

The image shows a terminal window on the left and a web browser on the right. The terminal window displays the following commands and output:

```
vin@vini-VirtualBox:~$ sudo dpkg -l apache2
Desired=Unknown/Install/Remove/Purge/Hold
| Status=Not/Inst/Conf-files/Unpacked/halF-conf/Half-inst/trig-aWait/Trig-pe
nd
|/ Err?=(none)/Reinst-required (Status,Err: uppercase=bad)
||/ Name          Version          Architecture Description
+++-+-----+-----+-----+-----+
ii  apache2        2.4.29-lubun    amd64        Apache HTTP Server
vin@vini-VirtualBox:~$ sudo systemctl start apache2
vin@vini-VirtualBox:~$ sudo systemctl enable apache2
Synchronizing state of apache2.service with SysV service script with /lib/sy
stemd/systemd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install enable apache2
vin@vini-VirtualBox:~$
```

The web browser window shows the Apache2 Ubuntu Default Page. The page title is "Apache2 Ubuntu Default Page". The page content includes the Ubuntu logo, a "It works!" message, and a "Configuration Overview" section. The "Configuration Overview" section explains that Ubuntu's Apache2 default configuration is different from the upstream default configuration and is split into several files optimized for interaction with Ubuntu tools. The configuration system is fully documented in `/usr/share/doc/apache2/README.Debian.gz`. The configuration layout for an Apache2 web server installation on Ubuntu systems is as follows:

```
/etc/apache2/
|-- apache2.conf
|   |-- ports.conf
|-- mods-enabled
|   |-- *.load
|   |-- *.conf
|-- conf-enabled
|   |-- *.conf
|-- sites-enabled
|   |-- *.conf
```

- `apache2.conf` is the main configuration file. It puts the pieces together by including all remaining configuration files when starting up the web server.
- `ports.conf` is always included from the main configuration file. It is used to determine the listening ports for incoming connections, and this file can be customized anytime.
- Configuration files in the `mods-enabled/`, `conf-enabled/` and `sites-enabled/` directories contain particular configuration snippets which manage modules, global configuration fragments, or virtual host configurations, respectively.

```
Activities Terminal Tue 21:05 vini@vini-VirtualBox: -
File Edit View Search Terminal Help
/sbin/ldconfig.real: /usr/lib/libgraph.so.1 is not a symbolic link

vini@vini-VirtualBox:~$ sudo nano /etc/apache2/mods-enabled/dir.conf
vini@vini-VirtualBox:~$ sudo nano /etc/apache2/mods-enabled/dir.conf
vini@vini-VirtualBox:~$ sudo systemctl restart apache2
vini@vini-VirtualBox:~$ sudo systemctl status apache2
● apache2.service - The Apache HTTP Server
   Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor p
   Drop-In: /lib/systemd/system/apache2.service.d
            └─apache2-systemd.conf
   Active: active (running) since Tue 2021-03-23 21:01:40 IST; 7s ago
   Process: 7060 ExecStop=/usr/sbin/apachectl stop (code=exited, status=0/
   Process: 7065 ExecStart=/usr/sbin/apachectl start (code=exited, status=
   Main PID: 7069 (apache2)
   Tasks: 6 (limit: 4680)
   CGroup: /system.slice/apache2.service
           └─7069 /usr/sbin/apache2 -k start
             └─7070 /usr/sbin/apache2 -k start
               └─7071 /usr/sbin/apache2 -k start
                 └─7072 /usr/sbin/apache2 -k start
                   └─7073 /usr/sbin/apache2 -k start
                     └─7074 /usr/sbin/apache2 -k start

Mar 23 21:01:40 vini-VirtualBox systemd[1]: Starting The Apache HTTP Serv
Mar 23 21:01:40 vini-VirtualBox systemd[1]: Started The Apache HTTP Serve
ESCOC
```


```
Activities Terminal Tue 21:05 vini@vini-VirtualBox: -
File Edit View Search Terminal Help
vini@vini-VirtualBox:~$ sudo nano /etc/apache2/apache2.conf
vini@vini-VirtualBox:~$ sudo apache2ctl configtest
Syntax OK
vini@vini-VirtualBox:~$ sudo systemctl restart apache2
vini@vini-VirtualBox:~$ sudo ufw app list
Available applications:
Apache
Apache Full
Apache Secure
CUPS
vini@vini-VirtualBox:~$ sudo ufw app info "Apache Full"
Profile: Apache Full
Title: Web Server (HTTP,HTTPS)
Description: Apache v2 is the next generation of the omnipresent Apache web
server.

Ports:
80,443/tcp
vini@vini-VirtualBox:~$ sudo ufw allow in "Apache Full"
Rules updated
Rules updated (v6)
vini@vini-VirtualBox:~$ curl http://icanhazip.com
157.119.204.167
vini@vini-VirtualBox:~$ ^C
vini@vini-VirtualBox:~$ sudo apt-get install php libapache2-mod-php php-mcrypt php-mysql
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  libmcrypt4 php7.0-common php7.0-mcrypt php7.2
Suggested packages:
  libmcrypt-dev mcrypt
The following NEW packages will be installed:
  libapache2-mod-php libmcrypt4 php php-mcrypt php-mysql php7.0-common
  php7.0-mcrypt php7.2
0 upgraded, 8 newly installed, 0 to remove and 0 not upgraded.
```

Activities **Firefox Web Browser** Tue 21:06

Apache2 Ubuntu Default Page phpinfo() 127.0.1.1/info.php

PHP Version 7.2.24-0ubuntu0.18.04.7



System	Linux vini-VirtualBox 4.15.0-139-generic #143-Ubuntu SMP Tue Mar 16 01:30:17 UTC 2021 x86_64
Build Date	Oct 7 2020 15:24:25
Server API	Apache 2.0 Handler
Virtual Directory Support	disabled
Configuration File (php.ini) Path	/etc/php/7.2/apache2
Loaded Configuration File	/etc/php/7.2/apache2/php.ini
Scan this dir for additional .ini files	/etc/php/7.2/apache2/conf.d
Additional .ini files parsed	/etc/php/7.2/apache2/conf.d/10-mysqld.ini, /etc/php/7.2/apache2/conf.d/10-opcache.ini, /etc/php/7.2/apache2/conf.d/10-pdo.ini, /etc/php/7.2/apache2/conf.d/15-xml.ini, /etc/php/7.2/apache2/conf.d/20-calendar.ini, /etc/php/7.2/apache2/conf.d/20-type.ini, /etc/php/7.2/apache2/conf.d/20-curl.ini, /etc/php/7.2/apache2/conf.d/20-dom.ini, /etc/php/7.2/apache2/conf.d/20-exif.ini, /etc/php/7.2/apache2/conf.d/20-fileinfo.ini, /etc/php/7.2/apache2/conf.d/20-ftp.ini, /etc/php/7.2/apache2/conf.d/20-gd.ini, /etc/php/7.2/apache2/conf.d/20-gettext.ini, /etc/php/7.2/apache2/conf.d/20-iconv.ini, /etc/php/7.2/apache2/conf.d/20-imagick.ini, /etc/php/7.2/apache2/conf.d/20-imap.ini, /etc/php/7.2/apache2/conf.d/20-intl.ini, /etc/php/7.2/apache2/conf.d/20-ldap.ini, /etc/php/7.2/apache2/conf.d/20-ldap2.ini, /etc/php/7.2/apache2/conf.d/20-mbstring.ini, /etc/php/7.2/apache2/conf.d/20-mysqli.ini, /etc/php/7.2/apache2/conf.d/20-pdo_mysql.ini, /etc/php/7.2/apache2/conf.d/20-pdo_pgsql.ini, /etc/php/7.2/apache2/conf.d/20-pdo_sqlite.ini, /etc/php/7.2/apache2/conf.d/20-pgsql.ini, /etc/php/7.2/apache2/conf.d/20-phar.ini, /etc/php/7.2/apache2/conf.d/20-posix.ini, /etc/php/7.2/apache2/conf.d/20-readline.ini, /etc/php/7.2/apache2/conf.d/20-shmop.ini, /etc/php/7.2/apache2/conf.d/20-simplexml.ini, /etc/php/7.2/apache2/conf.d/20-smbcclient.ini, /etc/php/7.2/apache2/conf.d/20-sockets.ini, /etc/php/7.2/apache2/conf.d/20-sqlite3.ini, /etc/php/7.2/apache2/conf.d/20-ssh2.ini, /etc/php/7.2/apache2/conf.d/20-sysvmsg.ini, /etc/php/7.2/apache2/conf.d/20-sysvsem.ini, /etc/php/7.2/apache2/conf.d/20-sysvshm.ini, /etc/php/7.2/apache2/conf.d/20-tokenizer.ini, /etc/php/7.2/apache2/conf.d/20-wddx.ini, /etc/php/7.2/apache2/conf.d/20-xmlreader.ini, /etc/php/7.2/apache2/conf.d/20-xmlwriter.ini, /etc/php/7.2/apache2/conf.d/20-xsl.ini, /etc/php/7.2/apache2/conf.d/20-zip.ini
PHP API	20170718
PHP Extension	20170718
Zend Extension	320170718
Zend Extension Build	API320170718.NTS
PHP Extension Build	API20170718.NTS
Debug Build	no
Thread Safety	disabled
Zend Signal Handling	enabled
Zend Memory Manager	enabled
Zend Multibyte Support	provided by mbstring
IPv6 Support	enabled

Apache2 Ubuntu Default Page

ubuntu It works!

This is the default welcome page used to test the correct operation of the Apache2 server after installation on Ubuntu systems. It is based on the equivalent page on Debian, from which the Ubuntu Apache packaging is derived. If you can read this page, it means that the Apache HTTP server installed at this site is working properly. You should **replace this file** (located at `/var/www/html/index.html`) before continuing to operate your HTTP server.

If you are a normal user of this web site and don't know what this page is about, this probably means that the site is currently unavailable due to maintenance. If the problem persists, please contact the site's administrator.

Configuration Overview

Ubuntu's Apache2 default configuration is different from the upstream default configuration, and split into several files optimized for interaction with Ubuntu tools. The configuration system is **fully documented in [/usr/share/doc/apache2/README.Debian.gz](#)**. Refer to this for the full documentation. Documentation for the web server itself can be found by accessing the **manual** if the `apache2-doc` package was installed on this server.

The configuration layout for an Apache2 web server installation on Ubuntu systems is as follows:

```

/etc/apache2/
|-- apache2.conf
|   |-- ports.conf
|   |-- mods-enabled
|   |-- *.load
|   |-- *.conf
|-- conf-enabled
|   |-- *.conf
|-- sites-enabled
|   |-- *.conf

```

- `apache2.conf` is the main configuration file. It puts the pieces together by including all remaining configuration files when starting up the web server.
- `ports.conf` is always included from the main configuration file. It is used to determine the listening ports for incoming connections, and this file can be customized anytime.
- Configuration files in the `mods-enabled/`, `conf-enabled/` and `sites-enabled/` directories contain particular configuration snippets which manage modules, global configuration fragments, or virtual host configurations, respectively.

```
Activities Terminal Tue 22:00 vini@vini-VirtualBox: -
File Edit View Search Terminal Help
Welcome to the MySQL monitor. Commands end with ; or \g.
Your MySQL connection id is 5
Server version: 5.7.33-0ubuntu0.18.04.1 (Ubuntu)

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> CREATE DATABASE owncloud_db;
Query OK, 1 row affected (0.00 sec)

mysql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| owncloud_db |
| performance_schema |
| sys |
+-----+
5 rows in set (0.00 sec)

mysql> GRANT ALL ON owncloud_db.* TO 'owncloud_user'@'localhost' IDENTIFIED BY 'Vini@123';
Query OK, 0 rows affected, 1 warning (0.00 sec)

mysql> FLUSH PRIVILEGES;
Query OK, 0 rows affected (0.01 sec)

mysql> EXIT;
Bye
vini@vini-VirtualBox:~$
```

```
Activities Terminal Tue 22:27 vini@vini-VirtualBox: -
File Edit View Search Terminal Help
inflating: /var/www/owncloud/resources/config/ca-bundle.crt
inflating: /var/www/owncloud/resources/config/readme.md
inflating: /var/www/owncloud/resources/config/mimetypemapping.dist.json
creating: /var/www/owncloud/resources/codesigning/
inflating: /var/www/owncloud/resources/codesigning/intermediate.crl.pem
inflating: /var/www/owncloud/resources/codesigning/root.crt
inflating: /var/www/owncloud/resources/codesigning/core.crt
inflating: /var/www/owncloud/COPYING
inflating: /var/www/owncloud/index.php
inflating: /var/www/owncloud/CHANGELOG.md
inflating: /var/www/owncloud/status.php
vini@vini-VirtualBox:~$ sudo chown -R www-data:www-data /var/www/owncloud/
vini@vini-VirtualBox:~$ sudo chmod -R 755 /var/www/owncloud/
vini@vini-VirtualBox:~$ sudo vim /etc/apache2/conf-available/owncloud.conf
sudo: vim: command not found
vini@vini-VirtualBox:~$ sudo nano /etc/apache2/conf-available/owncloud.conf
vini@vini-VirtualBox:~$ sudo a2enconf owncloud
Enabling conf owncloud.
To activate the new configuration, you need to run:
  systemctl reload apache2
vini@vini-VirtualBox:~$ sudo a2enmod rewrite
Enabling module rewrite.
To activate the new configuration, you need to run:
  systemctl restart apache2
vini@vini-VirtualBox:~$ sudo a2enmod headers
Enabling module headers.
To activate the new configuration, you need to run:
  systemctl restart apache2
vini@vini-VirtualBox:~$ sudo a2enmod env
Module env already enabled
vini@vini-VirtualBox:~$ sudo a2enmod dir
Module dir already enabled
vini@vini-VirtualBox:~$ sudo a2enmod mime
Module mime already enabled
vini@vini-VirtualBox:~$ sudo systemctl restart apache2
vini@vini-VirtualBox:~$
```

Activities Terminal Tue 22:15 vini@vini-VirtualBox: -

```
GNU nano 2.9.3 /etc/apache2/conf-available/owncloud.conf
Alias /owncloud "/var/www/owncloud/"

<Directory /var/www/owncloud/>
  Options +FollowSymLinks
  AllowOverride All

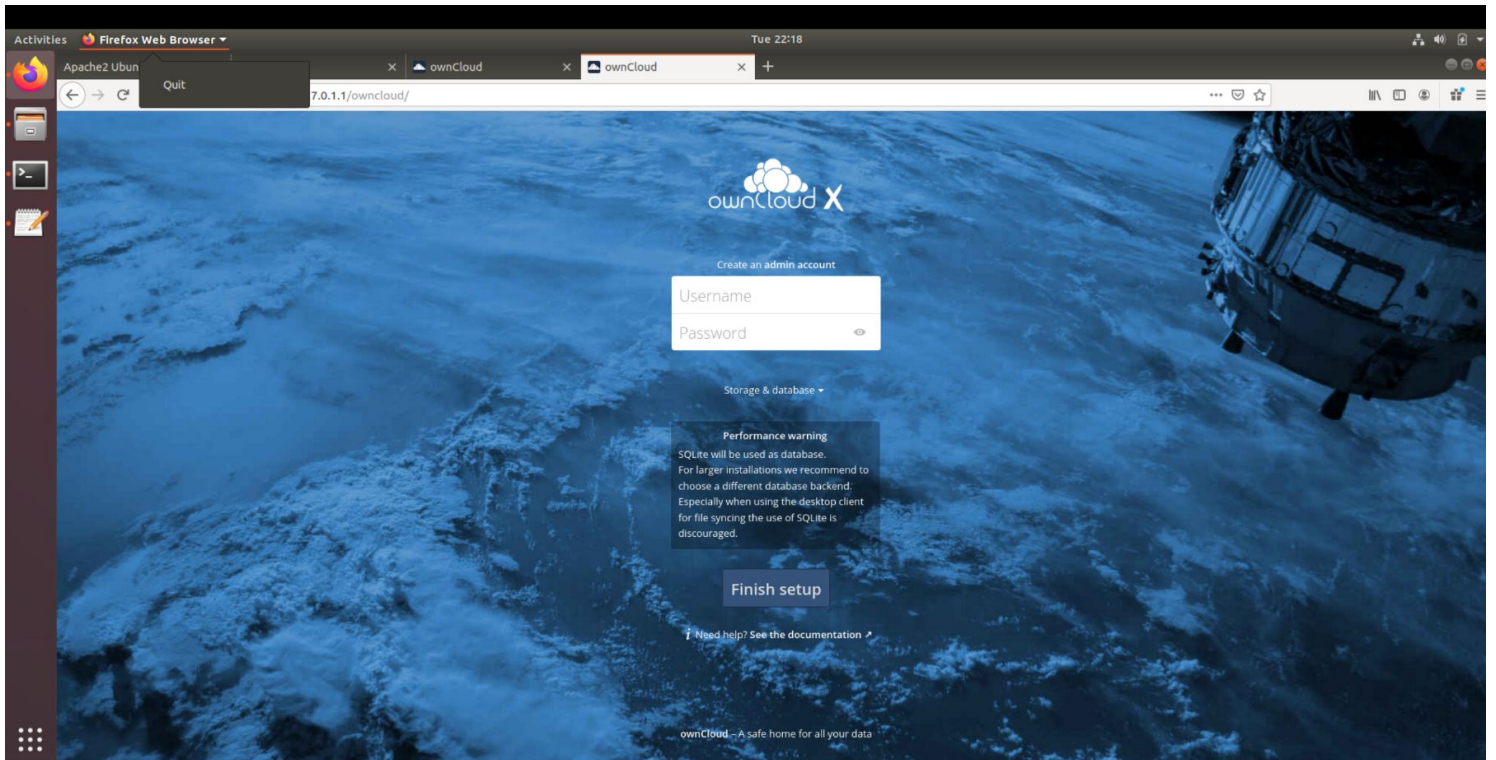
  <IfModule mod_dav.c>
    Dav off
  </IfModule>

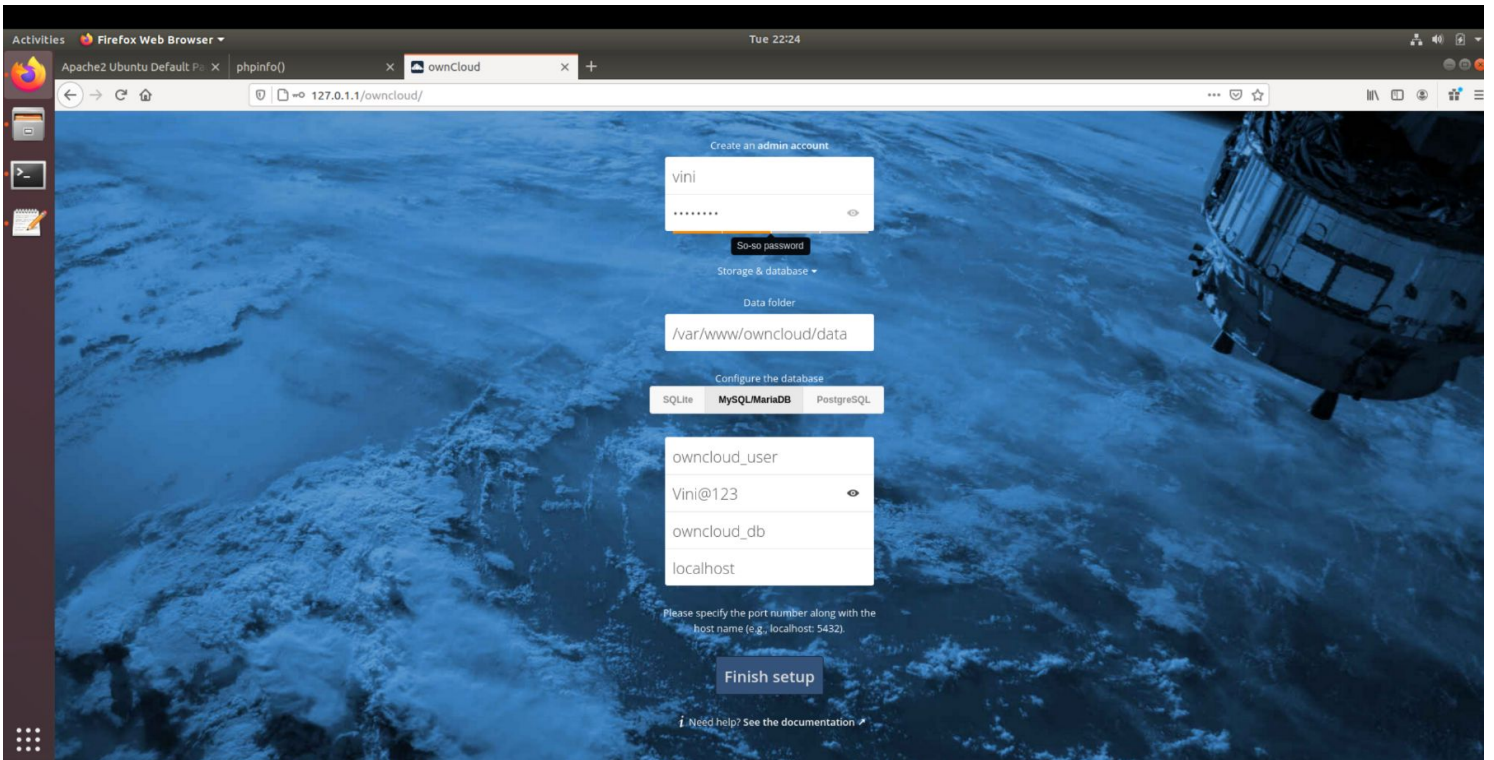
  SetEnv HOME /var/www/owncloud
  SetEnv HTTP_HOME /var/www/owncloud

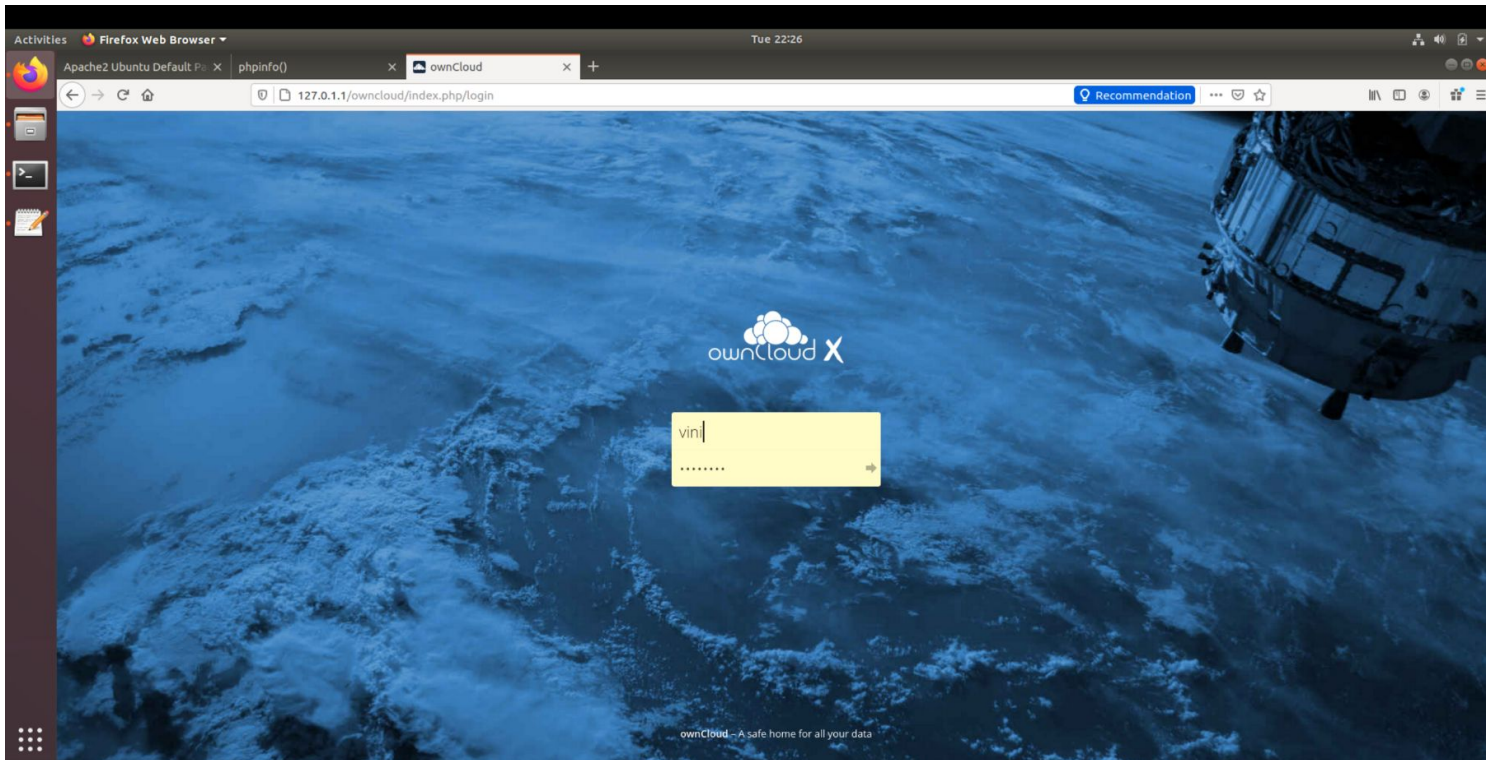
</Directory>
```

[Wrote 14 lines]

...	^G Get Help	^O Write Out	^W Where Is	^K Cut Text	^J Justify	^C Cur Pos	M-U Undo	M-A Mark Text	M-I To Bracket
...	^X Exit	^R Read File	^_ Replace	^U Uncut Text	^T To Spell	^_ Go To Line	M-E Redo	M-C Copy Text	M-W WhereIs Next







Activities Firefox Web Browser Tue 22:25

Apache2 Ubuntu Default P... phpinfo() Files - ownCloud

127.0.1.1/owncloud/index.php/apps/files/?dir=/&fileid=3 Recommendation

Files ownCloud

All files

★ Favorites

Shared with you

Shared with others

Shared by link

Tags

Deleted files

Settings

A safe home for all your data

Access & share your files, calendars, contacts, mail & more from any device, on your terms

Get the apps to sync your files

Desktop app
Windows, OS X, Linux

ANDROID APP ON
Google Play

Download on the
App Store

Connect your desktop apps to ownCloud

Connect your Calendar Connect your Contacts Access files via WebDAV

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Name	Size	Modified
	35 KB	seconds ago
	663 KB	seconds ago
	5.8 MB	seconds ago
	6.5 MB	

Activities Firefox Web Browser Tue 22:25

Apache2 Ubuntu Default P... x phpinfo() x Files - ownCloud x +

127.0.1.1/owncloud/index.php/apps/files/?dir=/&fileid=3 Recommendation ☆

Files ownCloud vini

All files

- ★ Favorites
- Shared with you
- Shared with others
- Shared by link
- Tags
- Deleted files
- Settings

Name	Size	Modified
Documents	35 KB	a minute ago
Photos	663 KB	a minute ago
ownCloud Manual.pdf	5.8 MB	a minute ago
2 folders and 1 file		6.5 MB