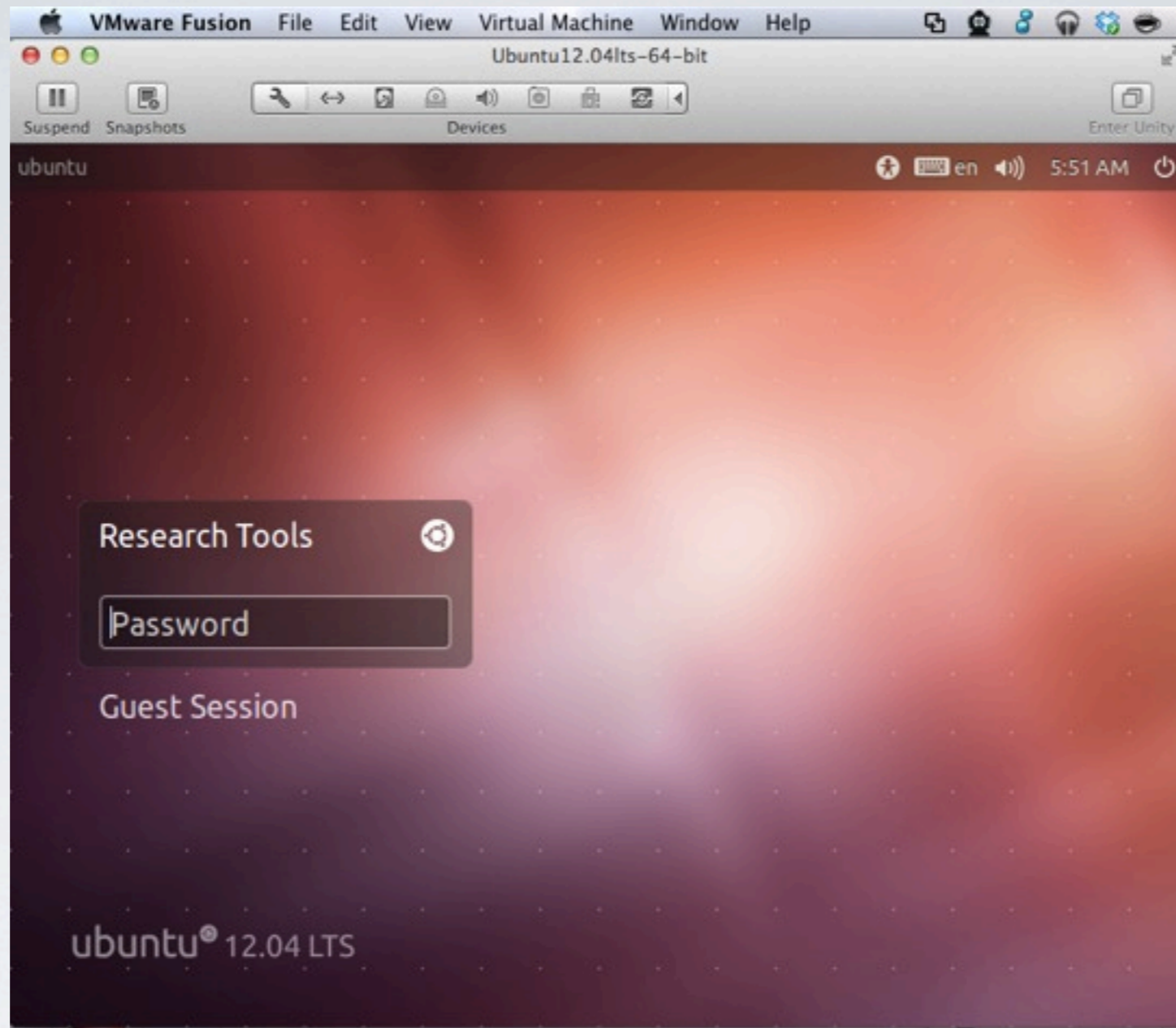
Download and unpack the zip file



Start the Virtual Machine



Use KeePassX to store the password



Log in with password: rt20 | 2!vm



Ubuntu12.04lts-64-bit



Suspend



Snapshots

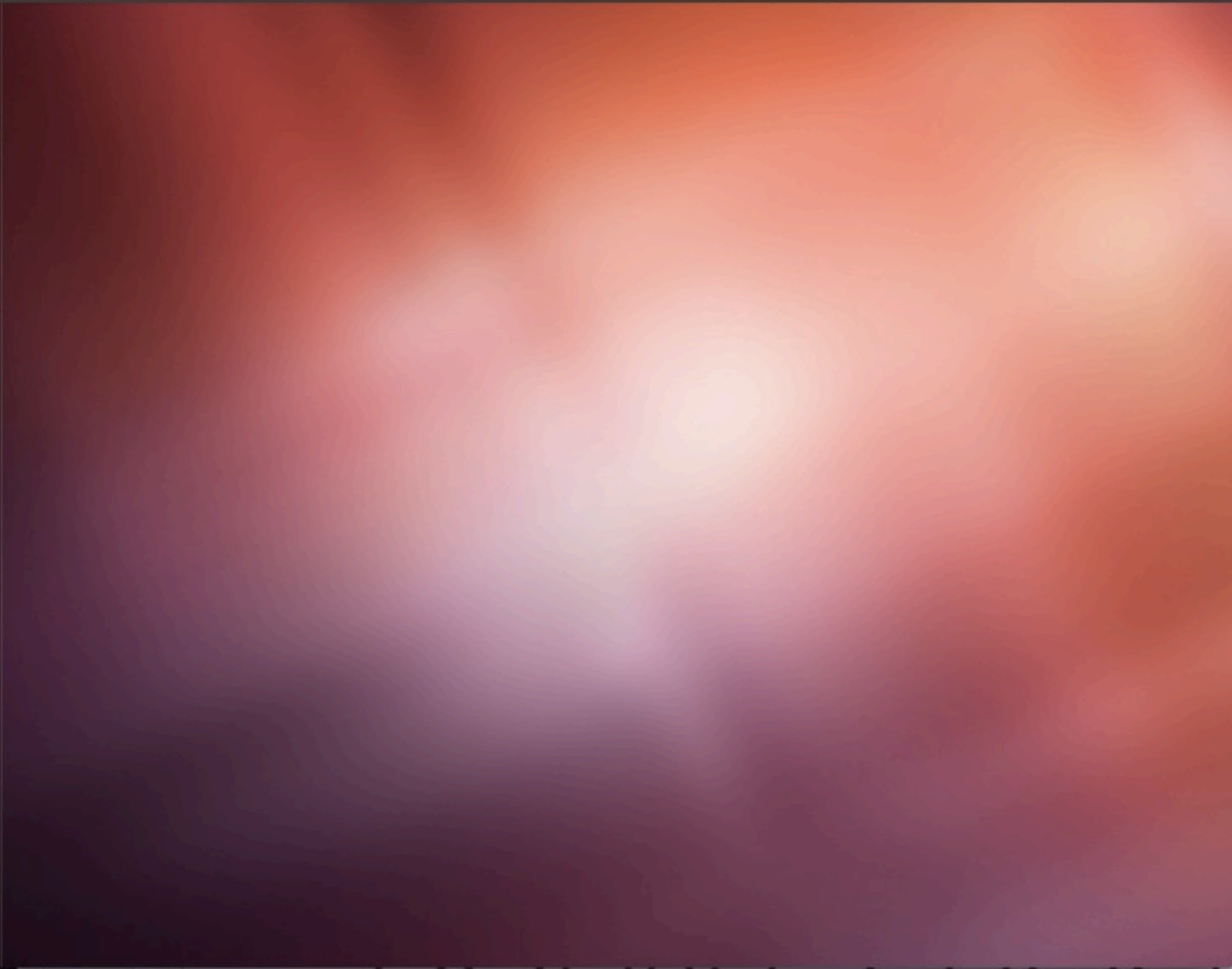
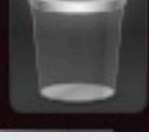


Devices



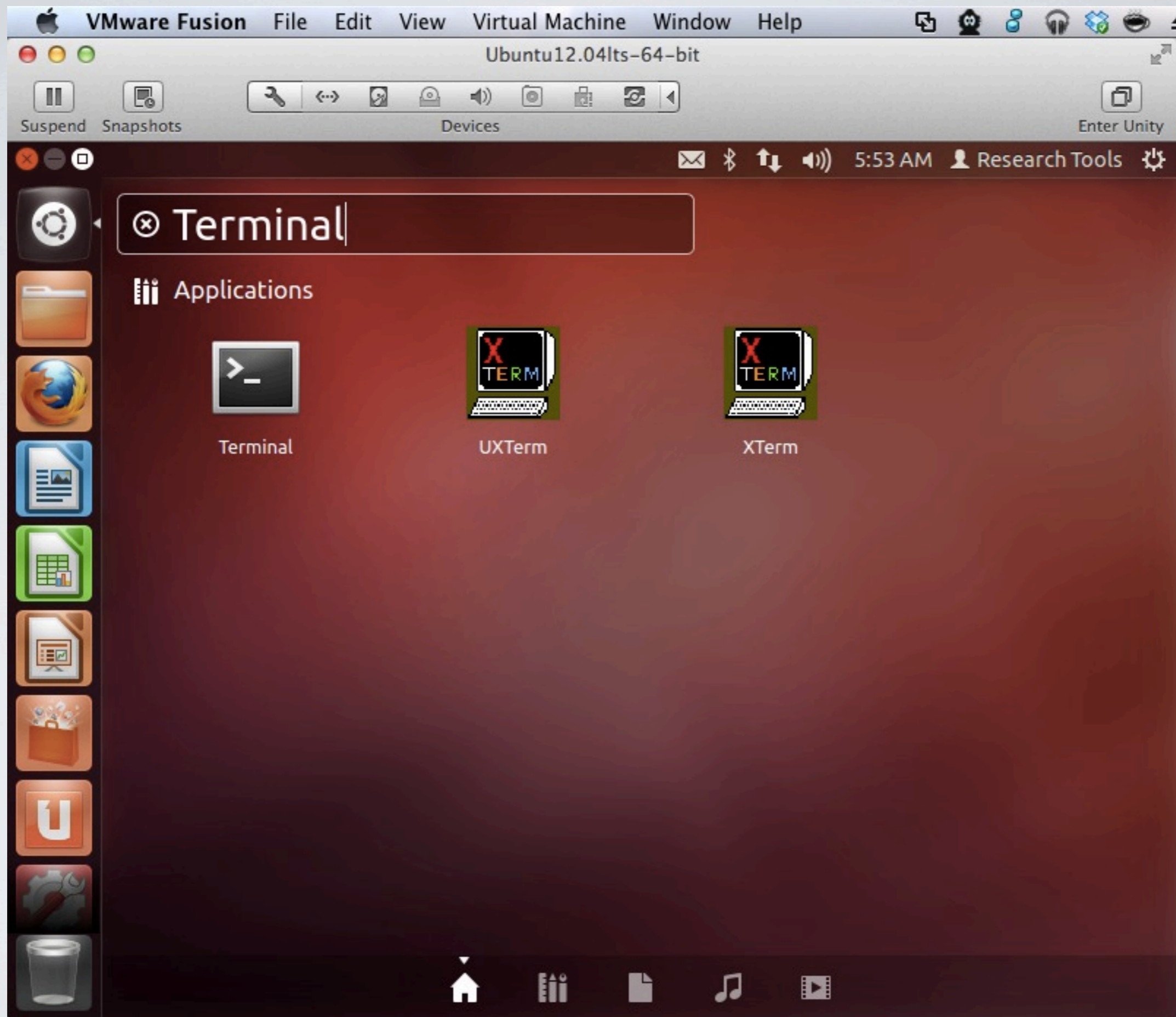
Enter Unity

Ubuntu Desktop

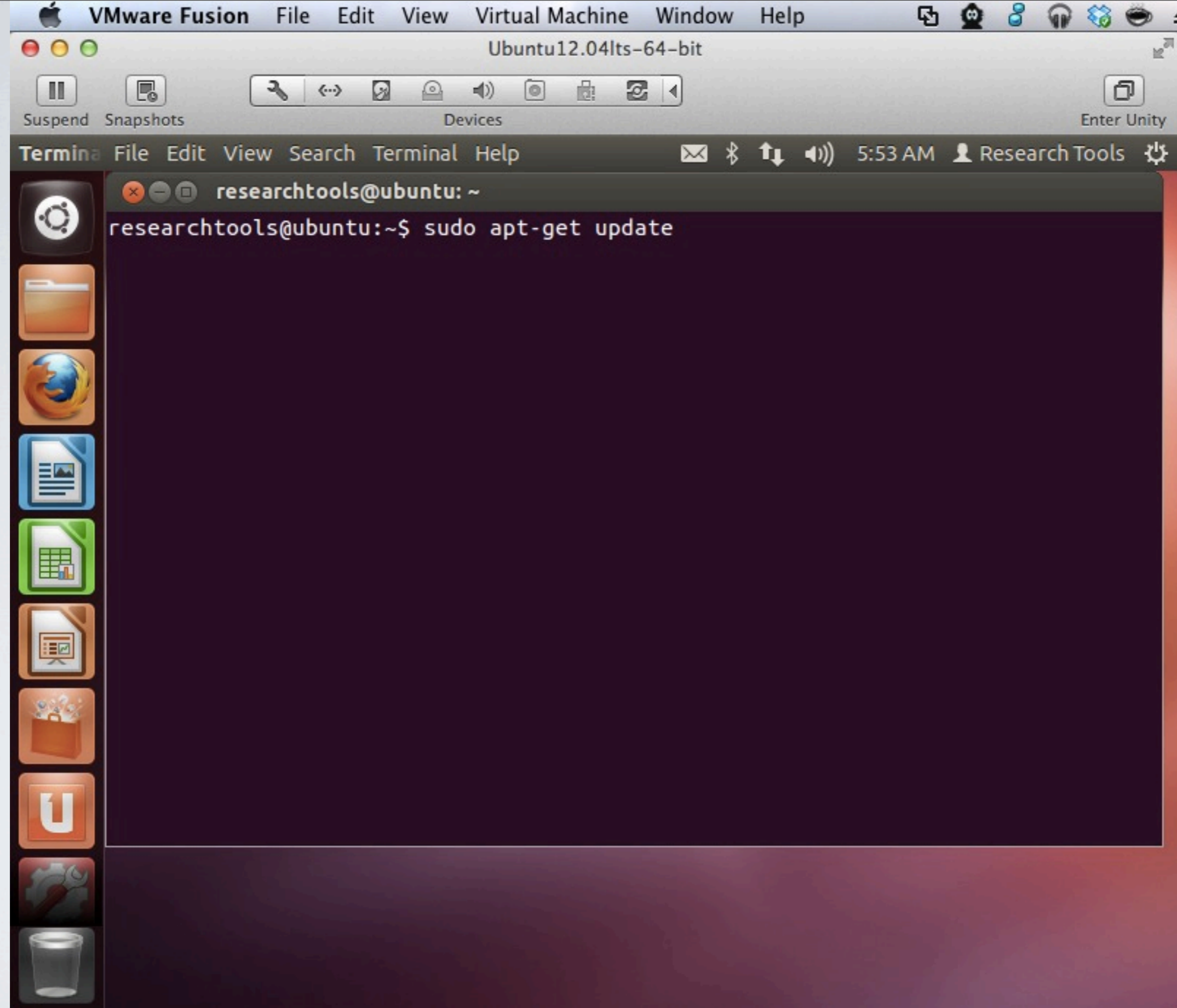




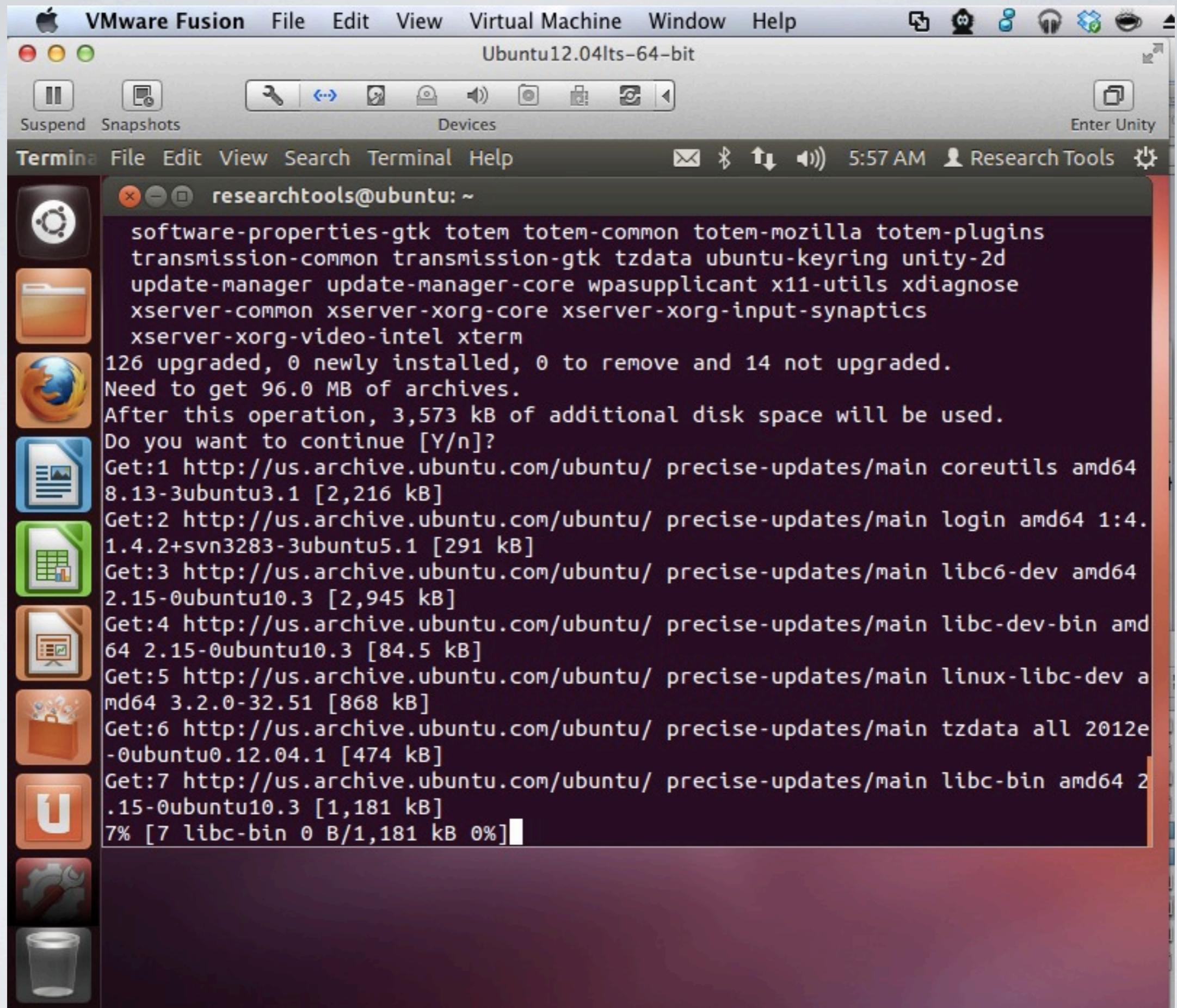
Find apps by searching using this top left interface



We want a terminal (aka “command line”)



Do an update for security: `sudo apt-get update`



sudo apt-get upgrade

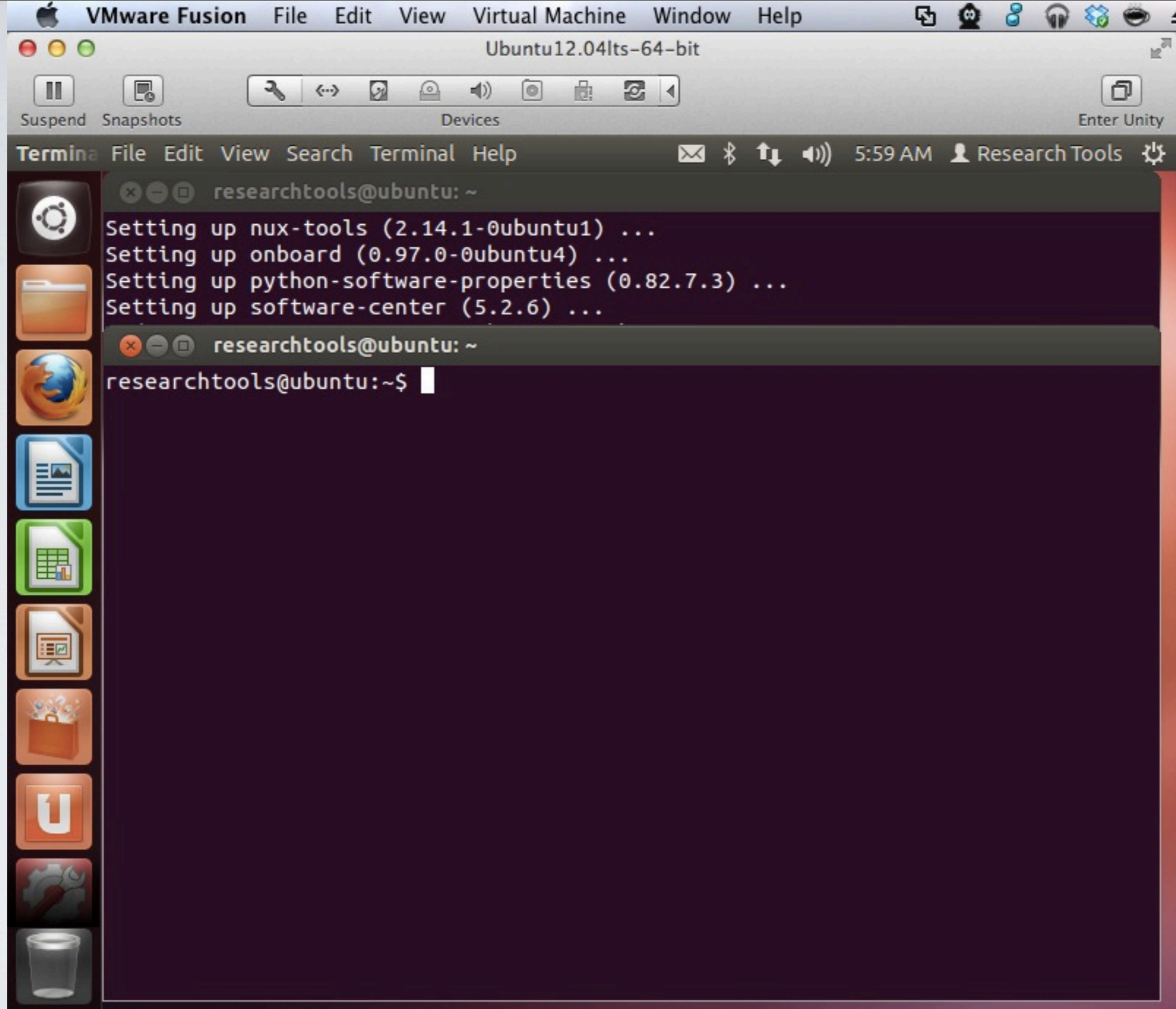
VMware Fusion File Edit View Virtual Machine Window Help

Ubuntu12.04lts-64-bit

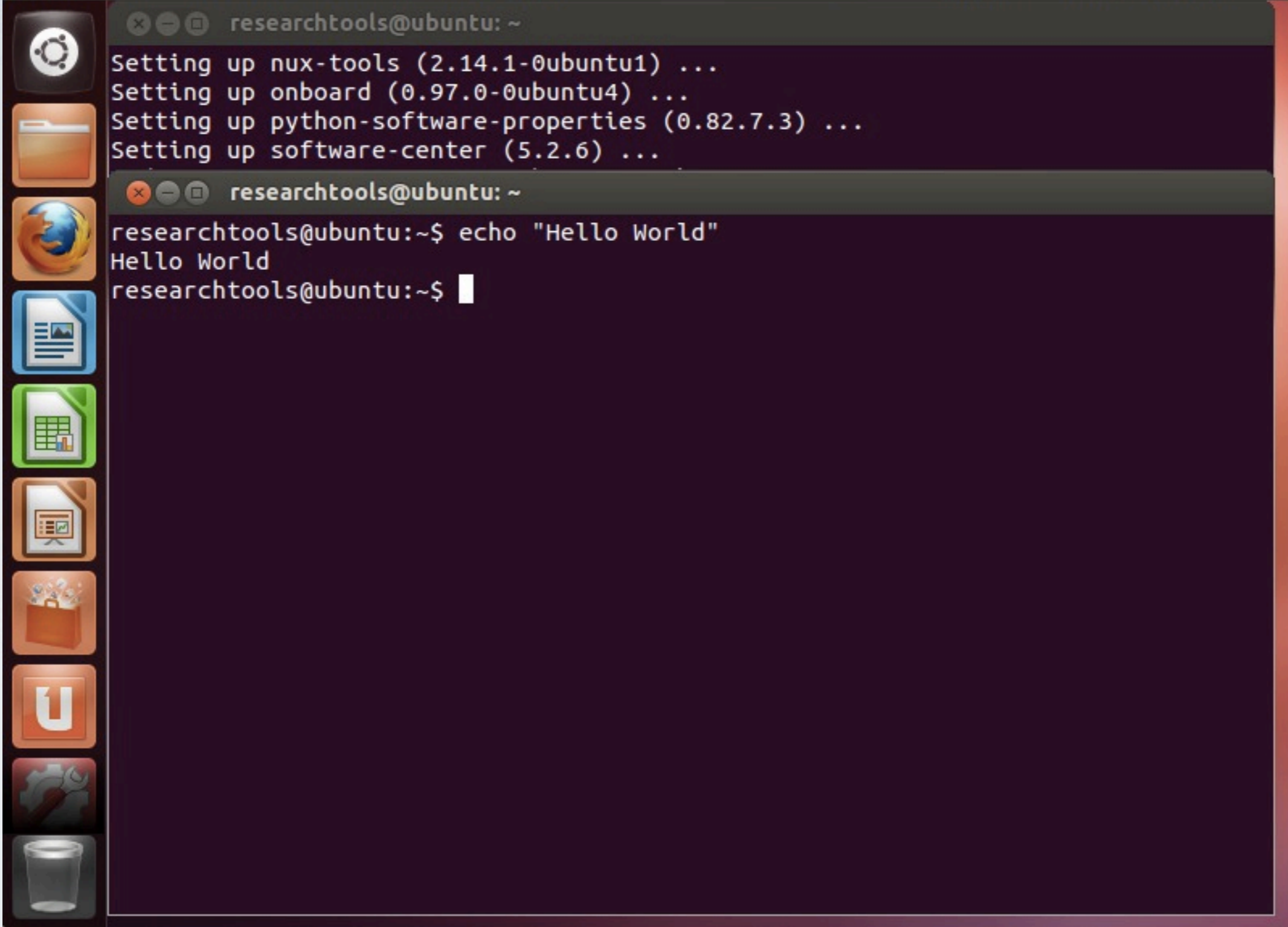
Suspend Snapshots Devices Enter Unity

Terminal File Edit View Search Terminal Help 6:01 AM Research Tools

```
researchtools@ubuntu: ~
Setting up nux-tools (2.14.1-0ubuntu1) ...
Setting up onboard (0.97.0-0ubuntu4) ...
Setting up python-software-properties (0.82.7.3) ...
Setting up software-center (5.2.6) ...
Updating software catalog...this may take a moment.
INFO:softwarecenter.db.pkginfo_impl.aptcache:aptcache.open()
Software catalog update was successful.
Setting up software-properties-common (0.82.7.3) ...
Setting up software-properties-gtk (0.82.7.3) ...
Setting up transmission-common (2.51-0ubuntu1.1) ...
Setting up transmission-gtk (2.51-0ubuntu1.1) ...
Setting up unity-2d (5.12.0-0ubuntu1.2) ...
Setting up wpasupplicant (0.7.3-6ubuntu2.1) ...
Setting up xdiagnose (2.5.2ubuntu0.1) ...
Setting up xserver-xorg-input-synaptics (1.6.2-1ubuntu1~precise2) ...
Setting up xserver-xorg-video-intel (2:2.17.0-1ubuntu4.2) ...
Setting up xterm (271-1ubuntu2.1) ...
Setting up sessioninstaller (0.20+bzr128-0ubuntu1.2) ...
Processing triggers for libc-bin ...
ldconfig deferred processing now taking place
Processing triggers for resolvconf ...
Processing triggers for initramfs-tools ...
update-initramfs: Generating /boot/initrd.img-3.2.0-29-generic
researchtools@ubuntu:~$
```

Open a 2nd terminal

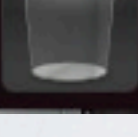


The image shows a terminal window with a dark background and light text. The window title is "researchtools@ubuntu: ~". The terminal output shows the following commands and their results:

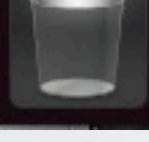
```
Setting up nux-tools (2.14.1-0ubuntu1) ...  
Setting up onboard (0.97.0-0ubuntu4) ...  
Setting up python-software-properties (0.82.7.3) ...  
Setting up software-center (5.2.6) ...
```

A second terminal window is open below the first, showing the command `echo "Hello World"` and its output `Hello World`. The prompt `researchtools@ubuntu:~$` is visible at the end of the line.

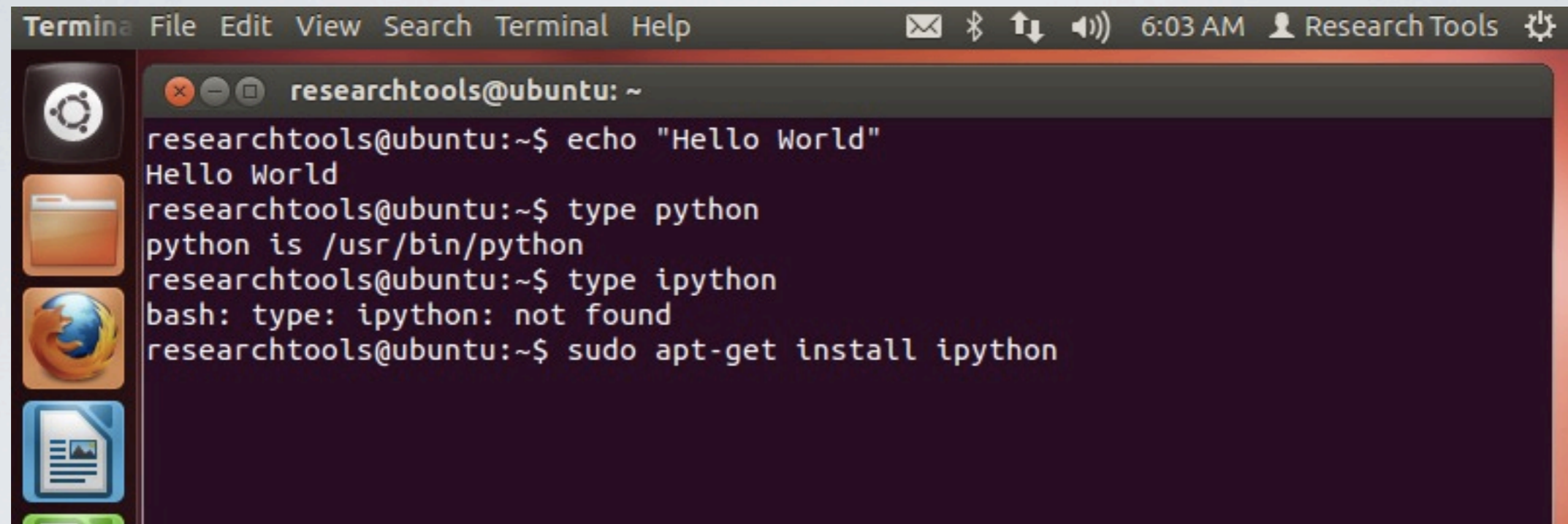
On the left side of the terminal window, there is a vertical dock containing several application icons: a gear (Settings), a folder (Files), a globe (Firefox), a document with a chart (LibreOffice Writer), a spreadsheet (LibreOffice Calc), a presentation (LibreOffice Impress), a briefcase (Dash), the Ubuntu logo (Dash), a gear with a wrench (System Settings), and a trash can (Trash).



```
researchtools@ubuntu: ~
researchtools@ubuntu:~$ echo "Hello World"
Hello World
researchtools@ubuntu:~$ type python
python is /usr/bin/python
researchtools@ubuntu:~$ type ipython
bash: type: ipython: not found
researchtools@ubuntu:~$
```



```
researchtools@ubuntu: ~  
researchtools@ubuntu:~$ echo "Hello World"  
Hello World  
researchtools@ubuntu:~$ type python  
python is /usr/bin/python  
researchtools@ubuntu:~$ type ipython  
bash: type: ipython: not found  
researchtools@ubuntu:~$
```

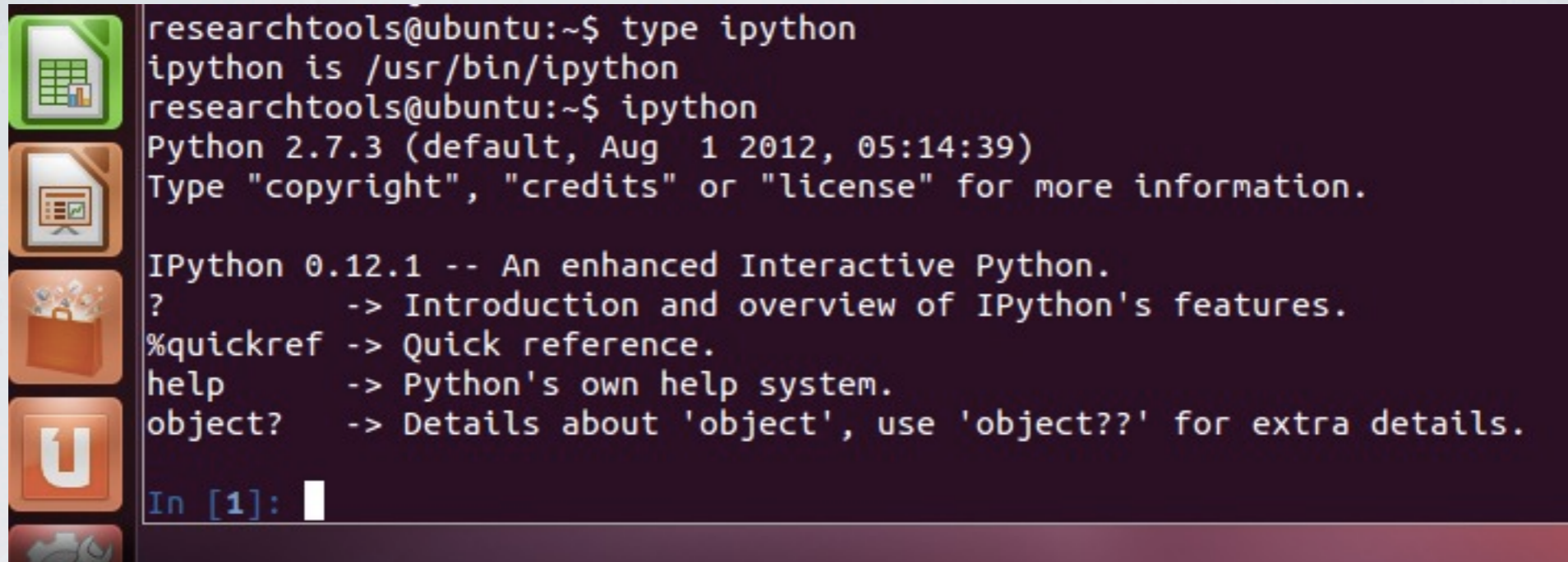
```
Terminal File Edit View Search Terminal Help 6:03 AM Research Tools
researchtools@ubuntu: ~
researchtools@ubuntu:~$ echo "Hello World"
Hello World
researchtools@ubuntu:~$ type python
python is /usr/bin/python
researchtools@ubuntu:~$ type ipython
bash: type: ipython: not found
researchtools@ubuntu:~$ sudo apt-get install ipython
```

“type” searches for commands
Found “python”. However, “ipython” is not installed

```
researchtools@ubuntu:~$ sudo apt-get install ipython
[sudo] password for researchtools:
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following extra packages will be installed:
  python-configobj python-decorator python-simplegeneric python-support
Suggested packages:
  ipython-doc ipython-notebook ipython-qtconsole python-matplotlib
  python-numpy python-zmq
The following NEW packages will be installed:
  ipython python-configobj python-decorator python-simplegeneric
  python-support
0 upgraded, 5 newly installed, 0 to remove and 14 not upgraded.
Need to get 919 kB of archives.
After this operation, 4,618 kB of additional disk space will be used.
Do you want to continue [Y/n]? █
```

Press enter/return to say yes to installing ipython


```
researchtools@ubuntu: ~
Selecting previously unselected package python-simplegeneric.
Unpacking python-simplegeneric (from ../python-simplegeneric_0.7-1build1_all.de
b) ...
Selecting previously unselected package ipython.
Unpacking ipython (from ../ipython_0.12.1+dfsg-0ubuntu1_all.deb) ...
Processing triggers for doc-base ...
Processing 1 added doc-base file...
Processing triggers for man-db ...
Processing triggers for desktop-file-utils ...
Processing triggers for bamfdaemon ...
Rebuilding /usr/share/applications/bamf.index...
Processing triggers for gnome-menus ...
Processing triggers for hicolor-icon-theme ...
Setting up python-configobj (4.7.2+ds-3build1) ...
Setting up python-decorator (3.3.2-1) ...
Setting up python-support (1.0.14ubuntu2) ...
Setting up python-simplegeneric (0.7-1build1) ...
Setting up ipython (0.12.1+dfsg-0ubuntu1) ...
Processing triggers for python-support ...
researchtools@ubuntu:~$
researchtools@ubuntu:~$
researchtools@ubuntu:~$ type ipython
ipython is /usr/bin/ipython
researchtools@ubuntu:~$
```

```
researchtools@ubuntu:~$ type ipython
ipython is /usr/bin/ipython
researchtools@ubuntu:~$ ipython
Python 2.7.3 (default, Aug 1 2012, 05:14:39)
Type "copyright", "credits" or "license" for more information.

IPython 0.12.1 -- An enhanced Interactive Python.
?          -> Introduction and overview of IPython's features.
%quickref  -> Quick reference.
help       -> Python's own help system.
object?    -> Details about 'object', use 'object??' for extra details.

In [1]:
```

Start ipython
<http://ipython.org/>


```
researchtools@ubuntu:~$ type ipython
ipython is /usr/bin/ipython
researchtools@ubuntu:~$ ipython
Python 2.7.3 (default, Aug 1 2012, 05:14:39)
Type "copyright", "credits" or "license" for more information.

IPython 0.12.1 -- An enhanced Interactive Python.
?          -> Introduction and overview of IPython's features.
%quickref  -> Quick reference.
help       -> Python's own help system.
object?    -> Details about 'object', use 'object??' for extra details.

In [1]: import this
```

```
researchtools@ubuntu: ~
In [1]: import this
The Zen of Python, by Tim Peters

Beautiful is better than ugly.
Explicit is better than implicit.
Simple is better than complex.
Complex is better than complicated.
Flat is better than nested.
Sparse is better than dense.
Readability counts.
Special cases aren't special enough to break the rules.
Although practicality beats purity.
Errors should never pass silently.
Unless explicitly silenced.
In the face of ambiguity, refuse the temptation to guess.
There should be one-- and preferably only one --obvious way to do it.
Although that way may not be obvious at first unless you're Dutch.
Now is better than never.
Although never is often better than *right* now.
If the implementation is hard to explain, it's a bad idea.
If the implementation is easy to explain, it may be a good idea.
Namespaces are one honking great idea -- let's do more of those!

In [2]:
```



```
In [2]: import antigavity
```

Use
Control-w
to exit
Firefox

xkcd: Python - Mozilla Firefox

xkcd: Python

xkcd.com/353/

< < PREV RANDOM NEXT > >|

YOU'RE FLYING!
HOW?

PYTHON!

I LEARNED IT LAST NIGHT! EVERYTHING IS SO SIMPLE!
HELLO WORLD IS JUST
print "Hello, world!"

I DUNNO...
DYNAMIC TYPING?
WHITESPACE?

COME JOIN US!
PROGRAMMING
IS FUN AGAIN!
IT'S A WHOLE
NEW WORLD
UP HERE!
BUT HOW ARE
YOU FLYING?

I JUST TYPED
import antigavity
THAT'S IT?

... I ALSO SAMPLED
EVERYTHING IN THE
MEDICINE CABINET
FOR COMPARISON.
BUT I THINK THIS
IS THE PYTHON.

< < PREV RANDOM NEXT > >|


```
researchtools@ubuntu: ~  
  
In [3]: 1+2  
Out[3]: 3  
  
In [4]: print 'hello world'  
hello world  
  
In [5]: pwd  
Out[5]: u'/home/researchtools'  
  
In [6]: ls  
Desktop/      Downloads/    Music/        Public/       Videos/  
Documents/   examples.desktop Pictures/      Templates/  
  
In [7]: history  
import this  
import antigravity  
1+2  
print 'hello world'  
pwd  
ls  
history  
  
In [8]:
```

Getting started

```
In [8]: help
Out[8]: Type help() for interactive help, or help(object) for help about object.

In [9]: %quickref
```

```
researchtools@ubuntu: ~
IPython -- An enhanced Interactive Python - Quick Reference Card
=====

obj?, obj??      : Get help, or more help for object (also works as
                  ?obj, ??obj).
?foo.*abc*      : List names in 'foo' containing 'abc' in them.
%magic          : Information about IPython's 'magic' % functions.

Magic functions are prefixed by %, and typically take their arguments without
parentheses, quotes or even commas for convenience.

Example magic function calls:

%alias d ls -F   : 'd' is now an alias for 'ls -F'
alias d ls -F   : Works if 'alias' not a python name
alist = %alias   : Get list of aliases to 'alist'
cd /usr/share   : Obvious. cd -<tab> to choose from visited dirs.
%cd??          : See help AND source for magic %cd

System commands:

!cp a.txt b/    : System command escape, calls os.system()
:
```

“q” to quit out of help

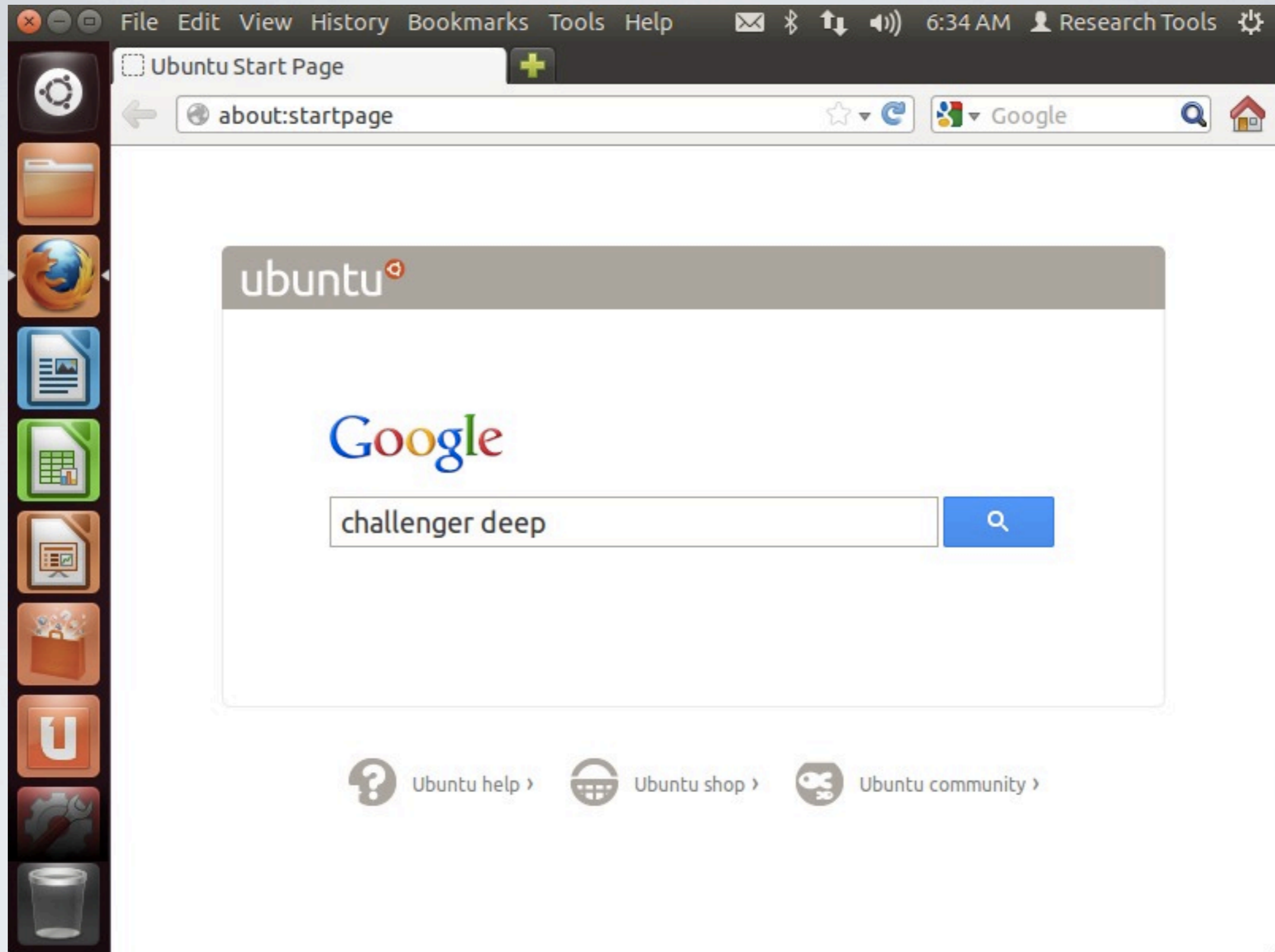

```
In [10]: %logstart -t ~/ipython_log.py append
Activating auto-logging. Current session state plus future input saved.
Filename      : /home/researchtools/ipython_log.py
Mode          : append
Output logging : False
Raw input log  : False
Timestamping  : True
State         : active

In [11]:
```

```
In [12]: cat /home/researchtools/ipython_log.py
import this
import antigravity
1+2
print 'hello world'
get_ipython().magic(u'pwd ')
get_ipython().system(u'ls -F --color ')
get_ipython().magic(u'history ')
help
get_ipython().magic(u'quickref')
get_ipython().magic(u'logstart -t ~/ipython_log.py append')
# Thu, 18 Oct 2012 06:31:44
get_ipython().magic(u'logstate')
# Thu, 18 Oct 2012 06:31:59
get_ipython().system(u'cat /home/researchtools/ipython_log.py')

In [13]: █
```

```
%logstart -t ~/ipython_log.py append
%logstate
cat /home/researchtools/ipython_log.py
```



Full demo
How deep is Challenger Deep?

File Edit View History Bookmarks Tools Help 6:36 AM Research Tools

W Challenger Deep - Wikipedia, t... en.wikipedia.org/wiki/Challenger_Deep

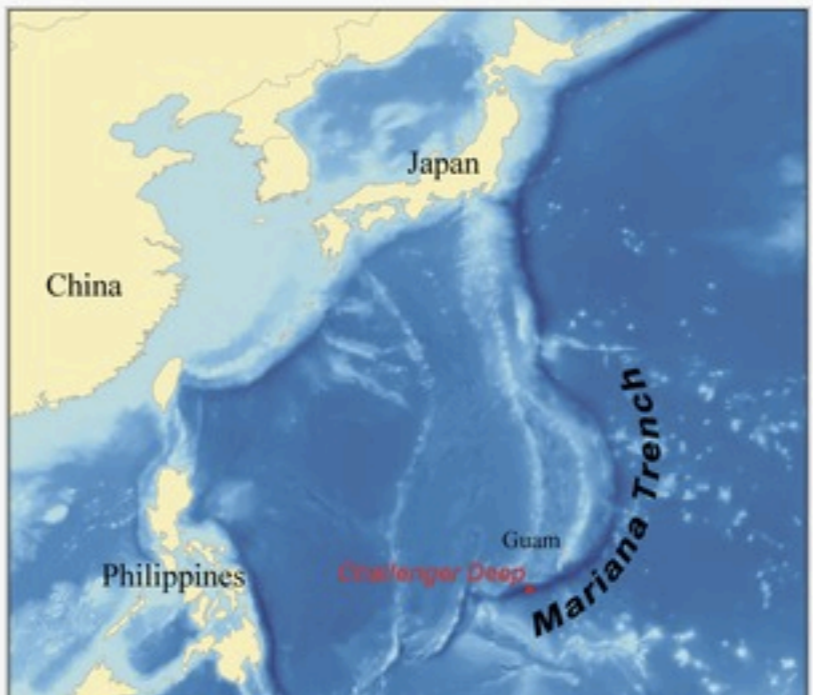
Create account Log in

Article Talk Read Edit View history Search

Challenger Deep

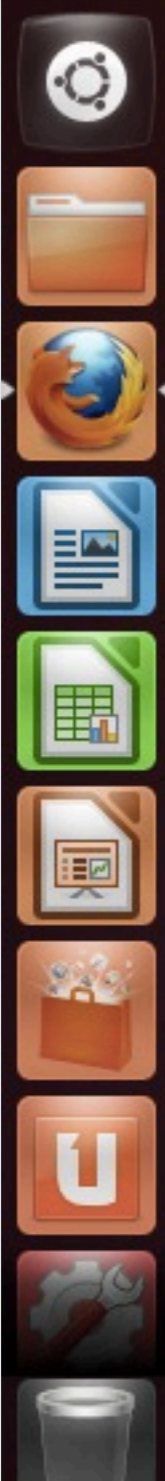
From Wikipedia, the free encyclopedia Coordinates: $11^{\circ}22.4'N$ $142^{\circ}35.5'E$

The **Challenger Deep** is the deepest known point in the Earth's sea floor hydrosphere, with a depth of 10,898 m (35,755 ft) to 10,916 m (35,814 ft) by direct measurement from submersibles, and slightly more by sonar bathymetry (see below). It is in the Pacific Ocean, at the southern end of the Mariana Trench near the Mariana Islands group. The Challenger Deep is a relatively



The map shows the Challenger Deep in the Mariana Trench, with labels for Japan, China, Philippines, and Guam. The Challenger Deep is marked with a red dot and labeled.

I know, it says 10898 m here, but we want to be able to ask about anywhere on the Earth.



GeoHack - Challenger Deep



Views

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- [Alemannisch](#)
- [العربية](#)
- [Aragonés](#)
- [Asturianu](#)
- [বাংলা](#)
- [Беларуская](#)
- [Беларуская \(тарашкевіца\)](#)
- [Brezhoneg](#)

WGS84 11° 22′ 24″ N,
142° 35′ 30″ E
11.373333,
142.591667

UTM 54P 673678
1257735

Zoom 6 **Scale** [±]
1:100000

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View this location in [Google Maps](#), in [OpenStreetMap](#), with [Dual view](#), or select one of the services listed below:

challenger deep - Google Search - Mozilla Firefox

challenge deep - Google Search

www.google.com/search?q=challenger+deep&ie=UTF-8&

+You Search Images Maps Play YouTube News Gmail Documents Calendar More

challenge deep

Search About 20,300,000 results (0.21 seconds)

Web **Challenger Deep - Wikipedia, the free encyclopedia**
en.wikipedia.org/wiki/Challenger_Deep
The **Challenger Deep** is the deepest known point in the Earth's sea floor hydrosphere, with a depth of 10,898 m (35,755 ft) to 10,916 m (35,814 ft) by direct ...
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Images
Maps
Videos

GeoHack - Challenger Deep - Mozilla Firefox 6:36 AM Research Tools

GeoHack - Challenger Deep

toolserver.org/~geohack/geohack.php?pagename=Chall

GeoHack - Challenger Deep



WGS84 11° 22' 24" N,
142° 35' 30" E
11.373333,
142.591667
54P 675078
Latitude

UTM 1257735

Zoom 6 **Scale** ±
1:100000

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Use the left mouse button to select the Latitude
Use the right button to copy.

GeoHack - Challenger Deep - Mozilla Firefox

toolserver.org/~geohack/geohack.php?pagename=Chall...

GeoHack - Challenger Deep



WGS84 11° 22' 24" N,
142° 35' 30" E
11.373333
142.591

UTM 54P 673
1257735

Zoom 6 **Scale**

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Wikipedia

- Copy
- Select All
- Search Google for "11.373333"
- View Selection Source
- Inspect Element (Q)

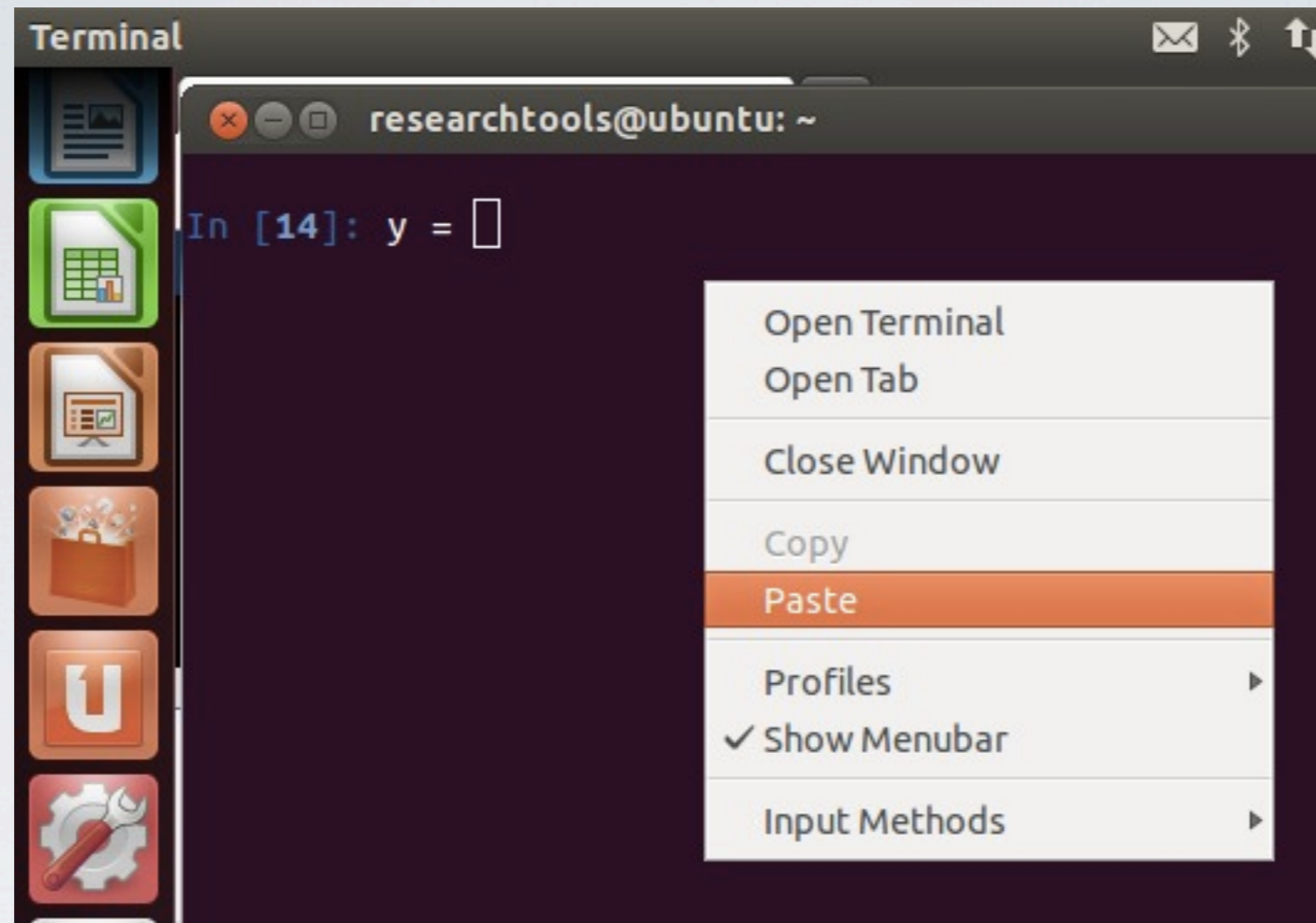
Views

- Template
- Talk
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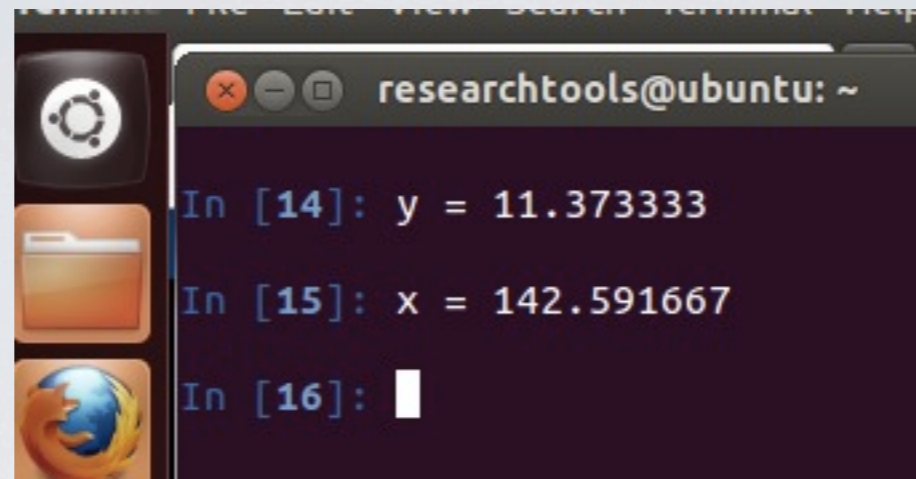
Languages

- Afrikaans
- Alemannisch

Right mouse button on highlighted text gives you this menu



Right mouse button will let you paste



```
researchtools@ubuntu: ~
In [14]: y = 11.373333
In [15]: x = 142.591667
In [16]:
```

```
In [16]: whos
Variable      Type      Data/Info
-----
antigravity   module   <module 'antigravity' fro<...>thon2.7/antigravity.pyc'>
this          module   <module 'this' from '/usr<...>/lib/python2.7/this.pyc'>
x             float    142.591667
y             float    11.373333

In [17]: import urllib2

In [18]: (y,x)
Out[18]: (11.373333, 142.591667)

In [19]: '%s,%s' % (y,x)
Out[19]: '11.373333,142.591667'

In [20]:
```

We need to be open a URL

I would normally use string functions to build the URL like this

```
In [20]: url = 'http://maps.googleapis.com/maps/api/elevation/json?locations=11.373333,142.591667&sensor=false'

In [21]: import urllib2

In [22]: connection = urllib2.urlopen(url)

In [23]: json_data = connection.read()

In [24]:
```

Fetching data from the web

```
url = 'http://maps.googleapis.com/maps/api/elevation/json?locations=11.373333,142.591667&sensor=false'
```



```
In [20]: url = 'http://maps.googleapis.com/maps/api/elevation/json?locations=11.373333,142.591667&sensor=false'

In [21]: import urllib2

In [22]: connection = urllib2.urlopen(url)

In [23]: json_data = connection.read()

In [24]: print json_data
{
  "results" : [
    {
      "elevation" : -10518.5058593750,
      "location" : {
        "lat" : 11.3733330,
        "lng" : 142.5916670
      },
      "resolution" : 610.8129272460938
    }
  ],
  "status" : "OK"
}

In [25]:
```

```
In [26]: import json

In [27]: data = json.loads(json_data)

In [28]: print data
{'status': u'OK', u'results': [{u'resolution': 610.8129272460938, u'elevation':
-10518.505859375, u'location': {u'lat': 11.373333, u'lng': 142.591667}}]}

In [29]: print data['results']
[{'resolution': 610.8129272460938, u'elevation': -10518.505859375, u'location':
{u'lat': 11.373333, u'lng': 142.591667}}]

In [30]: print data['results'][0]
{u'resolution': 610.8129272460938, u'elevation': -10518.505859375, u'location':
{u'lat': 11.373333, u'lng': 142.591667}}

In [31]: print data['results'][0]['lng']
-----
KeyError                                Traceback (most recent call last)
/home/researchtools/<ipython-input-31-52820ee50614> in <module>()
----> 1 print data['results'][0]['lng']

KeyError: 'lng'

In [32]: print data['results'][0]['location']
{u'lat': 11.373333, u'lng': 142.591667}

In [33]: print data['results'][0]['location']['lng']
142.591667
```

Getting x or Longitude (WGS84)

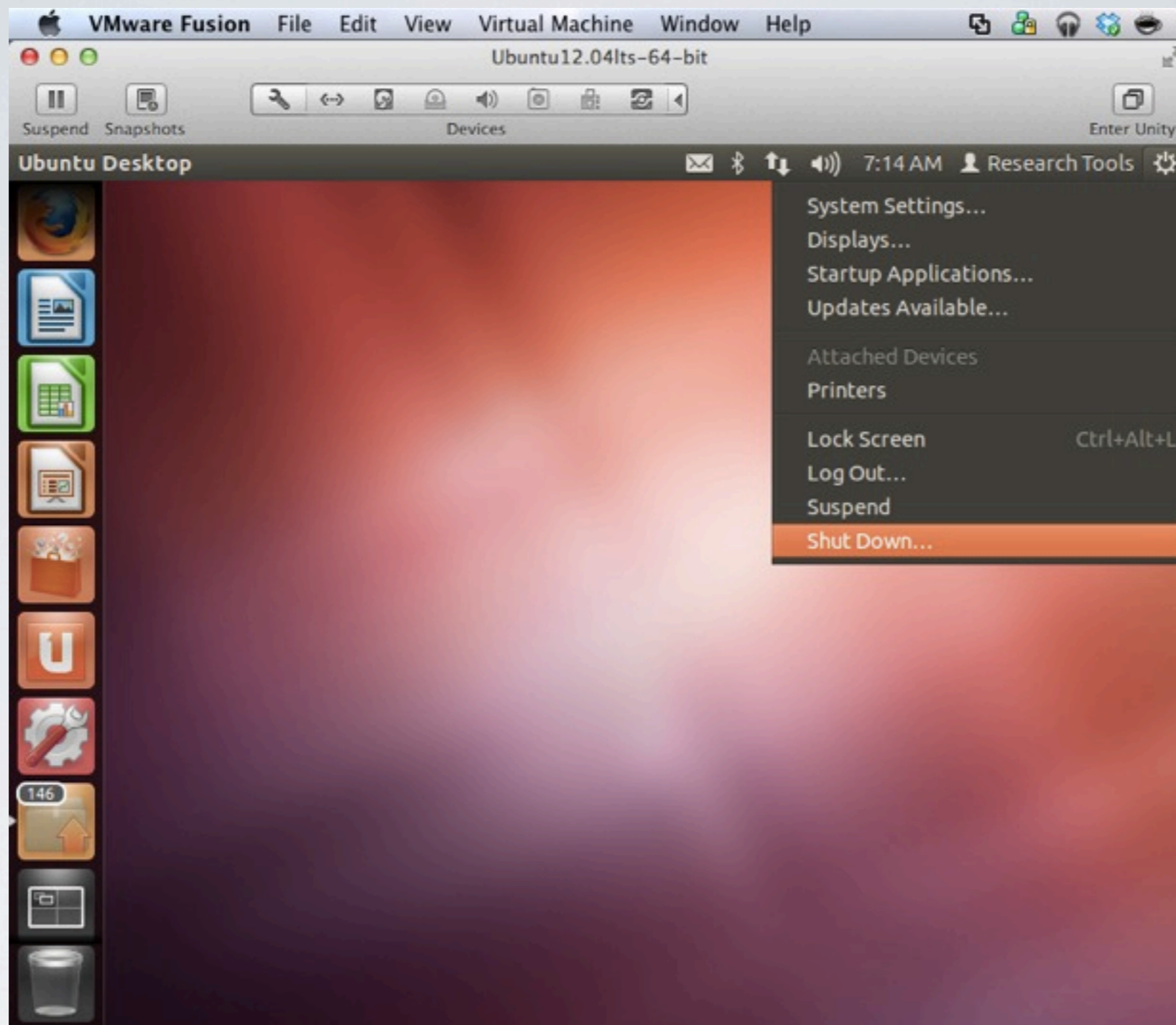

```
In [34]: print data['results'][0]['elevation']  
-10518.5058594
```

```
In [35]: z = data['results'][0]['elevation']
```

```
In [36]: whos
```

| Variable | Type | Data/Info |
|-------------|-------------------|---|
| antigravity | module | <module 'antigravity' from ...thon2.7/antigravity.pyc'> |
| connection | urllib.addinfourl | <addinfourl at 1401072453...ect object at 0x1706250>> |
| data | dict | n=2 |
| json | module | <module 'json' from '/usr...on2.7/json/__init__.pyc'> |
| json_data | str | {\n "results" : [\n <...>\n "status" : |
| "OK"\n} | | |
| this | module | <module 'this' from '/usr.../lib/python2.7/this.pyc'> |
| url | str | http://maps.googleapis.co...3,142.591667&se |
| nsor=false | | |
| urllib2 | module | <module 'urllib2' from '/<...>b/python2.7/urlib2.pyc'> |
| x | float | 142.591667 |
| y | float | 11.373333 |
| z | float | -10518.5058594 |

```
In [37]: █
```



Use that little icon in the top right to shutdown the virtual machine

Search

Fly To Find Businesses Directions

Fly to e.g., 37 25.818' N, 122 05.36' W

Places

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