

WEB SERVER SETUP

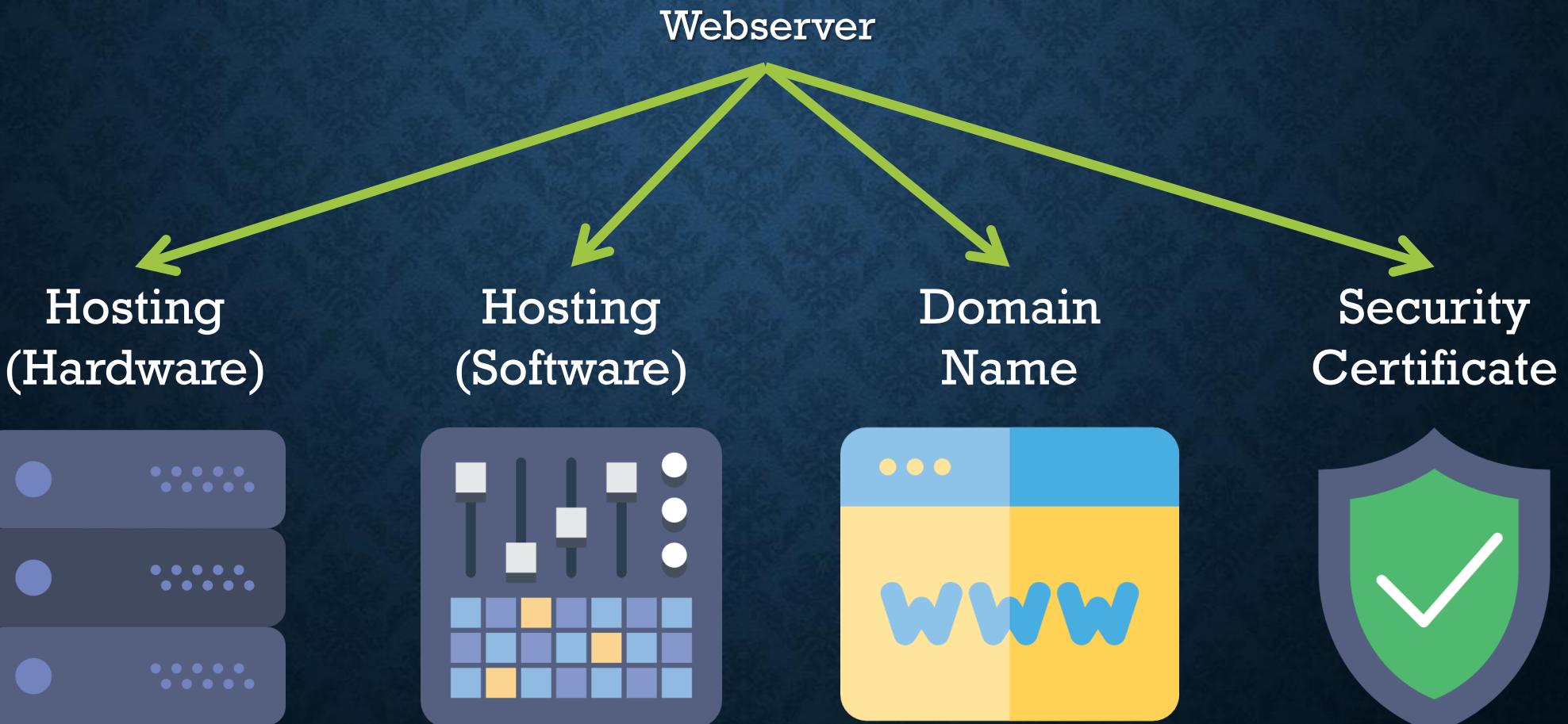
Getting Started With Your First Server

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OVERVIEW

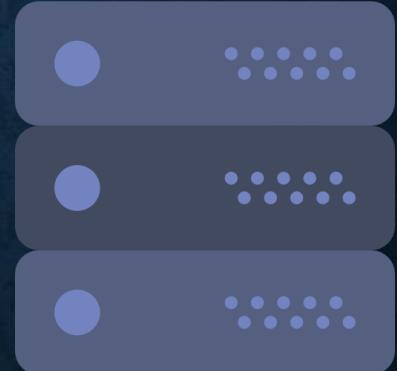
- Until now you learned web-based languages to develop a website
- You used a preconfigured webserver (Wheatley)
- This lectures focus on
 - Purchasing hosting, domains, and certificates
 - Setting up your own webserver
 - Using common web tools
 - While teaching you the technologies behind the works

WEBSERVERS



HOSTING

- In order to host a website you need a server
- You can use your home computer as a server
 - Might be more expensive
 - Home internet speed and bandwidth might not be enough for large websites
 - Might be unreliable due to internet and electricity outages
- You can use a commercial server
 - Must be purchased, but many are relatively cheap
 - Are more reliable, often guaranteeing 99.9% uptime



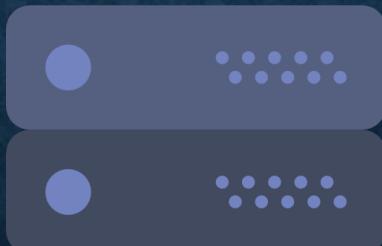
HOSTING

Server Options

Shared
Hosting



Virtual
Private Server



Dedicated
Server



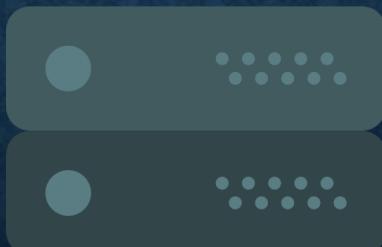
HOSTING

Server Options

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SHARED HOSTING

- A single virtual server with many websites hosted on it
 - Often a few hundred or even thousand websites are hosted on the same server
- The resources are shared between the websites
 - Each website has dedicated hard drive space
 - CPU and RAM is shared among the websites
- Each website has its own OS user
 - Each user can only access its own home directory
- Wheatley is an example of shared hosting

SHARED HOSTING

- Not the best option for websites with thousands or millions of concurrent users
 - Access can become slow if many users access all the different websites on the shared server
 - Use for small websites where reliability/speed is not that important
- Typically does not allow to install any packages/programs on the OS
 - Since different users share the same server, you do not want to give users root access
 - With root access things can be installed/removed and can cause the server to go down for all users/websites

SHARED HOSTING

- Comes preinstalled with existing software and packages
 - Most are Linux (open-source and free), Windows is sometimes supported, but is more expensive due to extra licensing fees
 - Most are Apache web servers (open-source and free)
 - Almost always has PHP, sometimes supporting other languages such as Perl and Ruby
 - Almost always has MySQL, sometimes supporting other databases such as SQLite and PostgreSQL
 - A bit more difficult/expensive to get other web servers such as Django (Python) or NodeJS (JavaScript)
 - Allows limited package installation, such as WordPress or Joomla

SHARED HOSTING

- Typically very cheap
- From \$1 p/m
 - Dual core CPU with 512MB RAM
 - 10GB disk space with 1 MySQL database
 - 10GB – 100GB monthly bandwidth with 20 entry processes
- To \$5 - \$10 p/m
 - Dual core CPU with 1GB – 2GB RAM
 - 10GB – unlimited disk space with unlimited MySQL databases
 - 100GB – unlimited monthly bandwidth with 20 – 40 entry processes
 - “Unlimited” is often subject to a Fair Usage Policy (FUP) and can be throttled

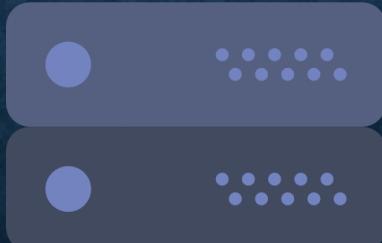
HOSTING

Server Options

Shared
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Virtual
Private Server



Dedicated
Server



VIRTUAL PRIVATE SERVER

- Virtual Private Server (VPS)
- Each VPS has its own OS
 - Shared hosting shares a single OS amongst its users
 - You have full control of the VPS's OS
- Underlying hardware might still be shared with other VPSs
 - Example: Server unit has 32 cores and 32GB RAM. Server might hold 16 VPSs, each with 2 cores and 2GB RAM
 - Hardware allocated to VPS stays under the full control of the OS

VIRTUAL PRIVATE SERVER

- The VPS is under your full control
 - Typically a variety of OSs or distros to chose from
 - You can install and program/package
 - You can fully configure the VPS, just like a normal machine
- Sometimes the VPS can come preinstalled with existing webserver software
 - Most of the time you have to install everything from scratch
 - That includes Apache, PHP, MySQL, email programs, etc

VIRTUAL PRIVATE SERVER

- Typically relatively cheap, but more expressive than shared hosting
- Additional fees apply if you use Windows instead of Linux
- From \$20 p/m
 - Dual core CPU with 2GB RAM
 - 10GB disk space with unlimited MySQL database
 - 10GB – 100GB monthly bandwidth with 20 entry processes
- To \$50 - \$80 p/m
 - Multiple cores CPU with 4GB RAM
 - 200GB with unlimited MySQL databases
 - 100GB – unlimited monthly bandwidth with 20 – 200 entry processes

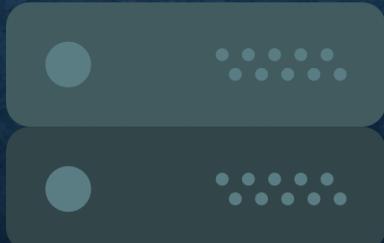
HOSTING

Server Options

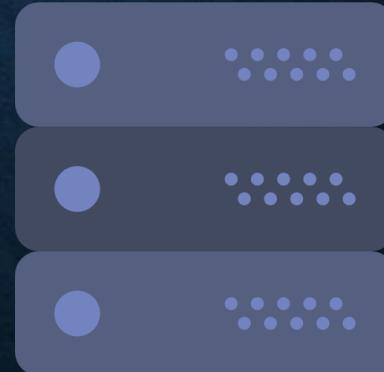
Shared
Hosting



Virtual
Private Server



Dedicated
Server



DEDICATED SERVERS

- Get a complete server for yourself
- Not only full control over OS, but also the hardware
- Sometimes an entire server unit can be under your control
 - Often your dedicated server will share the underlying server unit with other dedicated servers
 - A dedicated server's hardware can only be used by the customer, with a VPS the hardware can be used by other VPSs if your VPS currently does not fully utilize the CPU or RAM

DEDICATED SERVERS

- You have full control of the server and OS
 - From a software perspective equivalent to a VPS
 - From a hardware perspective, the dedicated server always maintains control of the underlying hardware, with a VPS it might be shared

DEDICATED SERVERS

- Typically relatively cheap, but more expressive than shared hosting
- Additional fees apply if you use Windows instead of Linux
- From \$50 p/m
 - Quad core CPU with 4GB RAM
 - 200GB disk space with unlimited MySQL database
 - 1TB – unlimited monthly bandwidth with hundreds of entry processes
- To \$100 - \$500 p/m
 - 8 – 32 core CPU with 8GB – 64GB RAM
 - 1TB – 8TB with unlimited MySQL databases
 - 1TB – unlimited monthly bandwidth with hundreds of entry processes

HOSTING

- Many cheap hosting providers
 - hostgator.com
 - godaddy.com
 - thcservers.com
 - hostinger.com
 - hostsailor.com
 - Thousands more ...

HOSTING

Shared Hosting	Virtual Servers	Dedicated Servers
No control over hardware	Shared control over hardware	Full control over hardware
Shared OS with other users	Own OS without sharing	Own OS without sharing
Limited software installation	Full software installation	Full software installation
Can only host a single website	Can host unlimited websites	Can host unlimited websites
Cheap pricing	Medium pricing	Expensive pricing
For small/personal websites	For small companies	For large companies
Few thousand requests per day	Few ten to hundred thousand requests per day	Few hundred thousand to millions of requests per day

DOMAINS

- Server has an IP address
 - VPS and dedicated server typically have a static/own IP address
 - Shared hosting has the same IP from all websites on the server
- Domain name is needed
 - Access a website with a name instead of IP address
 - DNS server resolves the domain name to an IP address



DOMAINS

- Often hosting packages come with free domain
 - Mostly only for VPS, dedicated servers, or expensive shared hosting
- Most hosting providers also sell domain names
- Servers can have multiple websites
 - Therefore multiple domains can point to the same server and IP address
 - The webserver (eg Apache) will redirect incoming requests to the correct website on the server, based on the HTTP headers

DOMAINS

- The price of the domain can vary
 - Cheap domains (.com, .net, .org, .eu, etc) can be purchased from as little as \$10 p/y
 - More expensive domains (.io, .fm, .credit, etc) can cost up to \$100 p/y
- Domain parking
 - Purchase a domain for very cheap
 - Once someone wants the specific website, sell it for a profit
 - Parked domains are sold for a few hundred to a few million dollars
 - Common practice in the dot-com bubble, but still done today

DOMAINS

- Domains must be registered with
 - Your full name
 - Telephone number
 - Email address
 - Company (if applicable)
 - Physical and/or postal address
- Anyone can view this information with a whois lookup
 - You can often provide fake information
 - Many websites offer whois lookups (eg whois.com or co.za/whois.shtml)

DOMAINS



- Njilla (njil.la)
 - Domain registration service
 - Created by the ThePirateBay founders
- Provides anonymous domain registration
 - Njilla purchases the domain on your behalf
 - Their name instead of yours is listed under whois
- They try to combat constant domain suspensions
 - You can create an anonymous account with them
 - You can make anonymous payments to them (cryptocurrencies)
 - Even when they receive requests to hand out customer info, they don't have any info, and if they have it they do everything legally to avoid handing out info

SECURITY CERTIFICATES

- An SSL certificate allows
 - To encrypt the communication between your clients and your server
 - Purchased SSL certificates often provide insurance, if you loose money on the website due to a SSL security issue, you can get your money back
 - Increases customer's trust in your website, at least with a nice green lock in the browser's address bar



SECURITY CERTIFICATES

- SSL certificates can be purchased from companies
 - Many large hosting or domain services also offer SSL certificates
 - Many AntiVirus companies (eg Comodo) also offer SSL certificates
- In recent years many organisations offer free SSL certificates
 - Most well-known is Let's Encrypt (letsencrypt.org)
 - Full encryption of communication
 - However, does not provide insurance

SECURITY CERTIFICATES

- SSL certificates come in different flavours
 - Can cost from a few dollars to a few hundred dollars per year
 - Price is depended on
 - Level of encryption
 - Level/amount of insurance
 - Number of subdomains to be incorporated into the certificate
- Different number of subdomains can be added, with an increasing price
 - Single domain (eg: www.mysite.com)
 - Multiple domains (eg: mysite.com, www.mysite.com, mail.mysite.com)
 - Wildcard domains (eg: all subdomains, *.mysite.com)

SSL CERTIFICATES

- Purchase SSL certificate from a certificate authority
 - Sometimes requires ID and proof of residence for advanced certificates
- After payment, download a .crt file from the certificate authority's website
 - You will need the .crt file to generate .csr, .cer, and .key file locally
 - These files have to be uploaded to your webserver
- Various programs can use the certificate for encryption and verification
 - Configure Apache to let your site run over HTTPS
 - Configure Postfix to use the SSL certificates
 - Adds a layer of encryption to outgoing emails
 - Reduces the chances of emails being flagged as spam

WEBSERVERS

Webserver Software

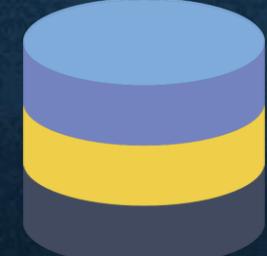
Webserver
(eg Apache)



Language
(eg PHP)



Database
(eg MySQL)



Email
(eg Dovecot)



Tools
(eg cPanel)



SHARED HOSTING

- Shared hosting servers come preinstalled
 - Apache
 - PHP and sometimes other languages (eg Ruby or Perl)
 - MySQL and sometimes other databases (eg PostgreSQL)
 - Dovecot and Postfix for emails
 - cPanel
 - Some other packages
- The moment you purchase a shared server, you can immediately upload your files and launch your website

VIRTUAL AND DEDICATED SERVERS

- Virtual and dedicated servers are barebone
- Once the server has been purchased
 - You can select from a variety of OSs on the hosting company's website
 - Most of the OSs are Linux distros
 - Once selected, the OS will be automatically installed for you, might take some time
- After the OS installation, you have a new clean system
 - All software (eg Apache, PHP, and MySQL) has to be installed manually
 - If you are using Linux, this is quite easy (on Debian systems everything can be installed via apt-get)
 - After installing the software, the actual burden is to configure everything and let all the programs communicate with each other

APACHE

- Easily installable, but needs some configuration
- Directly configure Apache, or put some of the config inside a `.htaccess` file and upload it to the root directory of your website
- Might require some additional Apache extensions to be enabled
- Various Apache config files (similar to XAMPP), such as `apache2.conf` or `httpd.conf`

APACHE

```
<VirtualHost *:80>  
  ...  
</VirtualHost>  
  
<VirtualHost *:443>  
  ...  
</VirtualHost>
```

Configure HTTP over port 80

Configure HTTPS over port 443

APACHE

```
<VirtualHost *:80>
    RewriteEngine On
    RewriteCond %{HTTPS} off
    RewriteRule ^ https:// %{HTTP_HOST}%{REQUEST_URI}
</VirtualHost>
```



If you have a SSL certificate, you can
redirect any HTTP requests to HTTPS

APACHE

```
<VirtualHost *:443>
    ServerAdmin admin@satoshicave.com
    ServerName satoshicave.com
    ServerAlias www.satoshicave.com
    DocumentRoot /var/www/satoshicave.com/public/
</VirtualHost>
```



Provide the
administrator's
email address

APACHE

```
<VirtualHost *:443>
    ServerAdmin admin@satoshicave.com
    ServerName satoshicave.com
    ServerAlias www.satoshicave.com
    DocumentRoot /var/www/satoshicave.com/public/
</VirtualHost>
```



Provide the
website's default
domain

APACHE

```
<VirtualHost *:443>
    ServerAdmin admin@satoshicave.com
    ServerName satoshicave.com
    ServerAlias www.satoshicave.com
    DocumentRoot /var/www/satoshicave.com/public/
</VirtualHost>
```



Provide the website's aliases, such as subdomains

APACHE

```
<VirtualHost *:443>
    ServerAdmin admin@satoshicave.com
    ServerName satoshicave.com
    ServerAlias www.satoshicave.com
    DocumentRoot /var/www/satoshicave.com/public/
</VirtualHost>
```

Provide the directory that contains the website's files

APACHE

```
<VirtualHost *:443>
    ErrorLog /var/www/satoshicave.com/log/error.log
    CustomLog /var/www/satoshicave.com/log/access.log combined
</VirtualHost>
```



Provide a custom location for
the error and access logs

APACHE

```
<VirtualHost *:443>
    SSLEngine on
    SSLCertificateFile /var/www/satoshicave.com/ssl/satoshicave.crt
    SSLCertificateKeyFile /var/www/satoshicave.com/ssl/satoshicave.key
    SSLCACertificateFile /var/www/satoshicave.com/ssl/satoshicave.cer
</VirtualHost>
```



Provide the location of
the SSL certificate's files

APACHE

```
<VirtualHost *:443>
    ErrorDocument 400 /error/400.php
    ErrorDocument 404 /error/404.php
    ErrorDocument 500 /error/500.php
</VirtualHost>
```



Provide custom scripts for certain
HTTP errors. Display an informative or
funny message for an error

APACHE

```
<VirtualHost *:443>
    <Directory /var/www/satoshicave.com/public/>
        Options FollowSymLinks
        AllowOverride None
        Require all granted
        DirectoryIndex home.php
        RewriteEngine On
        RewriteCond %{REQUEST_FILENAME} !-f
        RewriteCond %{REQUEST_FILENAME} !-d
        RewriteRule ^([^\.]+)$ $1.php [NC,L]
    </Directory>
</VirtualHost>
```

Provide additional config and
redirection rules. This can also be put
in a .htaccess file

PHP

- Easily installable through apt-get
- Each PHP extension (eg mcrypt, mysql, gd) has to be installed separately through apt-get
- Apache will automatically detect your PHP installation
- Further configuration can be done in Apache's php.ini file (just like XAMPP)

MYSQL

- Easily installable through apt-get
- Normal user and database creation through mysql's client
- Can easily be accessed from PHP, as long as you have the MySQL PHP extension installed during the previous step

FTP

- To access your webserver through FTP, you need a FTP server
- Install vsftpd through apt-get
- Can configure to use the SSL certificate to have secure FTPS
- Good idea to use OS users as FTP users
 - You can add multiple websites to your server
 - Use one OS user per website
 - Assign the OS user to an FTP account
 - Each user/website can only access their own home directory through FTP
 - Just like on Wheatley

EMAIL

- To be able to send and receive emails on your server
 - Postfix (SMTP) for sending emails
 - Dovecot (POP and IMAP) for receiving emails
- If you create a new email address/account, both Postfix and Dovecot have to be linked to it
 - You can use ViMbAdmin webinterface for admin control of email accounts, such as creating and deleting accounts
- Configuring Postfix and Dovecot is a huge mess

EMAIL

- In order to use a webinterface on top of email system
 - SquirrelMail
 - RoundCube
 - RainLoop
 - Many more ...
- phpMyAdmin, ViMbAdmin, and email clients (eg RoundCube) have to be added to Apache's configuration to be accessible
 - Since they are websites on their own

EMAIL - SQUIRREL MAIL

Folders
Last Refresh: Tue, 3:53 pm
(Check mail)

INBOX
INBOX.Drafts
INBOX.Sent
INBOX.Trash

+ aforntuto
Archive
Cron
dcsupport
Deleted Messages
dns@linode
Drafts
Junk
Linode Alerts
Nagios
Notes
Other
 Service
 Support
Sent Messages
Shipped
Spam
Steve
Trash
work@linode

Current Folder: INBOX

[Compose](#) [Addresses](#) [Folders](#) [Options](#) [Search](#) [Help](#) [Sign Out](#) [SquirrelMail](#)

Previous | [Next](#) | 1 2 3 4 5 6 7 ... 28 29 30 31 | [Show All](#) | [Toggle All](#)

Viewing Messages: 1 to 15 (455 total)

Move Selected To: [INBOX](#) [Move](#) [Forward](#)

Transform Selected Messages:
[Read](#) [Unread](#) [Delete](#)

From	Date	Subject
<input type="checkbox"/> bolow	3:45 pm	[Linode-Library] Tech Review (#15)
<input type="checkbox"/> Hively	8:17 am	Hively Summary Stats
<input type="checkbox"/> Amanda Folson	Mon, 4:06 pm	2014 Conferences
<input type="checkbox"/> Tom Asaro	Mon, 2:17 pm	Know Your Company [Q]: What are you working on?
<input type="checkbox"/> Hively	Mon, 8:17 am	Hively Summary Stats
<input type="checkbox"/> Basecamp (Linode)	Sun, 12:43 pm	Daily Recap for Saturday, 4 January
<input type="checkbox"/> Hively	Sun, 8:17 am	Hively Summary Stats
<input type="checkbox"/> Hively	Sun, 7:20 am	Hively Weekly Leaderboard!
<input type="checkbox"/> Hively	Sat, 11:40 pm	You've Received Feedback on Hively
<input type="checkbox"/> Hively	Sat, 11:00 pm	You've Received Feedback on Hively
<input type="checkbox"/> Basecamp (Linode)	Sat, 12:44 pm	Daily Recap for Friday, 3 January
<input type="checkbox"/> Hively	Sat, 8:17 am	Hively Summary Stats
<input type="checkbox"/> Hively	Sat, 1:00 am	You've Received Feedback on Hively
<input type="checkbox"/> Hively	Fri, 11:00 pm	You've Received Feedback on Hively
<input type="checkbox"/> Hively	Fri, 8:40 pm	You've Received Feedback on Hively

Previous | [Next](#) | 1 2 3 4 5 6 7 ... 28 29 30 31 | [Show All](#) | [Toggle All](#)

Viewing Messages: 1 to 15 (455 total)

EMAIL - ROUND CUBE

Webmail

SUBMIT@MAINEHOST.COM ▾ LOGOUT

roundcube

Refresh Compose Reply Reply all Forward Delete Mark More

All Search X

Inbox 3769 Drafts Sent Junk 279 Trash Inbox Archive 1440

Subject From Date Size

Subject	From	Date	Size
• 15 Powerful SEO Tools That Actually Work	FreeWebMonitoring Support	Today 04:33	19 KB
• @mainehost, you're invited to go #BeyondMarketing	Twitter for Business	Today 04:03	26 KB
• @anttesh, you're invited to go #BeyondMarketing	Twitter for Business	Today 02:33	26 KB
• @anttesh, end the year on a high note	Twitter for Business	Thu 04:33	27 KB
• @mainehost, end the year on a high note	Twitter for Business	Thu 01:00	27 KB
• Current ASR Ranking Points	Active Search Results	Wed 23:39	10 KB
• Active Search Results (ASR) Search Engine: Featured Article	Active Search Results	Tue 03:36	15 KB
• Keyword/Phrases for rogerdunham.com (MHS All Inclusive Plan)	Dave Koenig	Tue 09:25	42 KB
• 15 Powerful SEO Tools That Actually Work	FreeWebMonitoring Support	Tue 05:14	23 KB
• Active Search Results (ASR) Search Engine: Featured Article	Active Search Results	Tue 03:36	11 KB
• Active Search Results (ASR) Search Engine: Featured Article	Active Search Results	Tue 03:36	15 KB
• Rapid Site Inclusion	FreeWebMonitoring Support	Tue 01:18	11 KB
• Cameron tweeted: Watch this. While your high of course.	Popular in your network	Sun 14:59	87 KB
• Active Search Results Search Engine - Sign-in Information	Active Search Results	Sat 23:55	10 KB
• Follow NFL, Neil Patrick Harris and Miley Ray Cyrus on Twitter!	Twitter	Sat 19:14	48 KB
• Justin Bieber tweeted: I finally got to tell @ArianaGrande if u #PreOrderPurpose u ...	Popular in your network	Sat 16:12	93 KB
• SportsCenter tweeted: This is how you score a 2-point conversion.	Popular in your network	Sat 15:38	96 KB
• Active Search Results (ASR) Search Engine: Featured Article	Active Search Results	Sat 01:31	15 KB
• Active Search Results (ASR) Search Engine: Featured Article	Active Search Results	Sat 01:31	15 KB
• Active Search Results (ASR) Search Engine: Featured Article	Active Search Results	Sat 01:31	11 KB
• Follow Just Design, Abby Marie Conway and Sabyasachi Dutta on Twitter!	Twitter	2015-10-16 19:48	48 KB
• Kylie Jenner tweeted: Start your morning with a prayer.	Popular in your network	2015-10-16 17:38	89 KB
• Please confirm your submission to AxxaSearch.com	Jennifer Peters	2015-10-15 15:58	3 KB
• Your web http://laptopland-lima.com submission contains errors	Comcastamericans.com Search	2015-10-15 15:58	6 KB

0% Select Threads Messages 1 to 50 of 3773

EMAIL - RAIN LOOP

The screenshot shows the RainLoop webmail interface. At the top, there's a toolbar with icons for New, Search, and other functions. The top right shows the email address `demo@rainloop.test`. The left sidebar lists the following categories with their counts: Inbox (170), Sent (0), Drafts (28), Spam (0), Trash (0), Archive (0), dxgh (0), foo (0), and Stuff (0). The main area displays a list of 170 messages. The first few messages are:

- Francisco Javier Santiago... today at 1:37 AM ★
[FD] Multiple XSS in Babylon
- Francesco Oddo today at 1:33 AM ★
[FD] Nagios XI Multiple Vulnerabilities
- Raiden lol today at 1:29 AM ★
[FD] Force allow access button to Bypass win...
- SEC Consult Vulner... yesterday at 2:34 PM ★
[FD] SEC Consult SA-20160602-0 :: Mult...
- Gökmen GÜREŞÇİ 1 Jun. ★
[FD] Joomla SecurityCheck extension - Mul...
- Fernando Camara 1 Jun. ★
[FD] CVE-2016-3670 Stored Cross Site Scri...
- Nguyen Anh Quynh 1 Jun. ★
[FD] Keystone Assembler Engine is out!
- Manuel Garcia Cardenas 1 Jun. ★
[FD] XSS in CMSimple <= v4.6.2
- Bogner Florian 1 Jun. ★
[FD] MitM Attack against KeePass 2's Upd...

Below the message list, there are navigation links for page numbers: 1 2 3 4 5 ... 17.

Select message in list to view it here.

EMAIL

- If you purchase a new server, it is very likely that outgoing emails are flagged as spam
 - By spam filters, such as SpamHaus
 - Or email providers, such as Gmail, Outlook, or Yahoo Mail
- You have to build up a reputation over years in order not to be flagged as spam anymore
- Various things can be done to improve your reputation
 - Use SSL certificates
 - Adding an SPF entry to your DNS and using reverse DNS (RDNS)
 - Registering your server with providers such as SpamHaus or Microsoft

TOOLS

- Two main categories of tools exists
 - Tools for managing the OS, such as checking CPU utilization, installing packages, managing users, adding cron jobs, updating the OS, etc
 - Analytical tools for managing your website, tracking user locations, checking requests made to the website, tracking ecommerce profits, etc
- You can use these tools in the following way
 - SSH via the terminal into your server and execute Linux commands (eg: “top” to check CPU utilization)
 - Use an existing tool with a webinterface to easily manage everything via a GUI

TOOLS - WEBMIN



- System configuration tool for Unix and Windows systems
- Free and open-source
- Has a webinterface to easily manage your OS
- Fully packed with all kinds of OS functionality, packages, and configs
 - Besides OS functionality, it also has management extensions for Apache, PHP, and MySQL

TOOLS - WEBMIN

The screenshot shows the Webmin interface with the "Dashboard" tab selected. On the left, a sidebar lists various monitoring categories: Webmin, System, Servers, Others, Networking, Hardware, Cluster, Un-used Modules, and Refresh Modules. Below the sidebar are several small icons: a magnifying glass, a star, a gear, a user icon, a red square, and a circular arrow.

The main content area is titled "System Information". It features four donut charts at the top showing resource usage: CPU (3%), REAL MEMORY (20%), VIRTUAL MEMORY (1%), and LOCAL DISK SPACE (45%).

Below the charts is a table of system statistics:

System hostname	hs3.cloud.virtualmin.com (108.60.199.108)
Operating system	Scientific Linux 6.8
Webmin version	1.831
Theme version	Authentic Theme 18.32
Time on system	Friday, January 13, 2017 3:22 PM
Kernel and CPU	Linux 2.6.32-642.11.1.el6.i686 on i686
Processor information	QEMU Virtual CPU version 1.5.3, 1 cores
System uptime	19 days, 12 hours, 31 minutes
Running processes	78
CPU load averages	0.03 (1 min) 0.21 (5 mins) 0.13 (15 mins)
Real memory	982.68 MB total / 200.68 MB used
Virtual memory	499.02 MB total / 6.48 MB used
Local disk space	11.74 GB total / 6.40 GB free / 5.34 GB used
Package updates	All installed packages are up to date

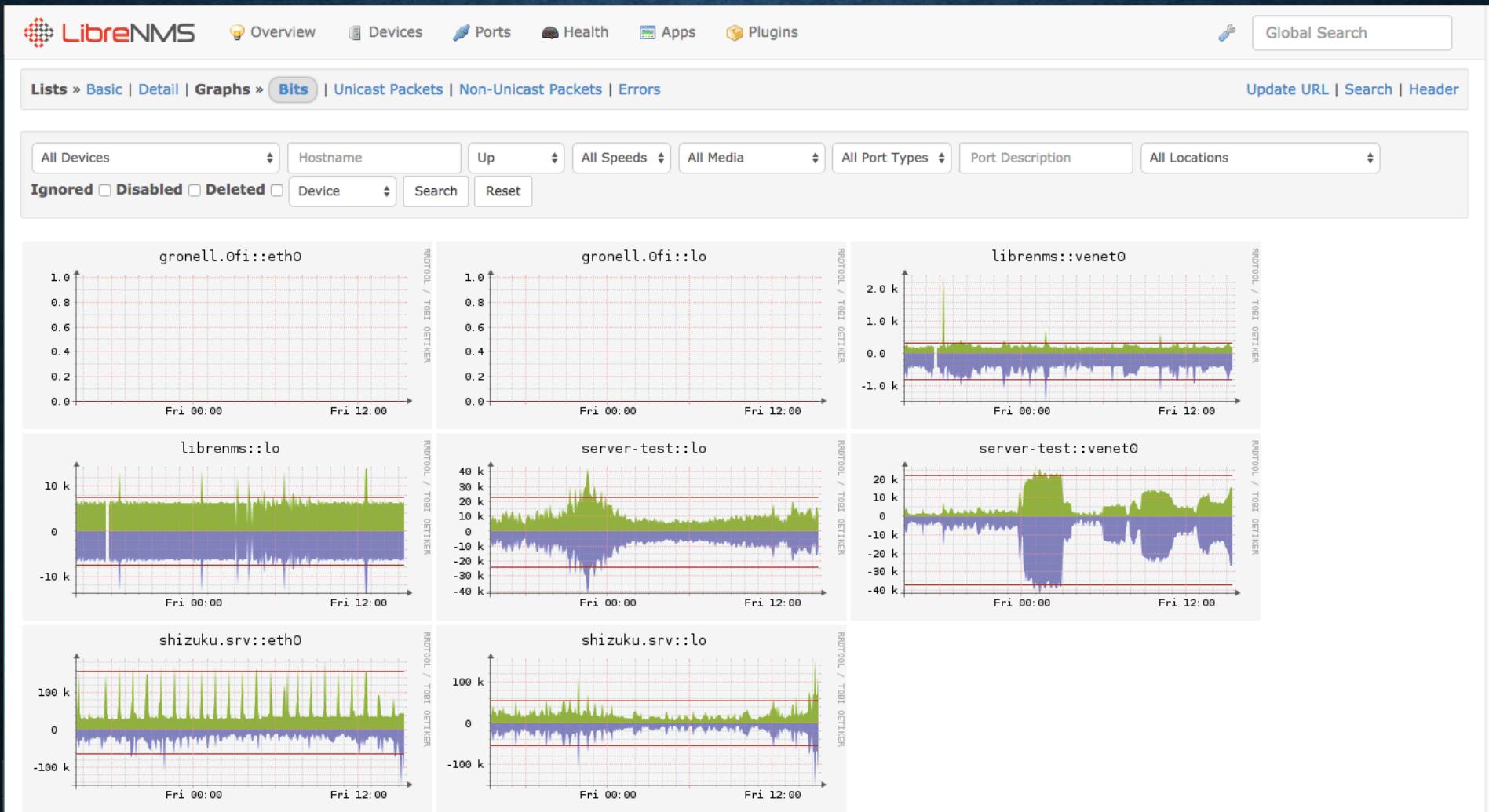
At the bottom of the dashboard, there is a section titled "Recent Logins" which is currently empty.

TOOLS - LIBRENMS

- Similar to Webmin
- Free and open-source
- Provides less config functionality than Webmin, but has more advanced monitoring features
 - Plus a very nice interface and additional plugins



TOOLS - LIBRENMS



TOOLS - PIWIK

- Analytical web tool
- Recently renamed to Matomo
- Free and open-source
- Provides details and stats on your website
 - Analyses your access log in detail to extract user information
- Allows to add a function call to your PHP code for advanced tracking
 - For instance, add a Piwik PHP function call to your code that is executed every time a user purchases something from your website
 - Track products and profits through Piwik

PIWIK

TOOLS - PIWIK

PIWIK

Dashboard | All Websites | English | anonymous | Sign in | ▾

Website PIWIK FORUMS ▾

Overview Visitor Log Custom Variables Devices Settings Locations & Provider Engagement Times Real-time Map

DATE RANGE: 2014-12-02 ALL VISITS WIDGETS & DASHBOARD ▾ YOU ARE CURRENTLY VIEWING THE DEMO OF PIWIK

Visits Over Time

Visitors in Real-time

Length of Visits

Referrer Websites

Visitor Map

Visits by Server Time

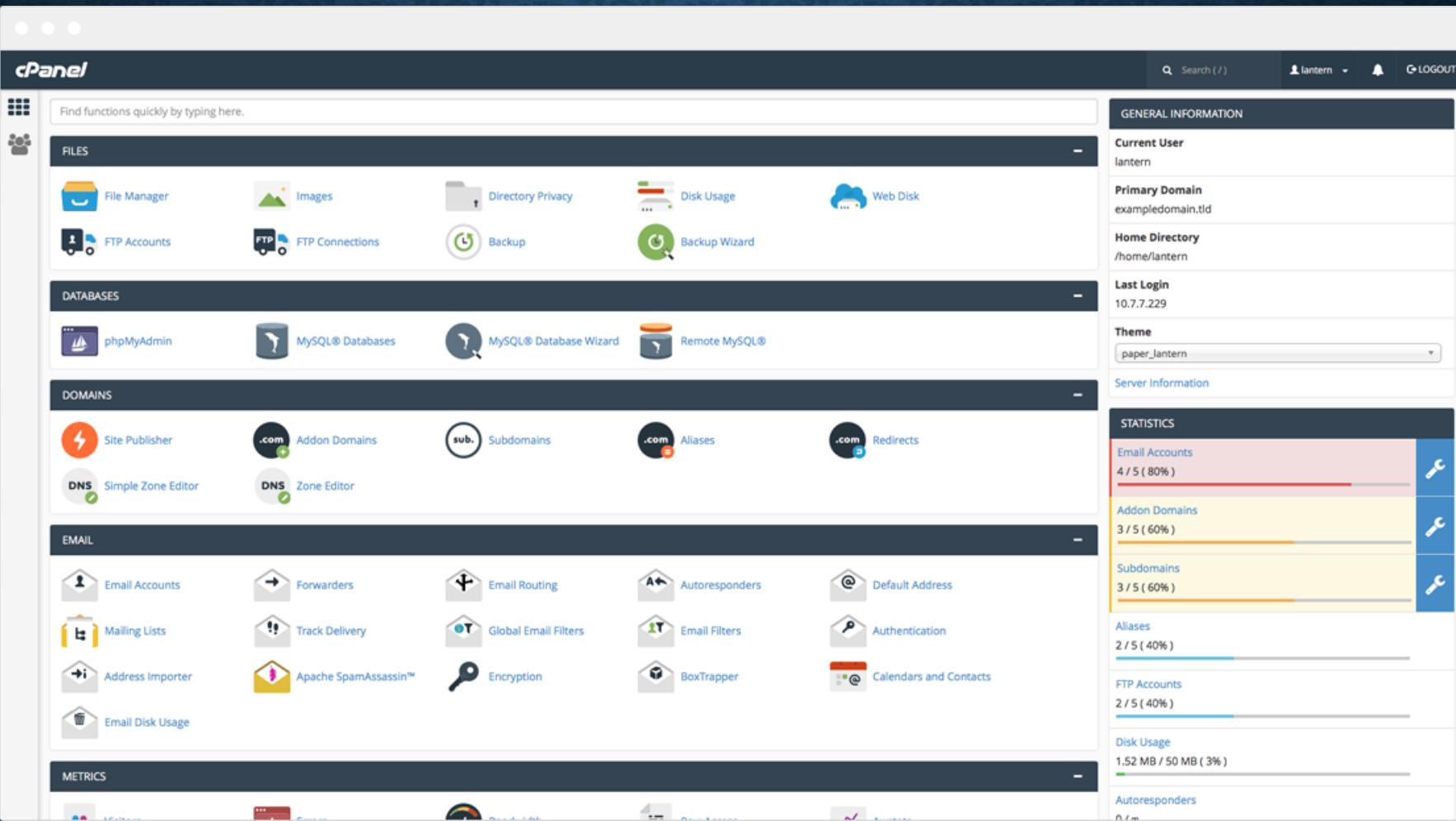
The screenshot displays the Piwik dashboard with various analytical widgets. The 'Visitors in Real-time' section shows a table of recent activity and a list of visitors from Google. The 'Visitor Map' section shows a world map with visit counts per country. The 'Visits by Server Time' section is a bar chart showing unique visitors over time. Other sections include 'Visits Over Time' (line graph), 'Length of Visits' (dropdown menu), and 'Referrer Websites' (list of websites and visitors).

TOOLS - CPANEL

- Management tool for both the OS and web analytics
- Almost all shared hosting packages come with cPanel
- Has a lot of extensions that can be installed to add more features to cPanel
- Not all cPanels look the same
 - Depends on the version
 - Hosters often disable functionality which are only enabled if you pay more

cPanel[®]

TOOLS - CPANEL



TOOLS - CPANEL

- Server Statistics
 - Track OS statistics, such as CPU and RAM utilization, disk usage, MySQL usage, network usage, entry processes, etc
- Web Analytics
 - View advanced details of website users and requests, such as users' countries, devices, and OSs, bandwidth usage, visited sites, etc
 - View PHP errors and raw access logs
- File Management
 - Manage FTP accounts and restrictions
 - Upload files directly through cPanel if you don't want to use FTP

TOOLS - CPANEL

- Email Management
 - Manage email accounts, setup forwarding address, automatics reposes, etc
 - Access webmail through a webinterface (eg RoundCube, SquirrelMail)
- Database Management
 - Manage databases and user access to those database
 - Use phpMyAdmin for full control and SQL queries on the databases
- Domain Management
 - Manage domains and add/remove subdomains
 - Edit DNS entries and add redirections

TOOLS - CPANEL

- Security Management
 - Various security mechanisms such as blocking certain IPs from accessing your site
 - Allows to add SSL certificates to your site
 - Many hosters have Let's Encrypt directly integrated into cPanel, so you can install a free SSL certificate for your site with a single button click
- Preference Management
 - Manage various parts of your webserver
 - Edit Apache configurations
 - Select a PHP version and configure PHP, such as setting the maximum RAM per script execution, setting the maximum upload file size, setting the maximum execution time per script, and much more

TOOLS - CPANEL

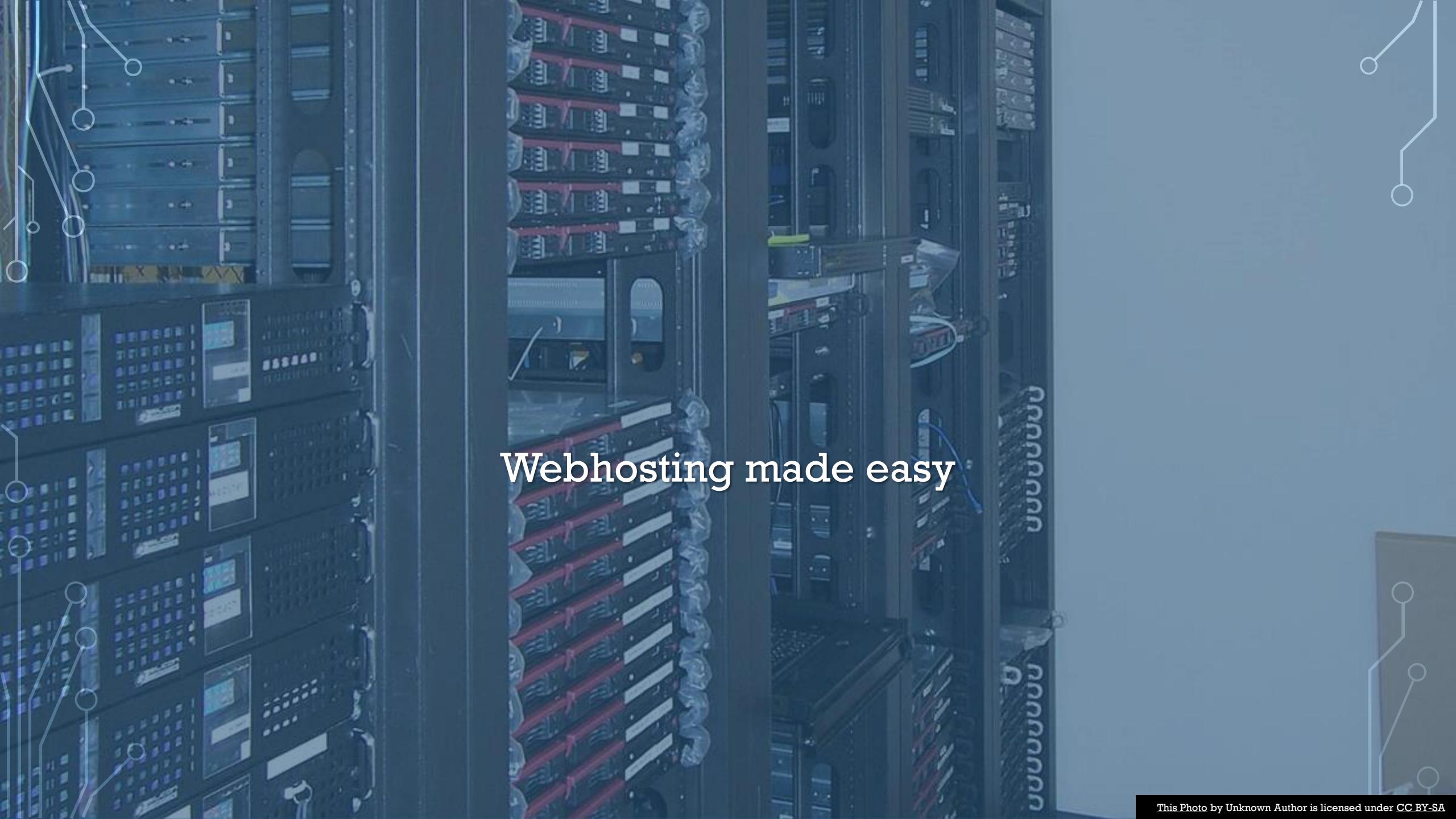
- Software Management
 - Install additional plugins to add more features to cPanel
 - Add complete packages such as WordPress, Joomla, and content management systems
 - Add extensions and libraries, such as Perl and PHP extensions
 - Typically limited by shared hosters, the more you pay, the more packages/extensions can be installed
 - If you have a VPS or dedicated server and install cPanel yourself, you will obviously have access to all packages supported by your system

DNS

- You have to setup the DNS for your website
- If you purchase a hosting package and domain from the same company, this is done for you
- If you purchase from two different companies, there are two options:
 - Use the domain company's DNS server. You will have to add your server's IP address as a DNS entry to the domain company
 - On your domain, change the DNS server to point to the DNS server of the hosting company. Hence, the hosting server will handle the DNS resolution, not the domains server. This is advised, since it will handle IP changes automatically (eg if you are on shared hosting, and your hoster moves your website to a different server with a different IP address)

RDNS

- DNS resolves a domain name to an IP address
- Reverse DNS (RDNS) resolves an IP address to a domain name
 - Therefore the exact opposite of DNS
- Does typically not work on shared hosting, since multiple websites share the same IP address
- RDNS has many benefits
 - Verifying ownership of a server
 - Reducing the chance of your outgoing emails being flagged as spam



Webhosting made easy