



How to Setup a Local Development Environment

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AIR

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Who is this guy?

Owner and Sr. Programmer of ZoobieSoft (www.ZoobieSoft.com).

Worked for Fortune 500 companies like Comcast and Perdue Farms.

Currently doing work for USMC, Joint Staff, DIA, and a bunch of other three and four letter government agencies.

Coding in ColdFusion for 11+ years, and using other languages like iHTML, FLEX, .NET, and AIR.

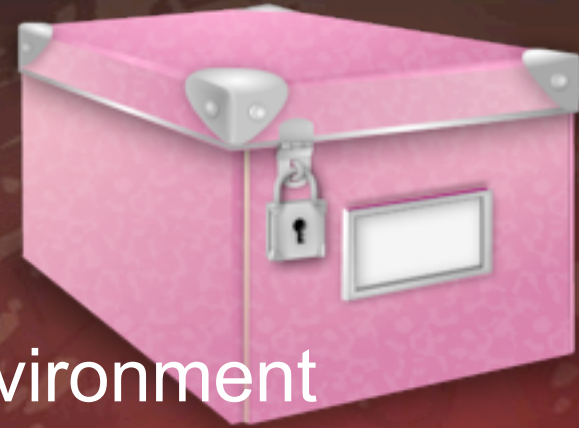
Manager of Eastern Shore of Maryland Users Group

Think about this...



How many times have you developed an application locally and moved it to the production environment only to have it fail due to different server configurations?

Agenda



- A. What is a local development environment
- B. Why do you want to set one up
- C. How to set one up
- D. Q&A

What is a local development environment?

Your ideal environment may include;



Your Workstation
(Development)



Test



Production

Your local development environment



A replica of Production Server(s) on your workstation

A place where you can experiment without affecting other team members

Testing locally allows for experimentation

Totally portable. Ready anywhere.

Includes the hard disks
Completely self-contained
It's all in one directory



Totally backup-able.

I'm not just saving the data
I'm saving the machine configuration
Development applications
Environment set up



Push virtual machines to new developers.



When a new developer joins my company, he doesn't mess around for a week, installing, configuring, Web servers and database servers on his local machine.

He gets a portable hard drive with a VDE (Virtual Development Environment) image on it

The image has his entire development environment (Web Server, Database Server, etc), network defined, source already downloaded and setup, and is ready to work.

Show & Tell Time

Assumptions;

You (or whom ever is setting this up) have at least a familiarity with server & network administration.

You will be using Sun VirtualBox.

(It's not really about the virtual machines, merely the functions that they perform.)

You have administrative rights to your development machine.

Lets, get started (Brief)

- A. Install VirtualBox on your local development machine, also known as the "VM Host".
 - You can download for free at
 - <http://www.virtualbox.org/wiki/Downloads>
- B. Create at least 2 Virtual Servers (aka Client Machines), (at least) 1 CF/Web, 1 Database
 - Plus any others you have to replicate from production.

Make it real

These Virtual servers *should* be configured in Hardware spec and Server software as close to production as possible, Or if your lucky, get an actual image made from your actual production server(s)

P2V Resources;

Self Image <http://selfimage.excelcia.org/>

HD Clone <http://www.miray.de/download/sat.hdclone.html>

Setting up Networking

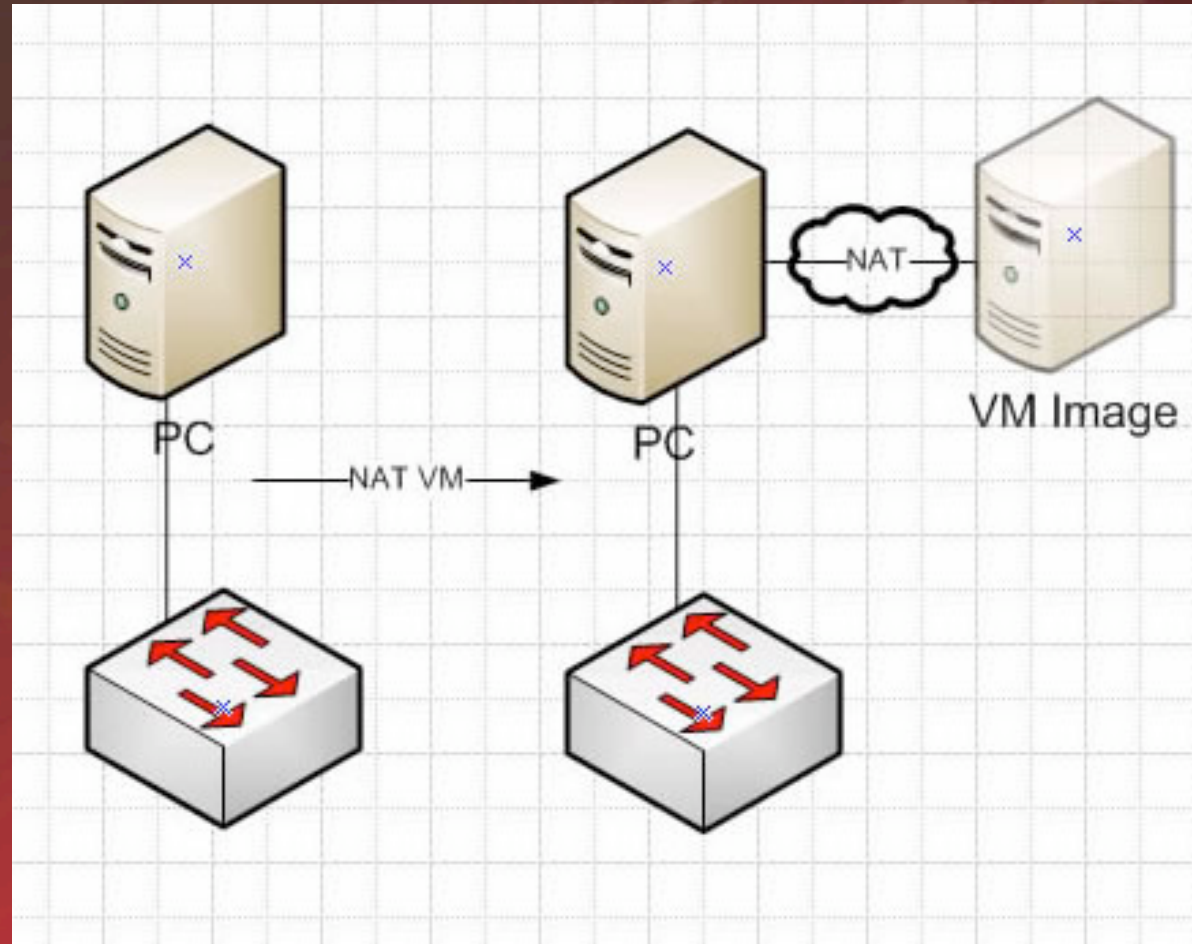
- A. Each VirtualBox network card can be configured to operate in one of the following five modes:
- Not attached
 - Network Address Translation (NAT)
 - Bridged networking
 - Internal networking
 - Host-only networking

“Not attached” mode

VirtualBox reports to the guest that a network card is present, but that there is no connection

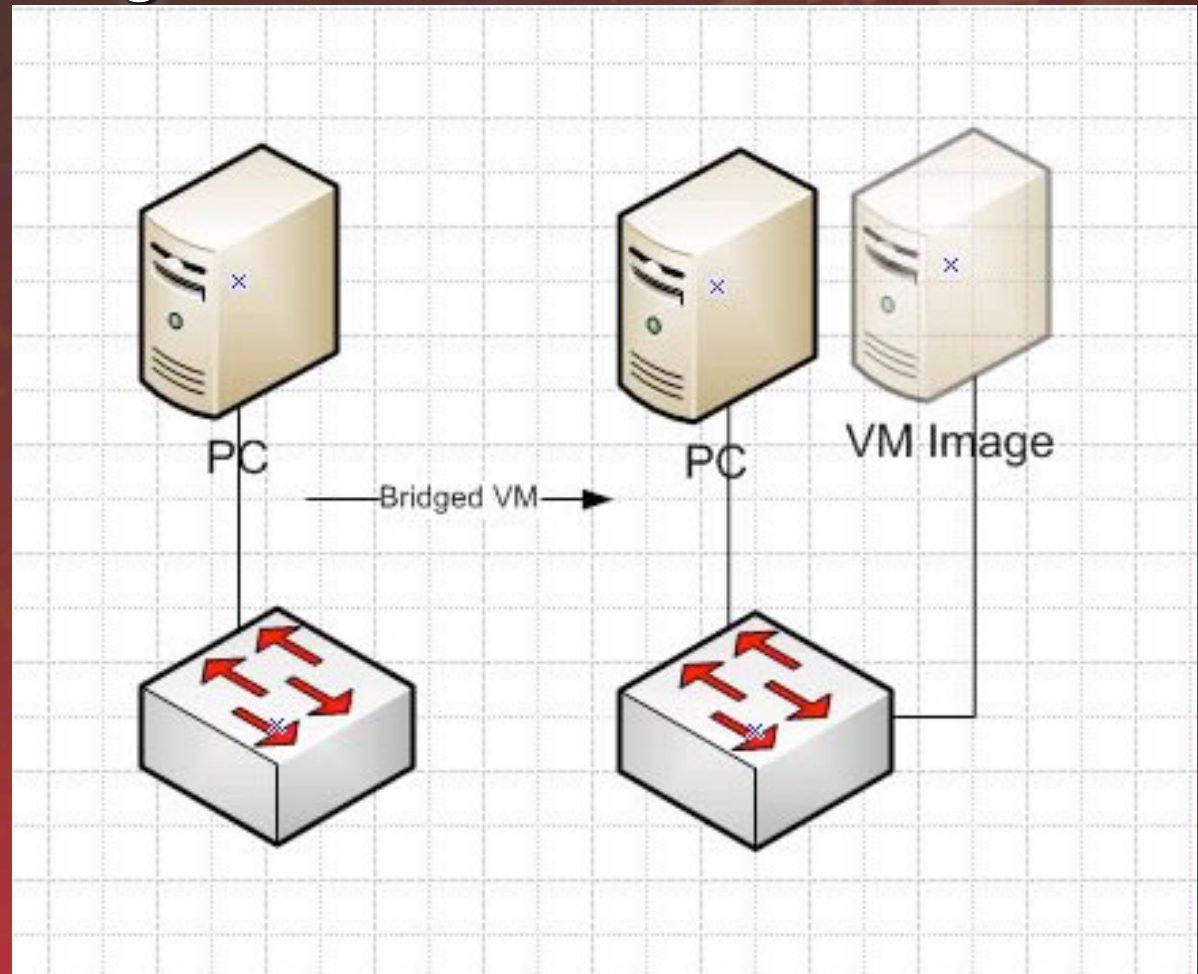
Network Address Translation (NAT)

Network Address Translation (NAT) is the simplest way of accessing an external network from a virtual machine. Usually, it does not require any configuration on the host network and guest system. For this reason, it is the default networking mode in VirtualBox.



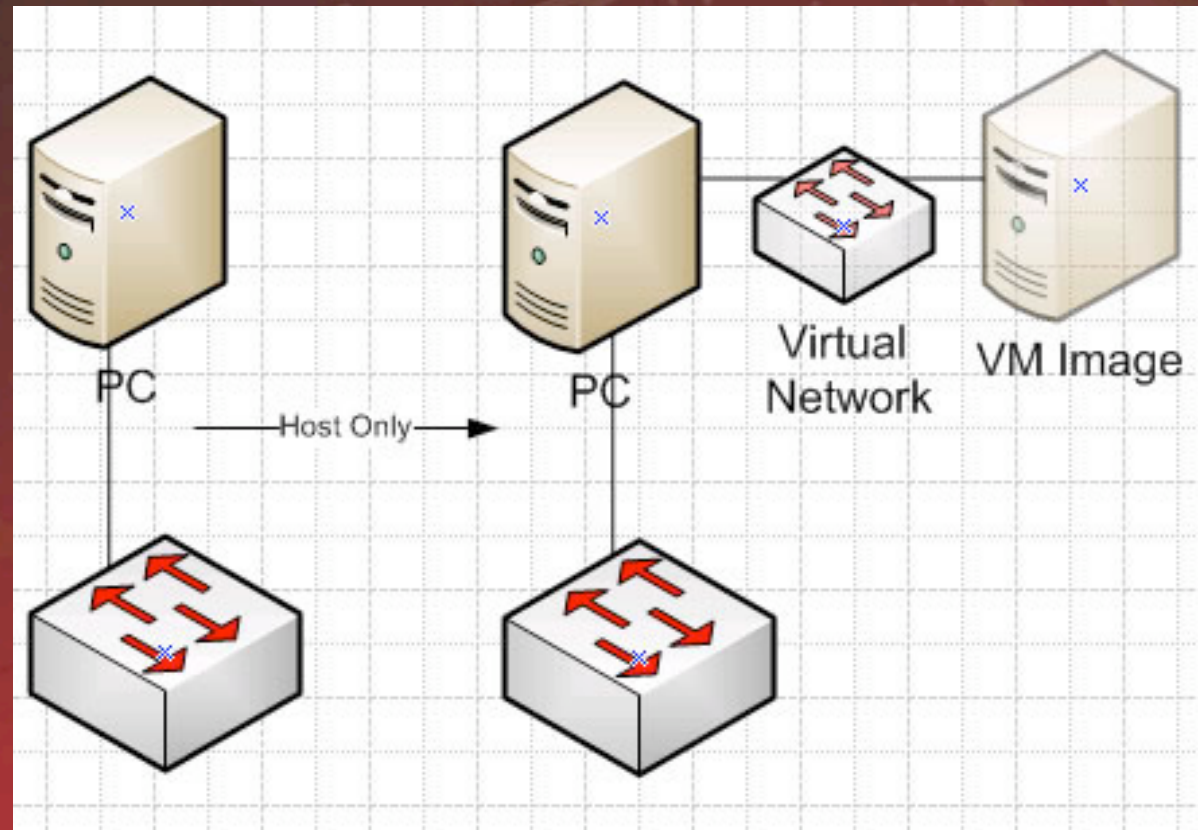
Bridged networking

With bridged networking, VirtualBox uses a device driver on your *host* system that filters data from your physical network adapter. This driver is therefore called a “net filter” driver. This allows VirtualBox to intercept data from the physical network and inject data into it, effectively creating a new network interface in software.



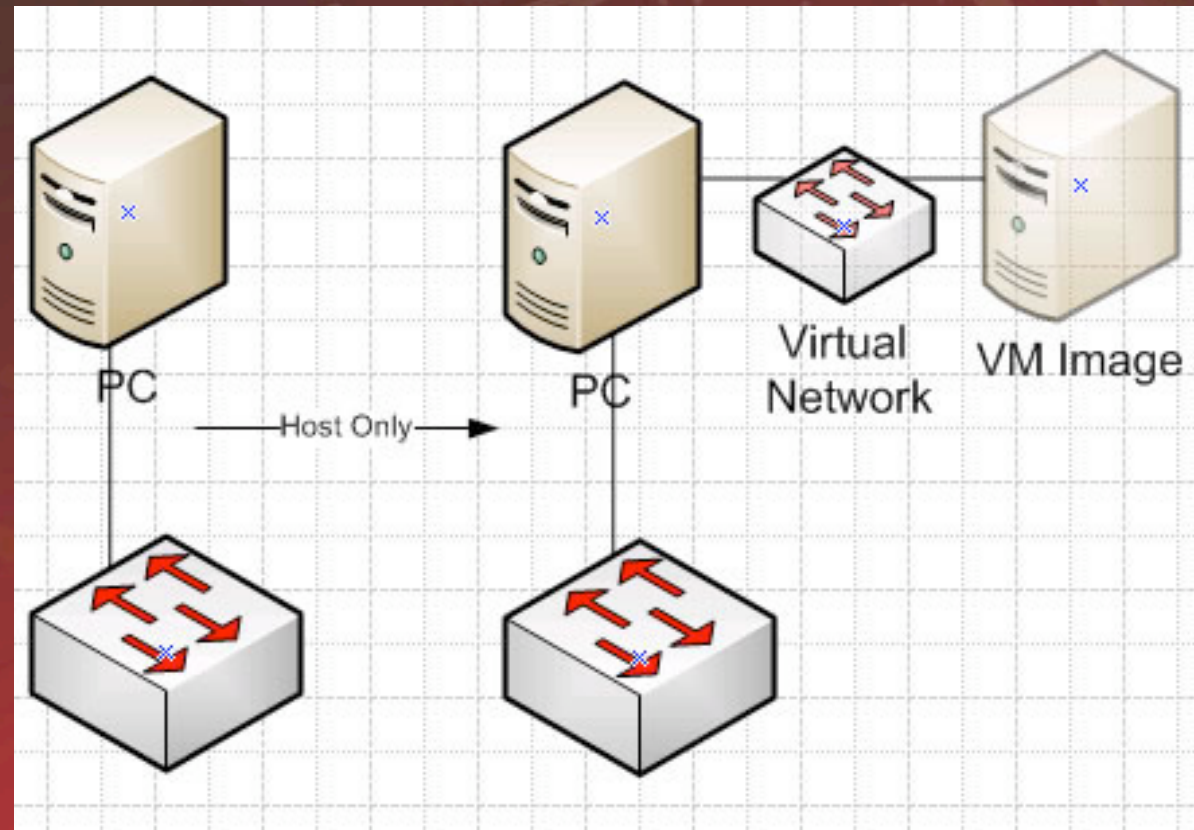
Internal networking

Internal Networking is similar to bridged networking in that the VM can directly communicate with the outside world. However, the “outside world” is limited to other VMs which connect to the same internal network.



Host-only networking

Host-only networking is another networking mode of VirtualBox. It can be thought of as a hybrid between the bridged and internal networking modes: like with bridged networking, the virtual machines can talk to each other and the host as if they were connected through a physical ethernet switch.



Built in DHCP

VirtualBox has a built in DHCP server for internal and host-only networking, In our configuration we have picked static ip addresses and added them to our local hosts file

Open Terminal (or notepad for windows)

`sudo vi /etc/hosts` (C:\windows\system32\drivers\etc\hosts in windows)

```
192.168.56.100 www.zoobiesoft.dev
192.168.56.104 db.zoobiesoft.dev
192.168.56.100 mura.zoobiesoft.dev
192.168.56.106 railo.zoobiesoft.dev
```

Testing the install

At this point should be able to open a browser on your local (VM Host) machine and enter the address in your host file and get a (CFIDE/Administrator) welcome page.

[HTTP://www.ZoobieSoft.dev/CFIDE/Administrator](http://www.ZoobieSoft.dev/CFIDE/Administrator)

Next we install...

ColdFusion Builder, or the IDE of your choice
on your local (VM Host) machine

Install third-party Eclipse plug-ins

Subclipse for SVN access

Mylyn a task-focused interface for Eclipse

Installing third-party Eclipse plug-ins

ColdFusion Builder provides integration with third-party Eclipse plug-ins that let you extend or customize your development environment.

1. In Adobe ColdFusion Builder, select Help > Software Updates > Find And Install.
2. Select Search For New Features To Install.
3. Click Add Site.
4. Click New Remote Site.
5. Enter the name and URL of the plug-in to install. For example, to install Subclipse version 1.6.x, enter the following URL:

http://subclipse.tigris.org/update_1.6.x

Note: When you install a third-party Eclipse plug-in to a standalone ColdFusion Builder installation, to ensure that the plug-in installs correctly, add the Ganymede Update Site URL <http://download.eclipse.org/releases/ganymede> (or an equivalent Eclipse update site URL).

6. Select the plug-ins and click Install.
7. Click Next and follow the instructions in the Install wizard. If you are prompted to select mirrors for the installed plug-in, select a mirror from the list of mirrors. The mirrors are listed by geographic locations. You can select a mirror nearest to your geographic location.

Note: The required plug-ins are automatically selected from the Ganymede Update site. If you see an error message about a missing required plug-in, select the appropriate plug-ins.

8. Click Finish.

Q&A



Questions?



Links & References

A. Sun VirtualBox

- <http://www.virtualbox.org/wiki/Downloads>

B. Self Image

- <http://selfimage.excelcia.org/>

C. HD Clone

- <http://www.miray.de/download/sat.hdclone.html>

D. Subclipse

- <http://subclipse.tigris.org>

E. Mylyn

- <http://www.eclipse.org/mylyn/>

Links & References cont.

- A. <http://www.mangoorange.com/2007/07/05/5-reasons-why-you-should-use-virtualbox-instead-of-virtualpc-or-vmware/>
- B. <http://www.personal.psu.edu/sal21/blogs/stuff/2009/06/create-a-web-application-devel.html>
- C. <http://www.coldfusionjedi.com/index.cfm/2009/5/5/Cross-Operating-System-ColdFusion-Development-Guide-First-Draft>
- D. <http://www.danoneverythingelse.com/articles/VirtualDevelopmentEnvironment.html>
- E. <http://intranation.com/entries/2009/03/development-virtual-machines-os-x-using-vmware-and/>
- F. http://www.ddj.com/hpc-high-performance-computing/212902020;jsessionid=4VF1XA4VAD51UQSNDLRSKHSCJUNN2JVN?_requestid=51511
- G. http://seansperte.com/entry/Setting_Up_a_Killer_Local_Web_Development_Environment_on_a_Mac_with_MAMP_an/
- H. http://kevin.vanzonneveld.net/techblog/article/how_virtualization_will_improve_your_code/
- I. <http://stackoverflow.com/questions/424869/reasons-to-use-a-vm-for-development>
- J. http://www.oreillynet.com/pub/a/network/2004/08/19/software_development_virtualization.html
- K. <http://www.devx.com/vmspecialreport/Article/30410>
- L. <http://www.google.com/search?q=virtual+machines+for+local+development>
- M. Wall-e and friends (c) Disney - Pixar

