



Introduction to cPanel
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Introduction to cPanel

Topics Covered

- » **Installation**
- » Initial Configuration
- » Account Management
- » System Diagnostics

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Installation – Distribution Selection

- Only supported versions of distributions should be installed.
 - CentOS is the most commonly used and recommended distribution
 - http://www.cpanel.net/products/cPanelandWHM/linux/sys_requirements

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Installation - Disk Preparation - Partitioning

➤➤ Based on an 80Gb Disk, The minimum partitioning scheme would be:

- 8% / (6.24GB)
- 12% /usr (9.36GB)
- 20% /var (15.6GB)
- 60% /home (46.8GB)

➤➤ /tmp is optional. cPanel will mount a 512MB loop back if not specified.

➤➤ LVM offers flexibility, if available.

- Easy to manage. For more information on managing LVM, refer to:

- <http://tldp.org/HOWTO/LVM-HOWTO/>

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Installation – Distribution Configuration

- » Select only the base packages, adding only the development tools
- » X is not recommended or supported
- » Update all packages prior to installing cPanel

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Installation – Network Configuration

- **cPanel should not be installed behind a NAT**
- The licensed IP should be configured as the default route

Firewall Configuration

- Only allow secure ports for INPUT (2083,2087,2096)
- Allow outbound traffic over port 2089 for licensing

```
-A OUTPUT -p tcp -dport 2089 -j ACCEPT  
-A INPUT -p tcp -m multiport --dports 2083,2087,2096 -j ACCEPT  
-A INPUT -p tcp -m multiport --dports 25,465,993,995 -j ACCEPT
```



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Installation – Performing the Installation

➤➤ The self extracting installer is available at
<http://layer1.cpanel.net/latest>

```
mkdir /home/cpins && cd /home/cpins && wget -O - http://layer1.cpanel.net/latest | sh
```

Installation Tips:

- Run install from within a screen session
- Installation issues can be further diagnosed in `/var/log/cpanel-install-thread*.log`
- Use 'script' for a complete transcript of installation
- Confirm your installation once completed by executing `'netstat -lnp | grep :208'`



Introduction to cPanel

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- » Installation
- » **Initial Configuration**
 - **Setup Wizard**
 - Networking Setup
 - Contacts and Alerts
 - Configuration Tweaks
- » Account Management
- » System Diagnostics

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Introduction to cPanel Setup Wizard - Overview

➤➤ Direct your browser to <https://yourip:2087>

➤➤ The setup wizard consists of six steps:

- License Agreement
- Basic cPanel/WHM Setup
- Quota Setup
- Name Server Setup
- Resolver Configuration
- Configure MySQL Root Password

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Setup Wizard – Basic cPanel/WHM Setup

Required Fields:

- » Server Contact E-mail
- » Default cPanel Theme
- » Default Home Directory
- » Home Directory Prefix
- » Main Shared Virtual IP
- » Server Hostname
- » Primary Name Server
- » Secondary Name Server
- » CGI Script Alias
- » Apache Access Log

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Introduction to cPanel Setup Wizard – Quota Setup

- Enables quotas on all file systems except for:
 - /boot /tmp and /backup mount points
 - The root (/) file system when /home is its own mount point
- Can be called later in WHM, or via CLI by executing `/scripts/initquotas`
- System quota utilities are used to manage quotas



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Setup Wizard – Nameserver Setup

»» Installs the a caching only name server configuration

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Setup Wizard – Resolver Configuration

- » Configures the name servers in `/etc/resolv.conf`
- » Use ISP provisioned name servers. Do not use local name servers.
- » Crucial to most applications which perform socket communications

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Setup Wizard – MySQL Root Password

- Configures the MySQL root password, and stores in `/root/.my.cnf`
- Critical step. Should not be skipped, or root passwords will be blank.

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Networking Setup – Binding IPs

- IPs are bound via WHM > IP Functions > Add a New IP Address'
- Can be bound in ranges using the following formats:
 - 192.168.4.128/25 (CIDR Notation)
 - 192.168.3.5-10 (IP Range)
- All IPs bound through WHM are stored in /etc/ips
 - IPs available for assignment are stored in /etc/ipaddrpool
- WHM managed IPs are bound at boot by /etc/init.d/ipaliases



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Networking Setup – Name Server Setup

- Nameserver hostnames/ips are assigned in Basic cPanel/WHM Setup
 - IPs may also be assigned in Networking Setup > Nameserver Ips
- Name server host will need to be ICANN registered via your registrar
- Finalize setup via Service Configuration > Nameserver Setup

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Introduction to cPanel

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Contacts and Alerts – Contact Manager

- Located in WHM -> Server Contacts
- Inherits contact information from Basic cPanel/WHM Setup
- Contact mediums are configured by priority
 - Higher priority alerts also use the mediums configured beneath them

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Introduction to cPanel Contacts and Alerts – System Mail Preferences

- Defines aliases for root, nobody, and cpanel system users
- Aliases are stored in /etc/localaliases and /etc/aliases
- Alias may be configured as :blackhole: or :fail: in lieu of an address

root's mail

currently being forwarded to *contact@cpanel.net*

Mail should be forwarded to:

[Change](#)

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Contacts and Alerts – Service Manager

- WHM -> Service Configuration -> Service Manager
- Allows (de)activation of services and the monitoring thereof
- Acts as a frontend for chkservd, cPanel's service monitoring daemon
- Monitoring events are logged to /var/log/chkservd.log
 - Alerts are dispatched to the server's contact address








Uncheck a service to disable it

Enabled	Monitor	Service Information
<input checked="" type="checkbox"/>	<input type="checkbox"/>	antirelayd POP before SMTP daemon

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Contacts and Alerts – Service Status

- WHM -> Server Status -> Service Status
- Dictates state of services during last monitoring update
 - Updates are executed once every eight minutes by chkserverd
- Provides load average, disk usage, and memory usage alerts

exim (exim-4.66-0_cpanel_maildir)	failed	
cpsrvd	up	
Server Load	0.16 (1 cpu)	
Memory Used	29.2 %	
Swap Used	8.27 %	
Disk /dev/hda1 (/boot) DMA+	20 %	
Disk /dev/mapper/VolGroup00-LogVol00 (/)	35 %	



Introduction to cPanel

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Introduction to cPanel Configuration Tweaks – Update Configuration

- WHM -> Server Configuration -> Update Config
- Allows automation of nightly system and cPanel package updates
- Configuration changes are stored `/etc/cpupdate.conf`

cPanel/WHM Updates

- Automatic (STABLE tree)
- Automatic (RELEASE tree)
- Automatic (CURRENT tree)
- Manual Updates Only (STABLE tree)
- Manual Updates Only (RELEASE tree)
- Manual Updates Only (CURRENT tree)
- Manual Updates Only (bleeding EDGE tree)
- Never Update

cPanel Package Updates

- Automatic
- Manual Updates Only
- Never Update

Security Package Updates

- Automatic
- Manual Updates Only
- Never Update



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Configuration Tweaks – Executing Updates

WHM Path	CLI Path	Updates
Software -> Update Server Software	/scripts/rpmup	cPanel RPM Packages Perl Modules
Software -> Update System Software	/scripts/sysup	Distribution Packages
cPanel -> Upgrade to Latest Version	/scripts/upcp	Distribution Packages cPanel Backend / Packages Perl Modules



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Configuration Tweaks – Tweak Settings

- Allows fine tuning of options which greatly affect cPanel's functionality
- Most settings are stored in `/var/cpanel/cpanel.config`
- Notable examples:
 - Allows adjustment of MySQL Version
 - Allows enabling and disabling of webmail and statistics applications
 - Allows adjustment of cPanel's resource limitations



Introduction to cPanel Configuration Tweaks – SSH Keys

- WHM -> Security -> Manage SSH Keys
- Allows generation, importation, and authorization of SSH keys
- Keys are stored in:
 - ~/.ssh/user\@host.com
 - ~/.ssh/authorized_keys
- Disabling of SSH Password Authentication is recommended



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Configuration Tweaks – Security Center

➤➤ WHM -> Security -> Security Center

Notable Features

➤➤ Disabling of SSH Password Authentication

➤➤ cPHulk Brute Force Protection

➤➤ Host Access Control

➤➤ Management of compiler/mail relay access for non-privileged users

➤➤ Enabling and configuration of open_basedir and mod_userdir

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Configuration Tweaks – Service Configuration

➤➤ WHM -> Service Configuration

➤➤ Exim Configuration

- Allows management of sender verification/callouts
- Contains an advanced interface for direct configuration of exim

➤➤ FTP Configuration

- Allows toggling between ProFTPd and PureFTPd (default: PureFTP)
- Allows enabling of Anonymous FTP access

➤➤ PHP Configuration Editor

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- » Installation
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- » **Account Management**
 - **Creating an account**
 - Package management
 - Account modification
 - Reseller management
- » System Diagnostics

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Creating an Account

- WHM -> Account Functions -> Create a New Account
- Configures system and cPanel user configurations
- Configures user for all cPanel managed services
- Accounts may also be created from the command line
 - Execute `/scripts/wwwacct` without arguments for syntax

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Creating an Account – Advanced Tips

- Include templates for new users in `~/cpanel3-skel`
- Post account creation tasks can be scripted at the following locations:
 - `/scripts/postwwwacct`
 - Accepts a complete list of arguments passed to `/scripts/wwwacct`
 - `/scripts/postwwwacctuser`
 - Accepts a single argument of the user name that was created
- For a complete list of available hooks for cPanel, refer to:
 - <http://www.cpanel.net/support/docs/3rdparty.htm>



Introduction to cPanel

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Package Creation and Management

Adding Packages

- Packages can be added via WHM -> Packages -> Add Packages
- Packages prefixed with reseller_ are visible only by that reseller

Editing Packages

- WHM -> Packages -> Edit Packages shares the same interface
- Edit Packages updates all applicable configurations when modified

Removing Packages

- Packages may be removed with little effort via Delete Packages

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Introduction to cPanel Package Management – Assigning Packages

- Packages may be assigned via:
 - Account Functions -> Create a New Account
 - Account Functions -> Upgrade/Downgrade an Account
 - Multi-Account Functions -> Modify/Upgrade Multiple Accounts
- When a package is assigned all previous settings are overwritten



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Package Management – Feature Lists

- Are defined and managed in WHM -> Packages -> Feature Manager
- Govern the features available within the assignee's cPanel interface
- Must be assigned to the users via Packages

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Introduction to cPanel

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Account Modification – Resource Limits

» Quota Modification

- Allows grouping by reseller users
- Gives a summary of usage for listed users
- Allows the definition of new limitations for users

» Limit Bandwidth Usage

- Allows the definition of new bandwidth limitations for a single user

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Introduction to cPanel Account Modification – Suspension / Termination

➤➤ Suspend/Unsuspend an Account

- Allows the suspension and restoration of cPanel and reseller users
- Reseller users will remain unaffected when reseller is suspended

➤➤ Modify Suspended Account Page

- Allows customization of document displayed for suspended accounts

➤➤ Terminate an Account

- Completely removes a user from the system. ***not reversible***
- Multiple users can be terminated via the Multi-Account Functions



Introduction to cPanel

Account Modification – Account Data

Additional Functions

➤➤ Modify an Account

- Modifies all user configurations outside of reseller and package data

➤➤ Manage Shell Access

- Manages the ability for the account to establish SSH access

➤➤ Password Modification

- Allows the resetting of the user password

➤➤ Change Site's IP Address

- Allows assignment of new IP from the available IP pool

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Introduction to cPanel

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- » System Diagnostics

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Introduction to cPanel

Reseller Management – Reseller Center

- WHM -> Resellers -> Reseller Center
- Allows creation, management, and contacting of reseller users
 - Reseller status may also be granted at account creation
- Once granted reseller status, the user in question may access WHM

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Reseller Center – Privilege Assignment

- Edit Privileges/Nameservers is the privilege assignment interface
- Governs WHM and Accounting resources available to the reseller
- Resellers are granted a restrictive initial configuration
- Privileges may be saved as an ACL for future assignment



Introduction to cPanel

Reseller Center – Resource Limitations

Account Creation Limits

- »» The account creation limits allow the limitation of:
- The number of accounts the reseller may create
 - The number of packages the reseller may create
 - The packages which the reseller may assign
 - The cumulative bandwidth/disk space a reseller may allocate

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Introduction to cPanel Reseller Center – IP Delegation

- IPs available to the reseller may be limited via 'Manage Ip Delegation'
 - By default, the reseller will be able to allocate any available IP
- The reseller's shared IP is defined in 'Manage Main Shared/Ipless Ip'
 - The default shared IP is configured as the server's shared IP



Introduction to cPanel

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- »» **System Diagnostics**

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Advanced Troubleshooting

Diagnostics – CPU/Memory/MySQL Usage

- Provides historical resource usage statistics
- Problematic processes will be color coded by severity
- Useful for isolating problematic scripts/applications

User	Domain	%CPU	%MEM	Mysql Processes
root		0.38	45.69	2.0
Top Process	%CPU 2.0	crond		
Top Process	%CPU 1.2	sshd: root [priv]		
Top Process	%CPU 1.0	crond		
mailman		0.03	22.73	0.0

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Advanced Troubleshooting

Diagnostics – Show Current CPU Usage

- System Health -> Show Current CPU Usage
- Lists active processes on the server
- Eases the determination of resource intensive processes
- Allows tracing and killing of processes, via PID link

PID	OWNER	PRIORITY	CPU % 1	MEM %	COMMAND
3901	root	0	79.9	0.6	sshd: root@pts/0
16208	root	0	18.6	0.2	yes
316	root	0	0.3	0.0	[kjournald]
16211	root	0	0.3	0.4	top -n 2 -b -c
3282	root	0	0.0	0.1	/sbin/mingetty tty1

Advanced Troubleshooting

Diagnostics – Current Running Processes

- System Health -> Show Current Running Processes
- Lists details from /proc entries for processes




PID	NAME	FILE	CURRENT DIRECTORY 1	
5433	(exim)	/usr/sbin/exim	/var/spool/exim	/usr/sbin/exim -tls-on-connect -bd -oX46!
5428	(exim)	/usr/sbin/exim	/var/spool/exim	/usr/sbin/exim -bd -q60m
2842	(crond)	/usr/sbin/crond	/var/spool	crond
2244	(named)	/usr/sbin/named	/var/named	/usr/sbin/named -u named
3903	(bash)	/bin/bash	/var/log/dcpumon	-bash
7186	(mysqld)	/usr/sbin/mysqld	/var/lib/mysql	/usr/sbin/mysqld --basedir=/ --datadir=/var/

Advanced Troubleshooting

Diagnostics – Current Disk Usage

➤➤ System Health > Show Current Disk Usage

➤➤ Alerts are dispatched when usage reaches critical levels

Device	Size	Used	Available	Percent Used	Mount Point
 /dev/hda1	99M	19M	76M	20%	/boot
 /dev/mapper/VolGroup00-LogVol009.2G		3.1G	5.7G	36%	/
 /tmp	485M	13M	447M	3%	/var/tmp

Advanced Troubleshooting

Diagnostics – Accounts over Quota










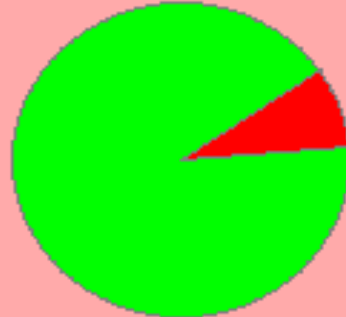

- Account Information > Show Accounts over Quota
- Alerts are dispatched from /scripts/quotacheck
 - `find / -user example -ls > /root/example.files`

USER ↓	SPACE USED	QUOTA	
exampleaccount.com [example]	191 M	<input type="text" value="50"/> M	Change

Advanced Troubleshooting

Diagnostics – View Bandwidth Usage

- Account Information > View Bandwidth Usage
- By default, accounts over bandwidth will be suspended

User	Domain	Xfer (Best Fit)	Limit (Best Fit)	Usage
another	anotherest.com	0.00 Meg	unlimited Meg 	0% used 
cptest	cptestest.com (deleted)	0.00 Meg	N/A	0% used 
domaintest	domaintest.com	9.54 Meg	11.44 Meg 	83% used 
example	exampleaccount.com 	1.12 Gig	0.00 Meg 	120000970% used 
	 exampleaccount.com	95.37 Meg		
	 parkdomain.com	1.02 Gig		



Q & A

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