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# Closing the Loop: Automating Server Setups

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cPanel

# Teeny bit about me....

I'm currently a senior system administrator with InMotion Hosting, and I've been there about four years.  IMH is one of the leading U.S. managed hosting providers offering shared, VPS, and dedicated hosting services.  Some of my many responsibilities include solution implementation and maintaining quality of service.

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I also own thecpaneladmin.com, a free resource for cPanel administrators.

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# We'll talk about...

- How much time you spend setting up servers
- How to automate the installation of the OS + cPanel
- How to enable and configure services
- How to adjust common settings without touching WHM
- What scripts can save you time

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# How Much Time Do You Spend?

cPanel + OS Install

Service Setup & Config

(You could've gone out for a beer around now)

Manually configure everything else

Rinse and repeat
(*how* many servers do you have again?)

# Why a Fully-Automated Solution?

- Time
- Mass-deployment
- Standardization

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# Automating the OS and cPanel Installation

# Kick Start with the Kickstart

- Boot media (USB, CD, PXE, etc)
- /root/anaconda.cfg (Previous Install), or
- ksgen: http://sourceforge.net/projects/ksgen/

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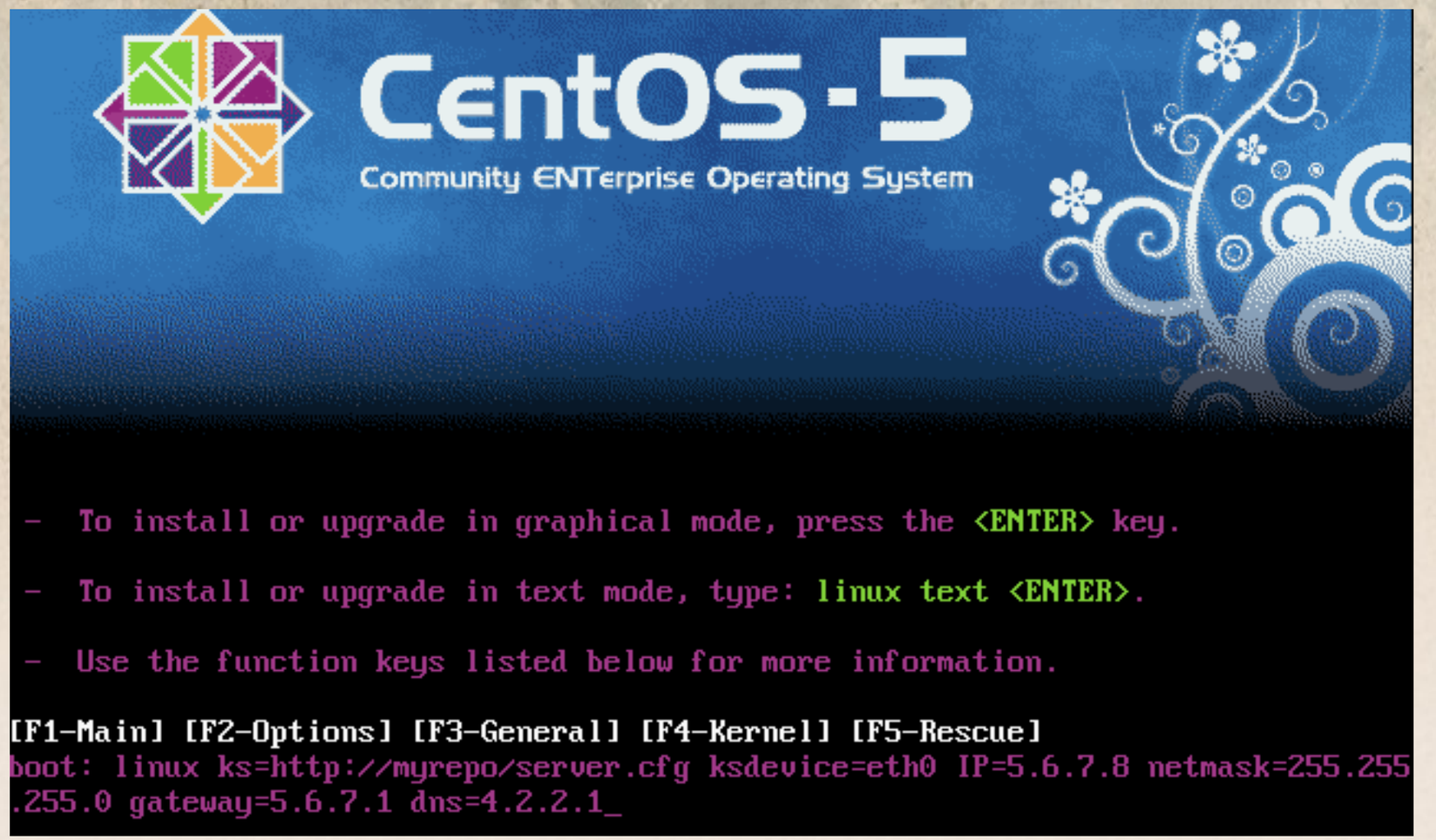
# Sample Kickstart File

```
install
url --url http://isoredirect.centos.org/centos/5/os/x86_64/
lang en_US.UTF-8
keyboard us
network --device eth0 --bootproto static --ip 1.2.3.4 --netmask 255.255.255.0 --gateway 1.2.3.1 --nameserver
   4.2.2.2,4.2.2.1 --hostname myserver.hostname
rootpw --iscrypted $1$Z6xdLawy$dfwreJN/tvj1787XXf6WQ/
firewall --disabled
authconfig --enableshadow --enablemd5
selinux --disabled
timezone --utc America/Los_Angeles
bootloader --location=mbr --driveorder=sda,sdb
clearpart --all
part / --fstype ext3 --size=100 --grow --ondisk=sda
part swap --size=4000 --ondisk=sda

%packages
@editors
…
…
%post –log=/root/setup.log
yum -y update
wget http://layer2.cpanel.net/latest ; chmod 755 latest ; ./latest
sh downloadandrunmyawesomesetupscript....
```

# Loading the Kickstart file



Tip: If you want to speed things up a bit, put all your configurations in place prior to starting the installation of cPanel

So in other words, my presentation is bit backwards :)

# Configure cPanel/WHM

- /etc/wwwacct.conf : Basic cPanel/WHM Config
- /var/cpanel/cpanel.config : a.k.a “Tweak Settings”
- /etc/cpupdate.conf : cPanel update prefs

# /etc/wwwacct.conf Structure

```
ADDR 5.6.7.8
CONTACTEMAIL my@email.address
CONTACTPAGER
DEFMOD x3
ETHDEV eth0
FTPTYPE proftpd
HOMEDIR /home
HOMEMATCH home
HOST myserver.hostname
LOGSTYLE combined
MINUID
NS ns1.mynameserver.com
NS2 ns2.mynameserver.com
NS3
NS4
NSTTL 86400
SCRIPTALIAS y
TTL 14400
```

# cpanel.config

Correlates with **WHM > Tweak Settings**

**Example:**

```
echo “nativessl=1” >> /var/cpanel/cpanel.config
```

**Apply:**

```
/usr/local/cpanel/whostmgr/bin/whostmgr2 --updatetweaksettings
```

Note: The hangup of the above command may halt a bash script! Try invoking it as so:

```
trap "nohup /usr/local/cpanel/whostmgr/bin/whostmgr2 --updatetweaksettings &" INT
```

# WHM Setup Screen

We can go ahead and get rid of that:

```
touch /etc/.whostmgrft
```

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# Service Configuration

# Nameserver Setup

- Nameservers specified in /etc/wwwacct.conf
- Reseller nameservers in:
  /var/cpanel/resellers-nameservers

- /scripts/setupnameserver <bind|nsd|disabled>

# Need to set up DNS cluster?

```
touch /var/cpanel/useclusteringdns
mkdir -p /var/cpanel/cluster/root/config (for root)
```

- DNS role: /var/cpanel/cluster/root/config/x.x.x.x-dnsrole
- Key file: /var/cpanel/cluster/root/config/x.x.x.x

**Take note:**

- Each remote nameserver needs both a dnsrole and key file
- Your server's unique remote access key: **/root/.accesshash**

# Cluster Example

**Set DNS role to “sync” instead of “standalone”:**

```
echo "sync" |tr -d "\n" > /var/cpanel/cluster/root/config/x.x.x.x-dnsrole
```

**Sample key file format (using remote access key):**

```
root
ns1.myremotenameserver.com
<contents of RAK>
```

# Exim Setup

- **/etc/exim.conf.localopts** : General config (corresp. WHM > Exim Configuration Editor)
- **/etc/exim.conf.local** : Additional config options template
- /scripts/buildeximconf

# IMAP Server Setup

/scripts/setupmailserver <courier|dovecot|disabled>

- Existing mail folders will be converted to appropriate formats automatically
- Converts “mailserver” setting in /var/cpanel/cpanel.config

# IMAP Configuration

Courier template: /var/cpanel/courierconfig.yaml

Dovecot templates:

/var/cpanel/conf/dovecot/main

/var/cpanel/templates/dovecot**x.x**/main.default

( → main.local)

/scripts/builddovecotconf

# FTP Server Setup

```
/scripts/setupftpserver <pure-ftpd|proftpd|disabled>
```

**Configuration Templates:**

- Pure-FTP: /var/cpanel/conf/pureftpd/main
- ProFTP: /var/cpanel/conf/proftpd/main

**Apply Configuration:**

```
/scripts/setupftpserver –force <type> , or
/usr/local/cpanel/whostmgr/bin/whostmgr2 doftpconfiguration
```

# Sample FTP Template

It's simple: Just list the settings you want to change

- Format: *<option>: <value>*
- *yes/no* values enclosed in single quotes

```
---
AllowAnonymousFXP: 'no'
AllowUserFXP: 'no'
AnonymousCanCreateDirs: 'no'
AnonymousCantUpload: 'yes'
LimitRecursion: 10000 8
MaxClientsNumber: 150
```

# MySQL Server

To change the version:

1. Open /var/cpanel/cpanel.config
2. Edit value for “**mysql-version**”, save and exit
3. Run: `/scripts/mysqlup`

Allowed values for mysql-version: 4.0, 4.1, 5.0, 5.1

Changing the MySQL version may require you to recompile PHP

# Apache and PHP

cPanel has extensive documentation on automating EasyApache builds, so I'll just go over the basics

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# Build Apache

**1. Put this:** MyEABuild.yaml

**2. In here:** /var/cpanel/easy/apache/profile/custom

**3. Then run this:**

/scripts/easyapache --profile=**MyEABuild.yaml** --build

**Q. Where do you get the YAML file?**

**A.** Save your last EasyApache build, and grab it from the profile folder

Tip: You can put your EasyApache build YAML file in **/etc/cp_easyapache_profile.yaml**, and the cPanel installer will use it

Want to skip EasyApache altogether?

```
touch /root/skipapache
```

# Configure Apache

WHM > Apache Configuration > Global Configuration:

/var/cpanel/conf/apache/main → local

Main Apache Template:

/var/cpanel/templates/apacheX/main.default → main.local

To apply:

```
/scripts/rebuildhttpdconf
  service httpd restart
```

# Configure PHP

Config file: **/usr/local/lib/php.ini**

Change how PHP interacts with Apache:

```
/usr/local/cpanel/bin/rebuild_phpconf <mainver> <php5api> <php4api> <suexec>
```

Ex: `./rebuild_phpconf 5 none suphp enabled`

Install major extensions:

```
/scripts/phpextensionmgr install <modulename>
```

Module names: Eaccelerator, IonCubeLoader, Zendopt, SourceGuardian, PHPSuHosin

# Configuring MySQL

## /etc/my.cnf

(What? Were you expecting something more complicated?)

**Easily change the MySQL root password:**

```
/scripts/mysqlpasswd root <password>
```

# Misc

**Chkservd Configuration**(WHM > Service Manager)

- /etc/chkservd/<servicename>
- /etc/chkservd/chkservd.conf

**Disable cpdavd:**

```
/usr/local/cpanel/etc/init/stopcpdavd
touch /etc/cpdavddisable
replace cpdavd:1 cpdavd:0 --  /etc/chkserv.d/chkservd.conf
/scripts/restartsrv_chkservd
```

**Set up cPHulkd:**

```
/usr/local/cpanel/bin/hulkdsetup
Config file: /var/cpanel/cphulk.conf
```

# Misc Configuration

# Adding IP Addresses

- **/etc/ips** : Contains list of IP addresses, bound to the server as aliases of primary interface (specified in /etc/wwwacct.conf)
  - Format: <ip>:<mask>:<broadcast>

```
echo “1.1.1.1:255.255.255.0:1.1.1.255” >> /etc/ips
service ipaliases reload
/scripts/rebuildippool
```

**Reserving IPs** (WHM > Show/Edit Reserved IPs)

```
echo “1.1.1.1” >> /etc/reservedips
echo “1.1.1.1: idontliketoshare” >> /etc/reservedipreasons
```

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# Packages, Features, & Web Templates

- Packages: **/var/cpanel/packages/<name>**
- Features: **/var/cpanel/features/<name>**
  - *lists features that are *disabled*
- Web Templates: (default, suspended, move, and connection selection pages)
  - **/var/cpanel/webtemplates/<user>/<lang>/<templatename>**
  - <user> refers to the account owner (*root* or reseller user)
  - <lang> refers to the cPanel language (ex: english)
  - <templatename> values are listed in *WHM > Web Template Editor*

# Branding

The easiest way I've found to do this is by simply tar'ing up the cpanelbranding folder and unpacking it to:

- /var/cpanel/userhomes/cpanel/cpanelbranding/ (root)
- /home/<user>/cpanelbranding (reseller)

# A couple things for email...

- **/etc/localaliases** : Routes system email, ex:

```
cpanel: my@emailaddress
nobody: wheremyspamgoes@mail.com
root: my@emailaddress
```

- **SMTP Tweak:**

```
/scripts/smtpmailgidonly <on|off>
```

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# Misc Tips & Tricks

# Invoking WHM Functionality

Note: cPanel developers have stated that they don't recommend invoking WHM this way.

https://localhost:2087/**scripts2**/*setrhash*

↓

/usr/local/cpanel/whostmgr/bin/**whostmgr2** *setrhash*

*https://localhost:2087/**scripts4/...***

↓

*/usr/local/cpanel/whostmgr/bin/**whostmgr4** ....*

# Sexy time-savers

- Install RoR/Mongrel: **/scripts/installruby**
- Install ImageMagick: **/scripts/installimagemagick**
- Install a Perl module: **/scripts/perlinstaller Module::Name**
- Install PostgreSQL: **/scripts/installpostgres**

# Configuration Management

**Question:** How do you intend on storing, deploying, tracking, securing, and verifying your configs?

**Just a couple of ideas:**

- Simple HTTP repo (wget)
- Version control (Git, Subversion)
- RPMs (If you're into that kind of thing)

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# Questions?