

# Computer System Design and Administration

Topic 12. Global configuration tool: Webmin



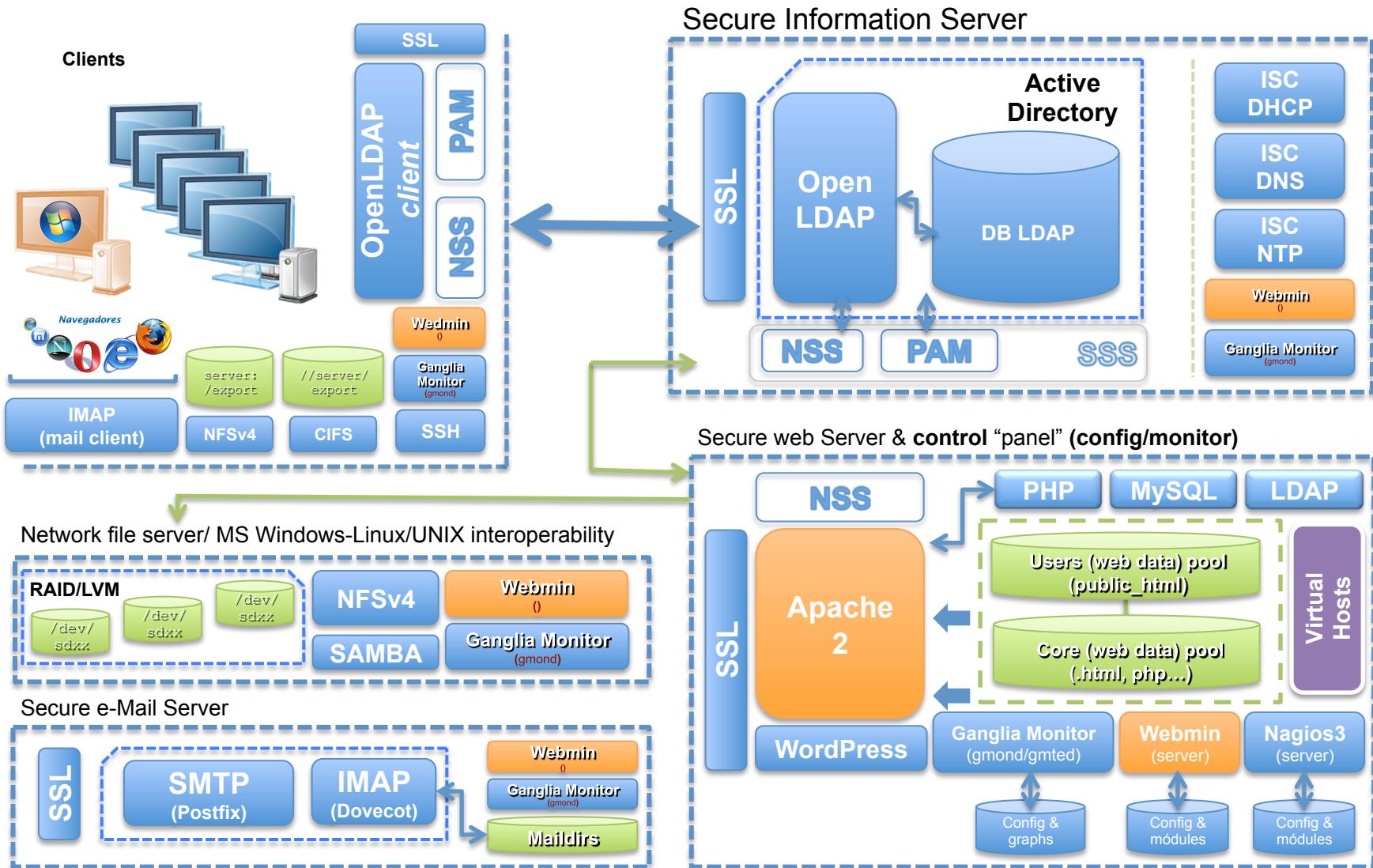
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## Topic 12. Global configuration tool: Webmin

## Puzzle



## Target: Control panel (configuration)

- Deployment of a unified control system to configure and monitor a whole *computing environment*, based on:

- Global configuration:**

- Webmin.**

- Global monitoring:**

- Ganglia-monitor.
- Nagios 3.

- Others:**

- Log File Viewers:**

- Webalizer Logfile Analysis (Webmin module).

- Ksystemlog.
- Logwatch.

- Linux tools:**

- System:**

- » sysstat, lsof

- Accounting:**

- » acct (lastcomm, sa)

- Networking:**

- » iptraf, netstat, nmap

The screenshot shows the 'Local Users' section of the Webmin 'Users and Groups' module. The table lists various users with their details:

Username	User ID	Group	Real name	Home directory
abc	1001	foo	ABC user guy	/home/foo/abc
abcdxtfc	3038	xtfc	RxTFC Customer User	/usr/rxtfc/abcdxtfc
actuate	3038	xtfc	RxTFC Actuate User	/usr/rxtfc/actuate
admin	0	root	Admin user	/root
alex	3071	alex	Alexanders website	/home/www.alex.webmin.com
alex.ephsteyn	3089	users	Alex Ephsteyn	/home/alex.ephsteyn
aliasatest@poldomain.com	3060	gpldomain	Test for aliasing	/home/gpldomain/homes/aliasatest
allfeatures	3015	allfeatures	All stuff enabled	/home/allfeatures
annie	3011	users	Orphan Annie	/home/annie
anotherfreedomain	3104	anotherfreedomain	Another free domain	/home/anotherfreedomain
anshul	3050	users	Anshul	/home/anshul
atmanettest	3087	atmanettest	At names test	/home/www.atmanettest.com
beable-foo	3076	users	Foo bar	/home/beable-foo
beable-smeg	3077	users	Smeg bar	/home/beable-smeg
betty	9016	filmfestival	Film Festival User	/home/www.filmfestival.webmin.com/upload
bigmail.fudu	3102	fudu	Test user who will get mail	/home/www.fudu.homenlinux.com/homes/bigmail
bind	19	bind	DNS Server	/
bishop	3024	wheel	Bishop	/home/bishop
blobbo	3075		Blobgo Blog	
blobbo.test20	3078	test20	Blobgo Blog	
boat	3059	boat	Mum and Dad's boat holiday photos	/home/www.boat.trip.webmin.com
boobar@gpldomain.com	3068	gpldomain	Boo Bar	/home/gpldomain/homes/boobar
clamav	3065	clamav	ClamAV User	/home/clamav
cluster	3035	users	Cluster Test	/home/c/cluster
crontest.sellme	3097	sellme	Cron job backup test	/home/www.sellme.com/homes/crontest
daemon	2	daemon	daemon	/sbin
dave	3047	users	Dave Boehler	/home/dave
dbguy.nomail	3058	nomail	Database only guy	/home/www/test20.com/domains/nomail.com/homes/dbg

## Webmin: Description

- **Webmin:**

- **Web based tool for the management (configuration) of UNIX/Linux systems:**
  - Web “*front end*” → **Control panel**.
  - To fully configure the system.
- It is based on a set of configuration tools from Open Solaris, **Linux** and other UNIX:
  - E.g.: Linuxconf (deprecated).
- It is integrated and runs **automatically** on a Web service, over the target server:
  - Secure communications (SSL).
  - Using TCP port: 10000:
    - **default**.
  - Restricted access:
    - **root/operator**.
- Enables the *sysadmin* to configure a couple of servers remotely, from a central “control” server.
  - Very suitable tool for DATA CENTERS, with LINUX servers.



## Webmin: Main features

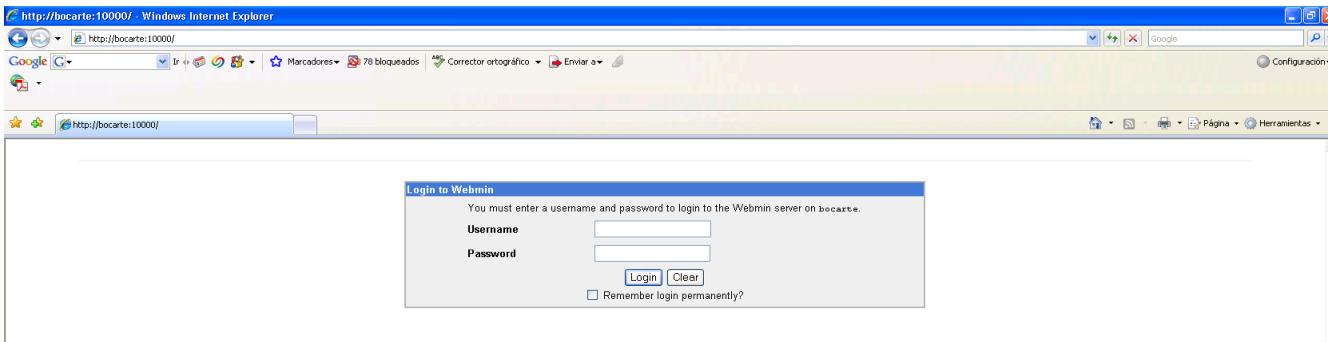
- Its aim is, through a (friendly) web interface, to set up:
  - *The OS Internals*: kernel...
  - Applications, services, modules...
- Independent architecture software.
- Modular...
  - More than 90% of its functionality comes from the Webmin **modules**:
    - “Bootup and Shutdown”, “Scheduler Cron Jobs”, “Webalizer LogFile Analysis”...
    - <http://www.webmin.com/standard.html>.
- Portable:
  - You can run it on a very large number of system platforms:
    - **UNIX/Linux, OSX, Windows...**
  - Availability.
  - 2 versions:
    - **OpenSource → 1.791.**
    - **Pro version → (Commercial):**
      - Visit <http://www.virtualmin.com/>.
- Software, documentation, wiki... and more details:
  - <http://www.webmin.com>.



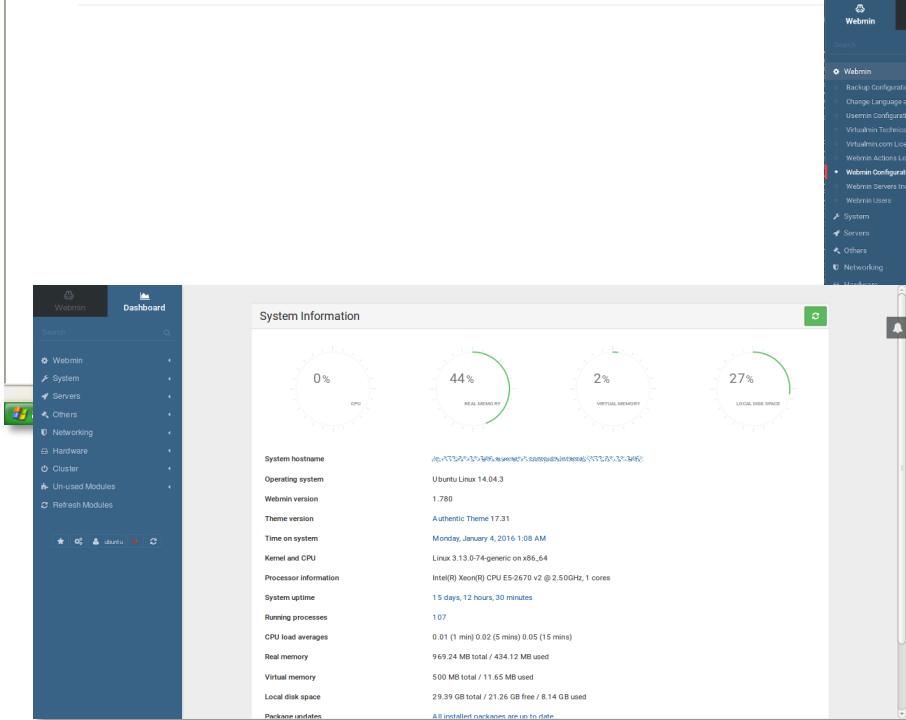
# Everything

## Topic 12. Global configuration tool: Webmin

## Webmin: Main features

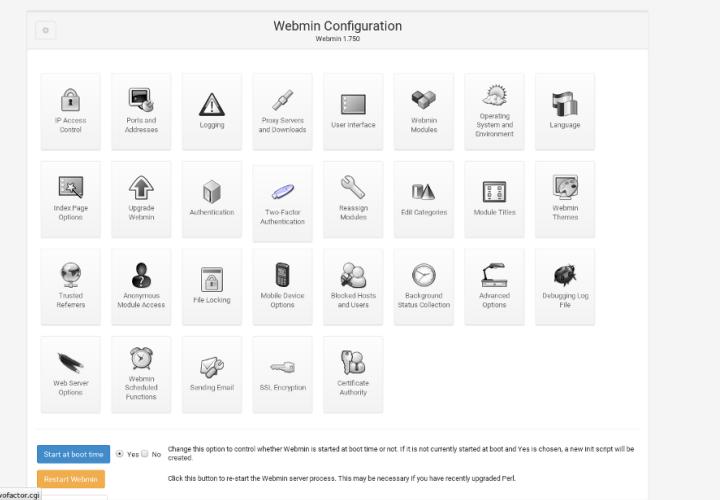


The screenshot shows the 'Login to Webmin' dialog box. It contains fields for 'Username' and 'Password', a 'Login' button, a 'Clear' button, and a 'Remember login permanently?' checkbox.



The dashboard displays various system metrics in a circular gauge format: CPU (0%), Real Memory (44%), Virtual Memory (2%), and Local Disk Space (27%). Below the gauges, detailed system information is listed:

- System hostname: jg-**bocarte**.**bocarte**.**local**
- Operating system: Ubuntu Linux 14.04.3
- Webmin version: 1.780
- Theme version: Authentic Theme 17.31
- Time on system: Monday, January 4, 2016 1:08 AM
- Kernel and CPU: Linux 3.13.0-74-generic on x86\_64
- Processor information: Intel(R) Xeon(R) CPU E5-2670 v2 @ 2.50GHz, 1 cores
- System uptime: 15 days, 12 hours, 30 minutes
- Running processes: 107
- CPU load averages: 0.01 (1 min) 0.02 (5 min) 0.05 (15 min)
- Real memory: 969.24 MB total / 434.12 MB used
- Virtual memory: 500 MB total / 11.65 MB used
- Local disk space: 29.39 GB total / 21.26 GB free / 8.14 GB used
- Package updates: All installed packages are up-to-date



The 'Webmin Configuration' interface shows a grid of 24 icons representing different configuration modules. The modules include:

- IP Access Control, Ports and Addresses, Logging, Page Servers and Downloads, User Interface, Webmin Modules, Operating System and Environment, Language
- Index Page Options, Upgrade Webmin, Authentication, Two-Factor Authentication, Reassign Modules, Edit Categories, Module Titles, Webmin Themes
- Trusted Referrals, Anonymous Module Access, File Locking, Mobile Device Options, Blocked Hosts and Users, Background Status Collection, Advanced Options, Debugging Log File
- Web Server Options, Webmin Scheduled Processes, Sending Email, SSL Encryption, Certificate Authority

At the bottom, there are buttons for 'Start at boot time' (radio buttons for Yes and No), a 'Restart Webmin' button, and a note about starting the Webmin process at boot time.

## Webmin: Global configuration

- Secure web server access ([https](https://)).
- Divides server administration into several **sections**:
  - Webmin.
  - System.
  - Servers.
  - Networking.
  - Hardware.
  - Cluster.
  - Others.
- Standard modules for basic administration tasks:
  - **System start/stop management**.
  - **Software management** (`apt-get/dpkg` integrated).
  - **User management**.
  - **Local file system management** (FS).
  - **Security management**: Firewall.
  - **Centralized printer management**: LPD.
  - **Basic parts of the system**:
    - Logs, crond, PAM, process control, manuals...
  - ...



The screenshot shows the Webmin global configuration interface. The left sidebar lists various sections: Webmin, System, Servers, Others, Networking, Hardware, Cluster, and Un-used Modules. The 'Un-used Modules' section is highlighted with a blue border. The right side features a search bar and several footer links: View Module's Logs, System Information, Refresh Modules, and Logout.

Login: root

- ▶ Webmin
- ▶ System
- ▶ Servers
- ▶ Others
- ▶ Networking
- ▶ Hardware
- ▶ Cluster
- ▶ Un-used Modules

Search:

View Module's Logs  
 System Information  
 Refresh Modules  
 Logout

## Webmin: Services configuration

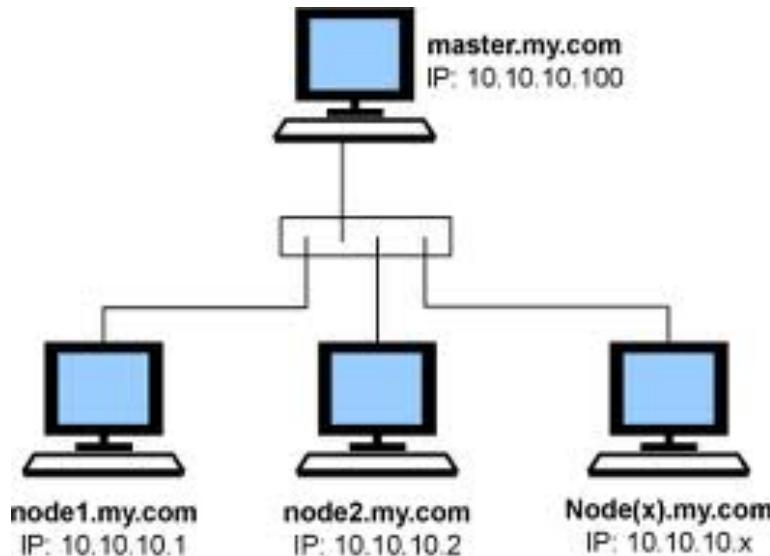
- Specific modules for user and webmin access management:
  - [Usermin](#).
- Specific modules for **hardware** management:
  - [Disk management](#):
    - Partitioning and formatting of local disks.
  - [iSCSI](#).
  - [Linux RAID and LVM systems](#).
- Specific modules for **networking** management (*networking*):
  - [Networking services and protocols](#).
  - [NFS](#).
  - [SSL Tunnels](#).
  - [Firewall](#).
- Specific modules for **network services** management:
  - [Information services](#): LDAP, NIS...
  - [Data bases services](#): MySQL, Postgres...
  - [E-Mail services](#): Sendmail, Exim4, Postfix, Dovecot...
  - [Web services](#): Apache.
  - [Name resolution services](#): BIND.
  - [Dynamic hosts configuration services](#): DHCP.
- Specific modules for **clusters** management:
  - Remote execution (parallel) of commands in cluster; one command → Multiple nodes.
  - Coordinated management of clustered software.
  - Cluster user/group management.
  - ...
- Specific modules for **HA (High Ability)** management:
  - [Heartbeat monitoring](#).



## Webmin: webmin environment configuration



- **Unified server management** with Webmin systems.
- Many webmin systems connected is possible:
  - Client-server schema.
  - Simplifies tasks in homogeneous environments:
    - Software management.



## Webmin: Installation (debian)

- **Option A: (heavy):**
  - Downloading and installing (`dpkg`) the webmin package `.deb` manually.
- **Option B: (simple):**
  - Using the `webmin` repository.
  - Add to the file `/etc/apt/sources.list`:  
`deb http://download.webmin.com/download/repository sarge contrib`
  - Download the repository key and install it into the system “Key ring”:  
`$ cd /root`  
`$ wget http://www.webmin.com/jcameron-key.asc`  
`$ apt-key add jcameron-key.asc`
  - Install webmin software (and dependences) from repository:  
`$ apt-get update`  
`$ apt-get install apt-transport-https`  
`$ apt-get install webmin`

## Topic 12. Global configuration tool: Webmin

## Webmin: Installation (debian)

- Access to webmin “control panel”:

- <https://monitor:10000>

The screenshot shows the Webmin Configuration interface. On the left is a sidebar with a dark blue background containing a navigation menu. The menu items include: Webmin (selected), Backup Configuration Files, Change Language and Theme, Usemin Configuration, Virtualmin Technical Support, Virtualmin.com License Manager, Webmin Actions Log, Webmin Configuration (selected), Webmin Servers Index, Webmin Users, System, Servers, Others, Networking, Hardware, Cluster, Unused Modules, Refresh Modules, System Information, and System Statistics. At the bottom of the sidebar are user status icons for root and other users.

The main area is titled "Webmin Configuration" and "Webmin 1.750". It features a grid of 24 icons, each representing a different configuration option. The icons are arranged in four rows of six. The first row includes: IP Access Control, Ports and Addresses, Logging, Proxy Servers and Downloads, User Interface, Webmin Modules, Operating System and Environment, and Language. The second row includes: Index Page Options, Upgrade Webmin, Authentication, Two-Factor Authentication, Reassign Modules, Edit Categories, Module Titles, and Webmin Themes. The third row includes: Trusted Referrers, Anonymous Module Access, File Locking, Mobile Device Options, Blocked Hosts and Users, Background Status Collection, Advanced Options, and Debugging Log File. The fourth row includes: Web Server Options, Webmin Scheduled Functions, Sending Email, SSL Encryption, and Certificate Authority.

At the bottom of the main window, there are two buttons: "Start at boot time" (radio button set to Yes) and "Restart Webmin". Below these buttons is a note: "Change this option to control whether Webmin is started at boot time or not. If it is not currently started at boot and Yes is chosen, a new init script will be created." To the right of this note is another note: "Click this button to re-start the Webmin server process. This may be necessary if you have recently upgraded Perl." A URL bar at the bottom left shows the address: "https://www.virtualmin.com:10000/webmin/edit\_twofactor.cgi".