

Welcome! If you want to follow along, borrow a flash drive, copy the contents to your drive, and see the README.

Or, download from:

**[thewoolleyweb.com/
ci_for_the_rails_guy_or_gal](http://thewoolleyweb.com/ci_for_the_rails_guy_or_gal)**

**Warning: If you are
reading this from a
handout or virtual
machine, it may be
outdated. See latest at:
[thewoolleyweb.com/
ci_for_the_rails_guy_or_gal](http://thewoolleyweb.com/ci_for_the_rails_guy_or_gal)**

OpenOffice Font Twiddling: For portability, this preso uses **Helvetica Bold**, which works fine on NeoOffice/mac. If this makes the text too big (and it probably will on OpenOffice/linux) use **FreeSans Bold** (which I've provided in tools/font): Outline Tab, Edit > Select All, change font to FreeSans Bold.

**CI for the
Rails
/G(uylai)/**

**Obligatory
Boiler
Plate**

Who

**Chad
Woolley
thewoolleyman @
gmail.com
thewoolleyweb.com**



**Who are YOU? CI?
Linux?
Virtualization?
Javascript
Testing?
Selenium?**

What

CI ==
**Continuous
Integration**

**Martin Fowler -
Seminal CI
Article**

**Running all
your tests
on every
commit**

Automatically

HOW

**Takahashi
Method ==
Big Font!**

**Focused on how
to install and
make everything
work together, not
on details of how
to use the tools**

**Just the basics, no
obtuse shell tricks,
won't use the latest
extensions,
wrappers, libraries,
or plugins**

**But I encourage you
to look into them,
useful additions/
extensions will be
mentioned later.**

**Well, maybe a few
bleeding edge
things, time
permitting**

Agenda:

**1. Code: The
simplest tutorial
that could
POSSIBLY work**

Coding Tasks Outline

A. Install Linux on vMWare

B. Install Prereqs:
ruby, java, sqlite,
svn, ant, alternate
browser

c. Create
sample Rails
Project

D.
cruisecontrol.rb
setup

E. JUnit Setup

F. Selenium Setup

z.Git

2. Gettin' Fancier

3. Gotchas

4. Questions

**Tools
Used**

**Cross-
Platform,
Mostly*
Free**

* **VMware is
not free on
all platforms**

VMware

**Parallels is a
Virtualization
Alternative**

**Or, you can skip
Virtualization and
install Ubuntu
directly on a spare
PC. Just burn the
ISO image to a CD.**

Ubuntu Linux

cruisecontrol.rb

JsUnit

Selenium

**There is a lot
of material in
this
presentation**

**We will
move FAST**

Maybe too fast
for you to
follow along
during the
preso (sorry!)

**But it's all
on the
slides**

**Overachievers
can yell “Bingo”
if you finish it
before I do.**

**Everyone else
can pair up and
help each other**

Intended to be
comprehensive,
easily
repeatable,
generic, cross-
platform

**Contains
everything*
you need to
try this on a
real project**

* “everything” except the stuff that doesn’t work on your project or environment or latest versions. Error messages and Google are your friend :)

As a matter of fact, it almost certainly won't work perfectly for you. Integrating this stuff is hard, and new problems arise as tools and libraries evolve. Embrace the ~~bleeding~~ cutting edge, keep a positive attitude, and help fix bugs.

**It's OK to sit
back and
watch**

**Try it at your
home or
workplace, at
your own pace**

You can try it on a mac, but slides target an Ubuntu VM for maximum portability and repeatability

Live!

**No Hand
Waving**

Their
will be
typos!

You down
with
OCD?

**Then
you'll
know me!**

**Just please
don't be
“That Guy”
(or Gal)!**

You know, “That Guy”
who stands up and
wants to expound on
irrelevant minutiae
during the middle of a
presentation...

**Nitpicks,
Flames and
Hints
Welcome....**

...over beer,
AFTER the
tutorial

**...but seriously, if you
are a bit OCDish, you
might make a good CI
G(uylal) - because
there's a lot of moving
parts that all have to
integrate...**

...Continuously!

**1. Time
to Code!**

**WARNING: If you try to
cut and paste
commands from the
presentation (and you
can, they're all there),
use the OpenOffice doc.**

**Pasting from PDF
inserts bad line breaks**

A. Install Linux on vMWare

**No time to install
Linux live, but
VMWare and
images are on
USB Keys**

My Barebones Linux VM Setup:

Base:

VMWare on Macbook Pro 17”

Ubuntu 7.10 desktop VM from ISO

VMware Tools installed

Optional:

**Change resolution (System > Preferences
> Screen Resolution)**

Mouse Acceleration and Sensitivity

Terminal scrollback

**Everything should
work pretty much
the same on any
modern Unix
platform**

**Following are
screenshots and
instructions to set
up basic Ubuntu
on VMware**

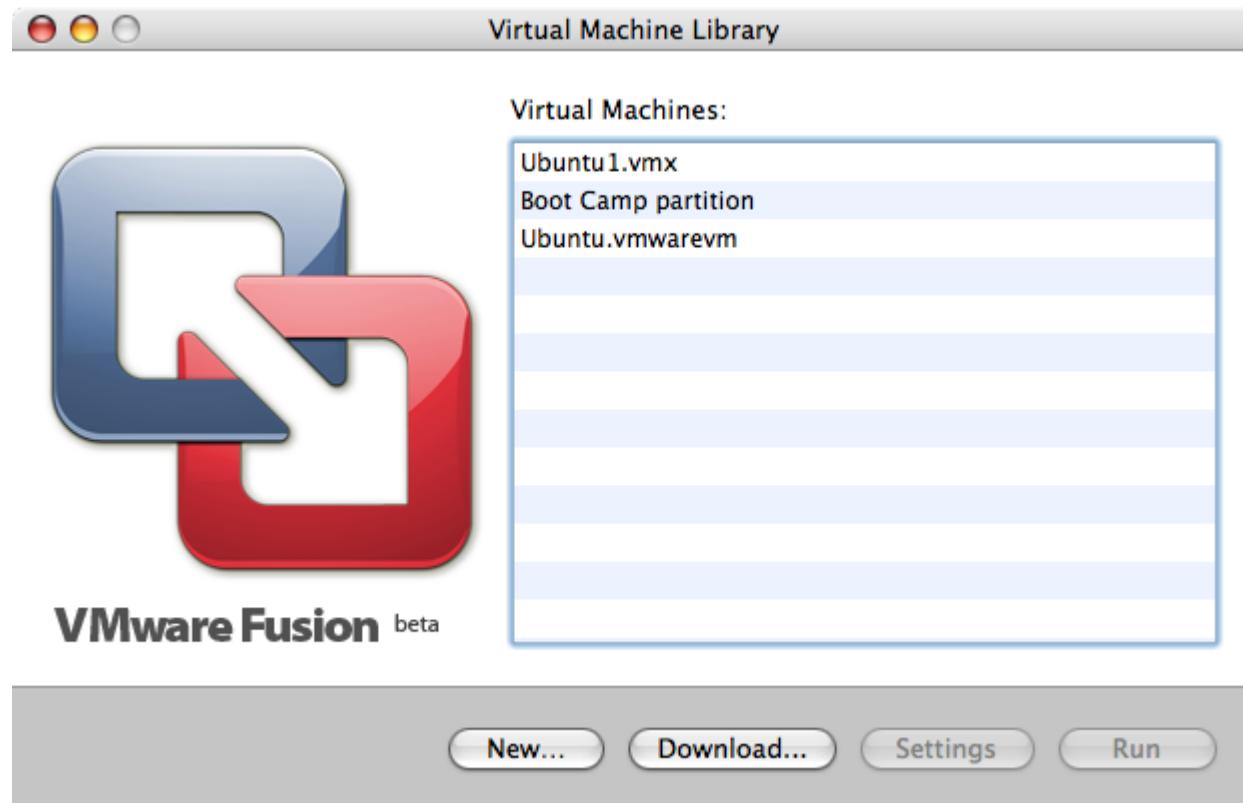
We will skip them
for now, but you
can use them as a
guide when you
try it later

**Exact steps may
vary depending on
your hardware**

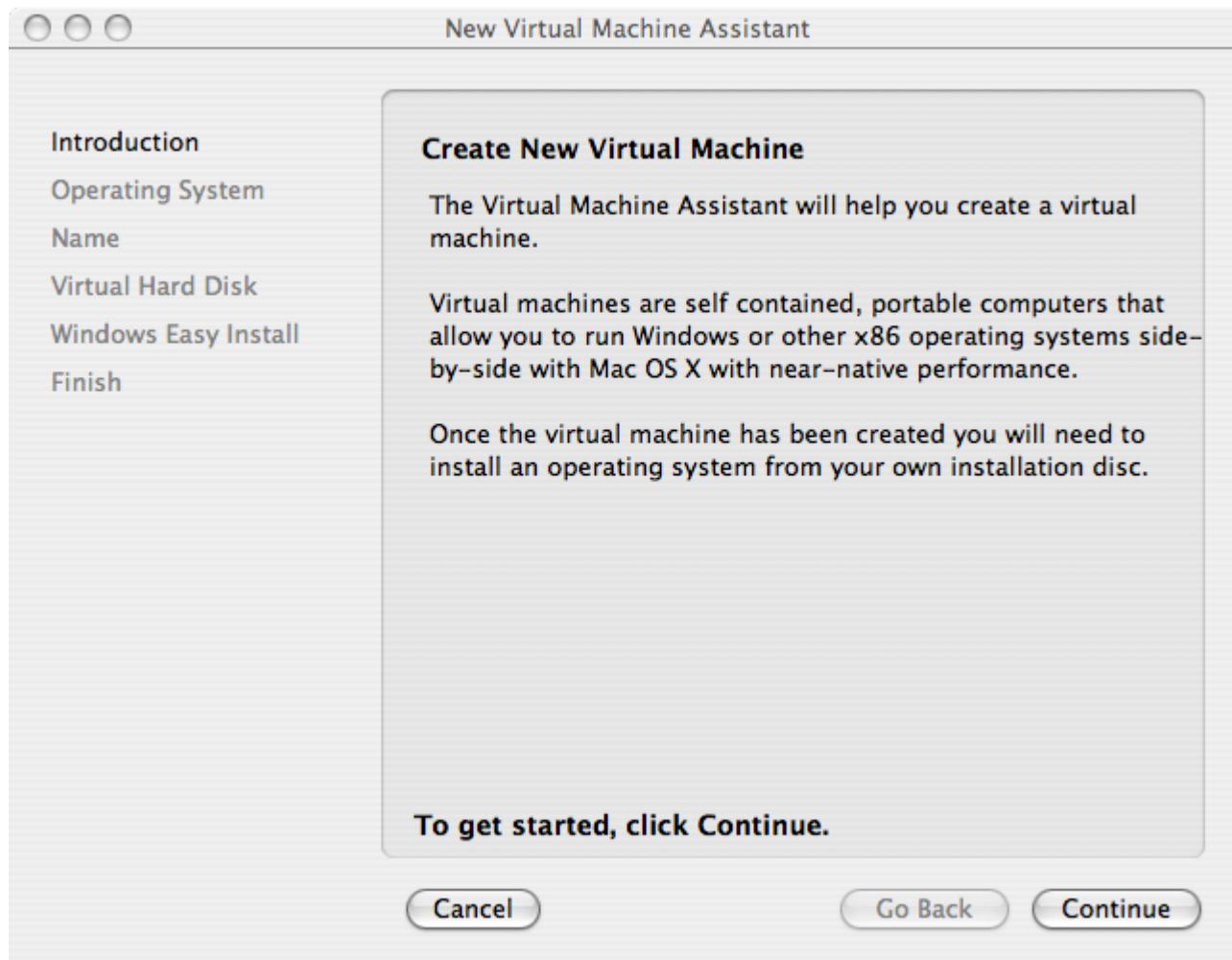
**Original
screenshots in
/presentation
/screenshots if
these are too
small to read**

VMware Mac Setup:
/presentation
/screenshots
/01a_mac_vmware_
fusion_screenshots

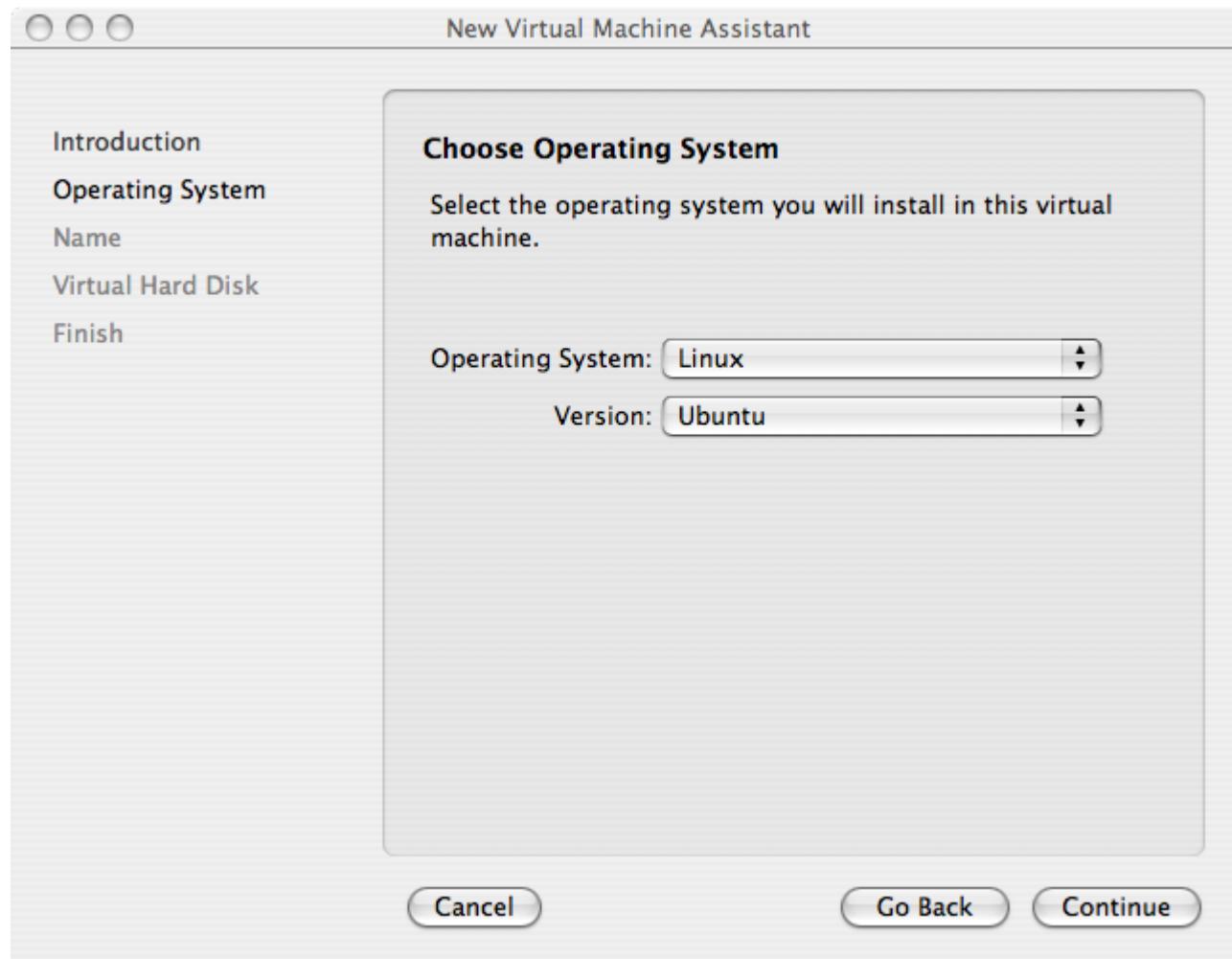
01_Virtual_Machine_Library.png



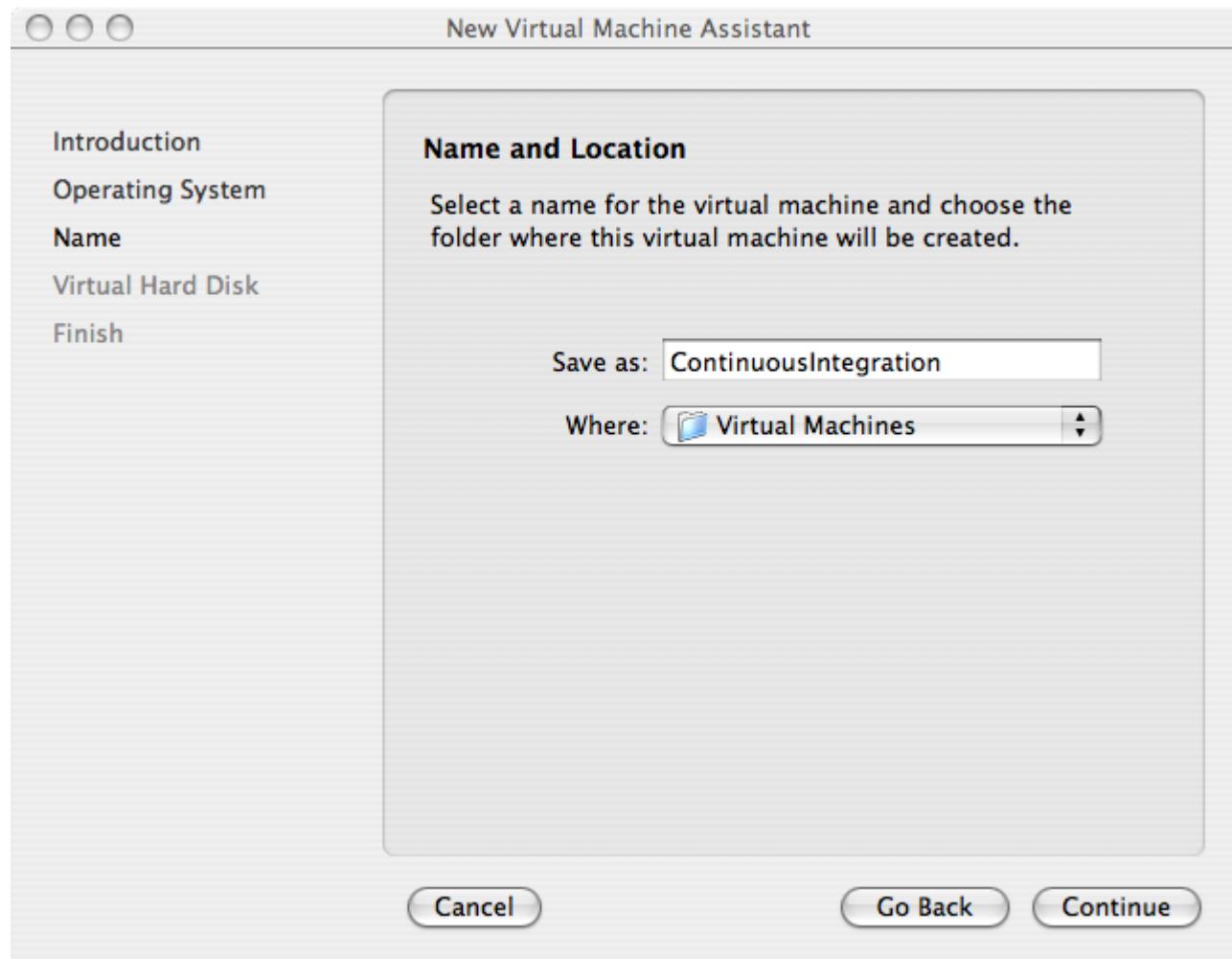
02_Create_New_Virtual_Machine.png



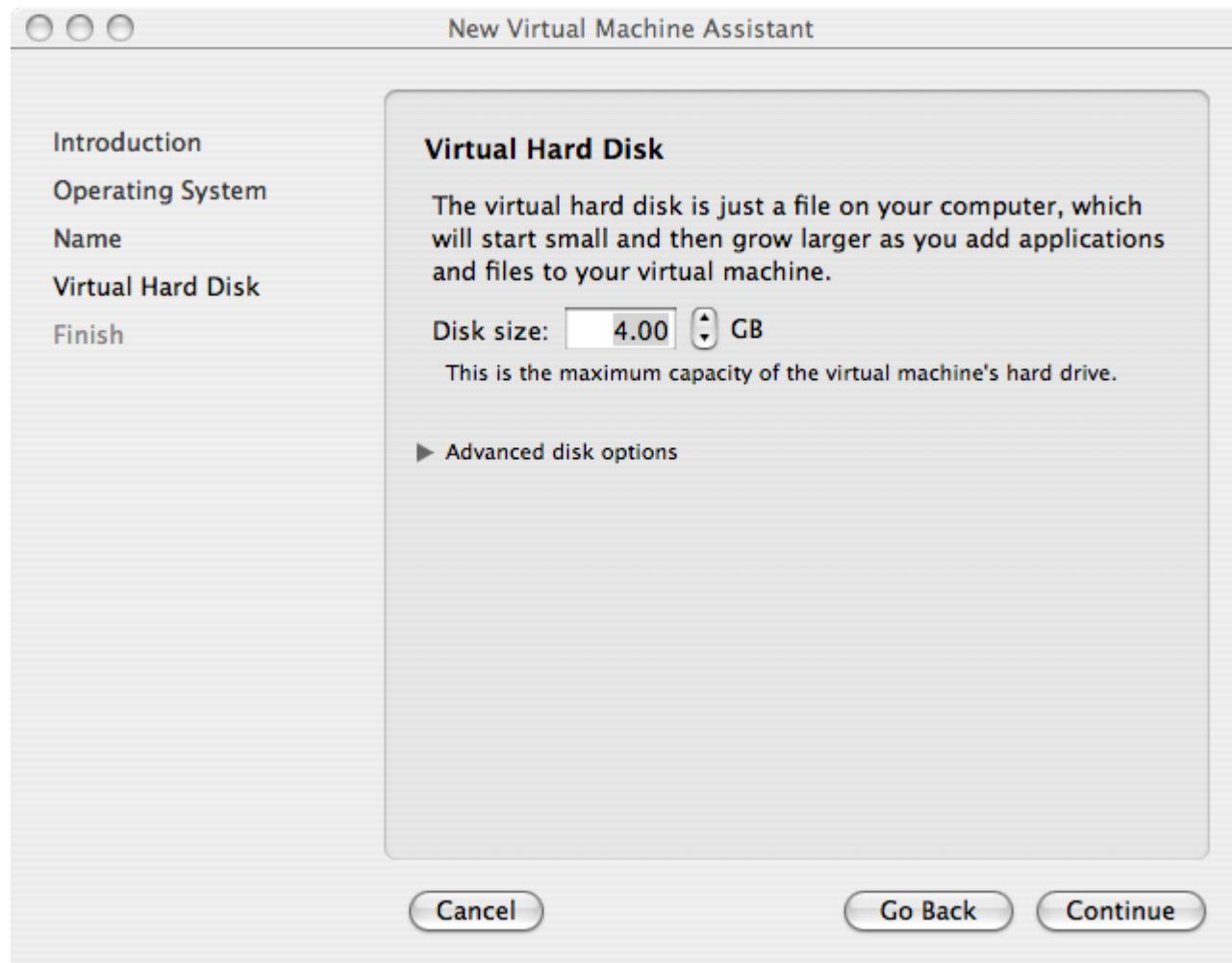
03_Choose_Operating_System.png



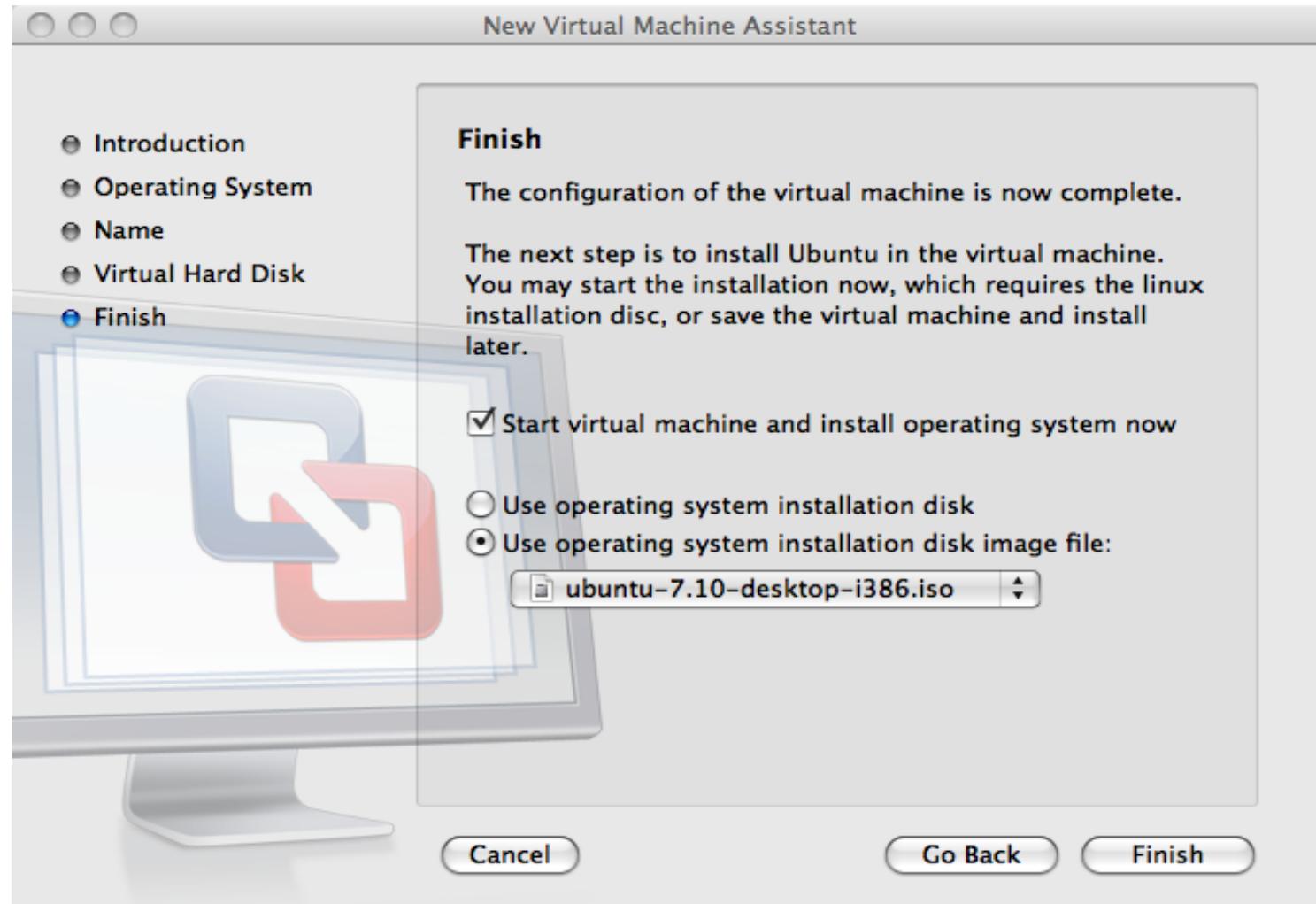
04_Name_and_Location.png



05_Virtual_Hard_Disk.png

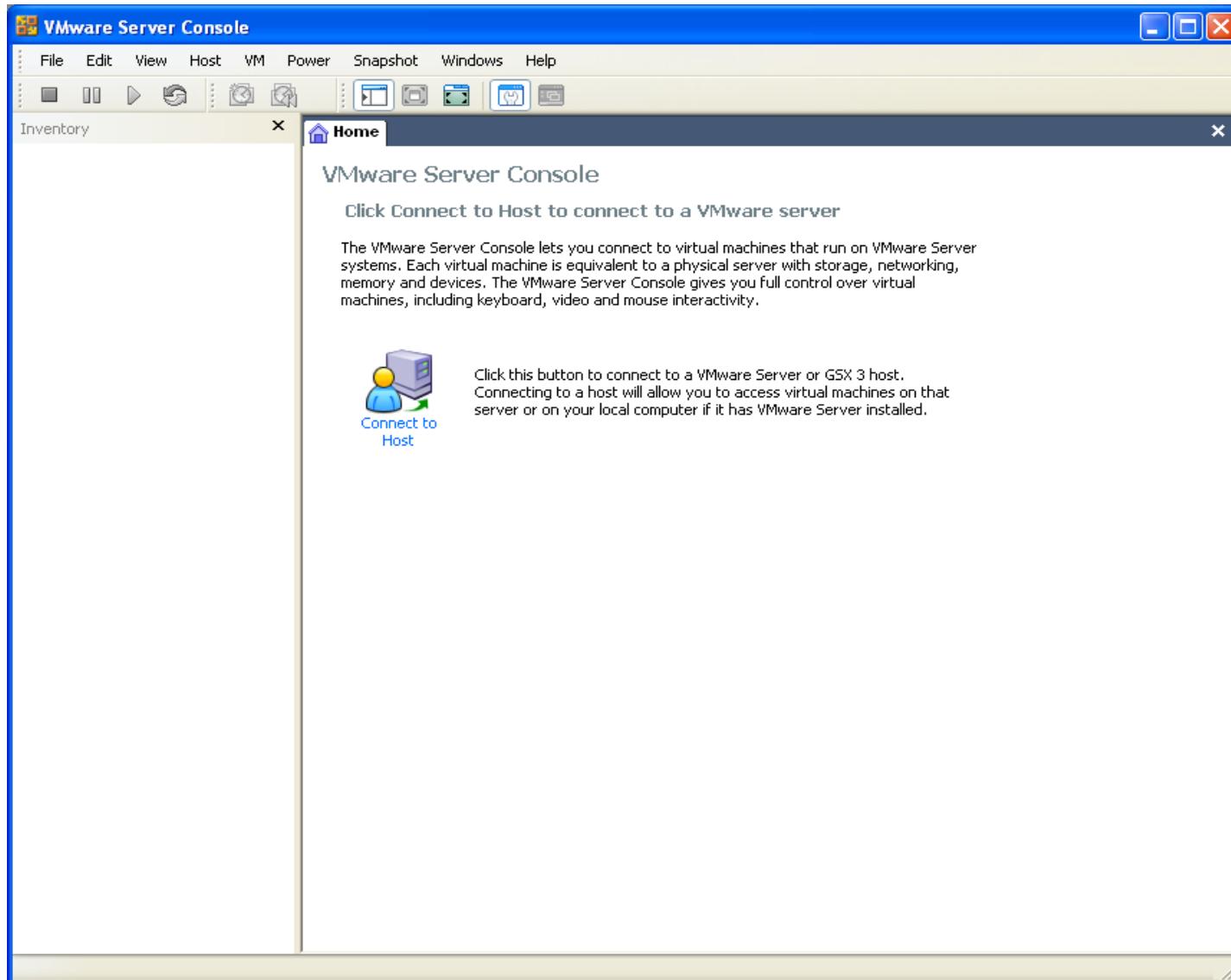


06_Finish.png

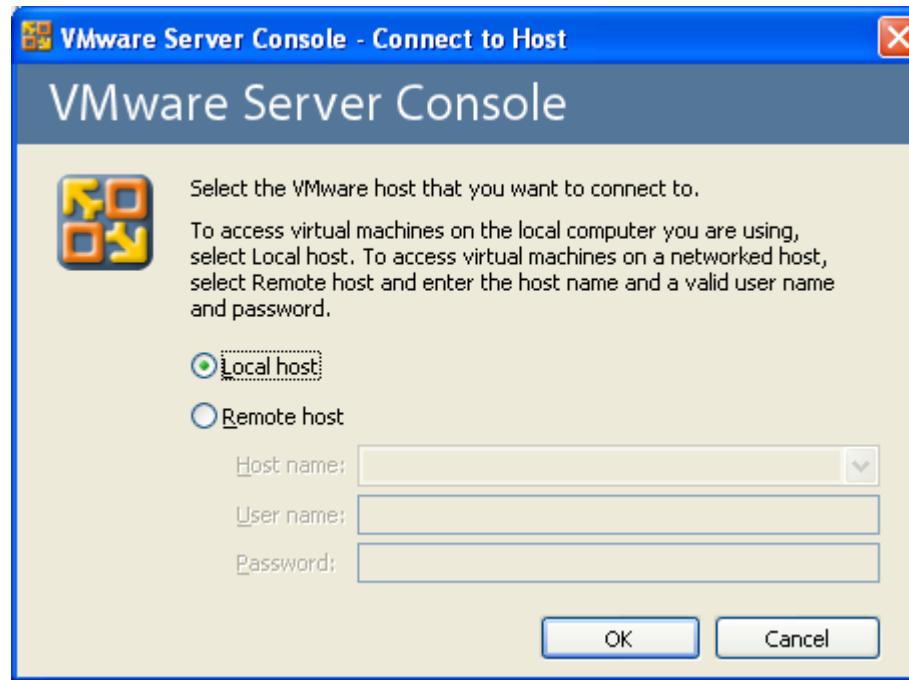


VMware Win Setup:
/presentation
/screenshots
/01b_win_vmware_
server_screenshots

01_Vmware_Server_Console.PNG



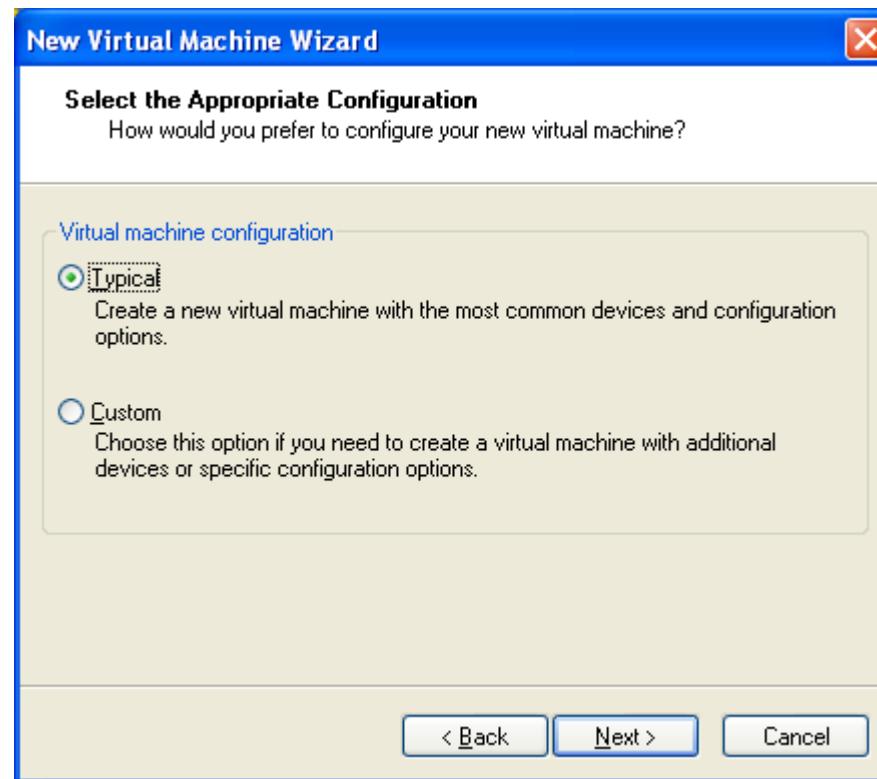
02_Connect_To_Host.PNG



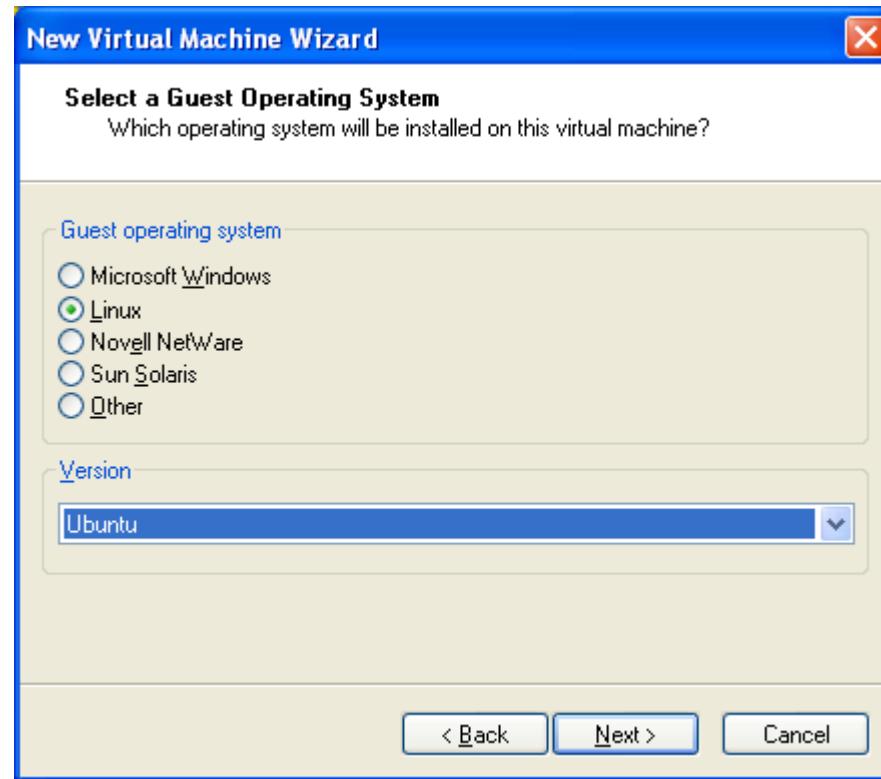
03_New_Virtual_Machine.PNG



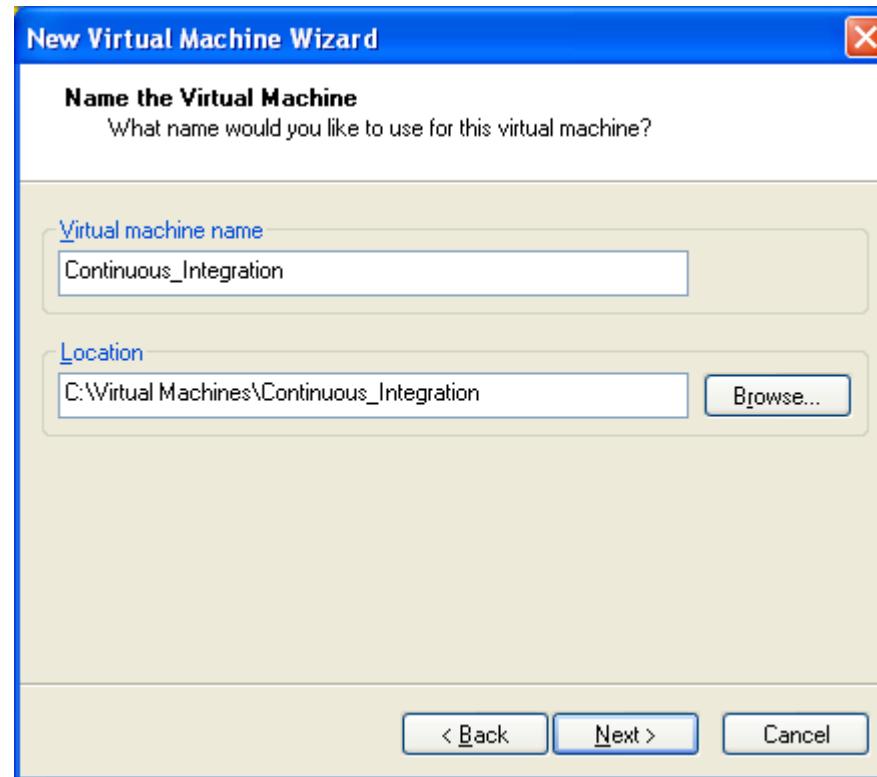
04_Virtual_Machine_Configuration.PNG



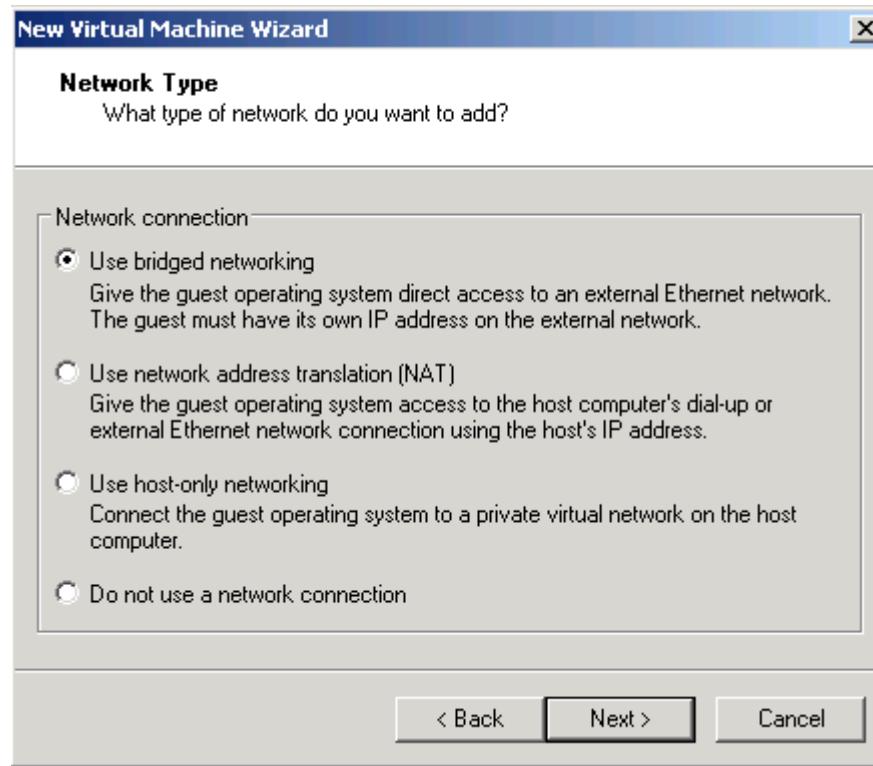
05_Select_a_Guest_Operating_System.PNG



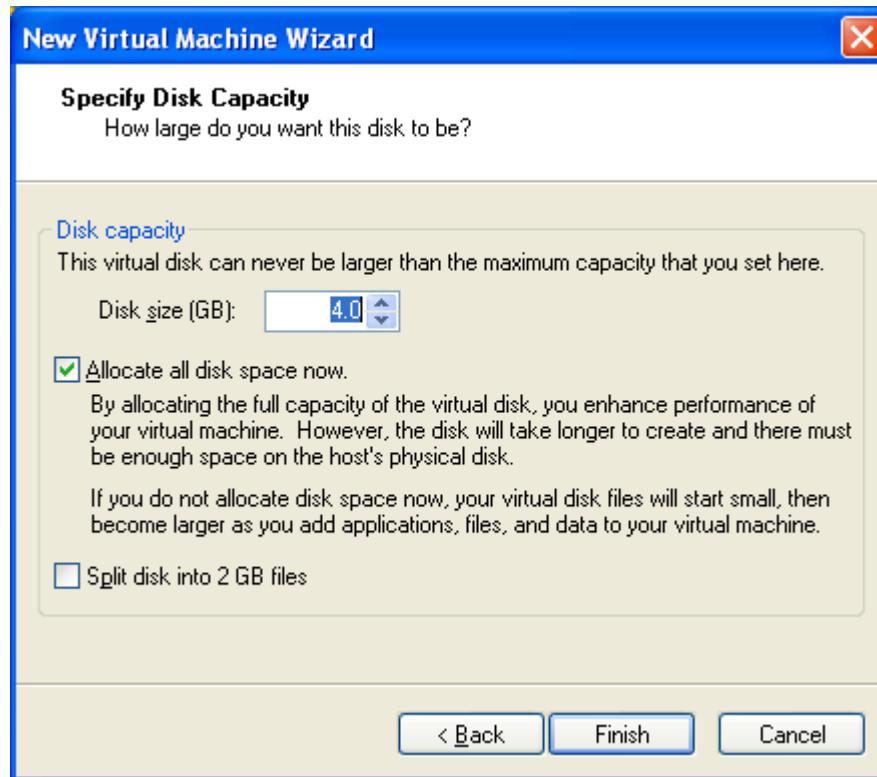
06_Name_the_Virtual_Machine.PNG



07_Network_Type.PNG



08_Specify_Disk_Capacity.PNG



Mac/Win Ubuntu VM Setup:

/presentation

/screenshots

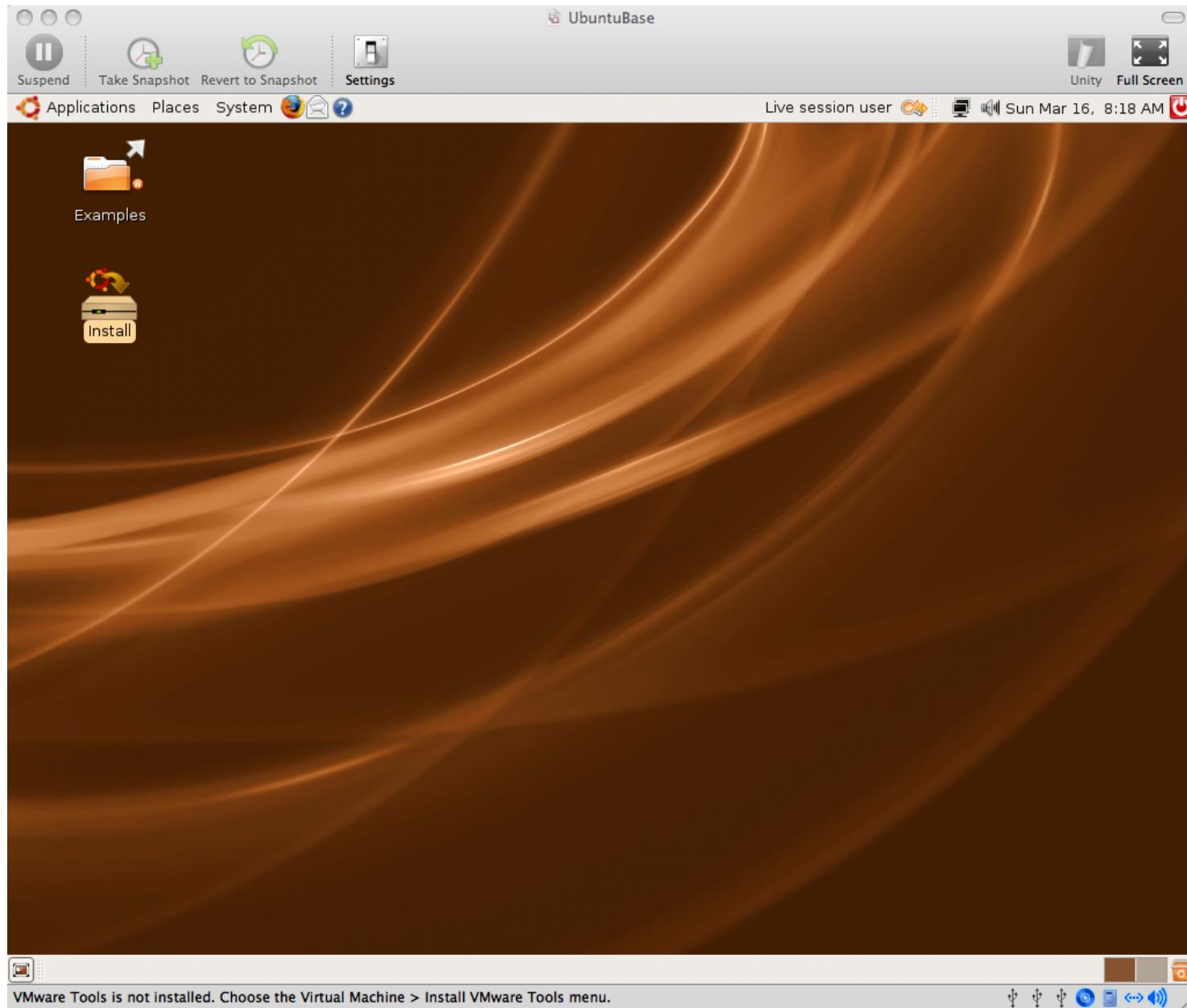
/02_ubuntu_vm_

setup_screenshots

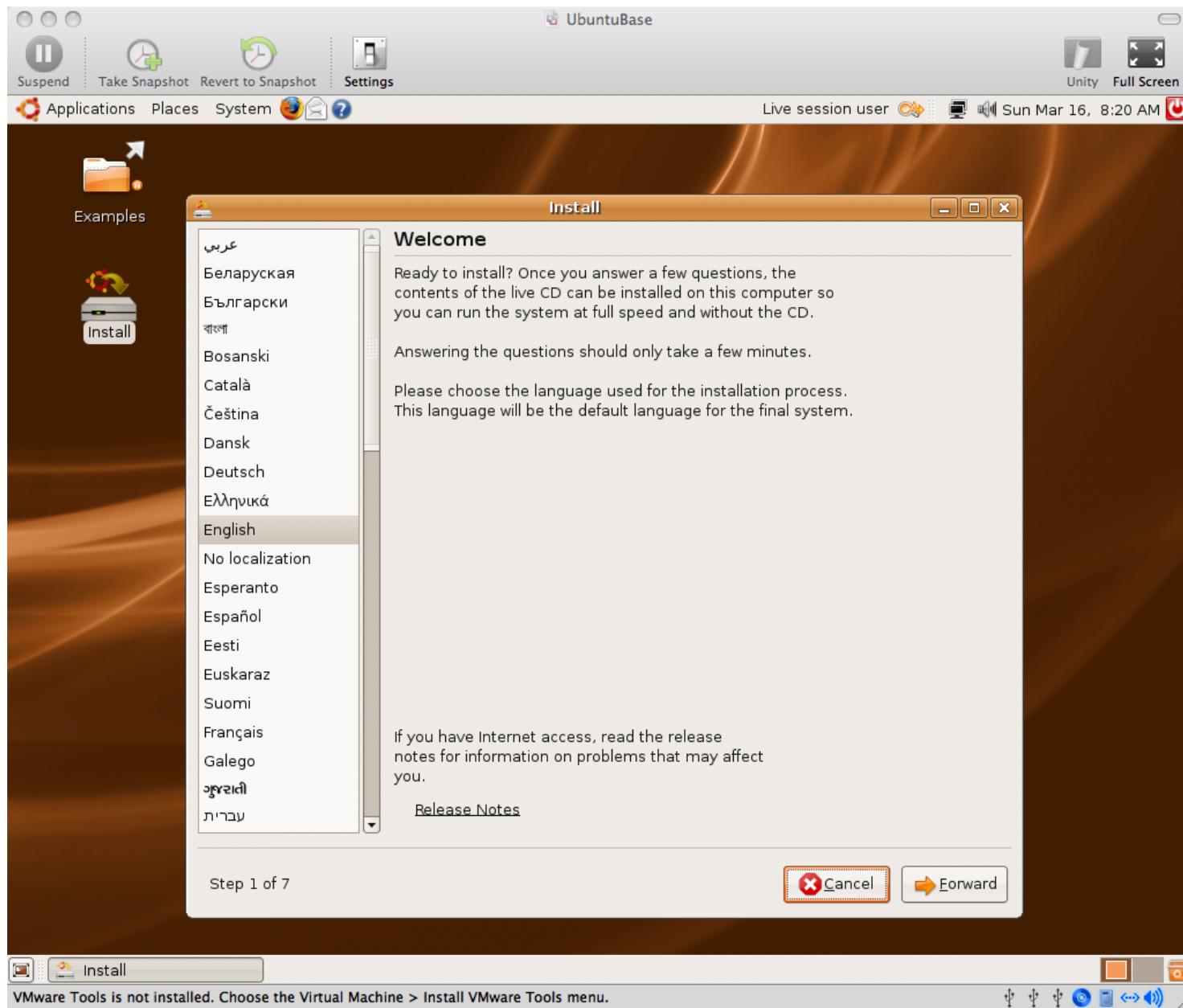
01_Start_or_Install_Ubuntu.png



02_Install_Icon.png



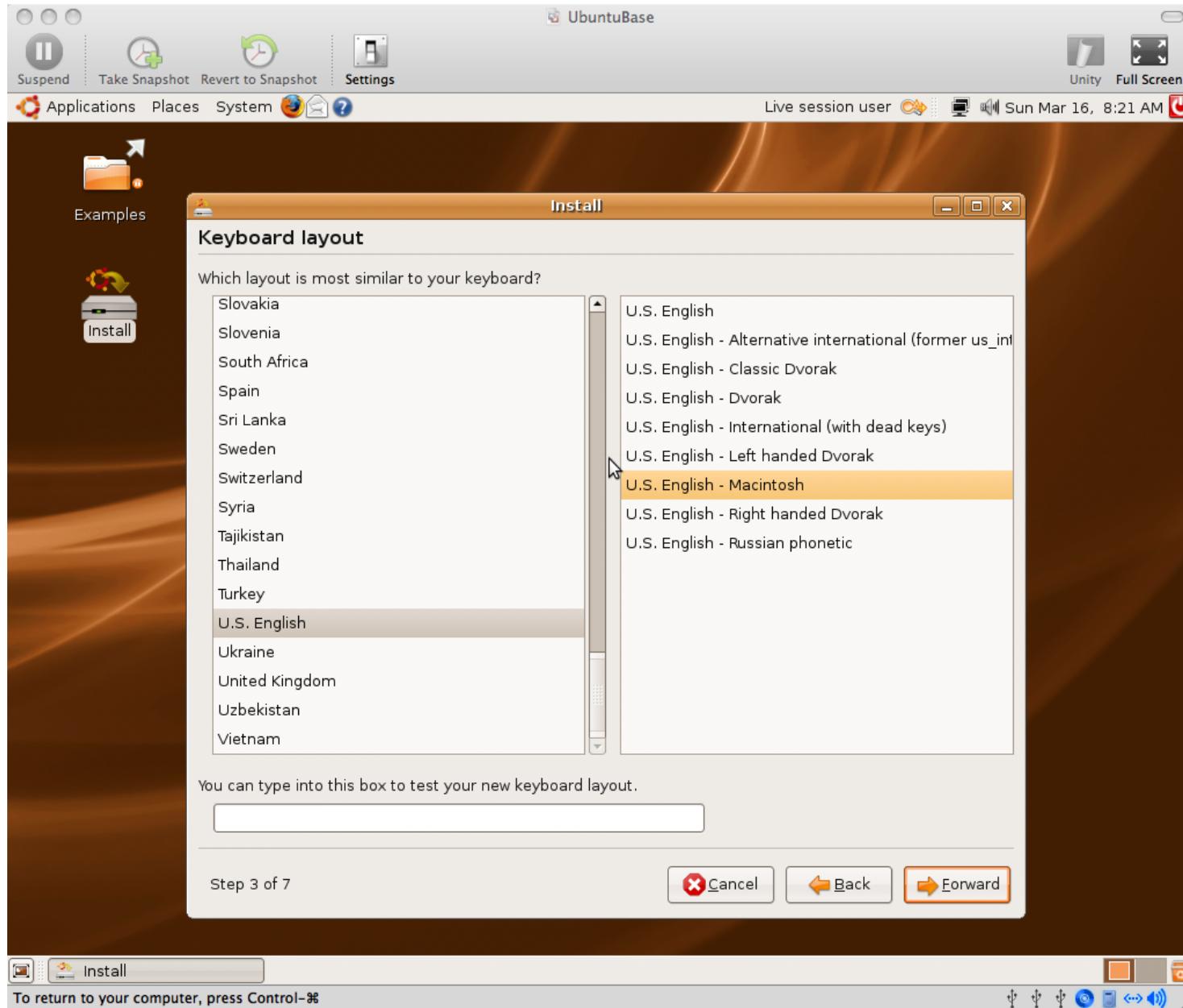
03_Welcome.png



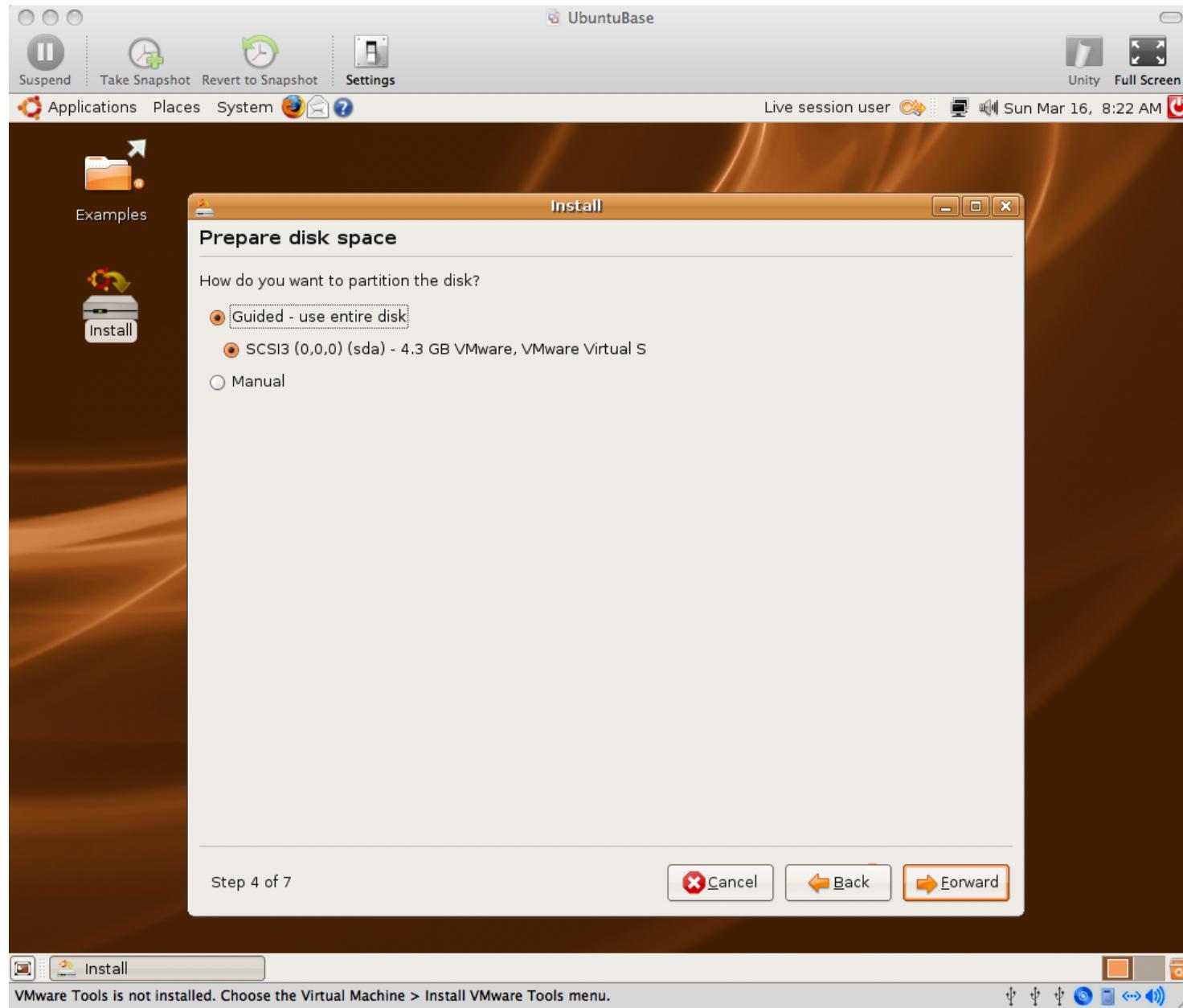
04_Where_are_you.png



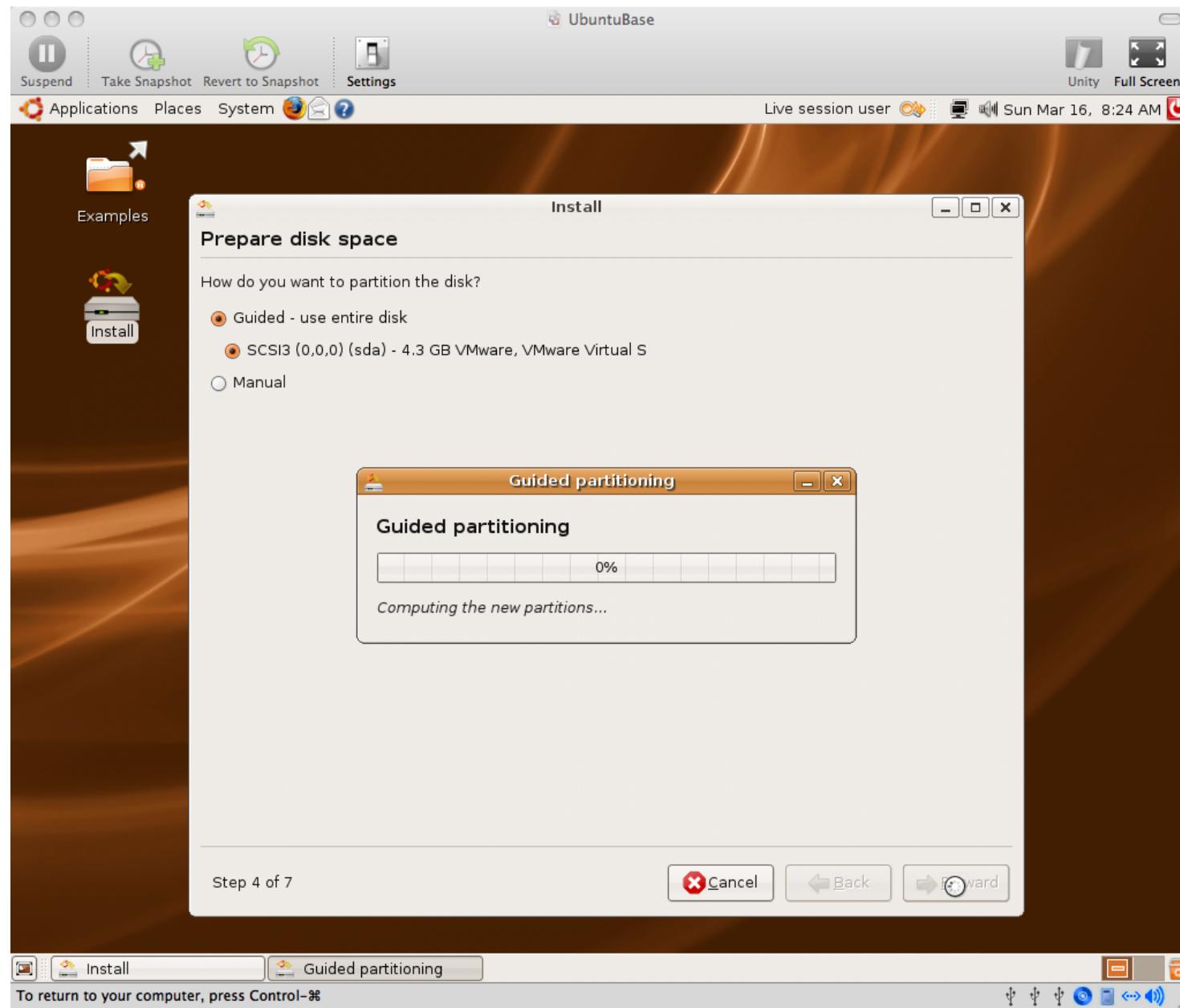
05_Keyboard_Layout.png



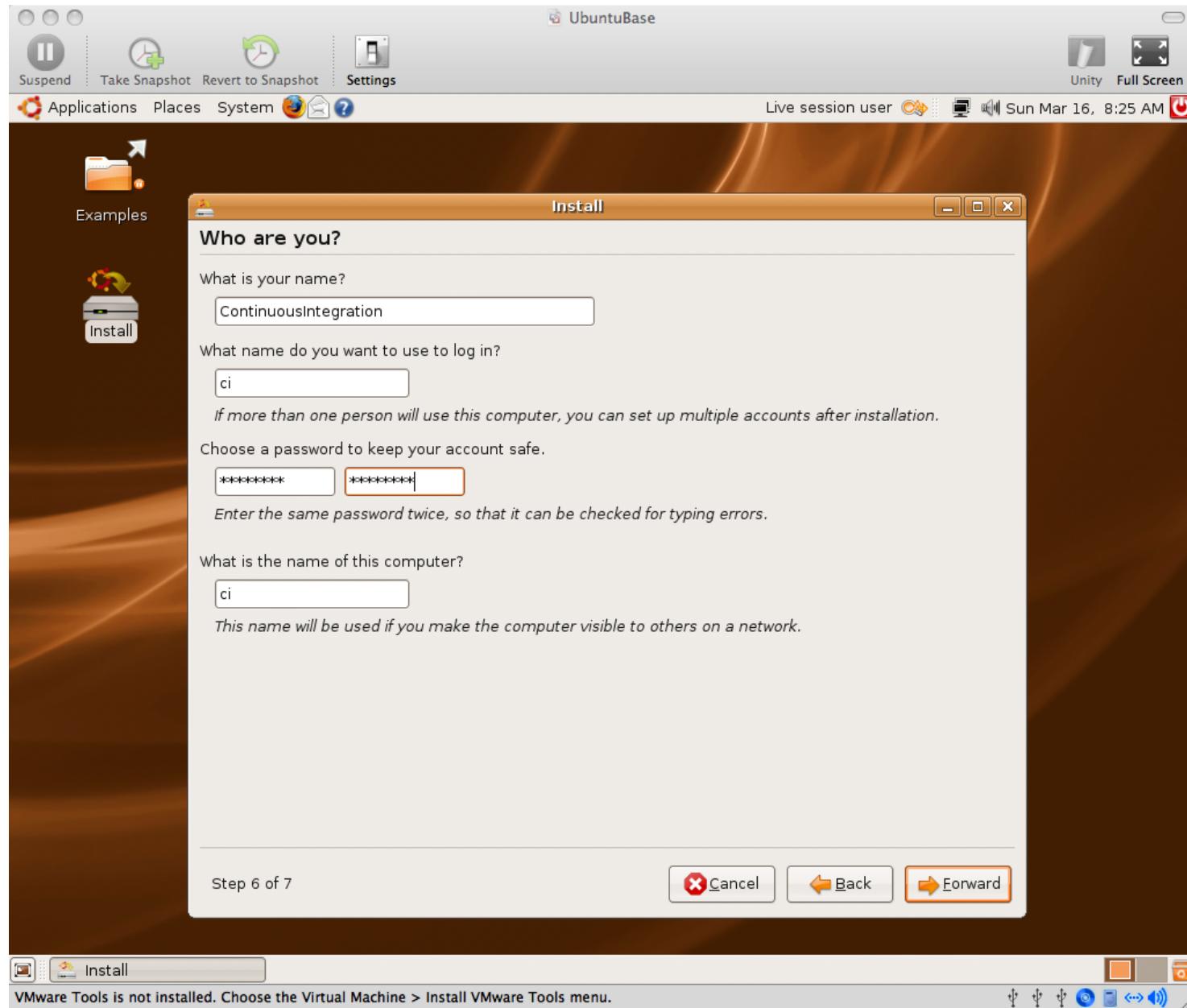
06_Prepare_disk_space.png



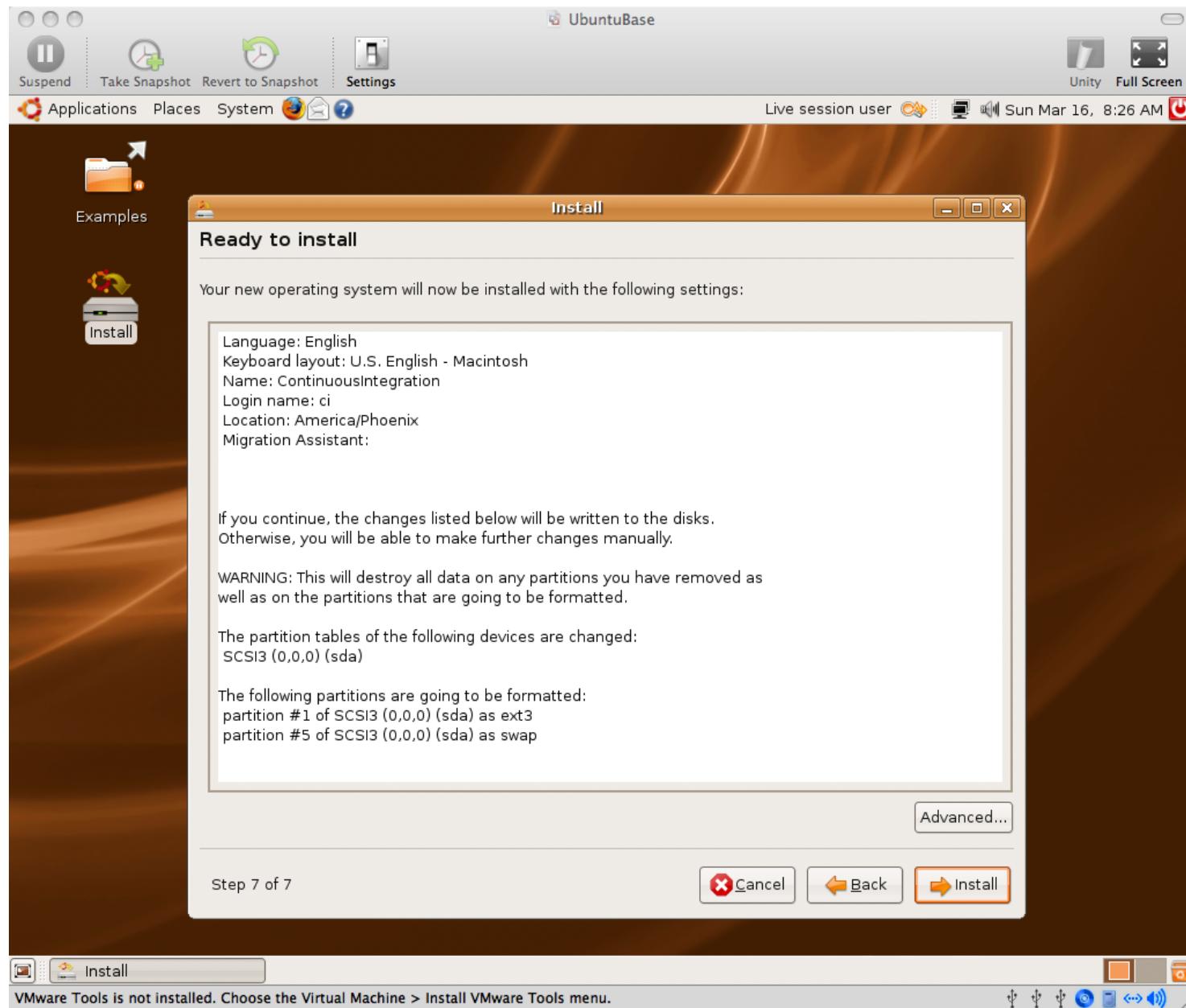
07_Guided_Partitioning.png



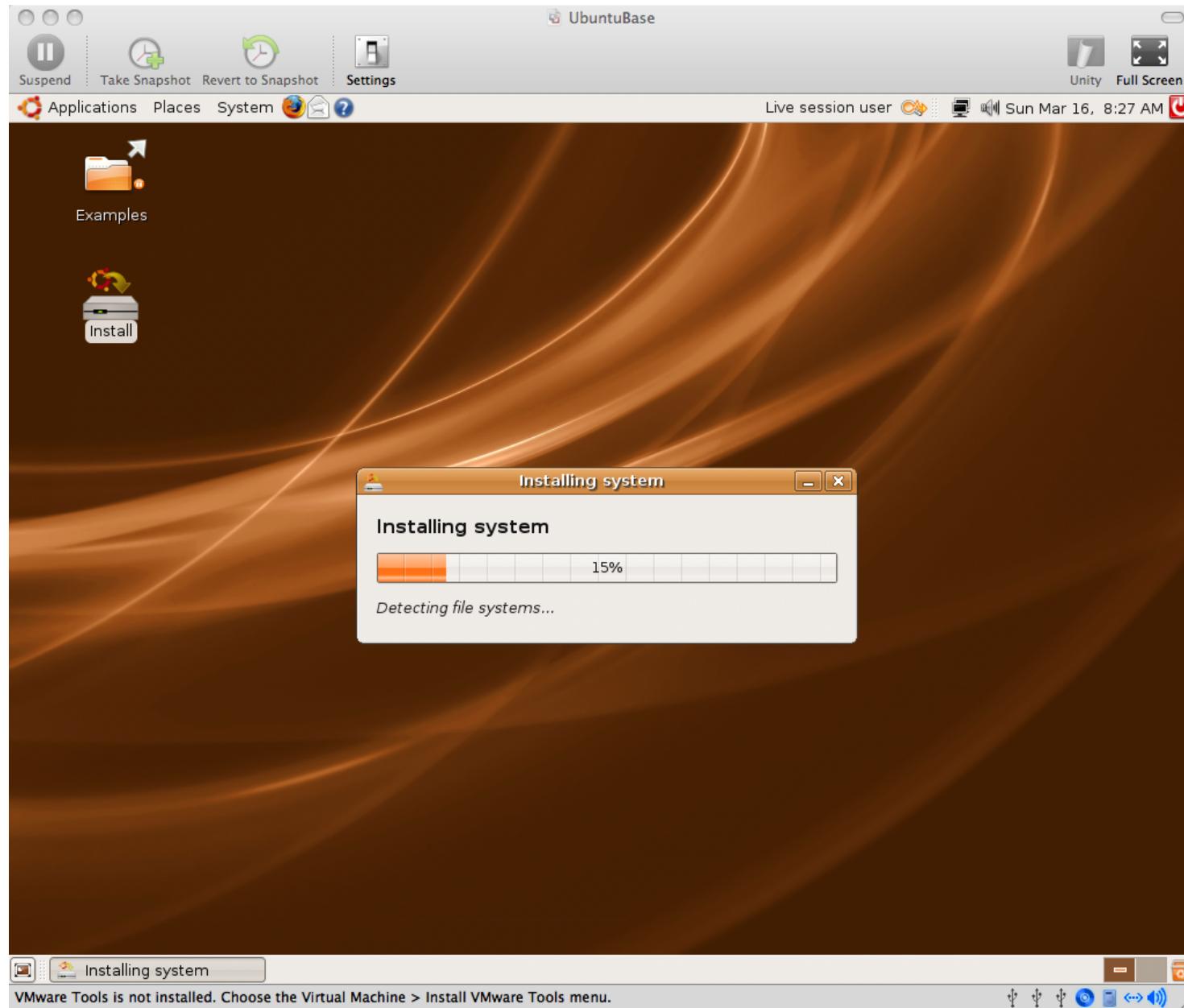
08_Who_are_you.png



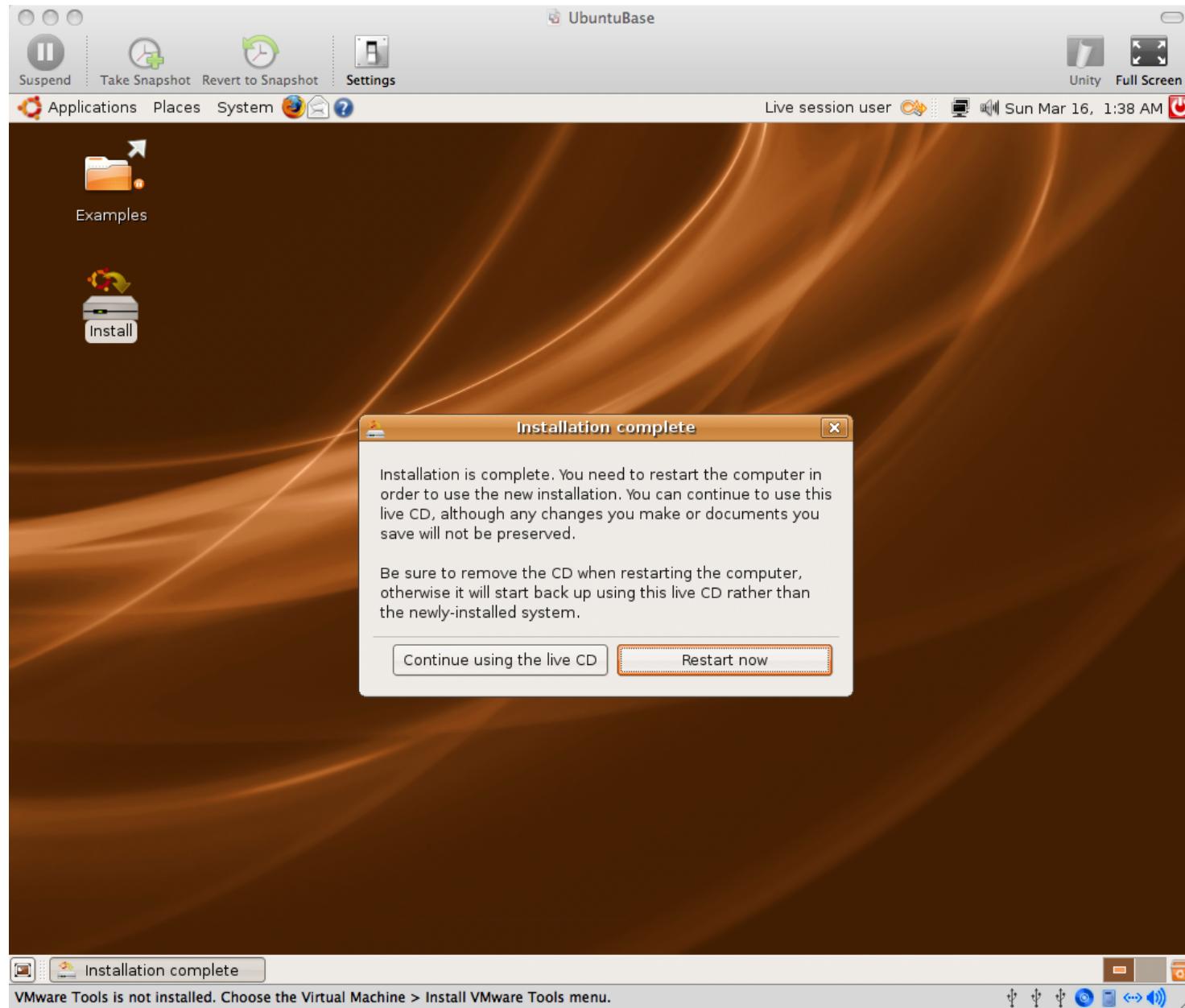
09_Ready_to_install.png



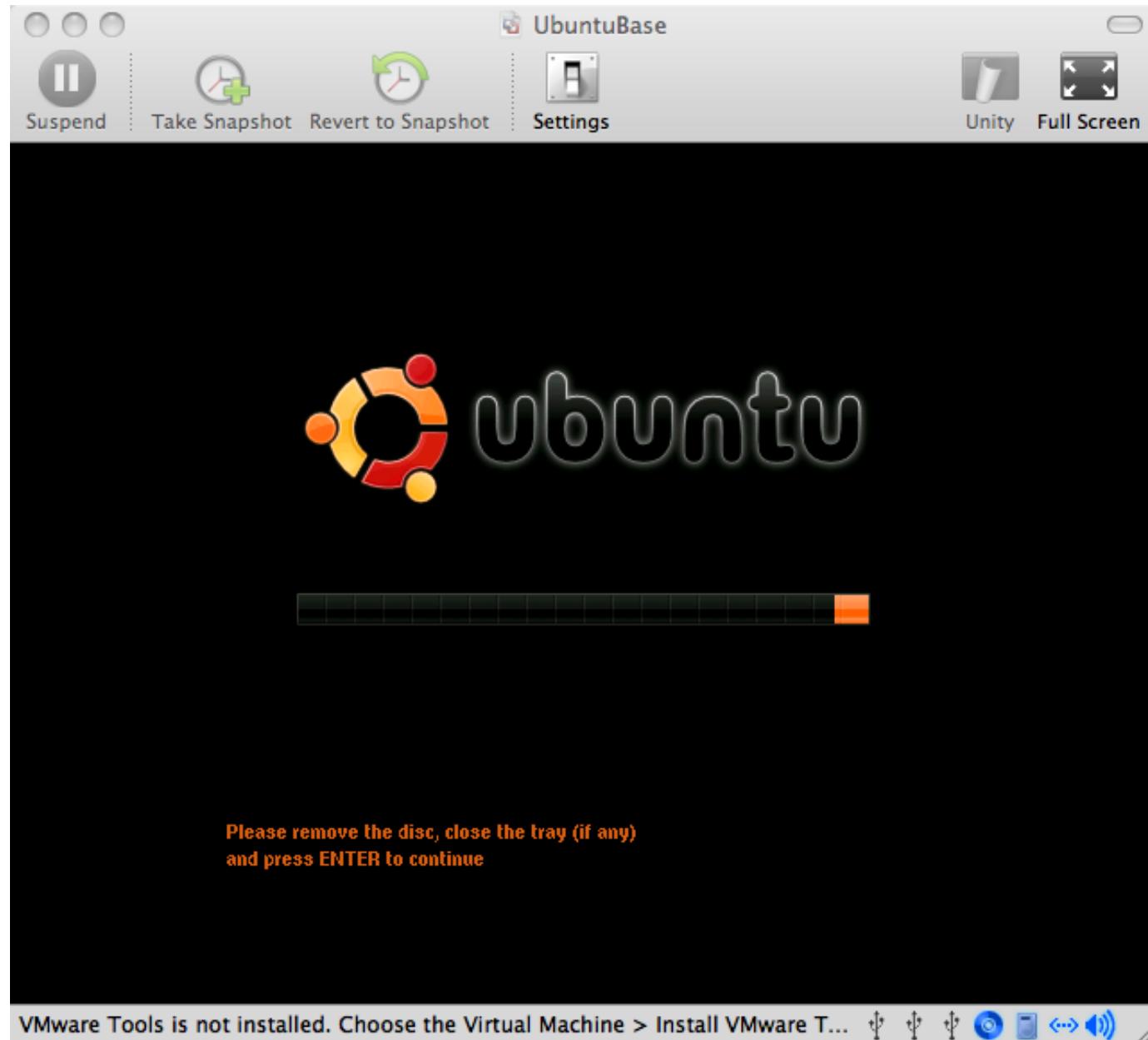
10_Installing_system.png



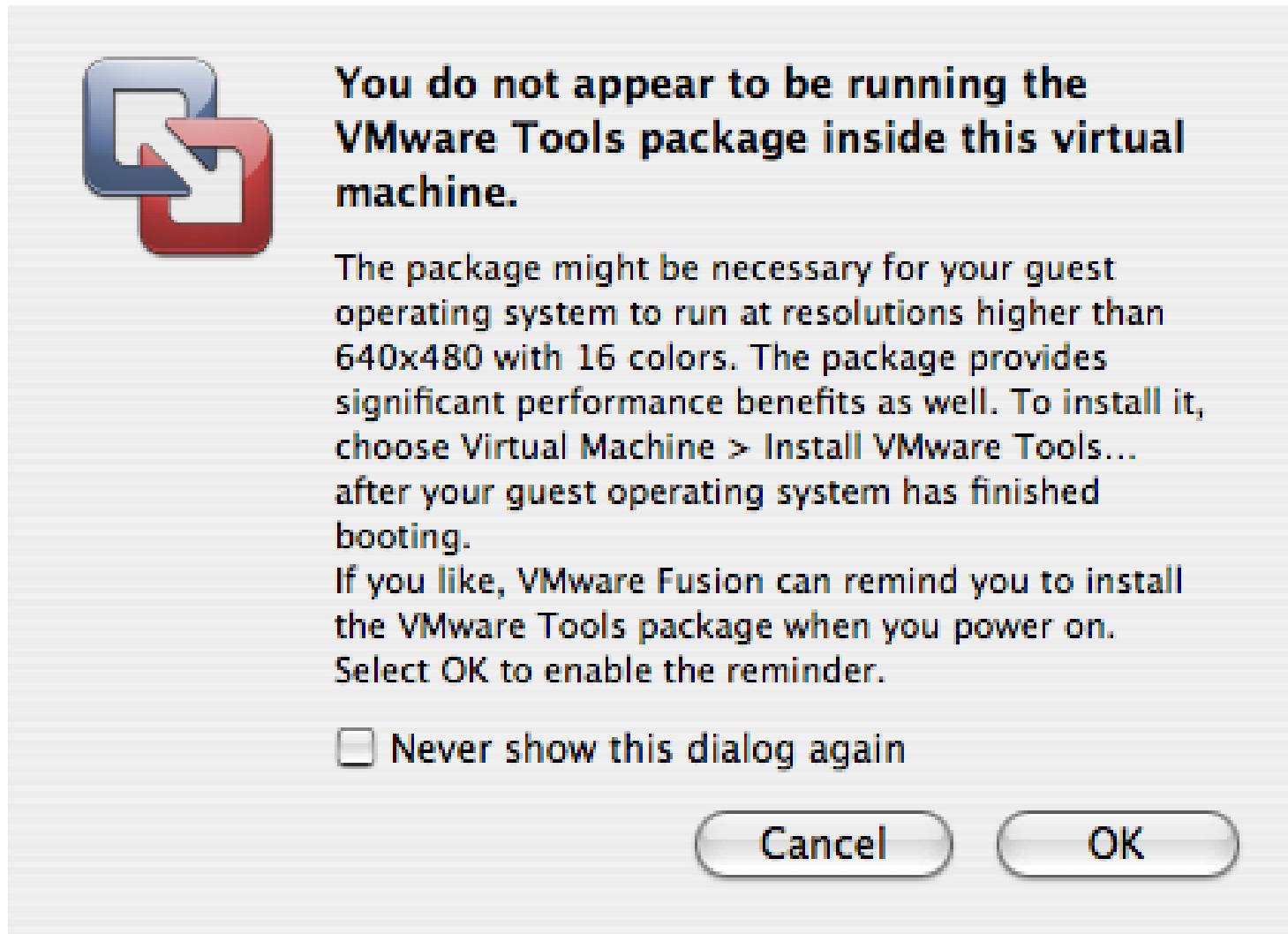
11_Installation_complete.png



12_Please_Remove_The_Disk.png



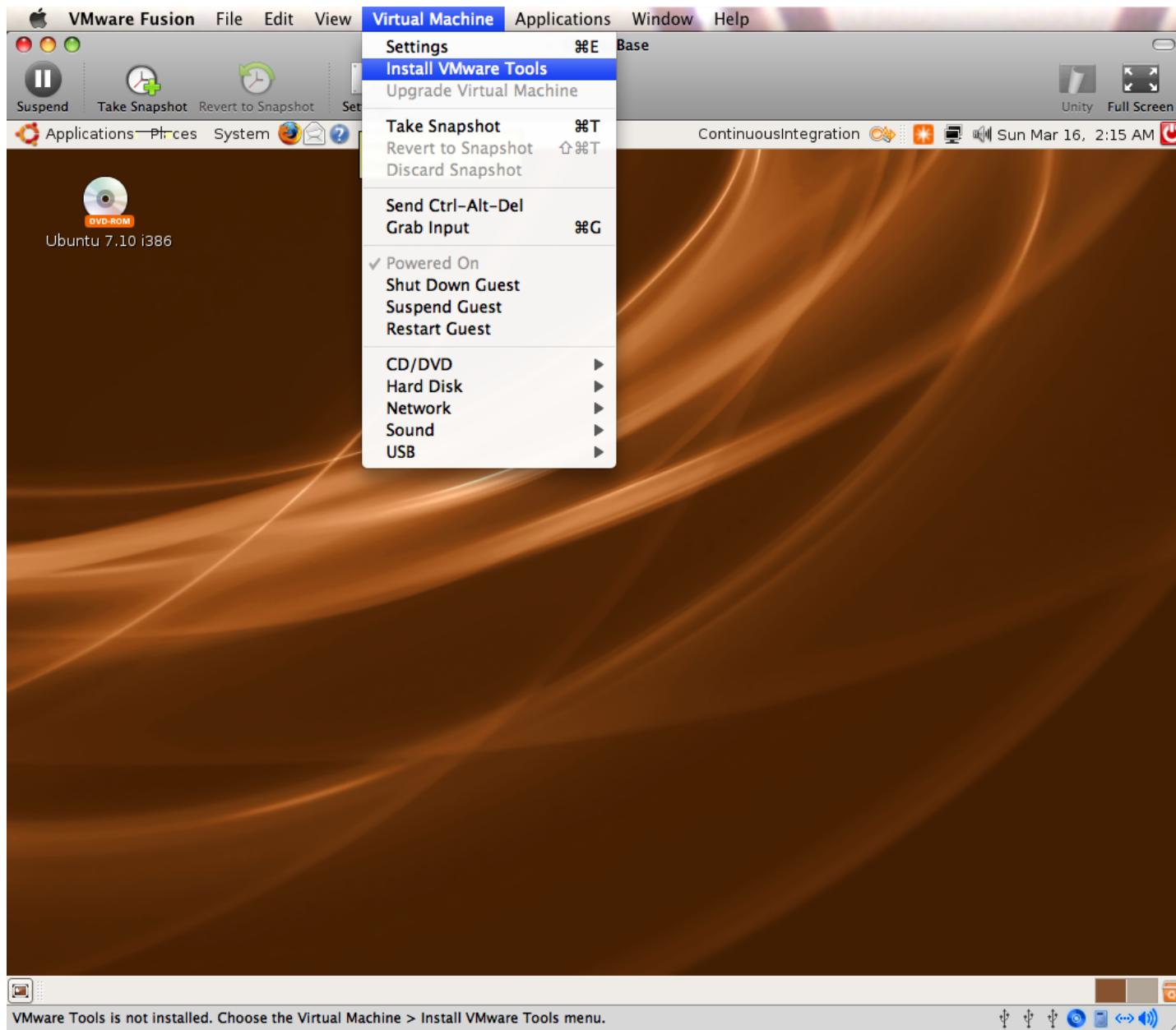
13_Vmware_Tools_reminder.png



14_Login.png



15_Virtual_Machine_Menu_Install_VMware_Tools.png



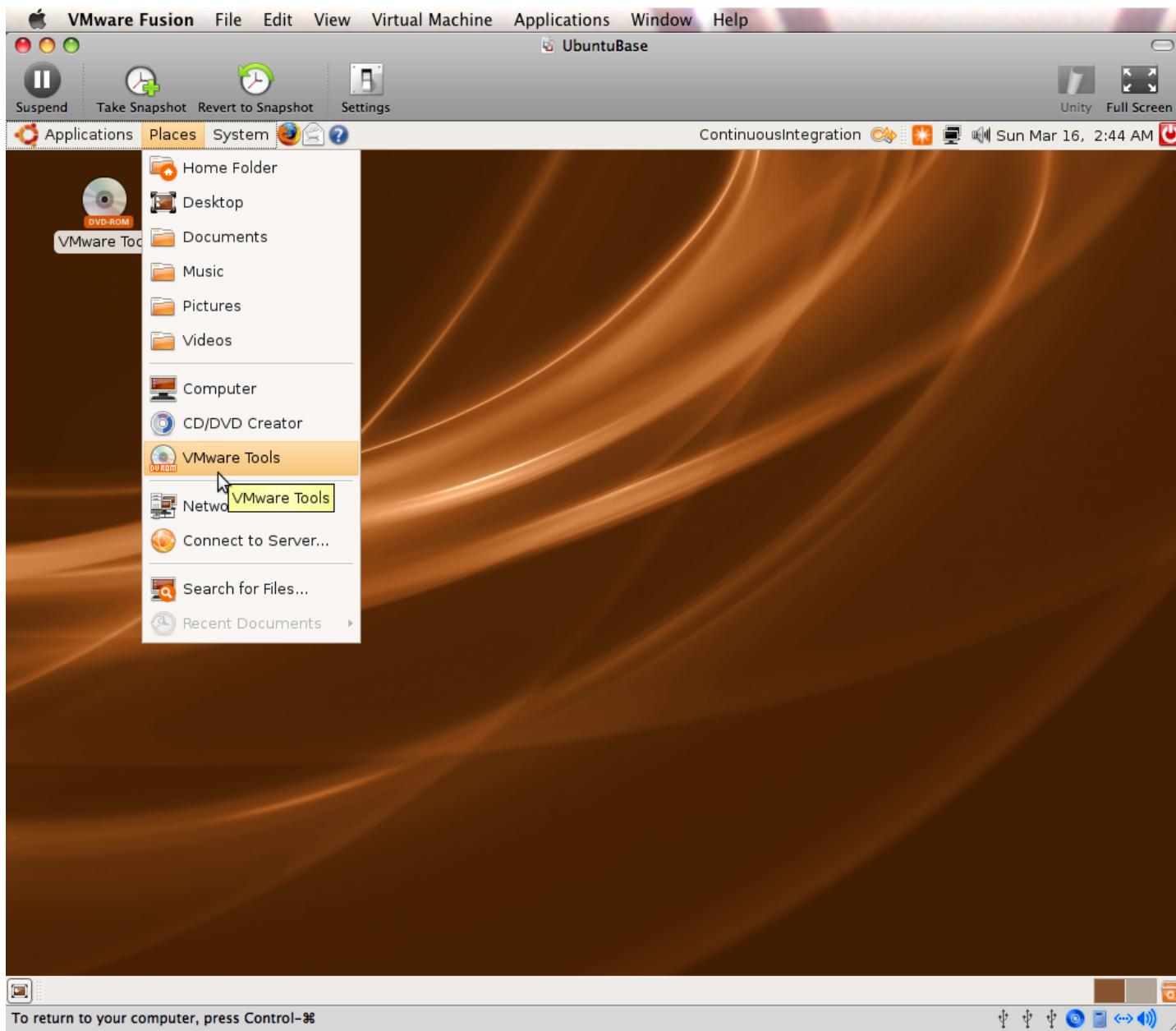
16_Installing_the_VMware_Tools_package.png



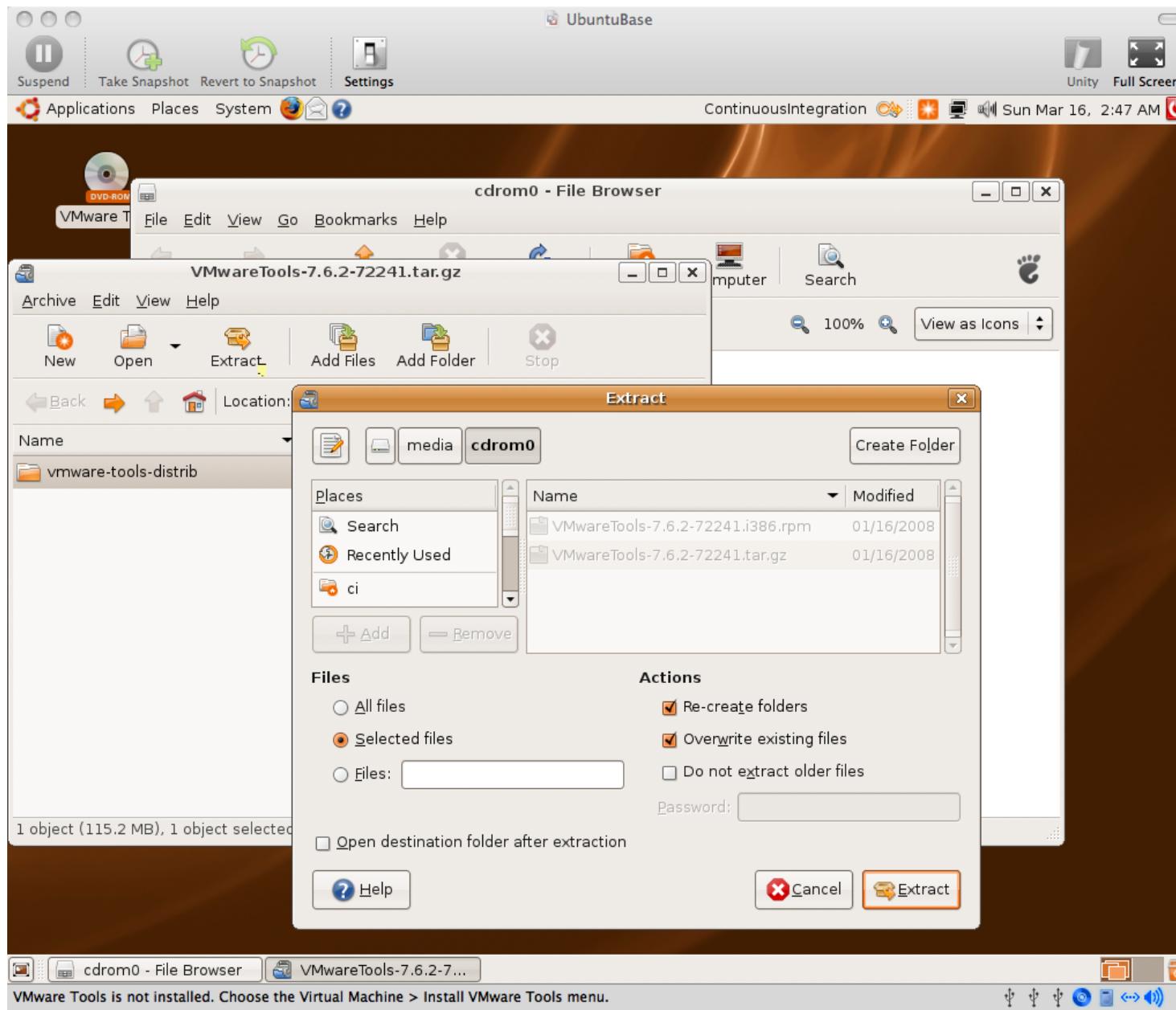
At this point, you may need to reboot (System -> Quit -> Restart) in order for the VMware Tools CD image to mount correctly, especially if you already have the Ubuntu ISO image mounted.

In fact, with Leopard/ VMWare Fusion 1.1.1/Ubuntu 7.10, the VMWare Tools image was corrupt until VM reboot. This didn't happen with Tiger/VMWare Fusion Beta/Ubuntu 7.04

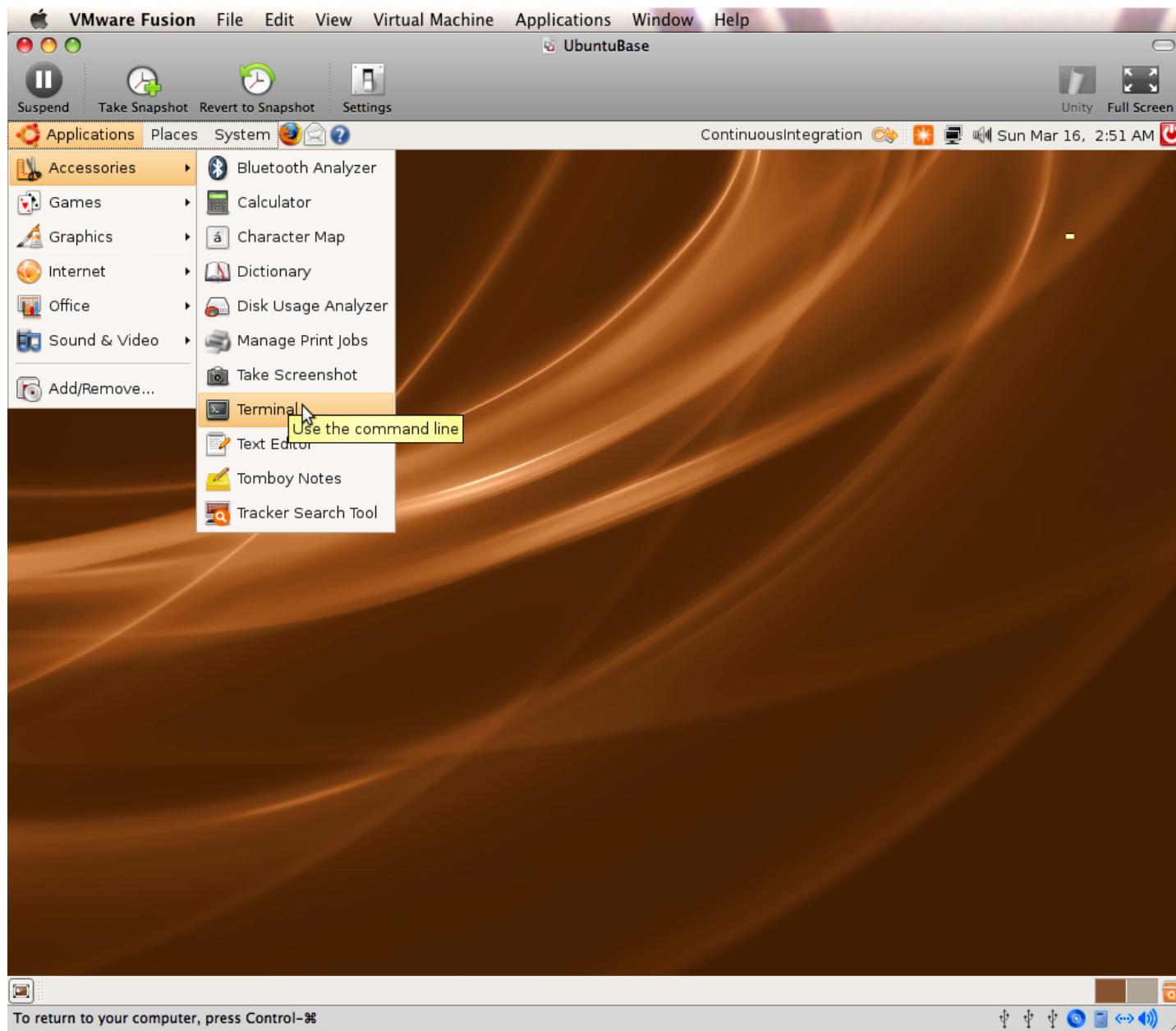
17_Open_VMWare_Tools_Image.png



18_Extract_VMware_Tools.png



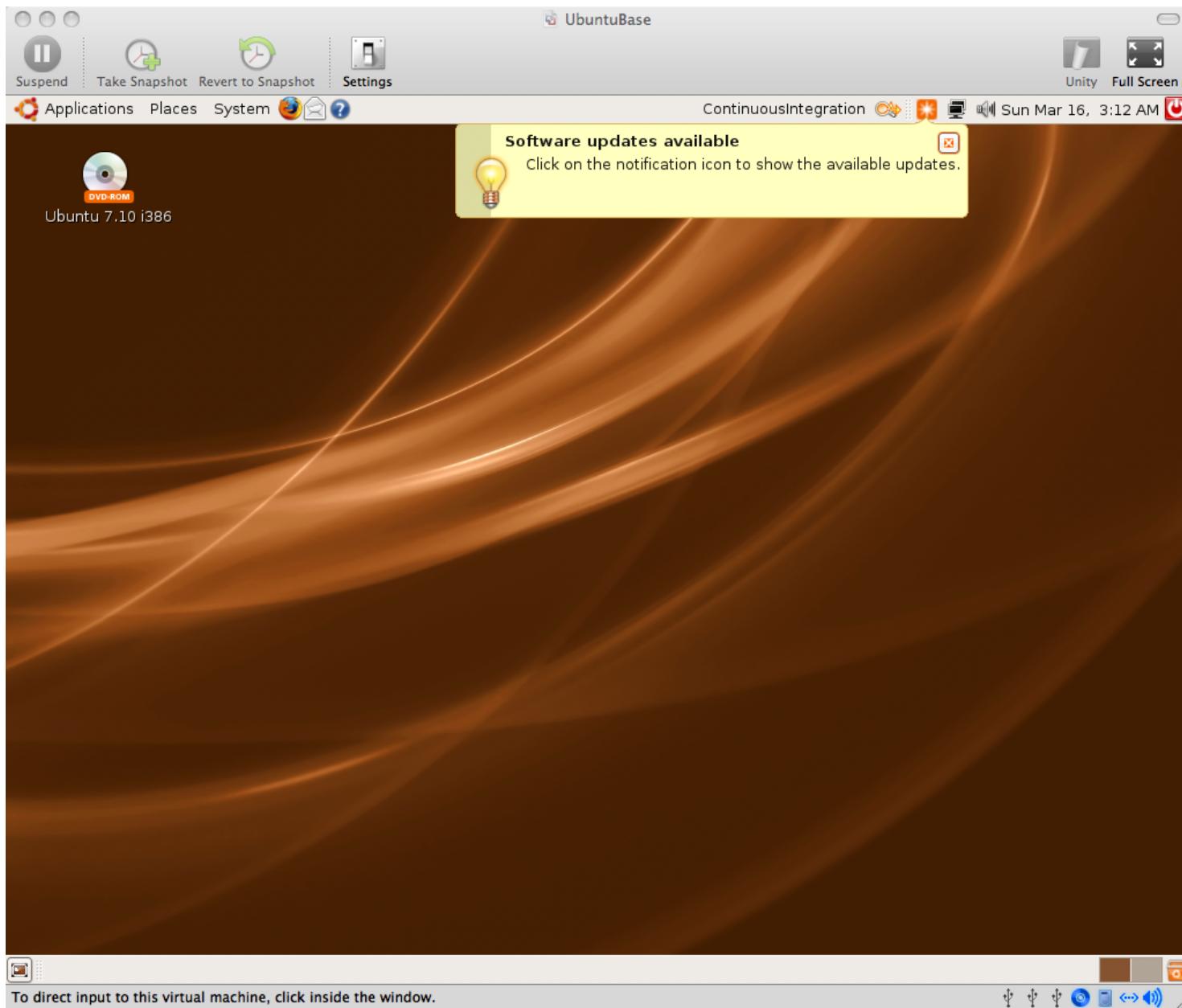
19_Applications_Accessories_Terminal.png



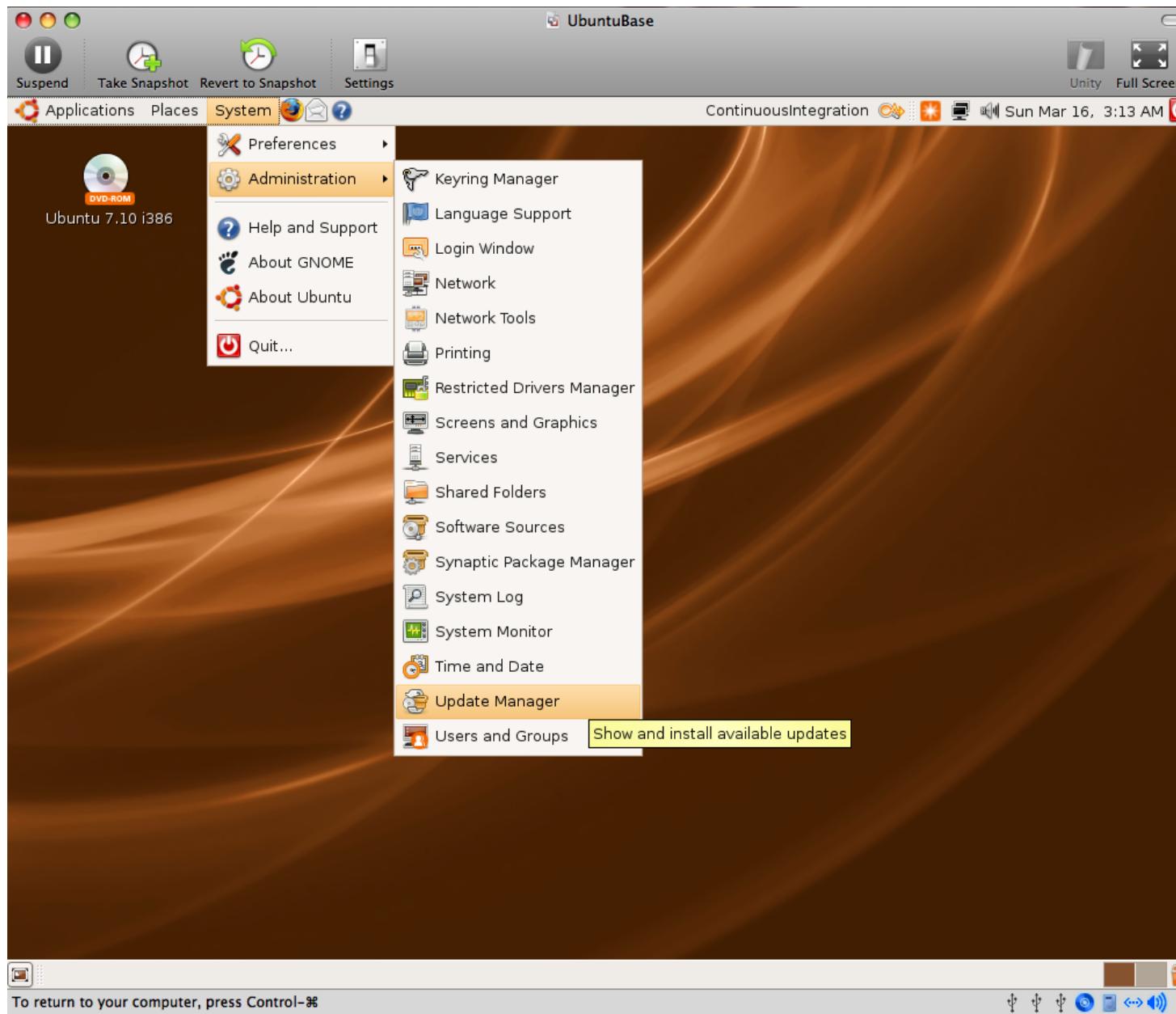
Install VMWare Tools (Optional):

```
$ cd  
$ tar -zxvf /media/cdrom0/VMwareTools-7.6.2-  
72241.tar.gz  
$ cd ~/vmware-tools-distrib  
$ sudo ./vmware-install.pl  
# enter password for sudo  
# hit enter repeatedly to accept defaults for all  
# prompts, override display size if desired  
# reboot (System -> Quit -> Restart)
```

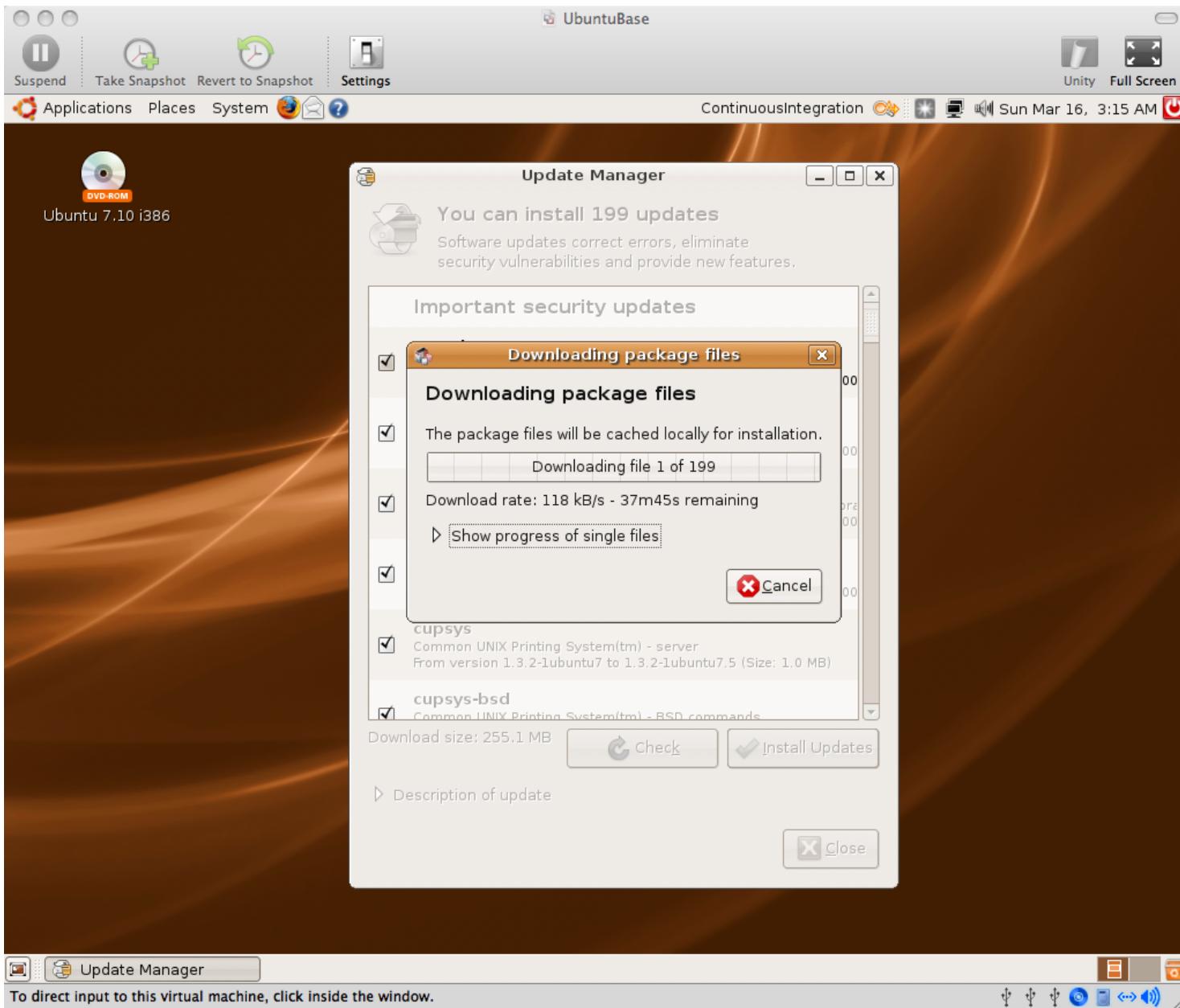
20_Software_Updates_Available.png



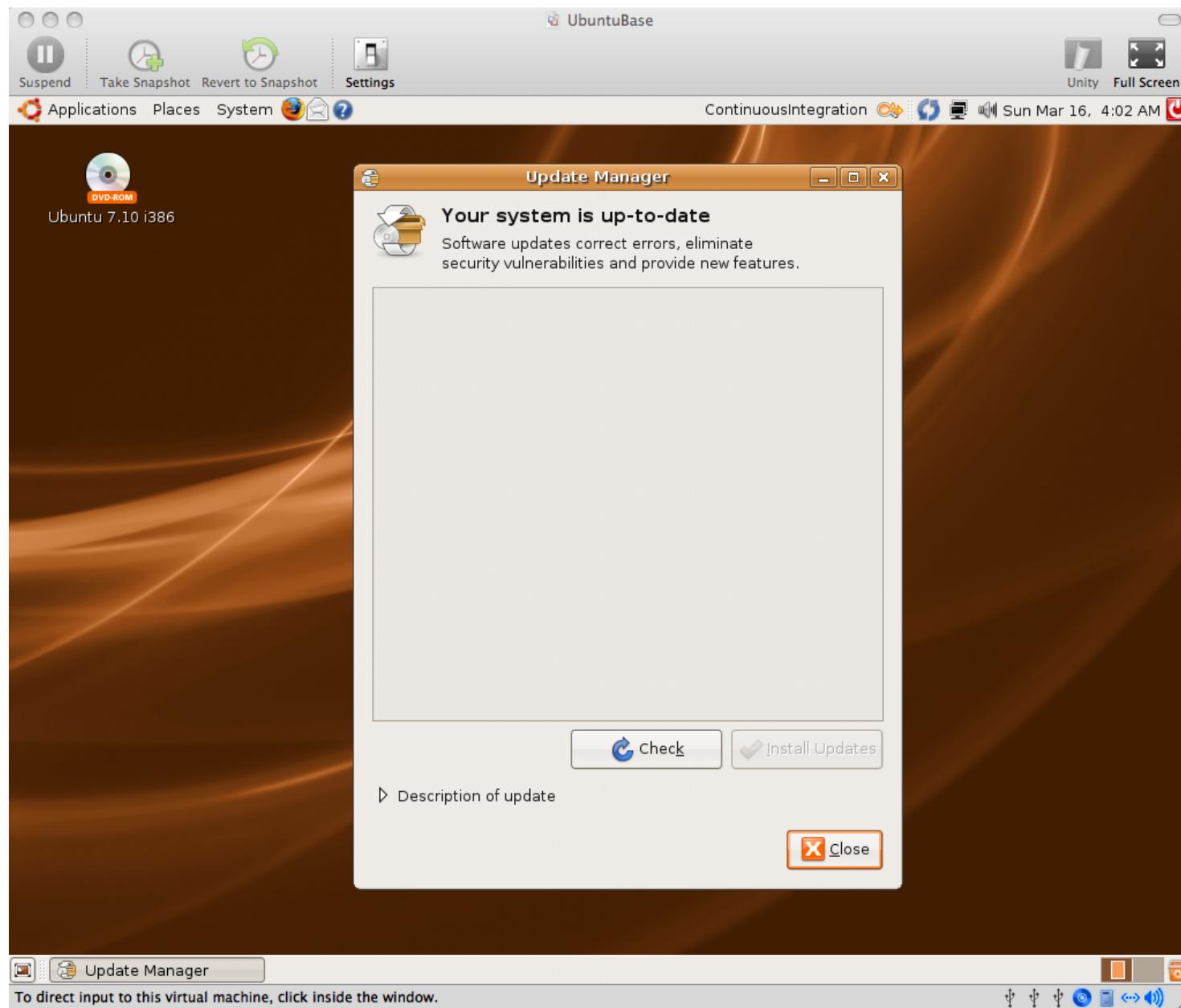
21_Update_Manager_Menu_ItemSelected.png



22_Update_Manager_Downloading_Package_Files.png

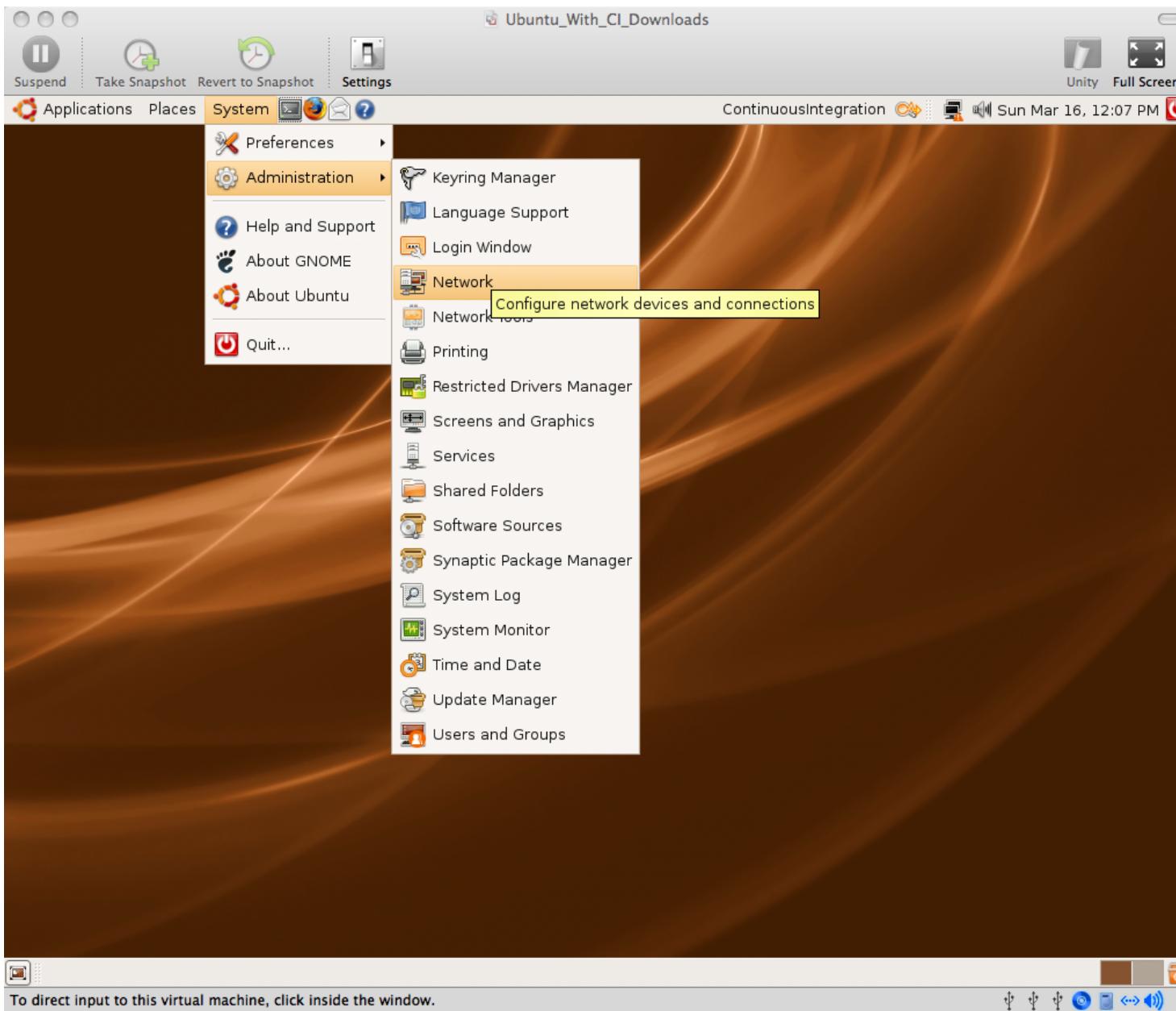


23_Your_System_is_Up_To_Date.png

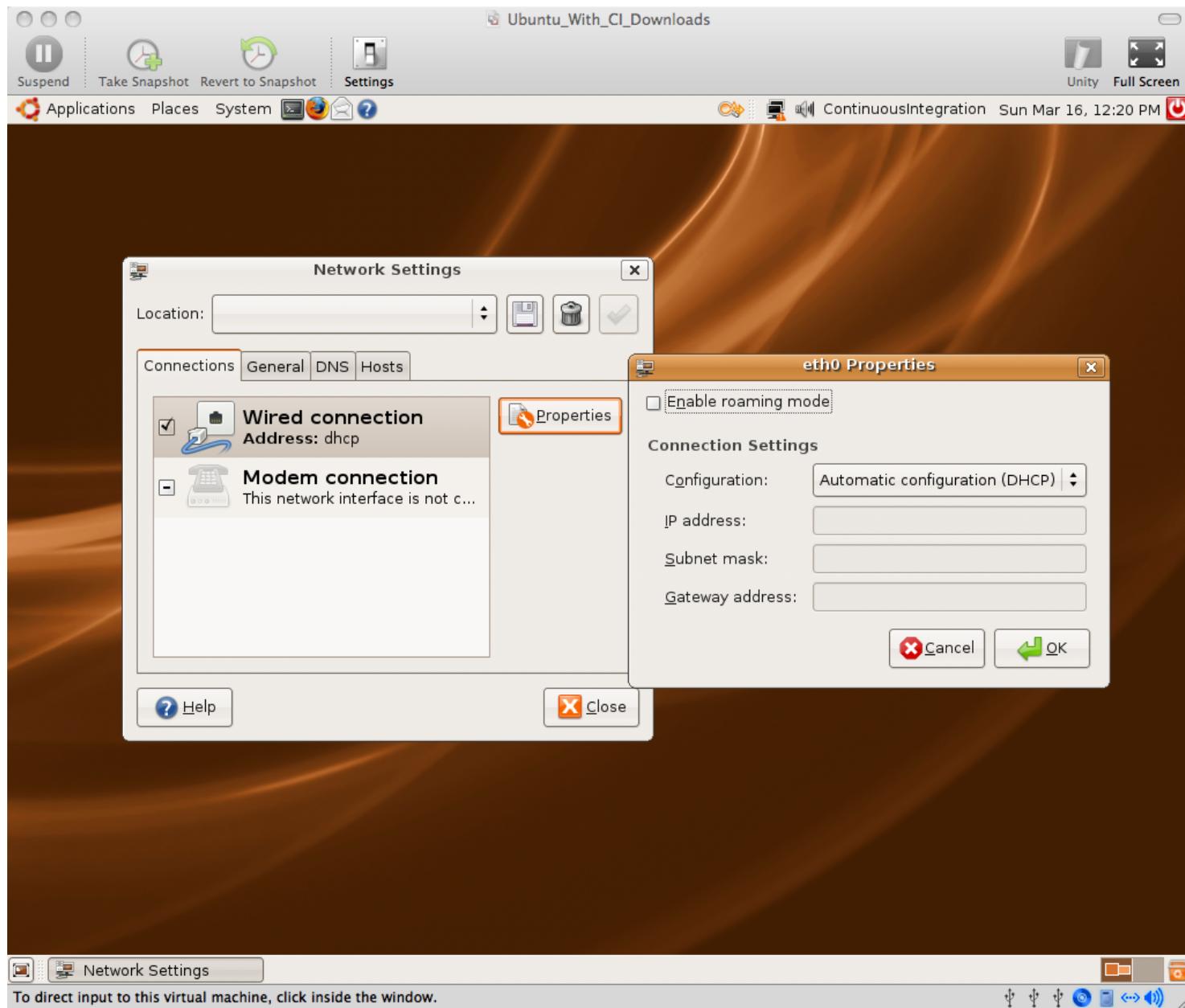


By default on Ubuntu 7.10, the virtual wired network connection was set to “enable roaming mode”. I had to manually disable this and enable DHCP to get network access.

24_Network_Administration.png

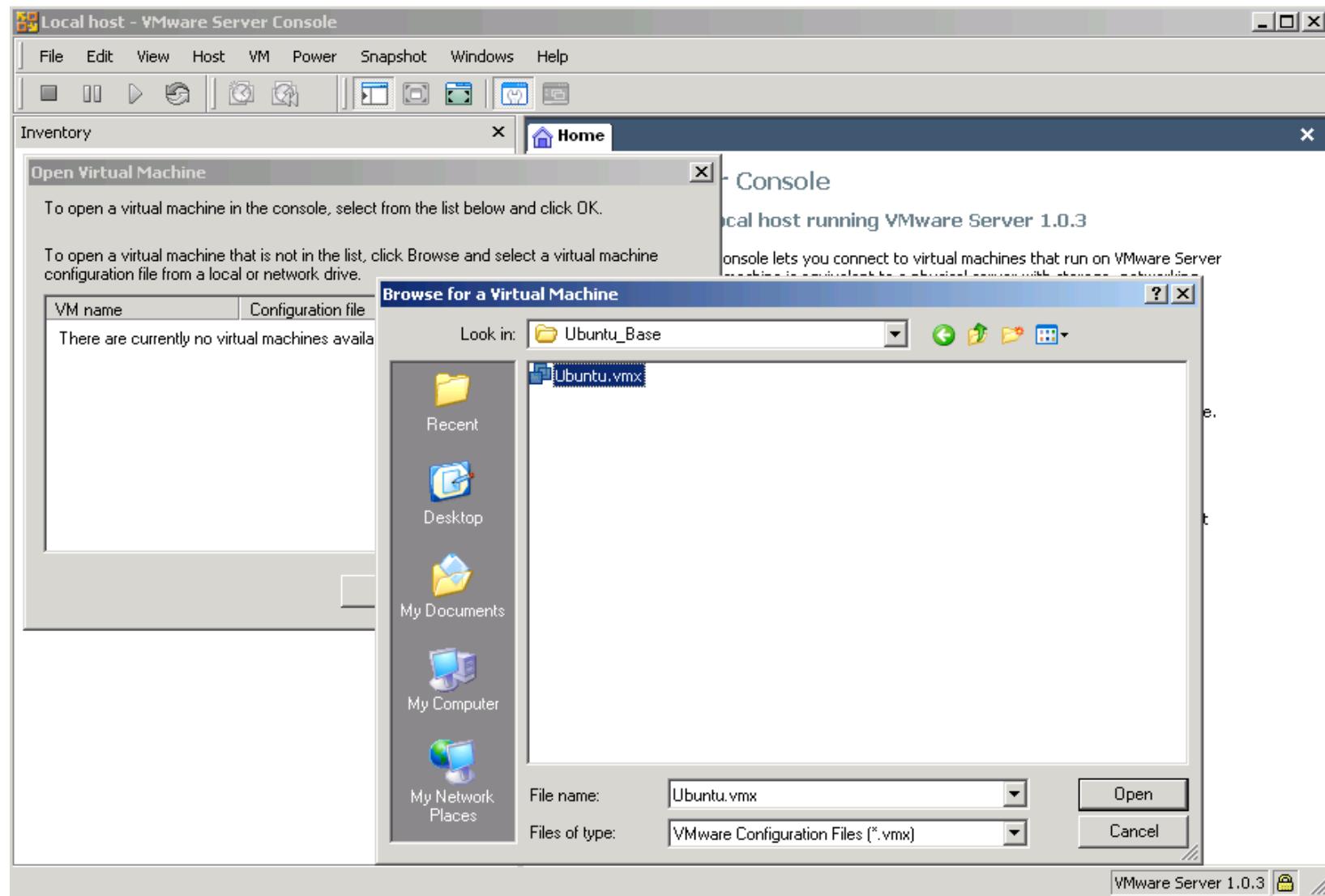


25_Checked_Wired_Connection_DHCP.png

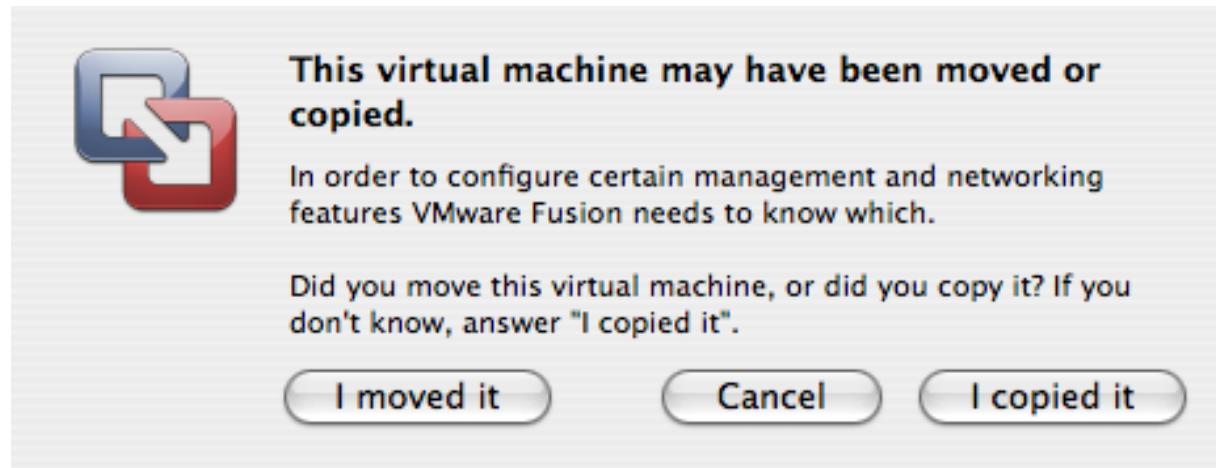


Opening an existing VM
Image Copy:
/presentation
/screenshots
/03_virtual_machine_copy

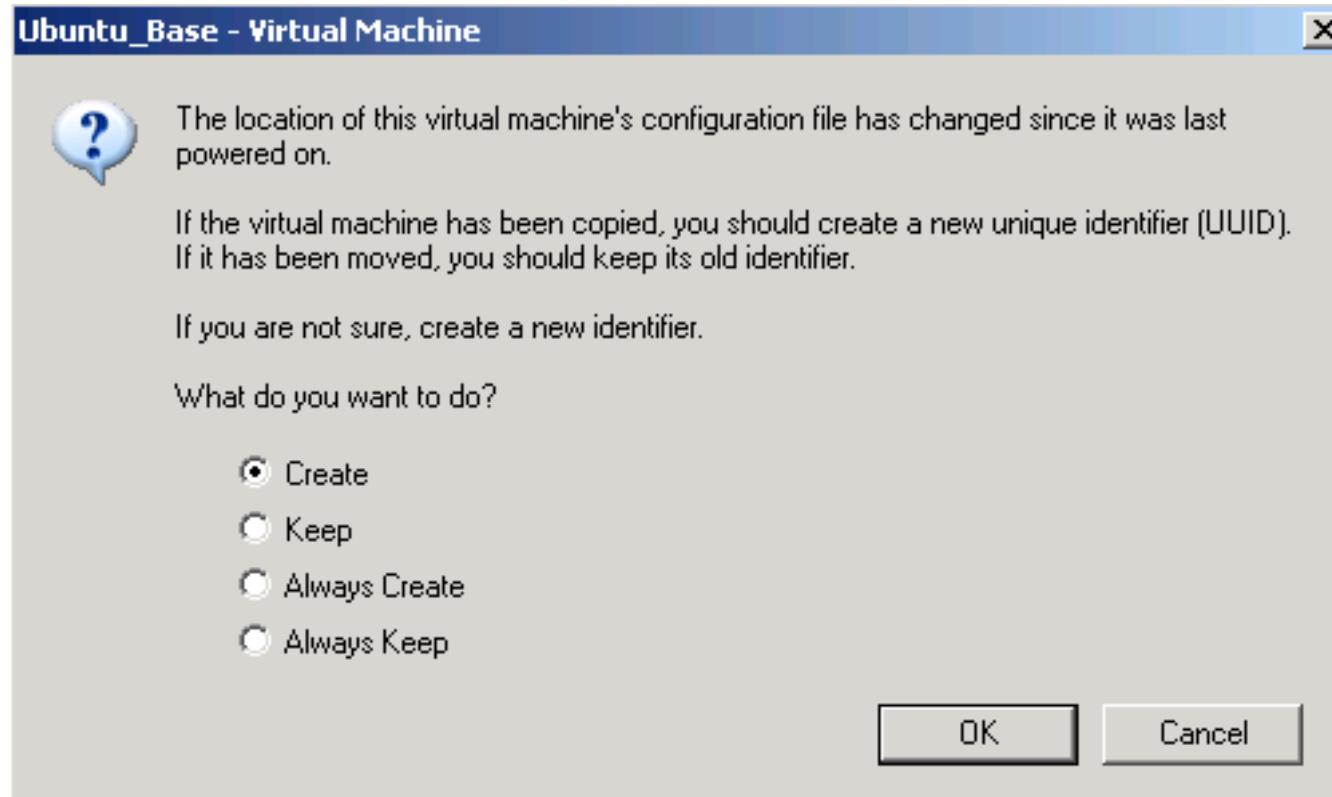
01_Browse_for_a_Virtual_Machine.PNG



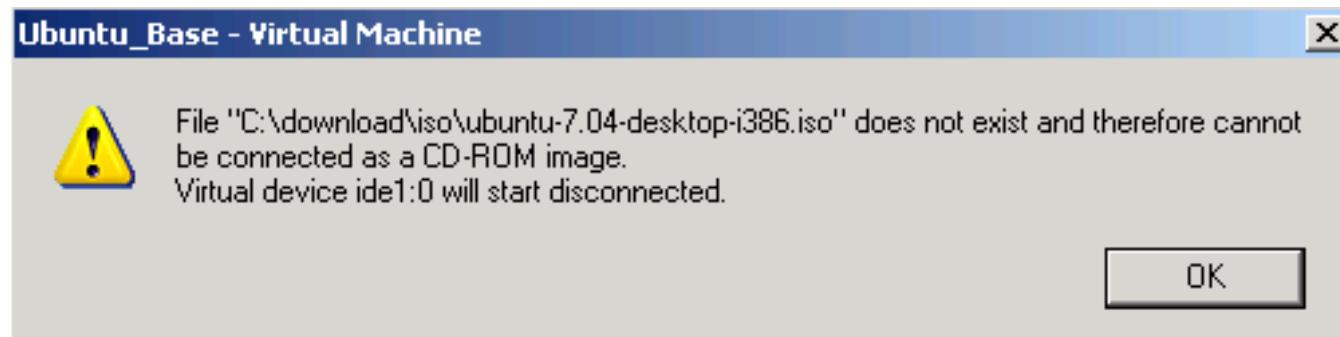
02a_Mac_Virtual_Machine_Copy.png



02b_Win_Virtual_Machine_Copy.png



03_Missing_ISO_CDROM_Image.PNG



Other Ubuntu Tweaks (Optional):

- * System -> Preferences -> Screen Resolution**
- * System -> Preferences -> Mouse**
- * Drag Applications -> Accessories -> Terminal icon to quick launch area**
- * Terminal -> Edit -> Current Profile -> Scrolling -> Scrollback = 99999**
- * Ctrl +, Ctrl - in Terminal to change font size**

B. Install Prerequisites

Legend

\$ == shell input

== comment or instructions

(nothing) == editor input or stdin

Example:

```
# sudo should prompt for a password unless you've
sudo'd recently
$ sudo ls
password
# should get file list
```

We will keep
everything in the
home dir, or "~"

You can put it
wherever you
want

You can install
ruby via aptitude, I
will build from
source to make
the instructions
more portable.

Install Ruby from source:

```
# This is already done on the VMware image  
“Ubuntu_With_CI_Downloads”  
# install all prereqs/extensions in case you need  
them  
$ sudo aptitude update  
$ sudo aptitude install -y zlib1g zlib1g-dev  
$ sudo aptitude install -y libssl-dev openssl  
$ wget ftp://ftp.ruby-lang.org/pub/ruby/ruby-1.8.6-  
p114.tar.gz  
$ tar -zxvf ruby-1.8.6-p114.tar.gz  
$ cd ruby-1.8.6-p114  
$ gedit ext/Setup  
# Uncomment all “non-Win” lines (all except  
Win32API and win32ole) by removing “#”  
$ ./configure  
$ make  
$ sudo make install
```

Install RubyGems:

```
# Already done on “CI_Downloads” image
$ cd
$ wget
http://rubyforge.org/frs/download.php/35283/rubygems-1.1.1.tgz
# If this fails, check for a new mirror on:
# http://rubyforge.org/frs/?group_id=126
$ tar -zxvf rubygems-1.1.1.tgz
$ cd rubygems-1.1.1
$ sudo ruby setup.rb
```

Install Sun java:

```
# Already done on “CI_Downloads” image
$ sudo aptitude install -y sun-java6-bin
# accept all prompts
```

Install subversion:

```
# Already done on “CI_Downloads” image
$ sudo aptitude install -y subversion
```

Install ant:

```
# Already done on “CI_Downloads” image
# All remaining downloads are in that image
too, but won't be specifically pointed out
$ sudo aptitude install -y ant
$ sudo aptitude install -y ant-optional
# By default, this installs Gnu java, not Sun's...
```

**Install “Galeon” as an alternate browser
because jsunit will kill the browser it is testing
\$ sudo aptitude install -y galeon**

Create Subversion Repo
\$ svnadmin create repo

**c. Create
sample Ruby
on Rails
Project**

Install sqlite3 and gem (default database for Rails)
\$ sudo aptitude install -y libsqlite3-dev sqlite3
\$ sudo gem install sqlite3-ruby

Install Rails

```
$ sudo gem install rails
# version used in this tutorial is 2.0.2
# later versions may behave differently
```

Create a rails project

\$ rails mysite

\$ cd mysite

Remove default index.html and create a page

\$ rm public/index.html

\$ script/generate scaffold User name:string

\$ rake db:migrate

Test rails site

```
$ rake # should pass all tests
```

```
$ script/server
```

```
# New Terminal Tab: File -> Open Tab or Ctrl-Shift-T
```

```
# should be in mysite dir
```

```
$ firefox http://localhost:3000/users
```

```
# create a user
```

Import site into subversion

```
# back to Terminal, new tab  
# change back to home dir (~)  
$ cd  
# remove temp files we don't want to check in  
$ rm -rf mysite/log/*  
$ rm -rf mysite/tmp  
$ svn import mysite file:///home/ci/repo/mysite -m  
"import"  
$ rm -rf mysite  
$ svn co file:///home/ci/repo/mysite mysite
```

Set svn:ignores

ignore all temp files, always have a clean working copy. Boring and obsessive, but avoids 'mysterious' errors on CI due to missing files

\$ cd mysite

\$ export EDITOR=gedit

\$ svn propedit svn:ignore .

tmp

logs

\$ svn propedit svn:ignore log

add * to ignore list

\$ svn commit -m "ignores"

\$ cd

D.
cruisecontrol.rb
setup

cruisecontrol.rb is still in active development. We will use the 1.3.0 release, but there are new features in trunk, like Git support

**Check
[http://cruisecontrolrb.thought
works.com/projects](http://cruisecontrolrb.thoughtworks.com/projects)**
**for a recent, successfully
building revision if you want
to use trunk - as soon as they
have their new Git repo
building there ;)**

Download and unzip cruisecontrol.rb:

\$ wget

<http://rubyforge.org/frs/download.php/36026/cruisecontrolrb-1.3.0.tgz>

If this fails, check for a new mirror on:

http://rubyforge.org/frs/?group_id=2918

\$ tar -zxvf cruisecontrolrb-1.3.0.tgz

rename cruise dir to cc

\$ mv cruisecontrolrb-1.3.0 cc

Set up project in cruisecontrol

```
$ cd cc  
$ ./cruise add MySite --url file:///home/ci/repo/mysite  
$ ./cruise start
```

View cruisecontrol web page
Go to Galeon browser
Applications -> Internet -> Galeon to start
open http://localhost:3333
click MySite
Should be passing
Remember, this can be any non-firefox browser, we
are just using a different one that won't get killed by
jsunit

Take this opportunity to familiarize yourself with cruisecontrol.rb. It's not covered here ;)

<http://cruisecontrolrb.thoughtworks.com/>

Add cruise task to Rakefile

```
# Go back to Terminal, open another tab
# cd to Rails project dir
$ cd ~/mysite
$ gedit Rakefile
# Add cruise task to bottom after 'requires':
task :cruise do
  Rake::Task['test'].invoke
end
$ svn commit Rakefile -m "add cruise task"
# Check cruise webpage, should still be passing
```

Tweak firefox for automation

```
# open or switch to firefox, navigate to 'about:config'  
# search for  
'browser.sessionstore.resume_from_crash'  
# toggle to false  
# Edit - Preferences - Tabs - uncheck all warnings  
# Advanced - Update - turn off automatic updates  
# Note – sometimes this doesn't “take”...  
# Exit firefox
```

E. JUnit Setup

Download and Unzip JsUnit

```
$ cd  
$ wget  
http://easynews.dl.sourceforge.net/sourceforge/junit/jsunit2.2alpha11.zip  
$ unzip jsunit2.2alpha11.zip  
# copy junit.jar file to Ant lib dir (required by Ant)  
$ sudo cp jsunit/java/lib/junit.jar /usr/share/ant/lib/
```

Copy jsunit to your app and check in

```
$ cd ~/mysite/public/javascripts
```

```
$ mv ~/jsunit .
```

```
$ svn add jsunit
```

```
$ export EDITOR=gedit
```

```
$ svn propedit svn:ignore jsunit/logs
```

```
# add * to ignore list
```

```
*
```

```
$ svn propedit svn:executable jsunit/bin/unix/start-firefox.sh
```

```
# enter "true"
```

```
$ svn commit -m "add jsunit"
```

Create a jsunit test

```
$ mkdir test_pages
$ gedit test_pages/prototype_test.html
<html>
<head>
  <script language="JavaScript"
type="text/javascript"
src=".jsunit/app/jsUnitCore.js"></script>
  <script language="JavaScript"
type="text/javascript" src=".prototype.js"></script>
  <script language="javascript">
    function testPrototypeWordSplit() {
      string = 'one two three';
      assertEquals('one', ($w(string))[0]);
    }
  </script>
</head>
<body></body>
</html>
```

Run the jsunit test manually from browser and commit

```
$ cd ~/mysite  
$ ruby script/server # unless you still have it running
```

```
$ firefox  
http://localhost:3000/javascripts/jsunit/testRunner.html
```

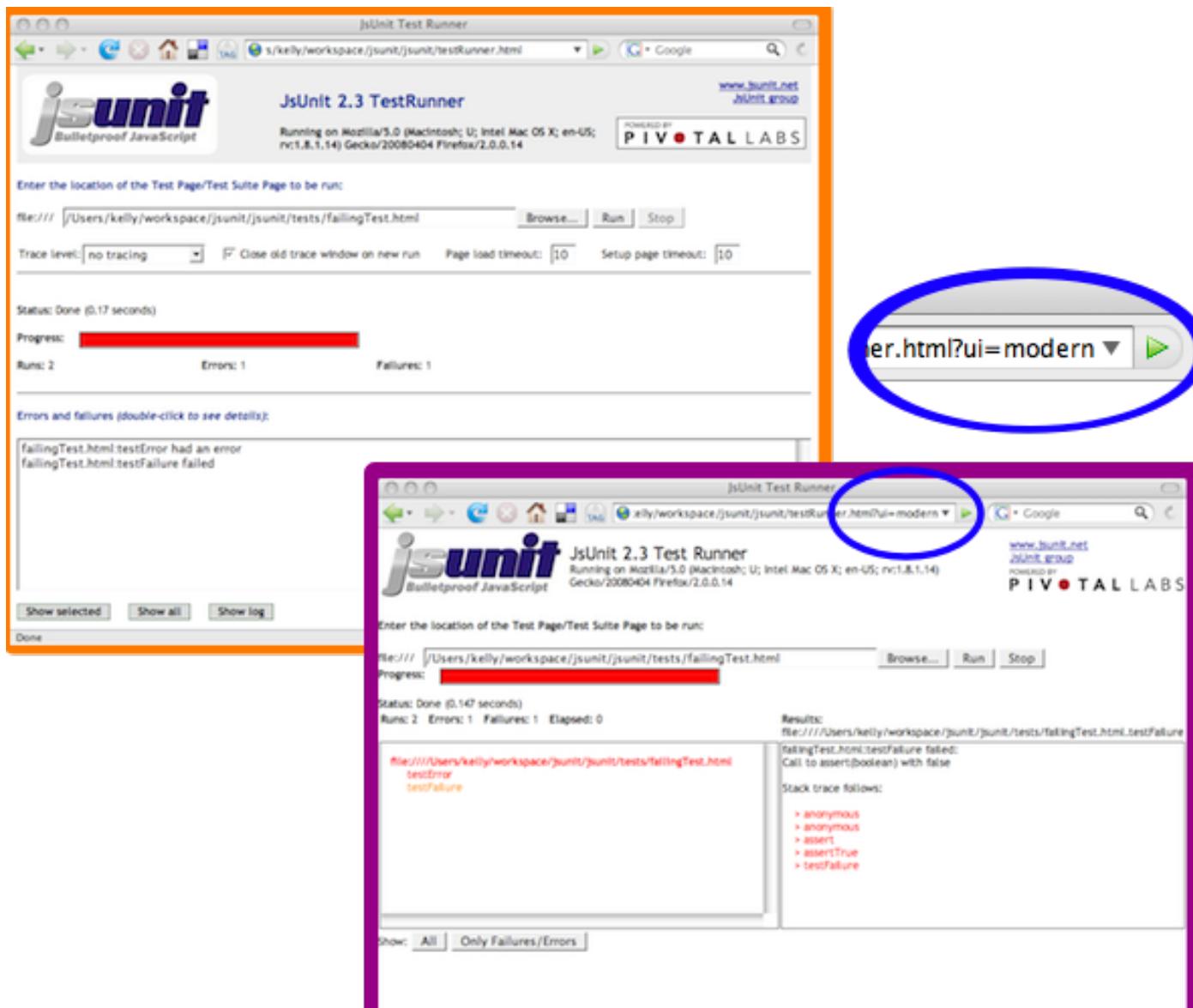
```
# Enter this in the "Run" field and click "Run":  
http://localhost:3000/javascripts/test_pages/prototype_test.html
```

```
# exit Firefox, go back to terminal
```

```
$ svn add public/javascripts/test_pages  
$ svn commit -m "jsunit test"
```

**Take this opportunity to
familiarize yourself with
JsUnit and JsUnit
Server. It's not covered
here ;)
<http://jsunit.net/>**

JsUnit Modern UI (in trunk)



"Punt" and make a manual jsunit_start_server script

```
# Because automated process management is not
TSTTCPW for this tutorial, and it's hard
# This is also easily ported to a batch file on windows
$ cd ~/mysite
$ gedit script/jsunit_start_server.sh
ant -f
/home/ci/mysite/public/javascripts/jsunit/build.xml
-DbrowserFileNames=
/home/ci/mysite/public/javascripts/jsunit/bin/unix/star
t-firefox.sh -Dport=8081 start_server
```

Check in jsunit_start_server script and leave it running

```
$ svn add script/jsunit_start_server.sh  
$ svn propedit svn:executable  
script/jsunit_start_server.sh  
# add 'true' line  
$ script/jsunit_start_server.sh  
# ignore warning about tools.jar  
# make sure it starts and leave it running  
# (ctrl-c when you want to kill it later)  
# open a new terminal tab  
$ cd ~/mysite  
$ svn ci -m "add jsunit start script"
```

```
Add jsunit task
$ gedit Rakefile
task :cruise do
  Rake::Task['test'].invoke
  Rake::Task['jsunit_distributed_test'].invoke
end

task :jsunit_distributed_test do
  output = `ant -f public/javascripts/jsunit/build.xml
-Durl=http://localhost:8080/jsunit/jsunit/testRunner.html?testPa
ge=/jsunit/test_pages/prototype_test.html
-DremoteMachineURLs=http://localhost:8081
-DresourceBase=public/javascripts distributed_test` 
  raise "JsUnit Failed:\n" + output unless
$?.success?
  puts "JsUnit tests passed"
end
```

Commit jsunit task and check cruise

```
# Open cruise webpage under galeon, if not open
# jsunit will kill firefox, so we need a different
# browser
# Applications - Internet – Galeon, open
http://localhost:3333
$ svn commit Rakefile -m "add
jsunit_distributed_test task"
# Check cruise webpage, should still be passing
# You will see jsunit pop up Firefox automatically as
the build is running
```

F. Selenium Setup

Install Selenium Gem

WARNING: use capital “S” Selenium – there is another rubyforge lowercase “s” selenium project, and a dozen other similarly-named ones.

WhatEVER...

\$ sudo gem install Selenium --version=1.0.7

NOTE: Version 1.0.7 currently has some mirror issue on RubyForge, if it doesn't download, try to pull from my gem server:

\$ sudo gem install Selenium --source=http://gems.thewoolleyweb.com

Start selenium using command from Selenium gem

\$ selenium

make sure it starts and leave it running, ctrl-c to kill it

Open new terminal tab

Set up selenium test dir

\$ cd ~/mysite

\$ mkdir test/selenium

Create selenium test stub

```
$ gedit test/selenium/user_test.rb
```

```
require 'test/unit'
```

```
require 'rubygems'
```

```
require 'selenium'
```

```
class UserTest < Test::Unit::TestCase
```

```
  def setup
```

```
    @browser = Selenium::SeleniumDriver.new("localhost",  
4444, "*firefox /usr/lib/firefox/firefox-bin",  
"http://localhost:3001", 10000)
```

```
    @browser.start
```

```
  end
```

```
  def teardown
```

```
    @browser.stop
```

```
  end
```

```
  def test_user_add_flow
```

```
  end
```

```
end
```

Fill in selenium test stub

```
$ gedit test/selenium/user_test.rb
def test_user_add_flow
  timestamp = Time.new.to_s
  user_name = 'joe ' + timestamp
  @browser.open "http://localhost:3001/users"
  @browser.click "link>New user"
  @browser.wait_for_page_to_load
  @browser.type "id=user_name", user_name
  @browser.click "commit"
  @browser.wait_for_page_to_load
  assert @browser.is_text_present(user_name)
end
```

Create selenium_test rake task including start and stop of server

```
$ gedit Rakefile  
task :cruise do
```

```
...  
  Rake::Task['selenium_test'].invoke  
end
```

```
task :selenium_test do  
  begin  
    process = IO.popen("ruby  
/home/ci/.cruise/projects/MySite/work/script/server --  
port=3001")  
    output = `ruby test/selenium/user_test.rb`  
    raise "Selenium Failed:\n" + output unless $??.success?  
    puts "Selenium tests passed"  
  ensure  
    Process.kill(9,process.pid)  
  end  
end
```

Check in and check cruise

\$ svn add test/selenium

\$ svn commit -m "selenium test"

check cruise, it should run everything and be green

Break tests and fix them!

**# cause ruby/jsunit/selenium failures, and check
them in**

see cruise go red, then fix them

click links for ruby/selenium failures

there's a test bug! (next page after too many tests)

good to drop DB before each CI run...

**# This naive implementation has return code bugs
(crash if webrick already running)**

**Same concept
for other tools/
Languages/
CI Engines**

**Now for some
bleeding edge
ccrb + Git, hot
off the press**

Install Git:

```
# For some reason, Ubuntu/aptitude wanted to install
git off the Ubuntu CD, so disable that
$ sudo gedit /etc/apt/sources.list
# comment first 'cdrom' line and save
$ sudo aptitude install -y git-core git-svn
```

Clone current svn repository to git:

```
$ git-svn clone file:///home/ci/repo/mysite ~/mysite-git
```

Clone and run trunk of ccrb, which has Git support:

```
$ git clone git://rubyforge.org/cruisecontrolrb.git  
~/cc-git
```

```
# find tab currently running cc 1.3.0, ctrl-c to stop it  
(look for localhost:3333 in console)
```

```
$ cd ~/cc-git
```

```
$ ./cruise start
```

```
# go to a new tab
```

Create and run ccrb project for the mysite git project:

\$ cd ~/cc-git

\$./cruise add MySiteGit -s git -r /home/ci/mysite-git

open/refresh Galeon for new project

Applications -> Internet -> Galeon -> localhost:3333

Click “Start Builder”

Watch for jsunit and selenium to run

should get a successful build!

**# Notice truncated GUID as build ID instead of svn
revision**

Coding Done!

2. Gettin' Fancier

All
Handwaving
Now

Multiplatform

Multibrowser

Farms

**SeleniumGrid
JsUnitServer**

**Virtualization:
One Box,
Three Platforms
mac/win/linux**

**Automate
and Test
Deployment
Process**

**Test
Rollback
process!**

Configuration Management / Version Control

**Auto-tag
Green
Builds**

**Automatically
pre-create
Release
Branches**

Build ALL
active
branches
under CI

**Multiple
Libraries/
Projects**

Dependencies Among Common Libraries and Projects

**Dependency
modifications
should trigger
builds of all
dependents**

**Consistent
Tags/Baselines
Among
Projects:
Naming/Usage**

Versioning of Dependencies (or not):

**Mainline / Snapshot /
trunk / HEAD**

vs

baselines / tags

**Different Builds
for Different
Environments:
Development vs
Demo/Prod**

Publishing Artifacts/ Dependencies:

**Deployed
(Jars/Gems)**

vs

SCM (svn:externals)

**Hackability vs
Stability: Fear
should not inhibit
improvement of
common libraries**

**What dependency
versions are you
running on prod?
Is it the same as
dev?**

Cautious Optimism

<http://tinyurl.com/2cvbj4>

**Nirvana: Green
tags/artifacts instantly
used across all dev
environments, all
deploys have known,
green, stable, baselined
dependencies**

**Suites:
You can
have more
than one!**

**It's all
about
Feedback**

Timely
vs
Comprehensive

Fast

vs

Thorough

Commit- Triggered vs Scheduled

**Minimize
Checkout
Time**

**But safer
to do
clean
builds**

**Get HUGE
Dependencies and
binaries out of
Source Control if
they take a long
time to check out**

RubyGems vs piston/ svn:externals

Metrics

Code Coverage - rcov

Mutation Testing – Heckle

**Flog:
Hurt Your
Code**

**red/green
trends**

Build Length Trends

Notification

Information Radiator(s)

email

**CCMenu /
CCTray**

rss

III

Grow!

Ambient
Orb

13" CRT
with
red/green
background

**Suggested audio for first
failure, continued failure,
fixed: Homer Simpson &
Arnold Schwarzenegger**

**Doh!, You Lack
Discipline!, WooHoo!
(The Louder the Better)**

**whatever
people will
pay
attention to!**

**Aggregate and
display multiple
ccrb instances
via RSS feeds
(easy Rails app)**

Tool Shoutouts

GemInstaller

<http://geminstaller.rubyforge.org>

jQuery
<http://jquery.com>

JSSpec

<http://code.google.com/p/jsspec>

**Polonium,
js_spec
(runner),
Funkytown**

<http://rubyforge.org/projects/pivc>

Screw::Unit

<http://rubyforge.org/projects/screw>

JsUnitTest

<http://jsunittest.com/>

Any More?

3. Gotchas

Random Gotchas / Mantras:

- * **“It's not easy being Green”**
- * **Broken Windows are Bad (“Who cares, it's always red...”)**
- * **False Negatives are Bad**
- * **Crying Wolf (“it failed for no reason”)**
- * **“Intermittent” failures (but it's not intermittent after you can reproduce it)**
- * **“Works Locally” (is your local environment the same as CI? Which one is Prod closer to???)**
- * **You can always “temporarily” disable a test in CI**
- * **One disabled test is better than a red CI**
- * **Browser Settings (autoupdate, etc) Preventing Browser Close**

More Random Gotchas:

- * **False Positives are Bad too - being Green, when return code (echo \$?) from some step is not 0**
- * **Tricks to avoid false positives:**
 - * Use rake task exec
 - * `system("cmd")` || `raise("cmd failed")`
- * **Test::Unit had return code bugs for a long time due to not handling entire Exception class hierarchy correctly (Finally fixed in Ruby 1.8.6/1.9???)**

4. Questions?

Chad Woolley

PivotalLabs.com

thewoolleyman@gmail.com

**[thewoolleyweb.com/
ci_for_the_rails_guy_or_gal](http://thewoolleyweb.com/ci_for_the_rails_guy_or_gal)**