

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)

1

Warning: If you are reading this from a handout or virtual machine, it may be outdated.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)

2

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.

3

CI for the Rails /G(uylal)/

4

Obligatory Boiler Plate

5

Who

6

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

7



8

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

9

What

10

**CI ==
Continuous
Integration**

11

**Martin Fowler -
Seminal CI
Article**

12

Running all your tests on every commit

13

Automatically

14

How

15

Takahashi Method == Big Font!

16

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

17

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

18

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

19

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

20

Agenda:

21

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

22

**Coding
Tasks
Outline**

23

**A. Install
Linux on
VMWare**

24

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

25

**C. Create
sample Rails
Project**

26

**D.
cruisecontrol.rb
setup**

27

**E. JsUnit
Setup**

28

**F. Selenium
Setup**

29

Z. Git

30

2. Gettin' Fancier

31

3. Gotchas

32

4. Questions

33

Tools Used

34

**Cross-
Platform,
Mostly*
Free**

35

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

36

VMware

37

Parallels is a Virtualization Alternative

38

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

39

Ubuntu Linux

40

cruisecontrol.rb

41

JsUnit

42

Selenium

43

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

44

**We will
move FAST**

45

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

46

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

47

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

48

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

49

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

50

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

51

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

52

**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.**

53

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

54

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

55

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

56

Live!

57

**No Hand
Waving**

58

**Their
WILL be
typos!**

59

**You down
with
OCD?**

60

Then you'll know me!

61

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

62

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

63

Nitpicks, Flames and Hints Welcome...

64

...over beer, AFTER the tutorial

65

**...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...**

66

...Continuously!

67

1. Time to Code!

68

**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**

69

A. Install Linux on VMWare

70

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

71

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

72

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

73

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

74

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

75

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

76

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

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

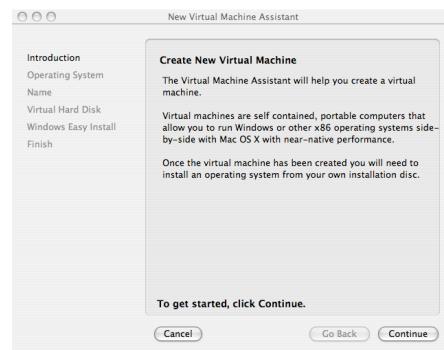
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01_Virtual_Machine_Library.png



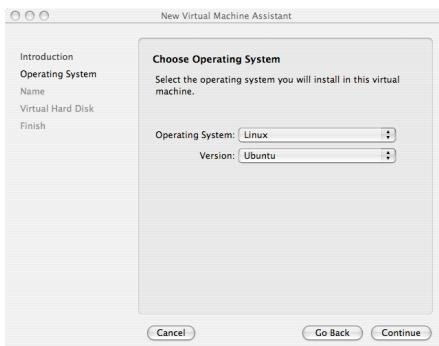
79

02_Create_New_Virtual_Machine.png



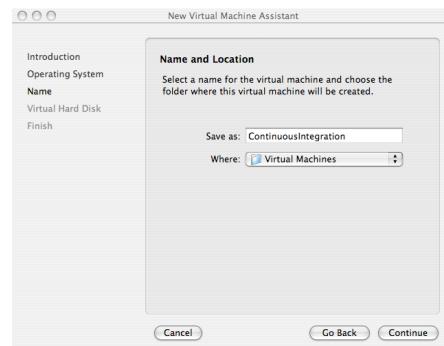
80

03_Choose_Operating_System.png



81

04_Name_and_Location.png



82

05_Virtual_Hard_Disk.png



83

06_Finish.png

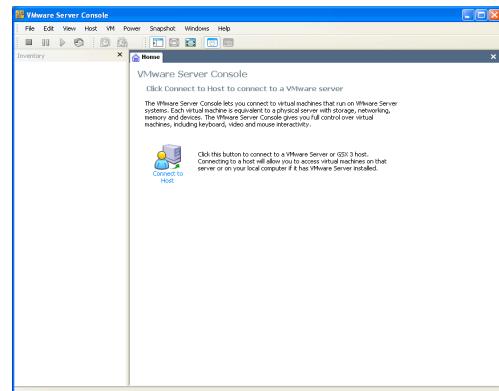


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VMware Win Setup: /presentation /screenshots /01b_win_vmware_ server_screenshots

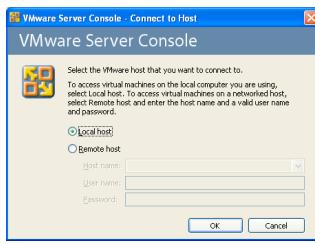
85

01_VMware_Server_Console.PNG



86

02_Connect_To_Host.PNG



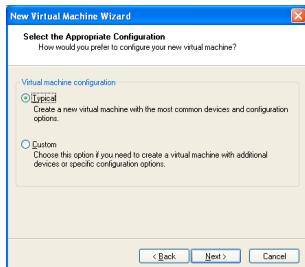
87

03_New_Virtual_Machine.PNG



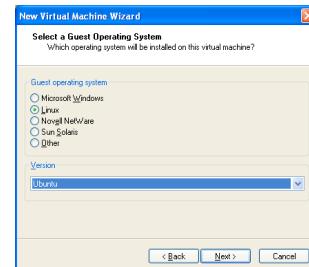
88

04_Virtual_Machine_Configuration.PNG



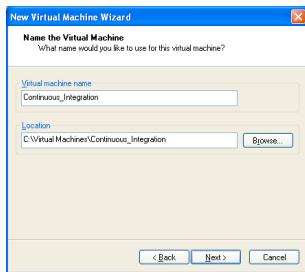
89

05_Select_a_Guest_Operating_System.PNG



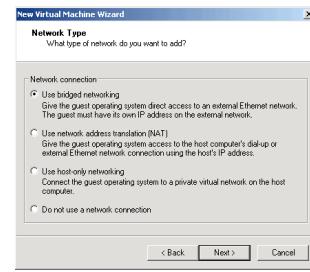
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06_Name_the_Virtual_Machine.PNG



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07_Network_Type.PNG



92

08_Specify_Disk_Capacity.PNG



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**Mac/Win Ubuntu VM Setup:
/presentation
/screenshots
/02_ubuntu_vm_
setup_screenshots**

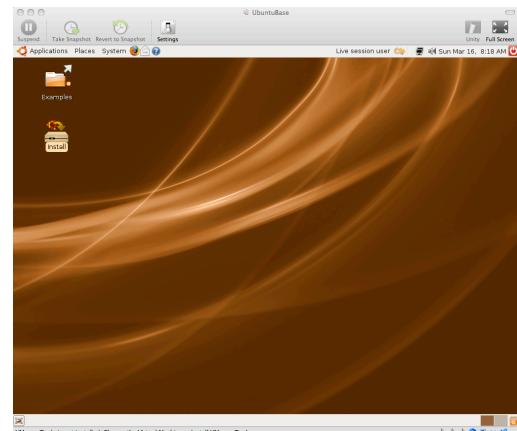
94

01_Start_or_Install_Ubuntu.png



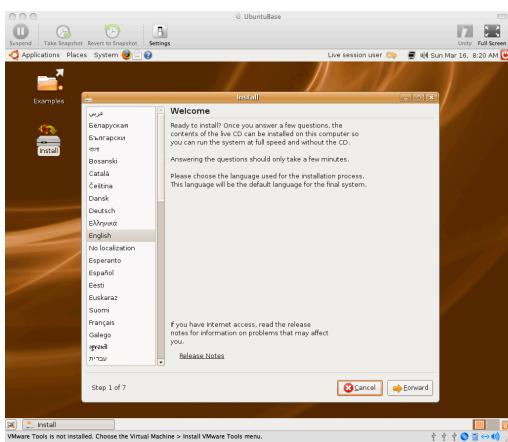
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02_Install_Icon.png



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03_Welcome.png



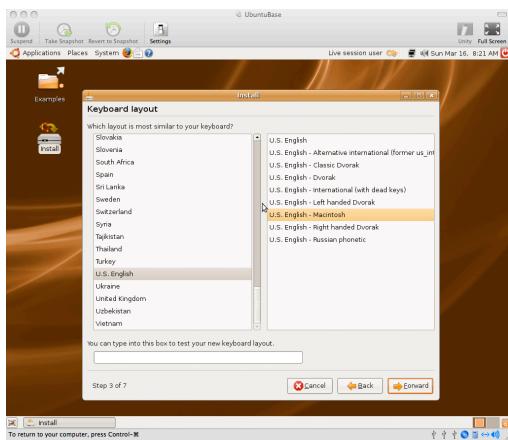
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04_Where_are_you.png



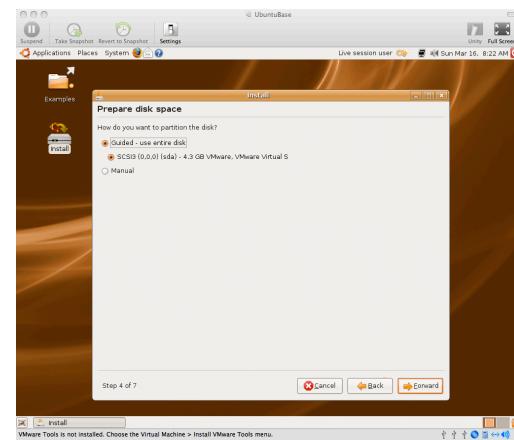
98

05_Keyboard_Layout.png



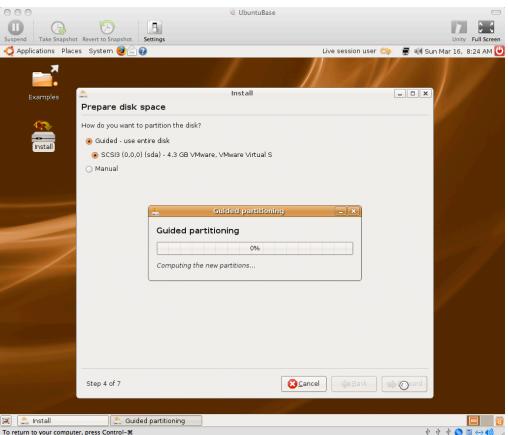
99

06_Prepare_disk_space.png



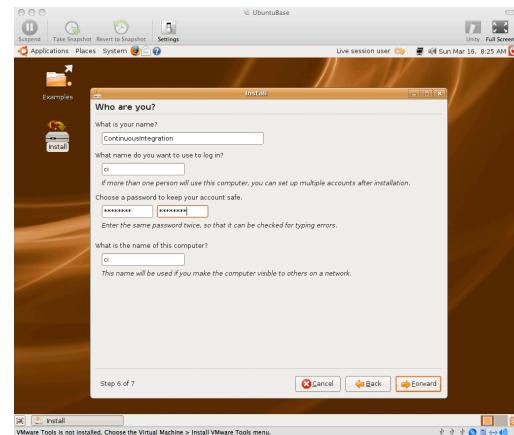
100

07_Guided_Partitioning.png



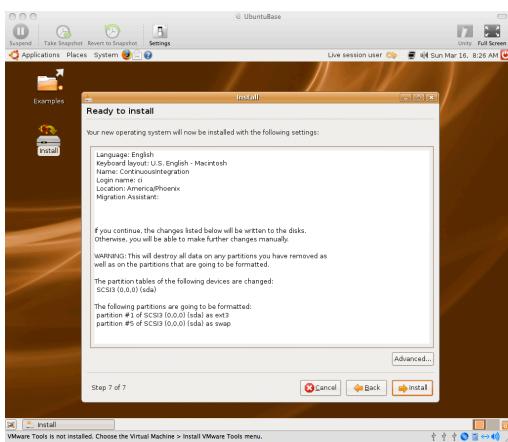
101

08_Who_are_you.png



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09_Ready_to_install.png



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10_Installing_system.png



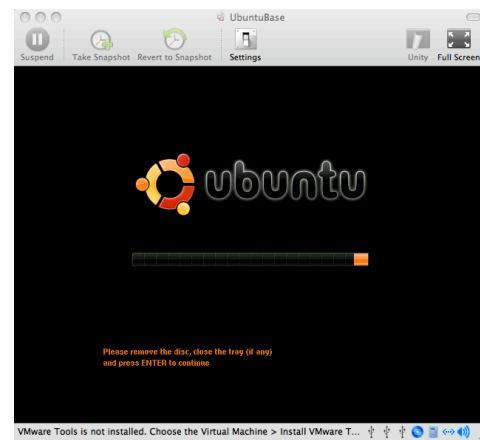
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11_Installation_complete.png



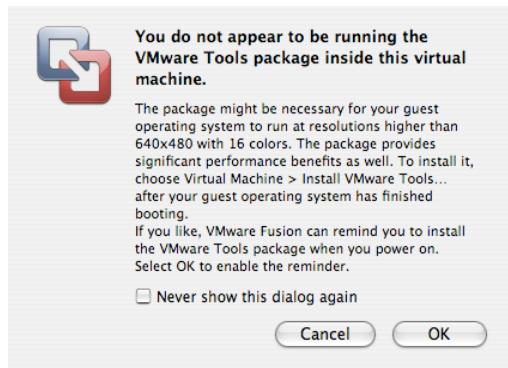
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12_Please_Remove_The_Disk.png



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13_VMware_ToolsReminder.png



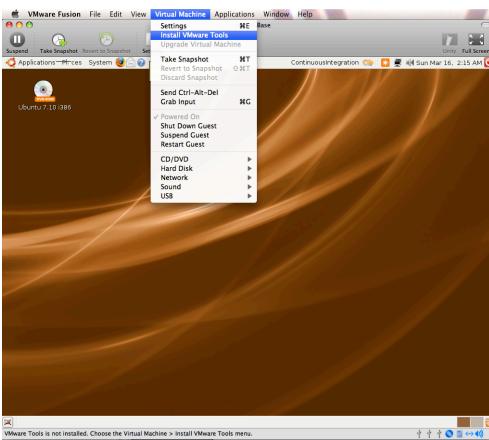
107

14_Login.png



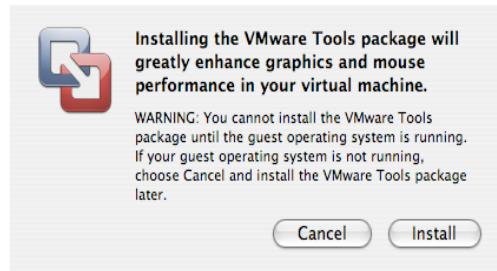
108

15_Virtual_Machine_Menu_Install_VMware_Tools.png



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16_Installing_the_VMware_Tools_package.png



110

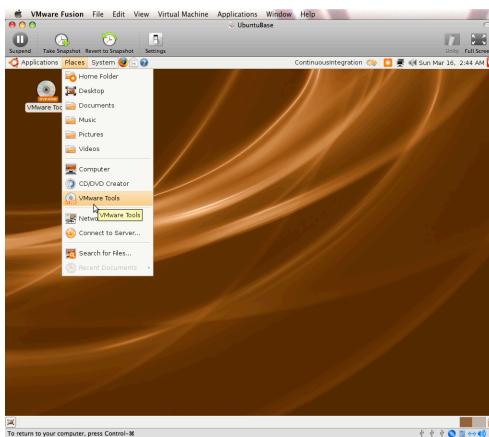
At this point, you may need to reboot (System -> Quit -> Restart) in order for the VMware Tools CD image to mount correctly, especially if you already have the Ubuntu ISO image mounted.

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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

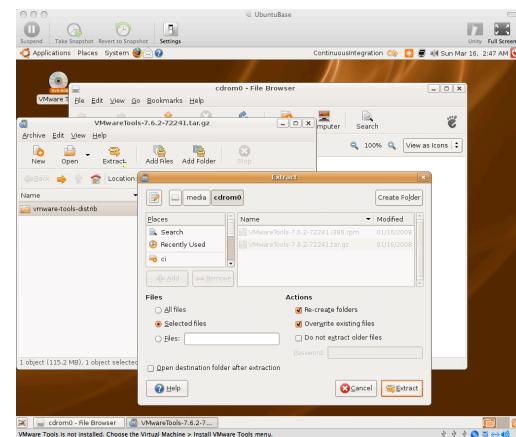
112

17_Open_VMWare_Tools_Image.png



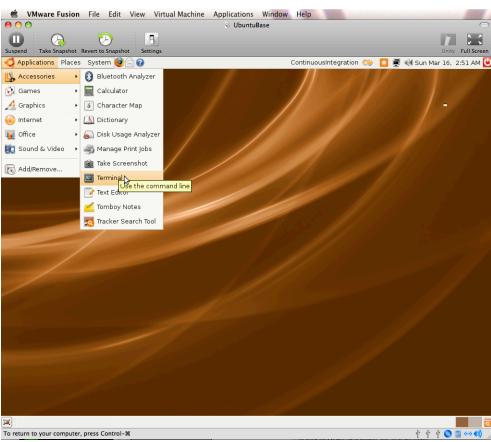
113

18_Extract_VMware_Tools.png



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19_Applications_Accessories_Terminal.png

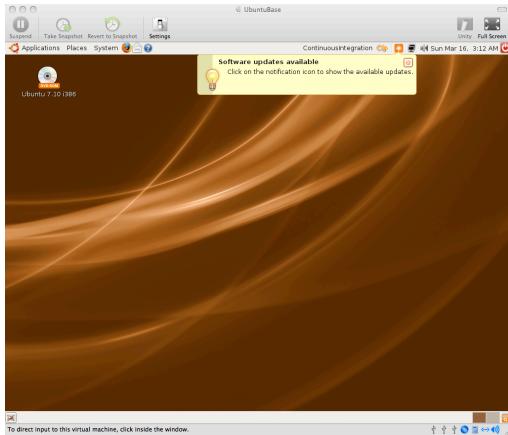


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Install VMware Tools (Optional):

```
$ cd  
$ tar -zxf /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



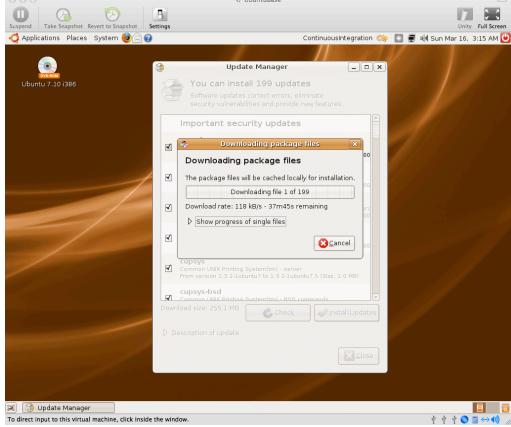
117

21_Update_Manager_Menu_Item.png



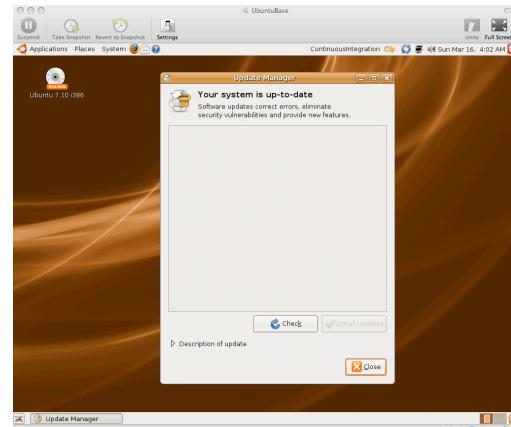
118

22_Update_Manager_Downloading_Package_Files.png



119

23_Your_System_is_Up_To_Date.png

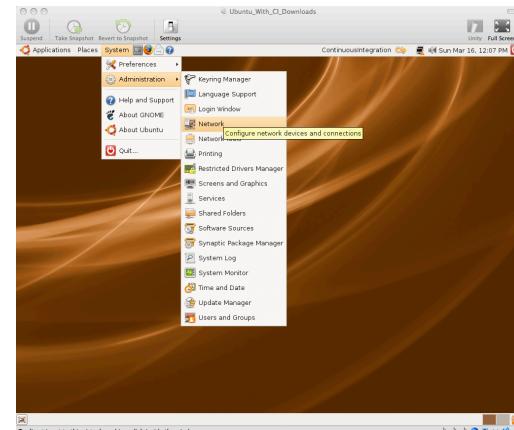


120

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.

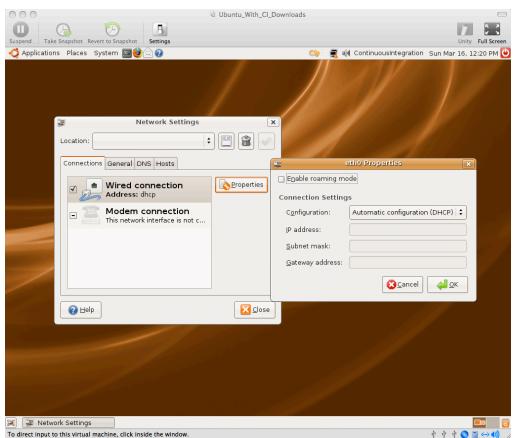
121

24_Network_Administration.png



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25_Checked_Wired_Connection_DHCP.png

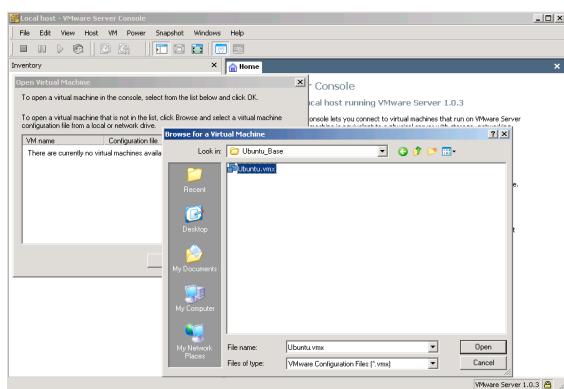


123

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

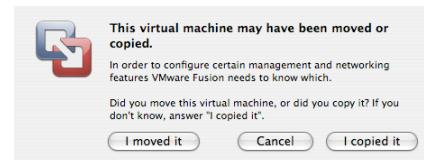
124

01_Browse_for_a_Virtual_Machine.PNG



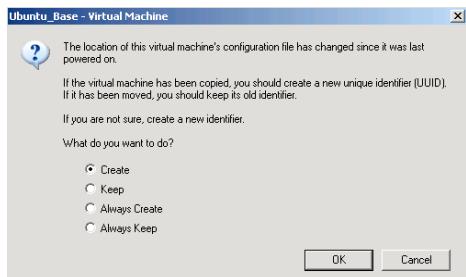
125

02a_Mac_Virtual_Machine_Copy.png



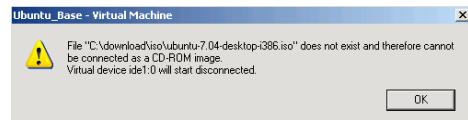
126

02b_Win_Virtual_Machine_Copy.png



127

03_Missing_ISO_CDROM_Image.PNG



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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

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B. Install Prerequisites

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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

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

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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 -zxfv 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 -zxfv 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

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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.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 ;)**

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```
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/>

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```
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. JsUnit Setup

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```
Download and Unzip JsUnit
$ cd
$ wget
http://easynews.dl.sourceforge.net/sourceforge/junit/
junit2.2alpha11.zip
$ unzip junit2.2alpha11.zip
# copy junit.jar file to Ant lib dir (required by Ant)
$ sudo cp junit/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

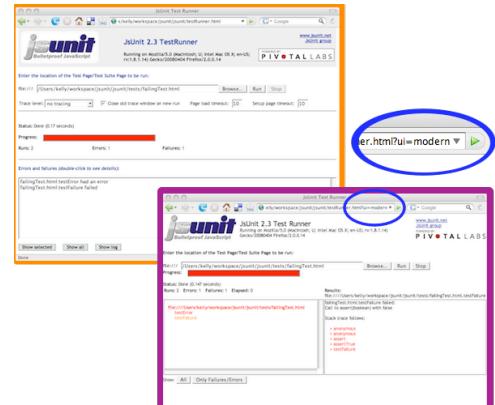
$ firefox
http://localhost:3000/javascripts/jsunit/testRunner.ht
ml
# Enter this in the "Run" field and click "Run":
http://localhost:3000/javascripts/test_pages/prototyp
e_test.html
# exit Firefox, go back to terminal
$ svn add public/javascripts/test_pages
$ svn commit -m "jsunit test"
```

Take this opportunity to familiarize yourself with JsUnit and JsUnit Server. It's not covered here ;)

<http://jsunit.net/>

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JsUnit Modern UI (in trunk)



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```
"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

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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.now.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/junit/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

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

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```
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!

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2. Gettin' Fancier

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All Handwaving Now

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Multiplatform

187

Multibrowser

188

Farms

189

Selenium Grid JsUnit Server

190

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

191

Automate and Test Deployment Process

192

Test Rollback process!

193

Configuration Management / Version Control

194

Auto-tag Green Builds

195

Automatically pre-create Release Branches

196

Build ALL active branches under CI

197

Multiple Libraries/ Projects

198

Dependencies Among Common Libraries and Projects

199

Dependency modifications should trigger builds of all dependents

200

Consistent Tags/Baselines Among Projects: Naming/Usage

201

**Versioning of
Dependencies (or not):
Mainline / Snapshot /
trunk / HEAD
vs
baselines / tags**

202

Different Builds for Different Environments: Development vs Demo/Prod

203

**Publishing Artifacts/
Dependencies:
Deployed
(Jars/Gems)
vs
SCM (svn:externals)**

204

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

205

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

206

**Cautious
Optimism**
<http://tinyurl.com/2cvbj4>

207

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

208

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

209

**It's all
about
Feedback**

210

**Timely
vs
Comprehensive**

211

**Fast
vs
Thorough**

212

**Commit-
Triggered vs
Scheduled**

213

**Minimize
Checkout
Time**

214

**But safer
to do
clean
builds**

215

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

216

RubyGems vs piston/ svn:externals

217

Metrics

218

Code Coverage - rcov

219

Mutation Testing – Heckle

220

Flog: Hurt Your Code

221

red/green trends

222

Build Length Trends

223

Notification

224

Information Radiator(s)

225

email

226

CCMenu / CCTray

227

RSS

228

IM

229

Growl

230

Ambient Orb

231

13" CRT with red/green background

232

Suggested audio for first failure, continued failure, fixed: Homer Simpson & Arnold Schwarzenegger
Doh!, You Lack Discipline!, WooHoo!
(The Louder the Better)

233

Whatever people will pay attention to!

234

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

235

**Tool
Shoutouts**

236

GemInstaller
<http://geminstaller.rubyforge.org>

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jQuery
<http://jquery.com>

238

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

239

**Polonium,
js_spec
(runner),
Funktown**
<http://rubyforge.org/projects/pivotalrb>

240

Screw::Unit

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

241

JsUnitTest

<http://jsunittest.com/>

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Any More?

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3. Gotchas

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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

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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???)

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4. Questions?

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