

# Computer System Design and Administration

## Topic 12. Global configuration tool: Webmin



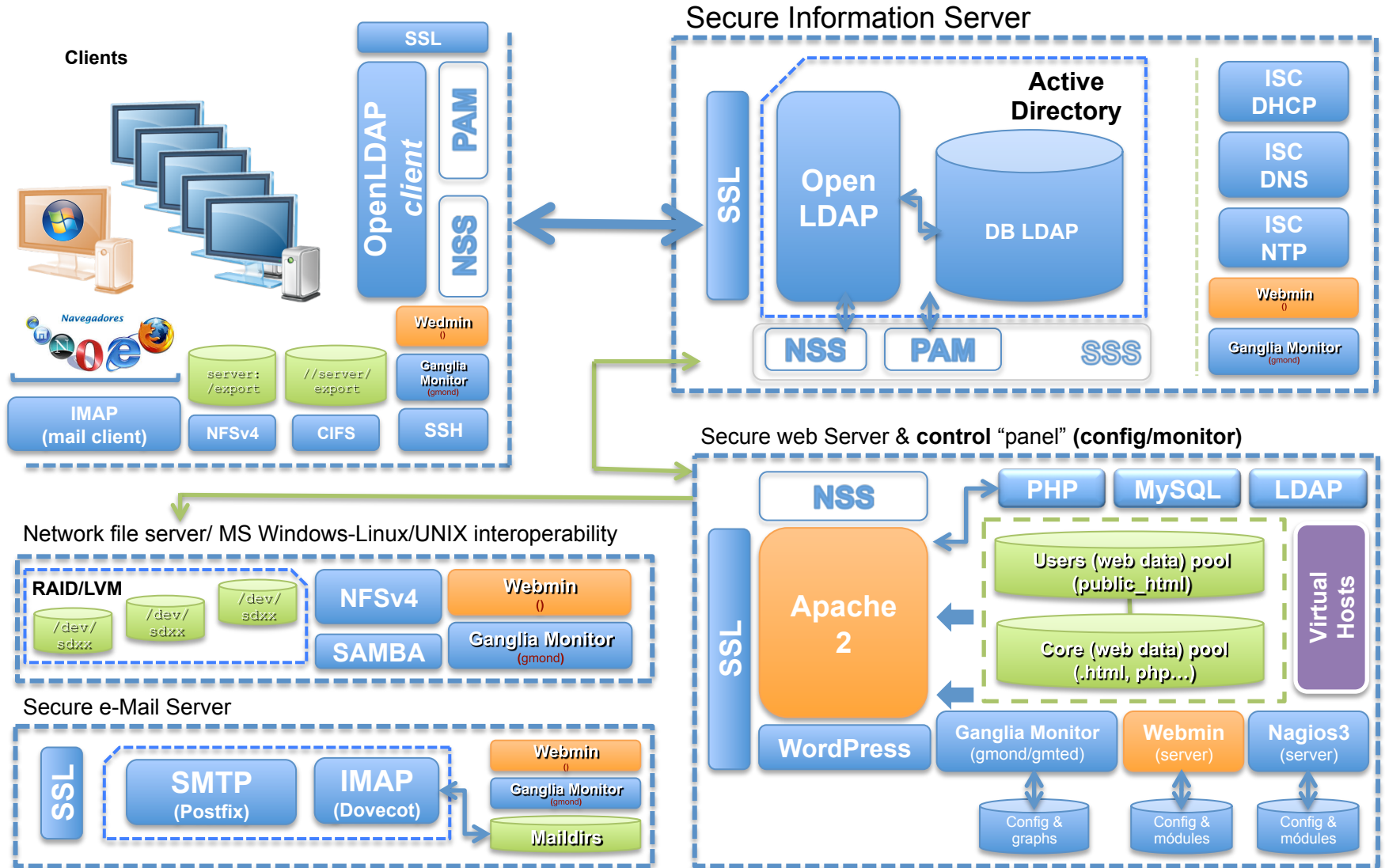
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### Puzzle



# 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.

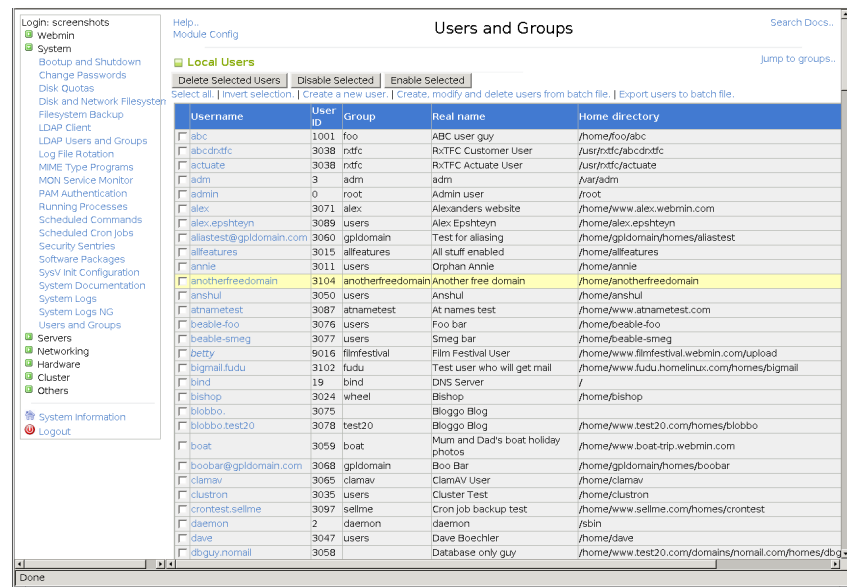
### – Others:

- **Log File Viewers:**

- Webalizer Logfile Analysis (Webmin module).
- Ksystemlog.
- Logwatch.

- **Linux tools:**

- **System:**
  - » `sysstat`, `lsof`
- **Accounting:**
  - » `acct` (`lastcomm`, `sa`)
- **Networking:**
  - » `iptraf`, `netstat`, `nmap`



## 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 *syadmin* to configure a couple of servers remotely, from a central “control” server.
  - Very suitable tool for DATA CENTERS, with LINUX servers.

## Webmin: Main features

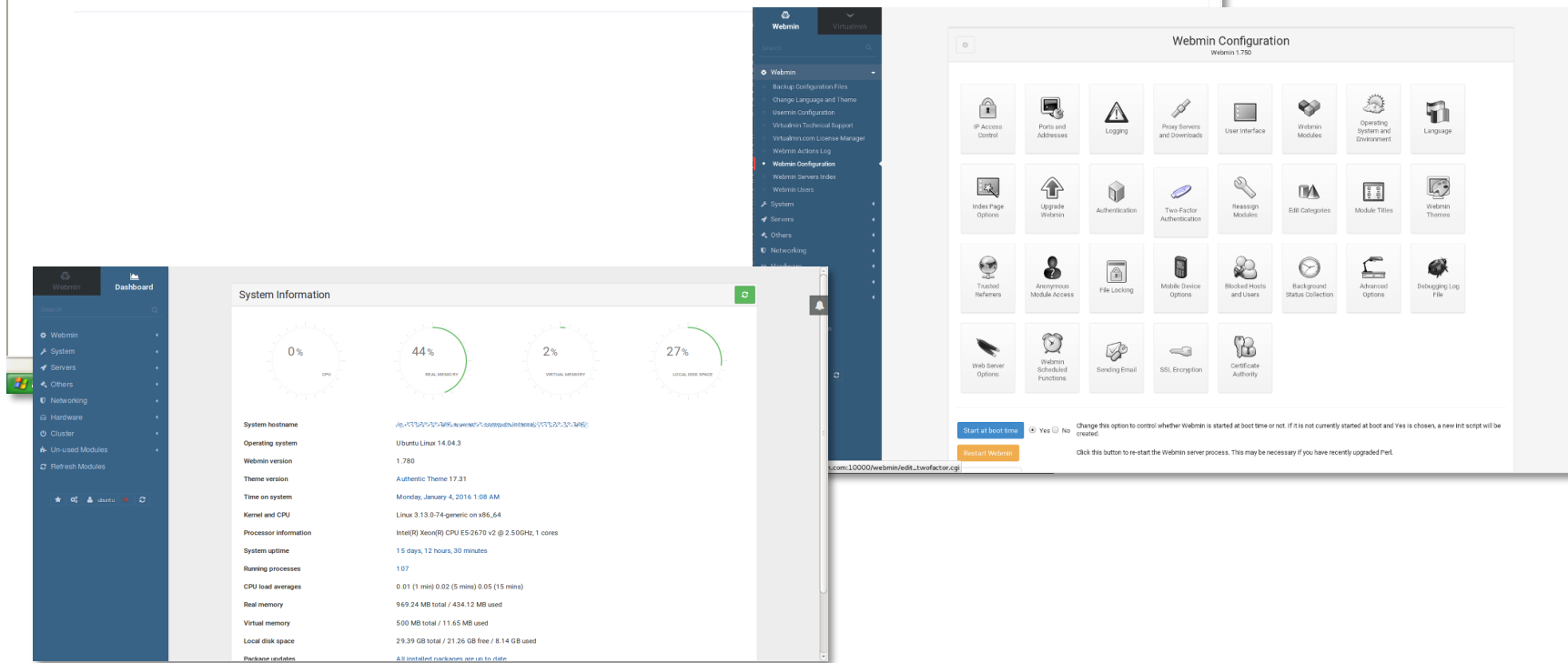
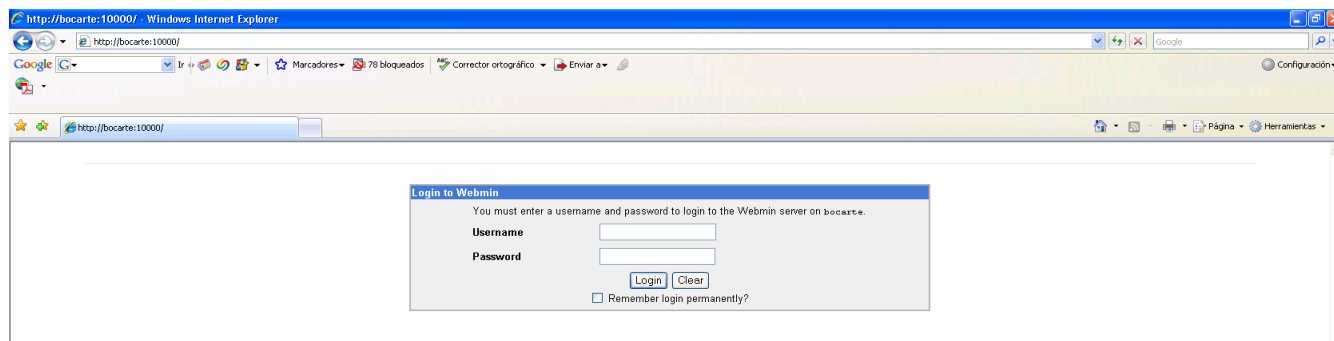


- Its aim is, through a (friendly) web interface, to set up:
  - *The OS Internals: kernel...*
  - *Applications, services, modules...*
- Independent architecture software.
- **Modular...**
  - More than 90% of its functionality comes from the **Webmin modules**:
    - “Bootup and Shutdown”, “Scheduler 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

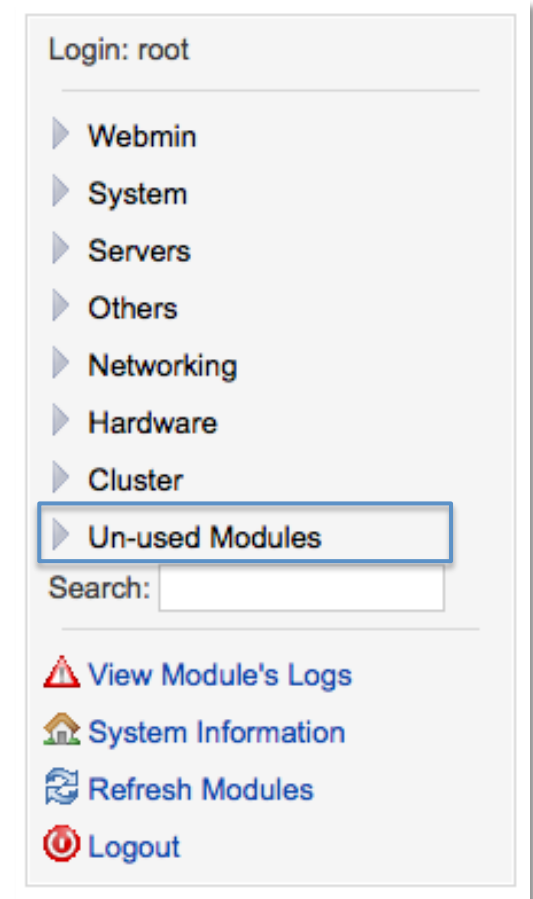
# Webmin: Main features



## Webmin: Global configuration



- Secure web server access (**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...
  - ...



### Webmin: Services configuration



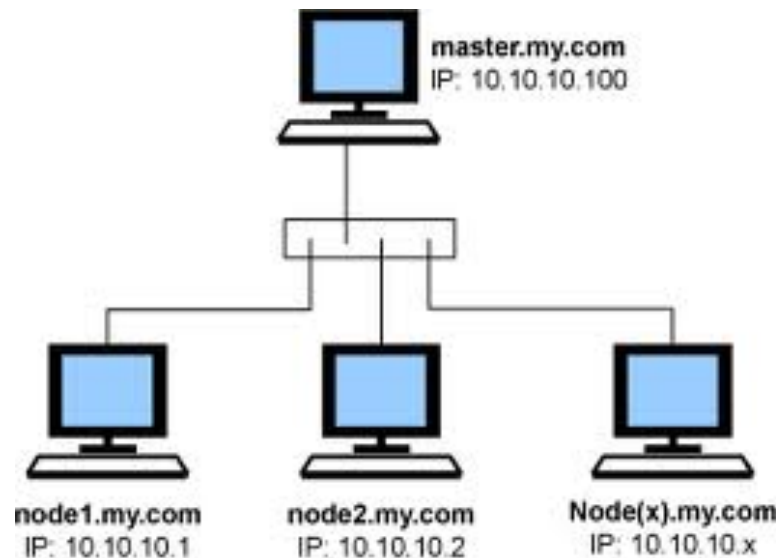
- Specific modules for user and webmin access management:
  - Usermin.
- Specific modules for **hardware** management:
  - Disk management:
    - Partitioning and formatting of local disks.
  - iSCSI.
  - Linux **RAID and LVM systems**.
- Specific modules for **networking** management (*networking*):
  - 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
```

# Webmin: Installation (debian)

- Access to webmin “control panel”:  
– <https://monitor:10000>

The screenshot displays the Webmin Configuration page for version 1.750. The interface is organized into a grid of configuration modules, each with an icon and a label. A left-hand sidebar provides navigation options, and a bottom section contains control buttons and explanatory text.

**Webmin Configuration**  
Webmin 1.750

IP Access Control	Ports and Addresses	Logging	Proxy 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 Referrers	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 Functions	Sending Email	SSL Encryption	Certificate Authority			

**Start at boot time**  Yes  No  
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.

**Restart Webmin**  
Click this button to re-start the Webmin server process. This may be necessary if you have recently upgraded Perl.

https://www.virtualmin.com:10000/webmin/edit\_twofactor.cgi