PHP TRAINING

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www.asiantech.vn

CONTENT

OVERVIEW

USER, GROUP, PERMISSION

COMMON COMMANDS

SSH

HTTP, WEB SERVER

VAGRANT



Overview

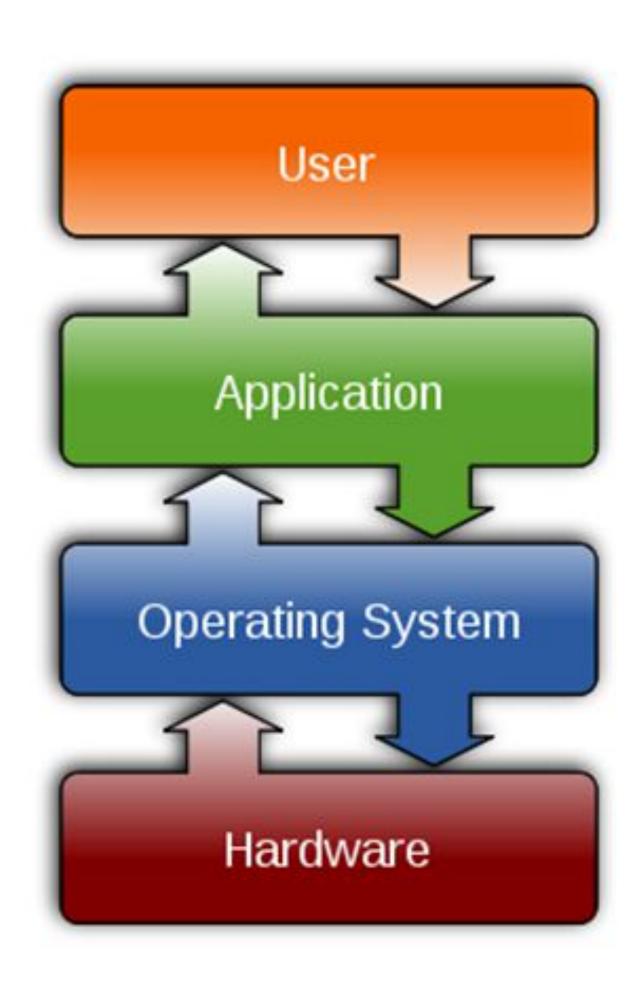
WHAT IS OPERATING SYSTEM

SYSTEM SOFTWARE

- Manages computer hardware, software resource
- Provides common services for computer programs
- Interfacer between user and hardware

A COLLECTION OF PROGRAMS

- Kernel
- Utilities
- Device drivers
- Language translators





Linux and UNIX

- Linux is an open-source clone of UNIX, the most secure and mature operating system.
- The major difference between Linux and UNIX is that UNIX is trademarked to The Open Group, while Linux is Opensource.
- All command line tools work the same on both.
- Over 90% of the supercomputers in the world run Linux.
 And the 10 fastest run Linux.
- Linux is the leading operating system on Servers
- Linux is free and popular distributions (distros) are Ubuntu, Fedora/Red Hat, OpenSUSE, Mandriva, Mint, ArchLinux, Slackware...

LINUX
IS AN
OPEN-SOURCE
CLONE OF



USER AND GROUP

USER

- A person who can access to the system
- Has username and password
- 2 kinds of user: root and regular user
- Home folder: /home/{username}
- User is identified by UID

GROUP

- A group has one or many users
- A user belongs to one or many groups
- Whenever a user is created, a group is created also
- Group is identified by GID

COMMON COMMANDS

- useradd (option) <username>
- usermod [option] <username>
- userdel [option] <username>
- groupadd <groupname>
- groupdel <groupname>
- id <option> <username>
- groups <username>

PERMISSION

3 KINDS OF ACTORS

- Owner
- Group owner
- Other users

3 KINDS OF PERMISSION

- Read -r -4
- Write -w -2
- Execute -x -1

```
🔵 🗊 tutonics@andromeda: ~
                                          user
                                                                     r - user (the file's owner) read permission
w - user (the file's owner) write permission
    (File Type "regular")
                                                                              (the file's owner) write permission
                                                                          user (the file's owner) execute permission
tutonics@andromeda: ~ $
tutonics@andromeda:~$

    group (any user in the file's group) read permission
    group (any user in the file's group) write permission
    group (any user in the file's group) execute permission

tutoni¢s@andromeda:~$
tutonics@andromeda:~$
tutonics@andromeda:~$
tutonics@andromeda:~$

    r - other (everybody else) read permission
    w - other (everybody else) write permission
    x - other (everybody else) execute permission

tutonics@andromeda:~$
tutonics@andromeda:~$
tutonics@andromeda:~$ ls -l
-rwxrwxrwx 1 tutonics tutonics 0 Dec 9 12:10 filename.txt
  Dtorocs(3)ndromeda: < $</pre>
tutonics@andromeda:~$
tutonics@andromeda:~$
tutonics@andromeda:~$
                                       (user name) (group name)
tutonics@andromeda:~$
```

DEMO

DEFAULT ALIAS

```
. #current directory
.. #parent directory
~ #home directory
/ #root directory
!! #the last history command
```

```
$ git add .
$ cd ..
$ cd ~/.ssh
$ cd /
$ cat /etc/php.ini
$ sudo !!
```

COMMON COMMANDS DEMO

SSH

SSH (SECURE SHELL)

- Is a cryptographic network protocol for operating network services securely
- The best known example application is for remote login to computer systems by users.
- Common applications include remote command-line login and remote command execution



SSH AUTHENTICATION

- Used public-private and password to authenticate
- Keys is store in .ssh directory
- If public key is stored in ~/.ssh/ authorized_keys then no need password
- Default key: id_rsa and id_rsa.pub

```
→ .ssh pwd
/Users/vienlm/.ssh
  .ssh 11
total 128
                            1.7K Nov 15 14:30 aws-kensapo-key.pem
 -rw-r--r--@ 1 vienlm staff
                            1.7K Sep 20 09:53 aws-rena-key.pem
           1 vienlm staff
                            1.7K Sep 20 09:53 aws_st_key.pem
           1 vienlm staff
                            1.0K Dec 29 10:40 config
          1 vienlm staff
                            3.2K Nov 29 10:54 danyweb_github
           1 vienlm staff
                            748B Nov 29 10:54 danyweb_github.pub
          1 vienlm staff
                            3.2K Sep 20 09:53 github_rsa
           1 vienlm staff
                            745B Sep 20 09:53 github_rsa.pub
 rw-r--r-- 1 vienlm staff
                            3.2K Sep 20 09:53 id_rsa
           1 vienlm staff
                            745B Sep 20 09:53 id_rsa.pub
          1 vienlm staff
                            1.6K Jan 11 21:13 id_rsa_vbox
           1 vienlm staff
          1 vienlm staff
                             404B Jan 11 21:14 id_rsa_vbox.pub
                             13K Jan 3 16:10 known_hosts
 rw-r--r-- 1 vienlm staff
   .ssh
   .ssh
   .ssh ssh docker@192.168.99.100
docker@192.168.99.100's password:
Boot2Docker version 1.12.3, build HEAD : 7fc7575 - Thu Oct 27 17:23:17 UTC 2016
Docker version 1.12.3, build 6b644ec
docker@default:~$
```

SSH

SSH CONFIG

~/.ssh/config

```
Host docker
    HostName 192.168.99.100
             docker
    User
             22
    Port
    IdentityFile ~/.ssh/id_rsa
   .ssh
   .ssh
   .ssh
   .ssh ssh docker
| '_ \ / _ \ / _ \ | __| __) / _, | / _ \ / __| | | / / _ \ '__|
11_) 1 (_) 1 (_) 1 1_ / __/ (_| 1 (_) 1 (__| < __/ 1
I_-,__/ \___/ \___/ \__|___\__,_|\___/ \___|_||
Boot2Docker version 1.12.3, build HEAD : 7fc7575 - Thu Oct 27 17:23:17 UTC 2016
Docker version 1.12.3, build 6b644ec
docker@default:~$
```

```
rahul@tecadmin: ~/.ssh
File Edit View Search Terminal Help
ost
    HostName :
                                       Manage SSH Hosts
    User root
                                                  and
    HostName
                                            Private Keys
    IdentityFile ~/.ssh/
    User root
                                                 using
                                            ~/.ssh/config
lost
    HostName
    Port
                                                                 TecAdmin<sub>Top</sub>t
"config" 20L, 414C
```

TRANSFER FILE USING SSH

DOWNLOAD

scp root@1.2.3.4:/root/file.txt ~/Desktop

UPLOAD

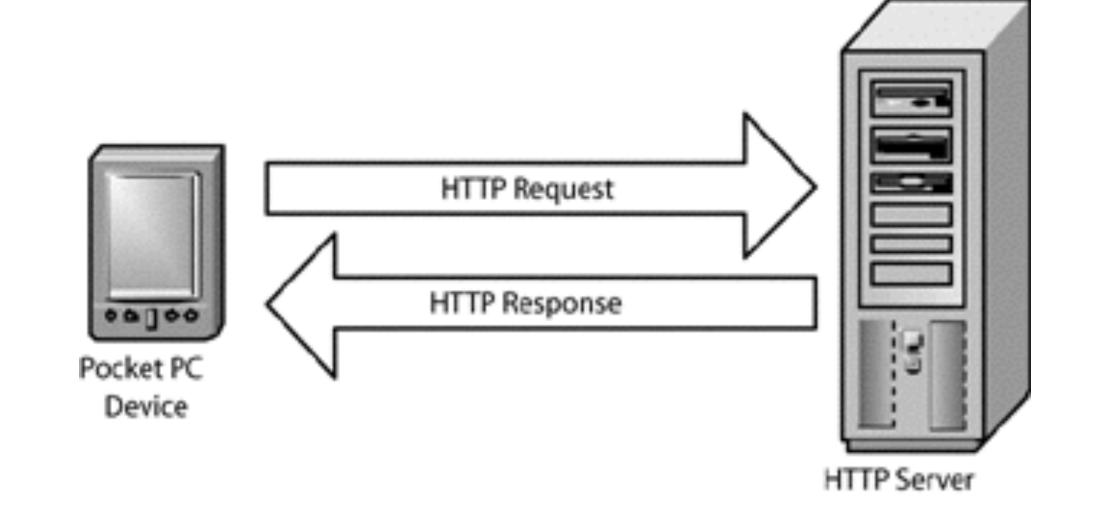
scp ~/Desktop/file.txt root@1.2.3.4:/var/www



HTTP: HYPER TEXT TRANSFER PROTOCOL

 Hypertext Transfer Protocol is an application protocol used for data communication.

- Request:
 - Header
 - Body
 - Method: Get/Post
- Response
 - Status code
 - Header
 - Body



HTTP ()N CHROME. DEBUG T()().

Headers Preview Response Cookies Timing

▼ General

Request URL: http://asiantech.vn/en/index

Request Method: GET Status Code: © 200 0K

Remote Address: 125.212.207.102:80

▼ Response Headers view source

Cache-Control: no-cache

Connection: close

Content-Type: text/html; charset=UTF-8

Date: Wed, 22 Feb 2017 04:00:57 GMT

Server: Apache

Set-Cookie: XSRF-TOKEN=eyJpdiI6IlhBM2Z1QUdSZjF4UmpDUGph0EJURVE9PSIsInZhbHVlIjoiWWFrc09wb0FVS0JETFJQUXhNZE8rcUphQ1BWcVFZcFJucHpma2hJelA4SWY3MDdOYis4MytRem9SZjdjRTlzWW9zeGN0dzBzUkxDVHc1YWplQ016Q1E9PSIsIm1hYyI6IjA2NmViN2EyNGVm0GQyYzM0YTU3YzU50M3Yjg0MDIyMzAyY2IxNWMwZTVh0WZjMzgwYjg0MmE2ZDQ2Njk3NDcifQ%3D%3D; expires=Wed, 22-Feb-2017 06:00:57 GMT; Max-Age=7200;

path=/

Set-Cookie: laravel_session=eyJpdiI6Imx4SUFpd0VGNWk2N3Ewb1hGT2hCK2c9PSIsInZhbHVlIjoibWdGVzdDRlduVlRSOG1mUktEY2tMZ2NiRWo5 MlZtVFQ5eGswMGwzcHR2bHdKeTJtd0JZWG1XQ0lWeFQ5a0lhcDRrZHhmYktDdUZwUXNyR1dzY0ZBUFE9PSIsIm1hYyI6IjZkNDRmNTNlNDc1MmU00DE5NjhiYjk3NThlNjEwN2RhNzQ0MzQ3YmUwYzQxZmJkNzcy0TJhMjk5YTc3ZGFkZGYifQ%3D%3D; expires=Wed, 22-Feb-2017 06:00:57 GMT; Max-Age=7

200; path=/; httponly Transfer-Encoding: chunked X-Powered-By: PHP/5.6.13

▼ Request Headers view source

Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,*/*;q=0.8

Accept-Encoding: gzip, deflate, sdch Accept-Language: en-US,en;q=0.8

Cache-Control: max-age=0 Connection: keep-alive

Cookie: XSRF-TOKEN=eyJpdiI6InVhSzFKM0pRNVlkazJZMTFvZm9sQmc9PSIsInZhbHVlIjoiTEM5YndRNk1DM1ZTYlAyM0ZCQ2VDQ1RMWnE4QzF1TFBPd 1phQUtvUmRlamN2NDhXamh3bW9oVVdSYmNNNTh4aGFoTWtLcENDWFZHZ1U3YlJDY1JUeUE9PSIsIm1hYyI6ImRmMTgwNmFlMTMwMzk50Dc0MTlhZWRjNzYx 0Tc40WRmZTEzYThl0Dc3ZGYyYjA0ZjA3Y2ZiMzVmYzRh0Tc2ZTcifQ%3D%3D; laravel_session=eyJpdiI6ImxwclRGNWQ0RVwvaVZMWHVHTitmaElRP T0iLCJ2YWx1ZSI6IncwUHVQbWlocjY5cDFuNno1Q1lVeTJUc2ZLZFNBTkxaYWU2Q1JvR0F1c293UVQzZmk0QkhqQ2Q3NVFoMjNndE1RU2ZlWE1kbmt6S1p1 c2lrUFVCeWhRPT0iLCJtYWMi0iI20WYx0Tdi0DljNDdmN2Q3ZmJmYjQ3NTdh0Tg2NzRmMDRiM2Q1NTgwMjk3M2JkMDIyMDNlZGU3MmI5NGQwMjg3In0%3D

Host: asiantech.vn



DROP PICTURE HERE