# Moodle on Ubuntu 12.04 Server

Harris a the state of the second of the seco

Gareth Digby for the Columbia Area Linux User's Groups

## Introduction

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What is Moodle
Building the Linux server
Installing Moodle
Configuring Moodle
An overview of Moodle



# What Is Moodle?

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- Moodle is an:
  - open source
  - web-based
  - Content Management System 0 (CMS)
- for teaching
  - using a social constructionist 0 pedagogy



# What Can You Do With Moodle?

Create Courses, containing
Activities, such as
Lessons
Quizzes
Assignments

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- Forums
- etc.

Resources
Books
Files
URLs
etc

### • Resources, such as

# What Can You Do With Moodle?...

or two way to the second where we want the state of the

- Teach and manage your training and education courses, through
  - Creating or importing, and then managing content
    - using Moodle creation tools
    - importing from external content creation tools

• Grade student activity • automatically 0

manually

• Manage Student enrollment • self-enrollment

manual enrollment 0

# Moodle On Linux

Here and the second to a second the second of the second o

• L - Linux • A - Apache  $\circ$  M - MySQL  $\circ$  *P* - *PHP* 

Install Ubuntu Server Multiple server install with MAAS Check disc for defects Test memory Boot from first hard disk Rescue a broken system



# Moodle Server Configuration

the second to a second to the second to the

- OpenSSH server
  - to login to the server remotely (if necessary)
- LAMP server
  - so Apache, MySQL & PHP are all installed when the server is built

[!] Software selection

t, only the core of the system is installed.To tune the system to પ્ an choose to install one or more of the following predefined collect

are to install:



<Continue>



Manual package selection





# Network Configuration

Your a the set of an and the set of the set

- Moodle Server
  - if config to get MAC address
- DHCP Server
  - set IP address for that MAC address
- DNS Server set DNS record for server
- Moodle Server update build
  - apt-get update && apt-get upgrade && apt-get dist-upgrade

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	Welcome to Ubuntu 12.04.1 LTS	(GNU/L
	* Documentation: https://hel	p.ubur
	System information as of Sun	Nov 3
	System load: 0.27 Usage of /: 13.7% of 8.976 Memory usage: 8% Swap usage: 0%	Pr B Us If
	Graph this data and manage t	his sy
	77 packages can be updated. 43 updates are security update	s.
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JG Ubuntu 12.04 Server

### J/Linux 3.2.0-29-generic x86\_64)

ountu.com∕

/ 18 14:41:35 EST 2012

Processes: 76 Users logged in: 0 IP address for eth0: 192.168.1.102

system at https://landscape.canonical.com/

untu system are free software; each program are described in the c/\*/copyright.

RRANTY, to the extent permitted by

# Moodle Server Firewall Configuration

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• Configure a firewall using ufw • *ufw enable* • ufw logging low • ufw allow ssh • ufw allow apache • ufw status

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Apache (v6)			AL
calug@calug:~\$	_		



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# Check the Apache Server Works

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• Use Firefox and browse to the URL of your server





# Check the Apache & PHP V

mkdir /var/www/moodle

and the state is tor work's monstering

- nano /var/www/moodle/ phpinfo.php
- add the single line below, save and exit.

<?php phpinfo(); ?>

- Use Firefox and browse to
  - <u>http://server-URL/moodle/</u> <u>phpinfo.php</u>

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Web Browser		
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L.) phpinro()	<b>T</b>	
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	PHP Version 5.3	.10-1ubuntu
	System	Linux calug 3.2.0-3 UTC 2012 x86_64
	Build Date	Sep 12 2012 18:42
	Server API	Apache 2.0 Handler
	Virtual Directory Support	disabled
	Configuration File (php.ini) Path	/etc/php5/apache2
	Loaded Configuration File	/etc/php5/apache2/
	Scan this dir for additional .ini files	/etc/php5/apache2/
	Additional .ini files parsed	/etc/php5/apache2/ /mysqli.ini, /etc/php /conf.d/pdo_mysql.i
	РНР АРІ	20090626
	PHP Extension	20090626
	Zend Extension	220090626
	Zend Extension Build	API220090626,NTS
	PHP Extension Build	API20090626,NTS
	Debug Build	no
	Thread Safety	disabled
	Zend Memory Manager	enabled
	Zend Multibyte Support	disabled
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5			
	SAN SERVICE		

# Install PHP Modules for Moodle

or two was the strate of the first and the state of the s

 apt-get install php5-gd php5mysql

- apt-get install php5-curl php5xmlrpc php5-intl
- /etc/init.d/apache2 restart
- Use Firefox and browse to
  - <u>http://server-URL/moodle/</u> <u>phpinfo.php</u>

• apt-get install php5-cli • check with: /usr/bin/php -v • Don't leave a security hole... • rm /var/www/moodle/ phpinfo.php Clean up in preparation for the 0 next stage... • rmdir /var/www/moodle

# Moodle Directory Structure

the and the state of the state

- Moodle uses two directories:
  - moodle
    - holds the HTML and PHP code that creates the Moodle site
  - moodledata
    - holds all the content managed by Moodle



WWW

# Load Moodle Using Git

AT BALL & ANT

• apt-get install git git-core git-doc

- cd /var/www
- git clone git://git.moodle.org/ moodle.git
- cd moodle
- git branch -a

• git branch -- track MOODLE\_23\_STABLE origin/ MOODLE 23 STABLE

• git checkout MOODLE\_23\_STABLE 0

• mkdir /var/moodledata chmod 0777 /var/moodledata

chmod 0777 /var/www/moodle

# Create MySQL Database for Moodle

and have and the state of the s

- mysql -u root -p
  - [asks for password you set when building the server]
- mysql> create database moodle default character set utf8;
- mysql> grant all on moodle.\* to moodleuser@localhost identified by 'mypassword';

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 $\circ$  mysql> exit

• service apache2 restart

# Install Moodle Using A Bro

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# Use Firefox and browse to http://server-URL/moodle/

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# Post-Installation Housekeeping

- Secure Moodle directory permissions 0
  - chown -R root /var/www/moodle 0
  - chmod -R 0755 /var/www/moodle 0
- Setup Moodle's cron job 0
  - /usr/bin/php /path/to/moodle/admin/cli/cron.php 0
  - crontab -u www-data -e 0
    - insert text below into crontab
    - \*/15 \* \* \* \* /usr/bin/php /path/to/moodle/admin/cli/cron.php >/dev/null

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# Launch Moodle

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• Use Firefox and browse to http://server-URL/moodle/



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18	19	20	21	22	23	24		
25	26	27	28	29	30			

# Configure the SMTP Mail Server Settings

Here and the second to a second the second t

- Set mail server details so the Moodle site can email users
  - if you do not have an email server you can use Google gmail
  - <u>Your-moodle-</u> <u>admin@gmail.com</u>, via smtp.gmail.com:465 w/SSL

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# Configure the Authentication Setting

JAMASS & ANTARA

- Moodle can handle many different 0 types of authentication, including LDAP, IMAP
  - Using LDAP or IMAP means that 0 users can self enroll and the administrators do not need to create user accounts
  - For example, setting IMAP: 0
    - sudo apt-get install php5-0 imap
    - then access the authentication 0 settings page in Moodle

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Notifications		External database	$\sim$		Settings
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# Choose A Theme

### Harder a the state of the second and the second and

- Moodle comes with a number of ready-to-go themes which are used to set the style of the Moodle site
  - You can modify these to your liking
    - HTML, CSS (& PHP)
- With Moodle version 2.x different themes can be used for different devices: computers; tablets; smartphones





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# Administering Moodle

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- Users roles
  - Administrators
  - Managers
  - Course Creators 0
  - Teachers 0
  - Non-editing teachers
  - Students 0
  - Guests 0



Authenticated user on frontpage

Add a new role

Blocks editing o

Allow role overrides

Allow role switches

Description	Short name	Edit
Managers can access course and modify them, they usually do not participate in courses.	manager	<b>↓ ≰</b> ×2 X
Course creators can create new courses.	coursecreator	<b>↑↓≰</b> ×2 X
Teachers can do anything within a course, including changing the activities and grading students.	editingteacher	↑↓≰×2×
Non-editing teachers can teach in courses and grade students, but may not alter activities.	teacher	<b>↑↓</b> ≰×2 X
Students generally have fewer privileges within a course.	student	↑↓≰×2×
Guests have minimal privileges and usually can not enter text anywhere.	guest	<b>↑↓≰</b> ×2
All logged in users.	user	<b>↑↓≰</b> ×2
All logged in users in the frontpage course.	frontpage	↑ 🛋 ×2 🗙

# Teaching With Moodle

Harris a the second for was to me second to the second tot

• Create courses of • topics containing activities 0 resources 0



# Creating Content For Moodle...

Salar a the set of the

 Multiple types of media can be used to create content for the Moodle site

ePub

Audio

HTML

Moodle

Slides

SCORM Content

PDF

URL

Video

Images

# Summary

You a the state of the state of

• Moodle is:

a flexible Content
 Management System for
 teaching and education

• simple installation

• Moodle on Linux:

 only needs a simple server build

 easy to include Moodle's prerequisites

• straight forward to secure

## Links

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Water a the set of the

## • Moodle

• www.moodle.org

• Ubuntu

• <u>www.ubuntu.com</u>

