Lab 15: Cloud Computing

Course Name: Ethical Hacking and Offensive Security(HOD401)
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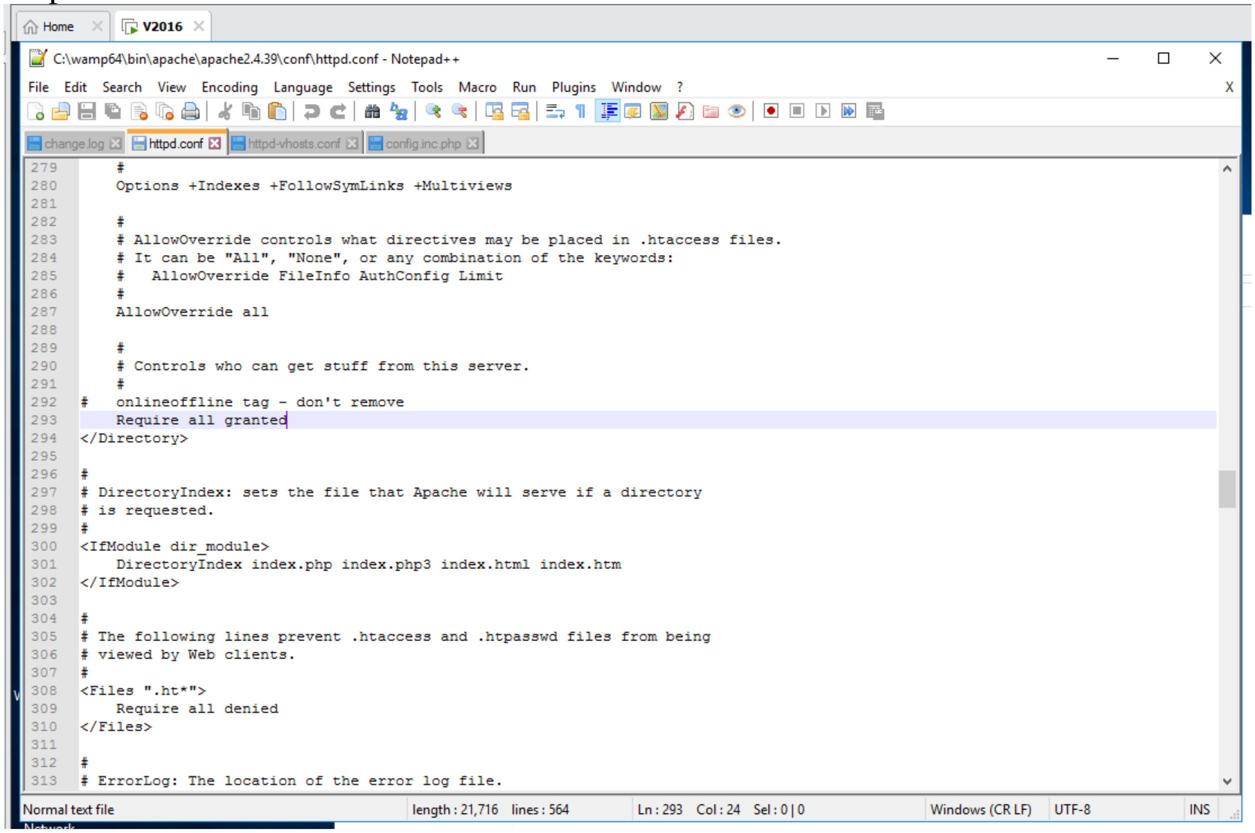
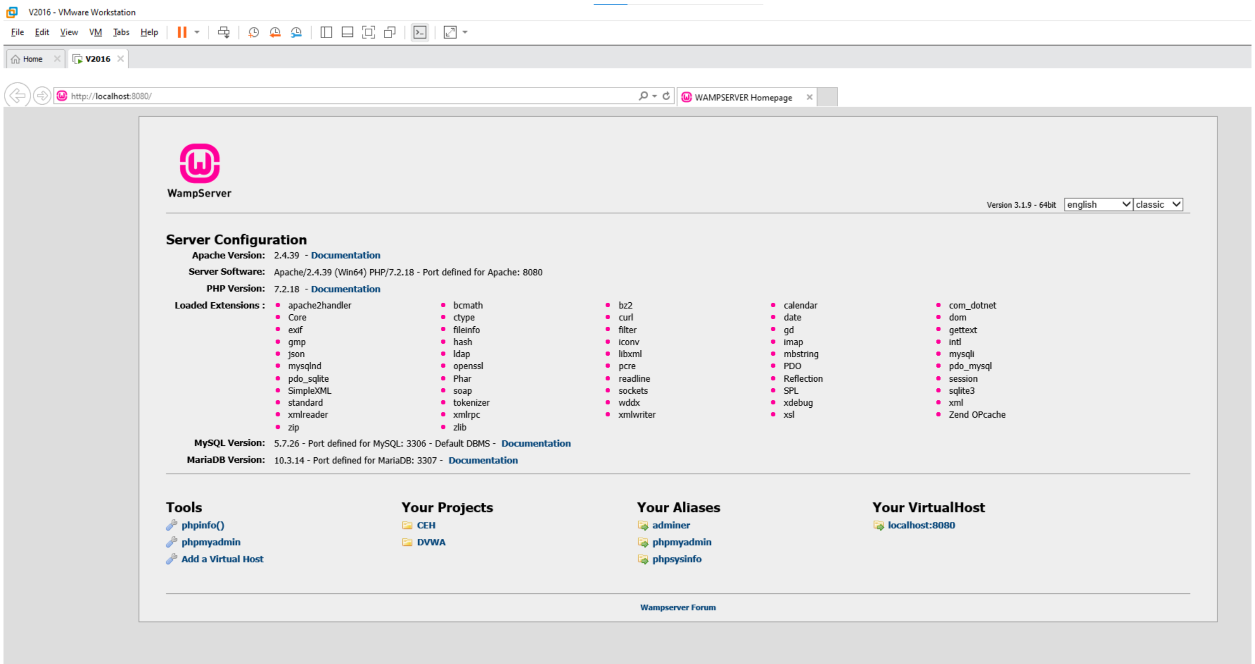
Instructor Name: Mai Hoàng Đỉnh
Lab Due Date: 1/11/2023

1. Building a Cloud Using ownCloud and WAMPServer

- Open Windows Server 2016


Home
V2016
C:\wamp64\bin\apache\apache2.4.39\conf\httpd.conf - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
change.log
httpd.conf
httpd-vhosts.conf
config.inc.php
Normal text file
length : 21,716 lines : 564
Ln : 293 Col : 24 Sel : 0 | 0
Windows (CR LF)
UTF-8
INS

```
    #
    Options +Indexes +FollowSymLinks +Multiviews

    #
    # AllowOverride controls what directives may be placed in .htaccess files.
    # It can be "All", "None", or any combination of the keywords:
    #   AllowOverride FileInfo AuthConfig Limit
    #
    AllowOverride all

    #
    # Controls who can get stuff from this server.
    #
#   onlineoffline tag - don't remove
    Require all granted
</Directory>

#
# DirectoryIndex: sets the file that Apache will serve if a directory
# is requested.
#
<IfModule dir_module>
    DirectoryIndex index.php index.php3 index.html index.htm
</IfModule>

#
# The following lines prevent .htaccess and .htpasswd files from being
# viewed by Web clients.
#
<Files ".ht*">
    Require all denied
</Files>

#
# ErrorLog: The location of the error log file.
```



http://localhost:8080/

Version 3.1.9 - 64bit english classic

Server Configuration

Apache Version: 2.4.39 - Documentation

Server Software: Apache/2.4.39 (Win64) PHP/7.2.18 - Port defined for Apache: 8080

PHP Version: 7.2.18 - Documentation

Loaded Extensions :

- apache2handler
- Core
- exif
- gmp
- json
- mysqlnd
- pdo_sqlite
- SimpleXML
- standard
- xmlreader
- zip
- bcmath
- ctype
- fileinfo
- hash
- ldap
- openssl
- Phar
- soap
- tokenizer
- xmlrpc
- zlib
- bz2
- curl
- filter
- iconv
- libxml
- pcre
- readline
- sockets
- wddx
- xmlwriter
- calendar
- date
- gd
- imap
- mbstring
- PDO
- Reflection
- SPL
- xdebug
- xsl
- com_dotnet
- dom
- gettext
- intl
- mysqli
- pdo_mysql
- session
- sqlite3
- xml
- Zend OPcache

MySQL Version: 5.7.26 - Port defined for MySQL: 3306 - Default DBMS - Documentation

MariaDB Version: 10.3.14 - Port defined for MariaDB: 3307 - Documentation

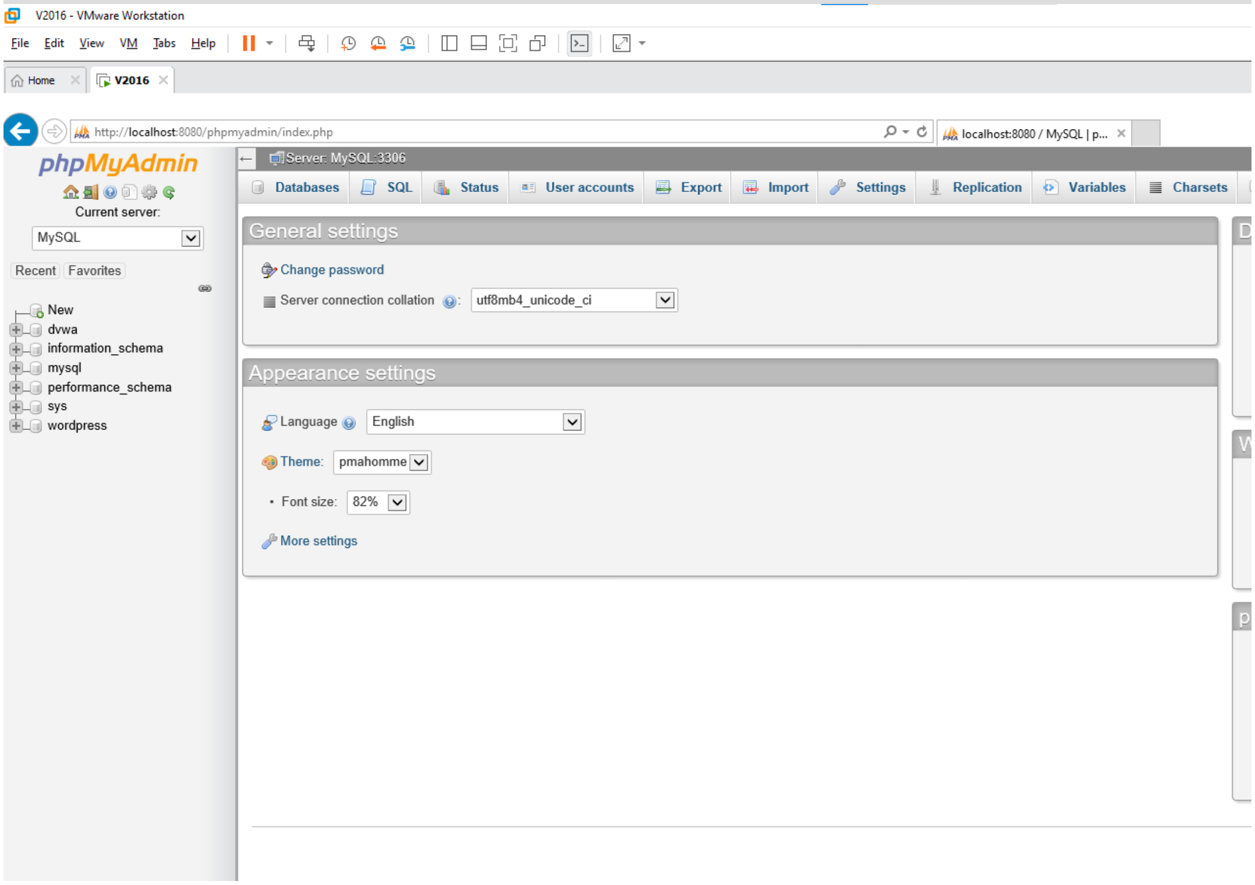
Tools
phpinfo()
phpmyadmin
Add a Virtual Host

Your Projects
CEH
DVWA

Your Aliases
adminer
phpmyadmin
phpsysinfo

Your VirtualHost
localhost:8080

Wampserver Forum



http://localhost:8080/phpmyadmin/index.php

Server: MySQL:3306

Current server: MySQL

New
dvwa
information_schema
mysql
performance_schema
sys
wordpress

General settings

Change password

Server connection collation: utf8mb4_unicode_ci

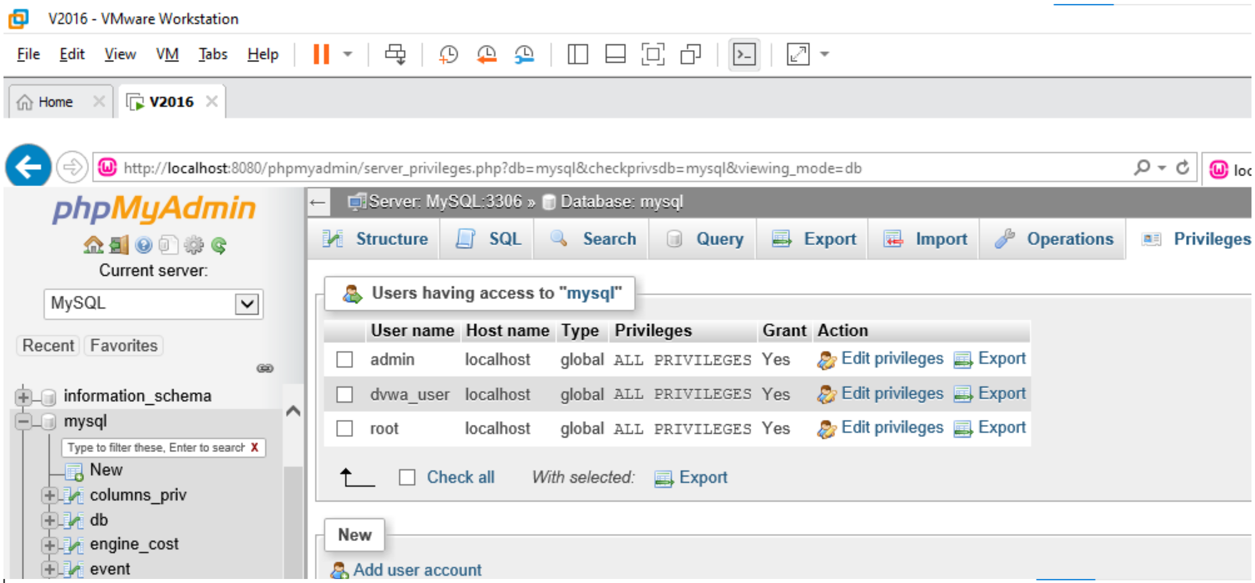
Appearance settings

Language: English

Theme: pmahomme

Font size: 82%

More settings



http://localhost:8080/phpmyadmin/server_privileges.php?db=mysql&checkprivsdb=mysql&viewing_mode=db

Server: MySQL:3306 » Database: mysql

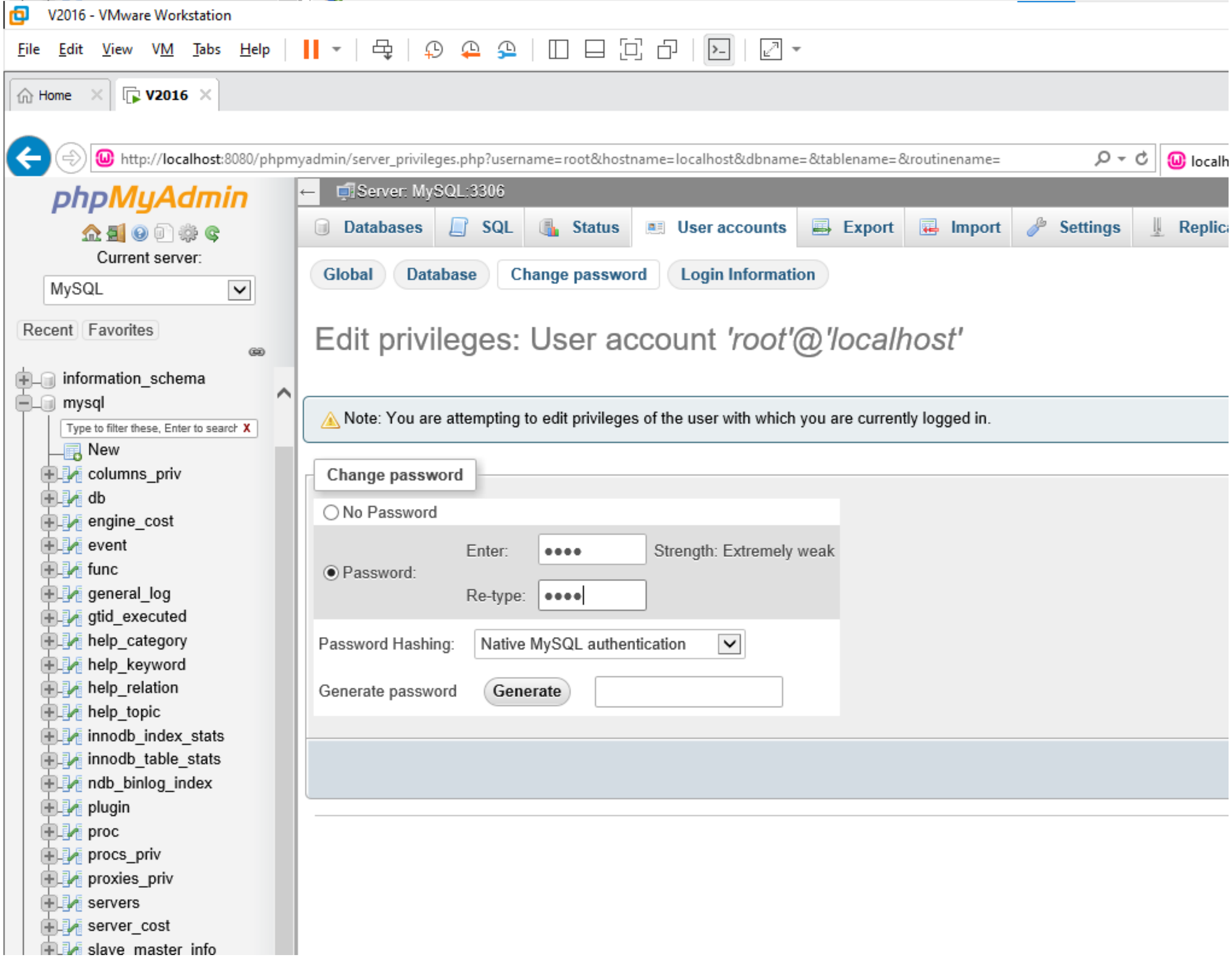
Users having access to "mysql"

	User name	Host name	Type	Privileges	Grant	Action
□	admin	localhost	global	`ALL PRIVILEGES`	Yes	Edit privileges Export
□	dvwa_user	localhost	global	`ALL PRIVILEGES`	Yes	Edit privileges Export
□	root	localhost	global	`ALL PRIVILEGES`	Yes	Edit privileges Export

□ Check all *With selected:* Export

New

Add user account



http://localhost:8080/phpmyadmin/server_privileges.php?username=root&hostname=localhost&dbname=&tablename=&routinename=

Server: MySQL:3306

Edit privileges: User account *'root'@'localhost'*

Note: You are attempting to edit privileges of the user with which you are currently logged in.

Change password

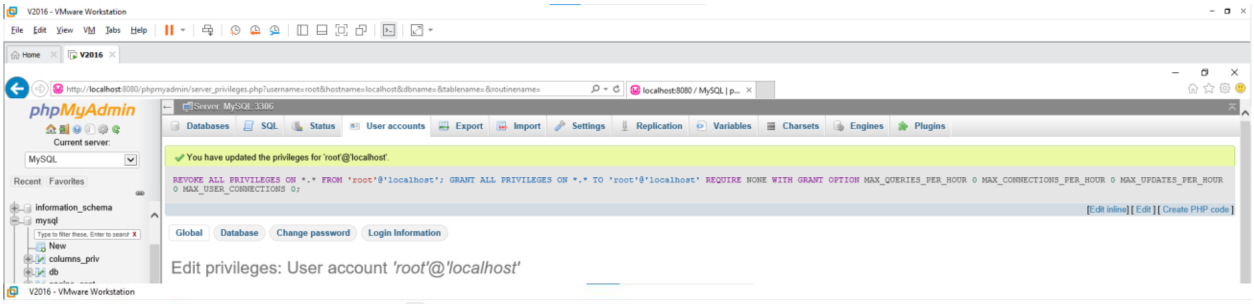
○ No Password

● Password: Enter: •••• Strength: Extremely weak

Re-type: ••••

Password Hashing: Native MySQL authentication

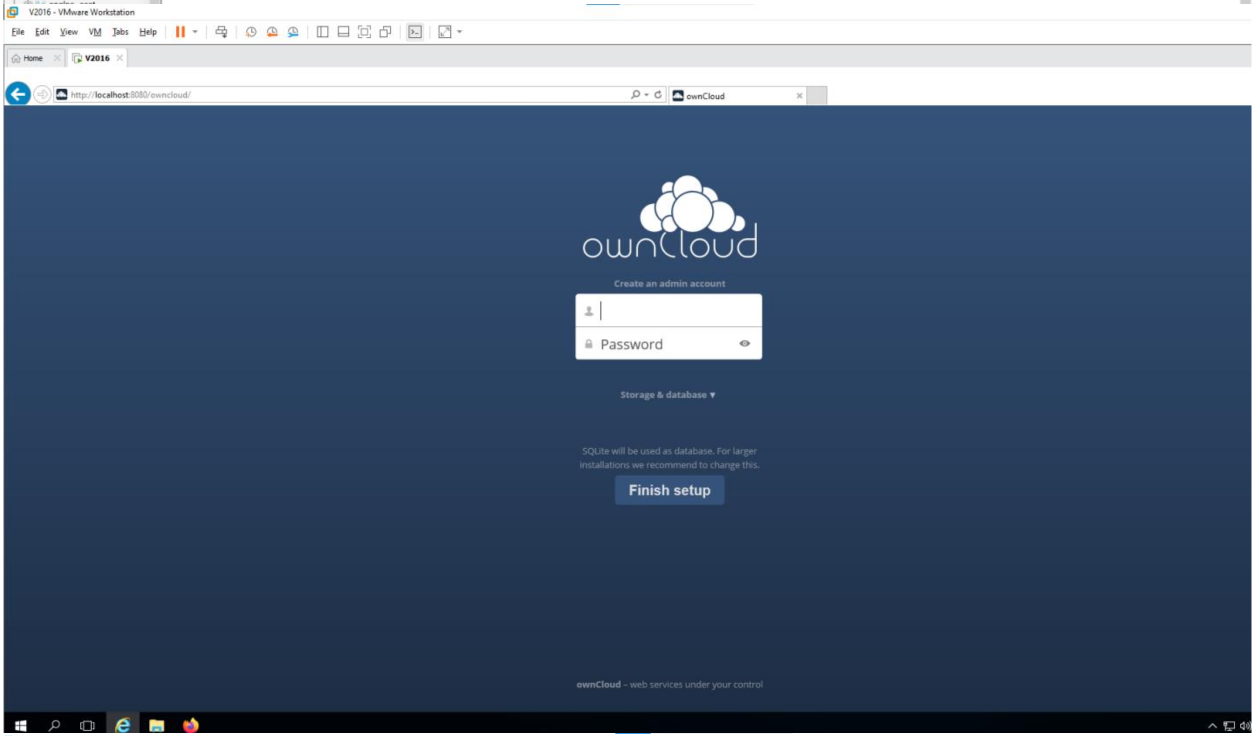
Generate password Generate



✓ You have updated the privileges for 'root'@'localhost'.

```
REVOKE ALL PRIVILEGES ON *.* FROM 'root'@'localhost'; GRANT ALL PRIVILEGES ON *.* TO 'root'@'localhost' REQUIRE NONE WITH GRANT OPTION MAX_QUERIES_PER_HOUR 0 MAX_CONNECTIONS_PER_HOUR 0 MAX_UPDATES_PER_HOUR
0 MAX_USER_CONNECTIONS 0;
```

Edit privileges: User account *'root'@'localhost'*

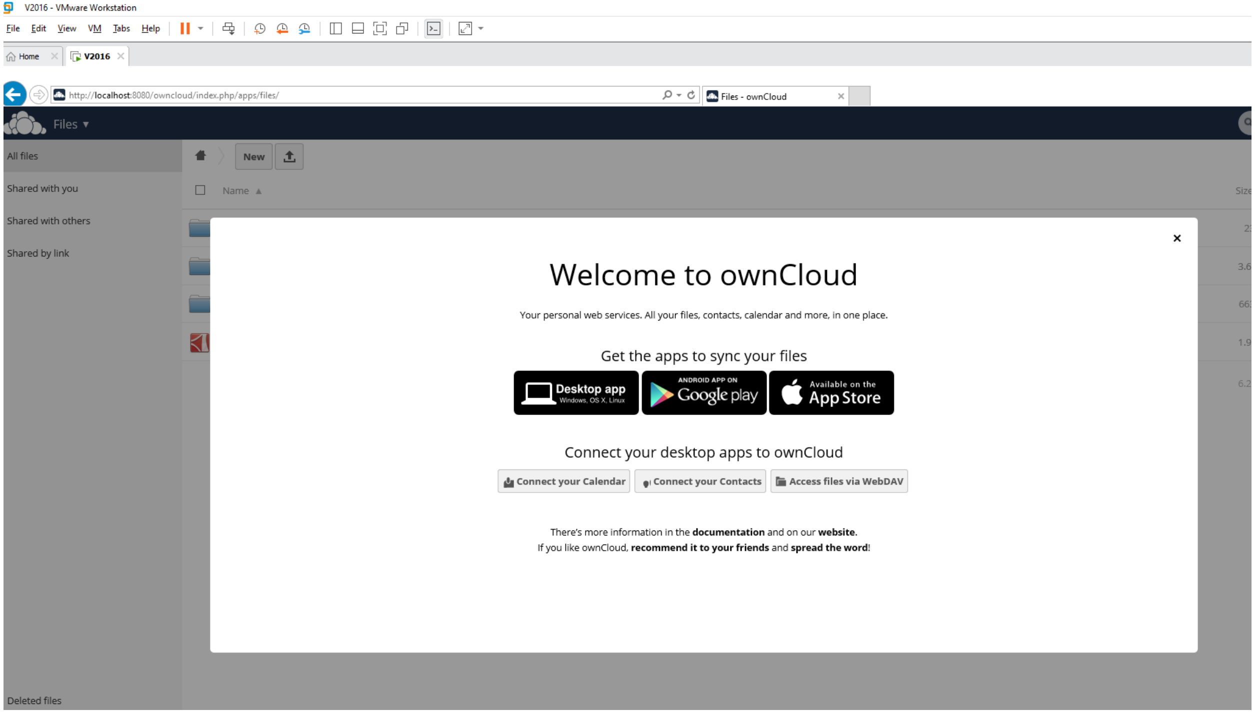

V2016 - VMware Workstation
File Edit View VM Tabs Help
Home
V2016
http://localhost:8080/owncloud/
ownCloud
ownCloud
Storage & database ▾
Finish setup

Create an admin account

Password

SQLite will be used as database. For larger installations we recommend to change this.

ownCloud – web services under your control



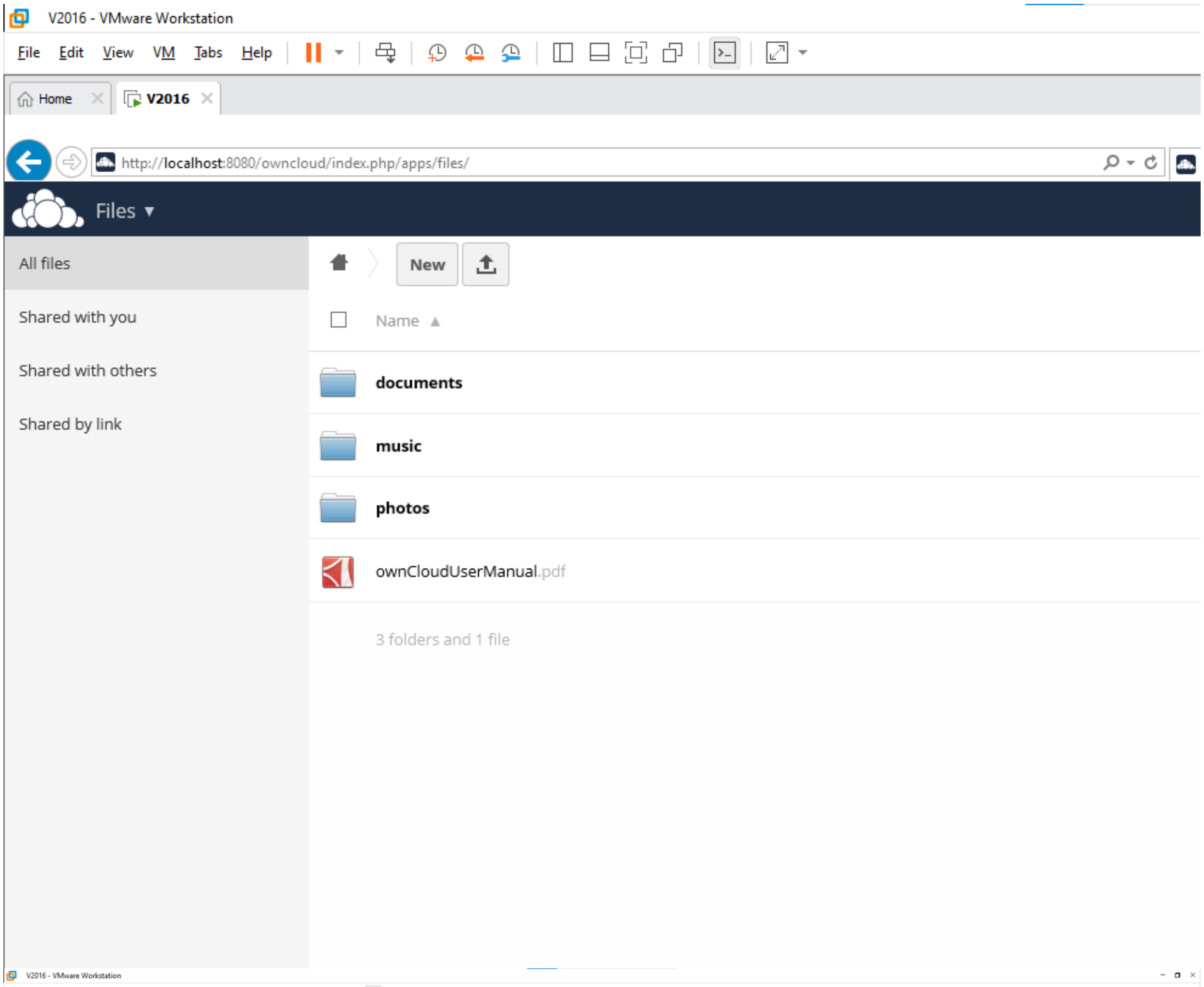
Welcome to ownCloud

Your personal web services. All your files, contacts, calendar and more, in one place.

Get the apps to sync your files

Connect your desktop apps to ownCloud

There's more information in the **documentation** and on our **website**.
If you like ownCloud, **recommend it to your friends** and **spread the word**!



http://localhost:8080/owncloud/index.php/apps/files/

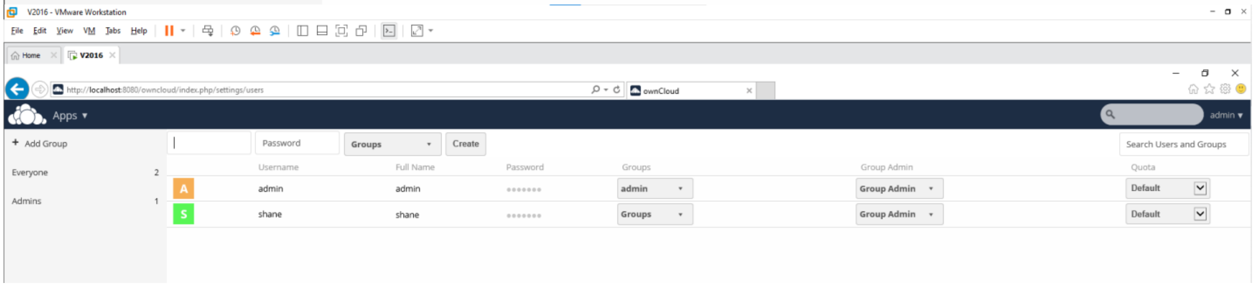
documents

music

photos

ownCloudUserManual.pdf

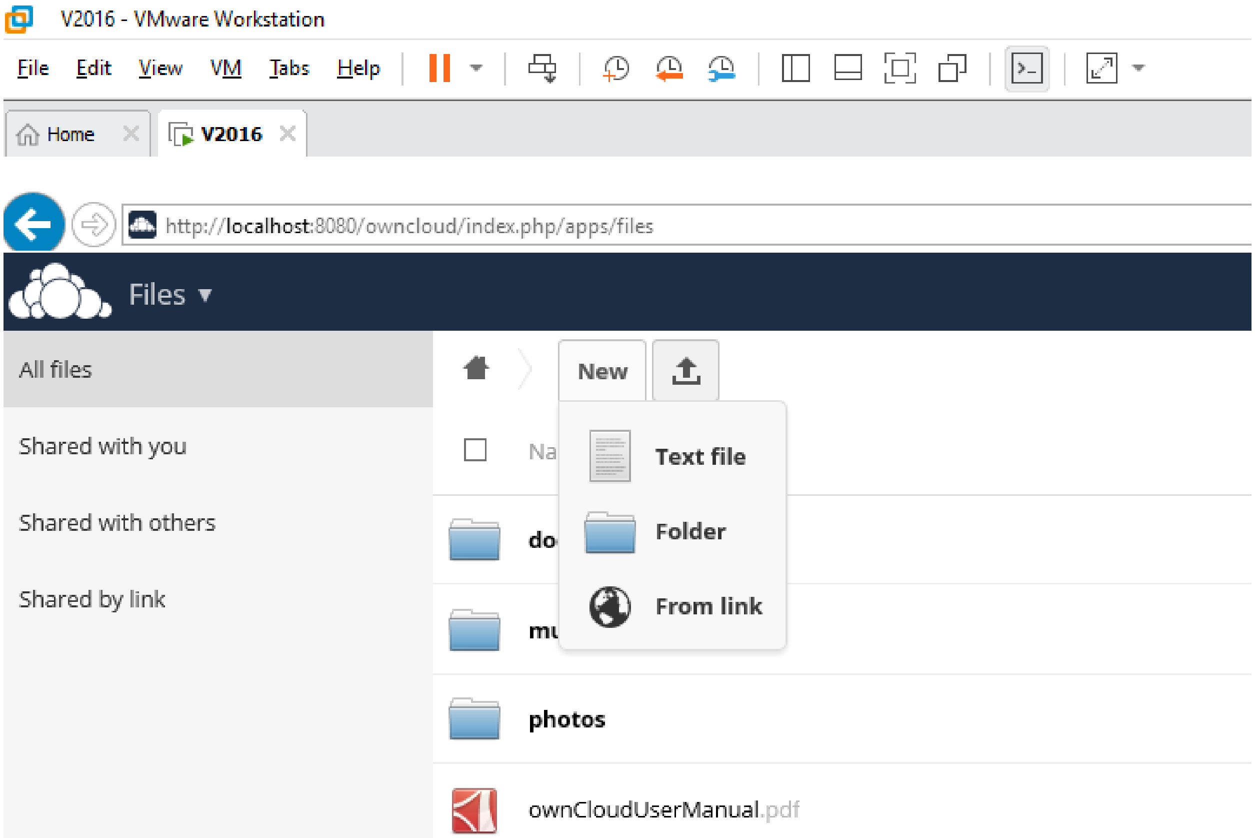
3 folders and 1 file

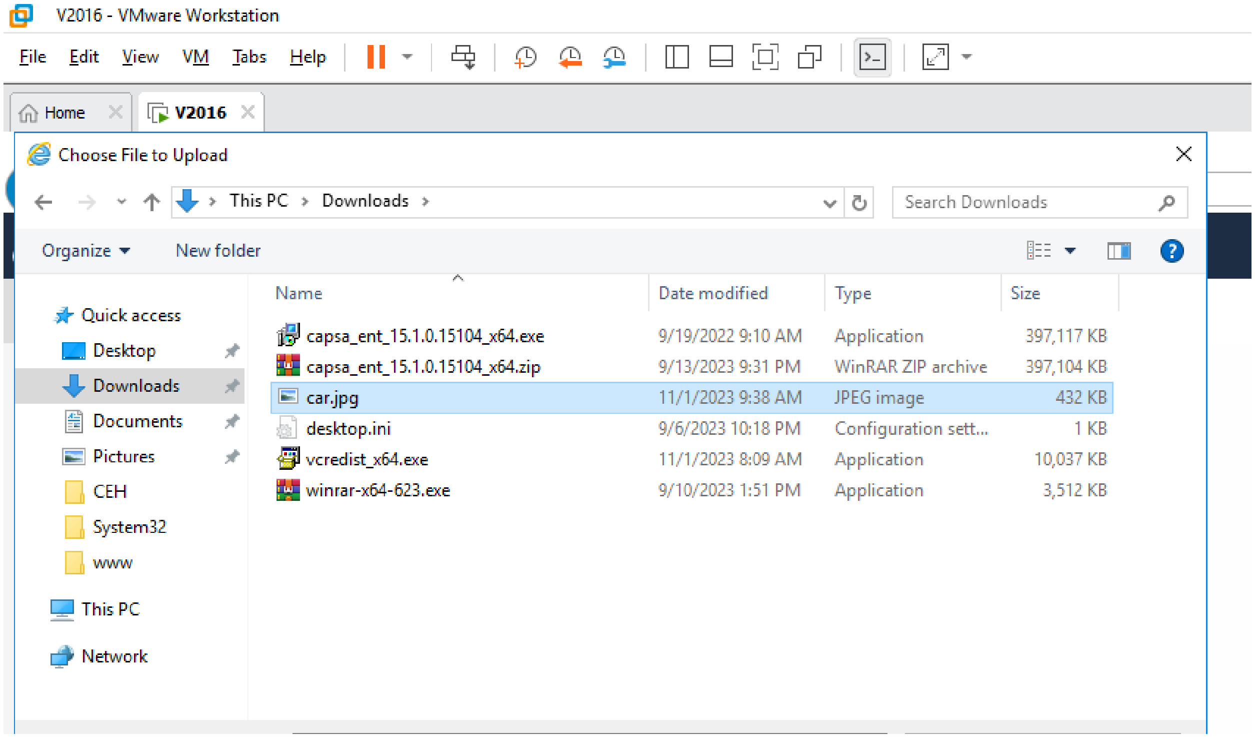


http://localhost:8080/owncloud/index.php/settings/users

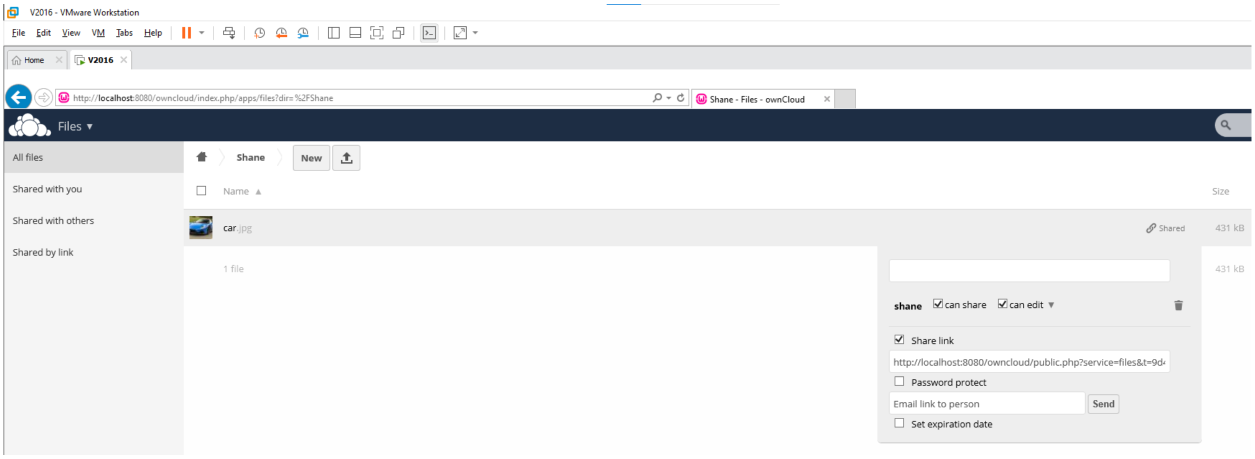
Everyone	2
Admins	1

	Username	Full Name	Password	Groups	Group Admin	Quota
A	admin	admin	•••••••	admin	Group Admin	Default
S	shane	shane	•••••••	Groups	Group Admin	Default





Name	Date modified	Type	Size
capsa_ent_15.1.0.15104_x64.exe	9/19/2022 9:10 AM	Application	397,117 KB
capsa_ent_15.1.0.15104_x64.zip	9/13/2023 9:31 PM	WinRAR ZIP archive	397,104 KB
car.jpg	11/1/2023 9:38 AM	JPEG image	432 KB
desktop.ini	9/6/2023 10:18 PM	Configuration sett...	1 KB
vcredist_x64.exe	11/1/2023 8:09 AM	Application	10,037 KB
winrar-x64-623.exe	9/10/2023 1:51 PM	Application	3,512 KB



http://localhost:8080/owncloud/index.php/apps/files?dir=%2FShane

shane ☑ can share ☑ can edit ▾

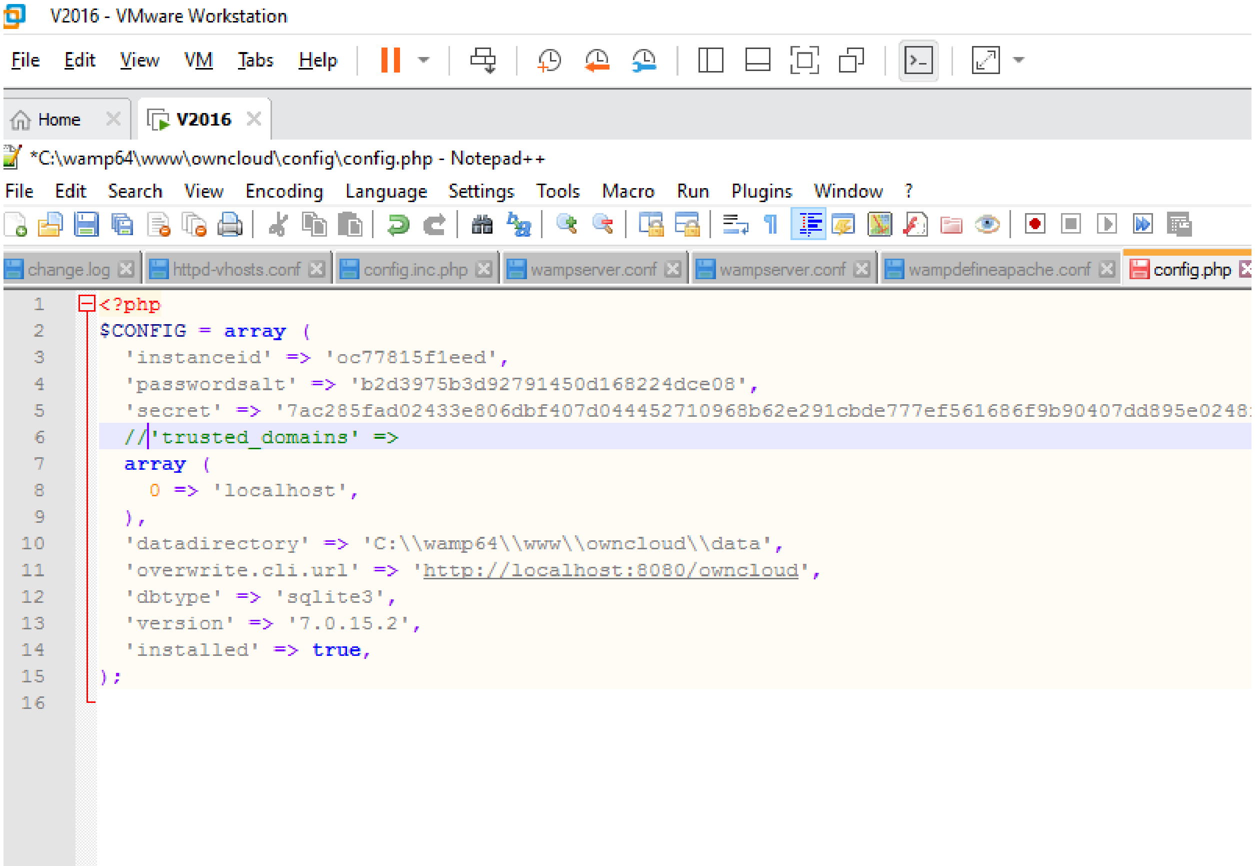
☑ Share link

http://localhost:8080/owncloud/public.php?service=files&t=9d

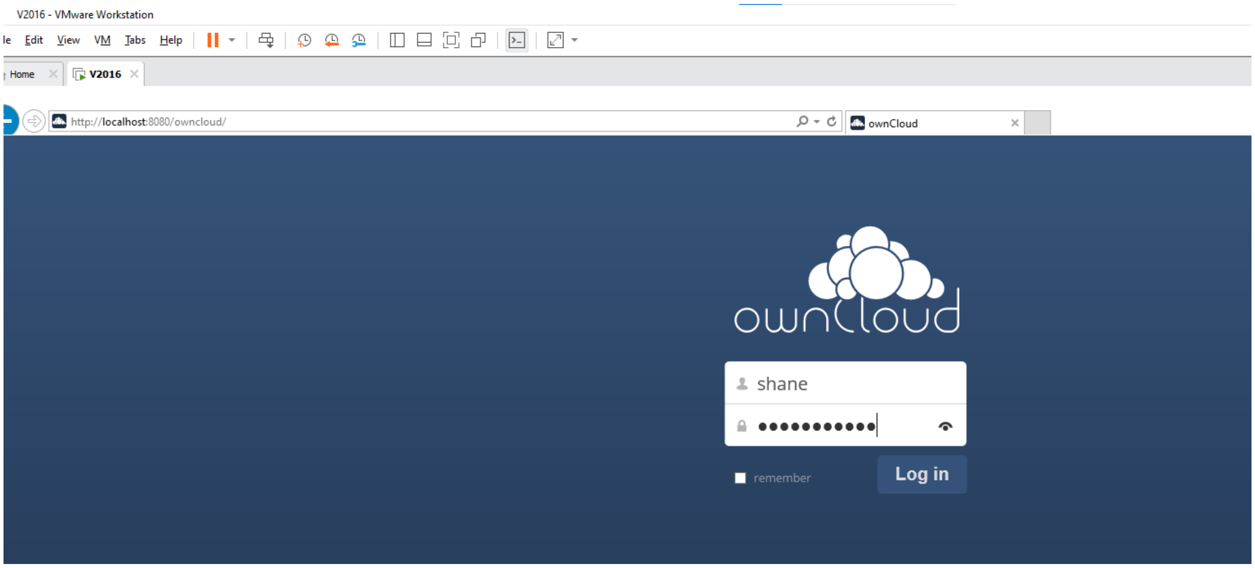
□ Password protect

Email link to person

□ Set expiration date


V2016 - VMware Workstation
File Edit View VM Tabs Help
Home
V2016
*C:\wamp64\www\owncloud\config\config.php - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
change.log
httpd-vhosts.conf
config.inc.php
wampserver.conf
wampserver.conf
wampdefineapache.conf
config.php

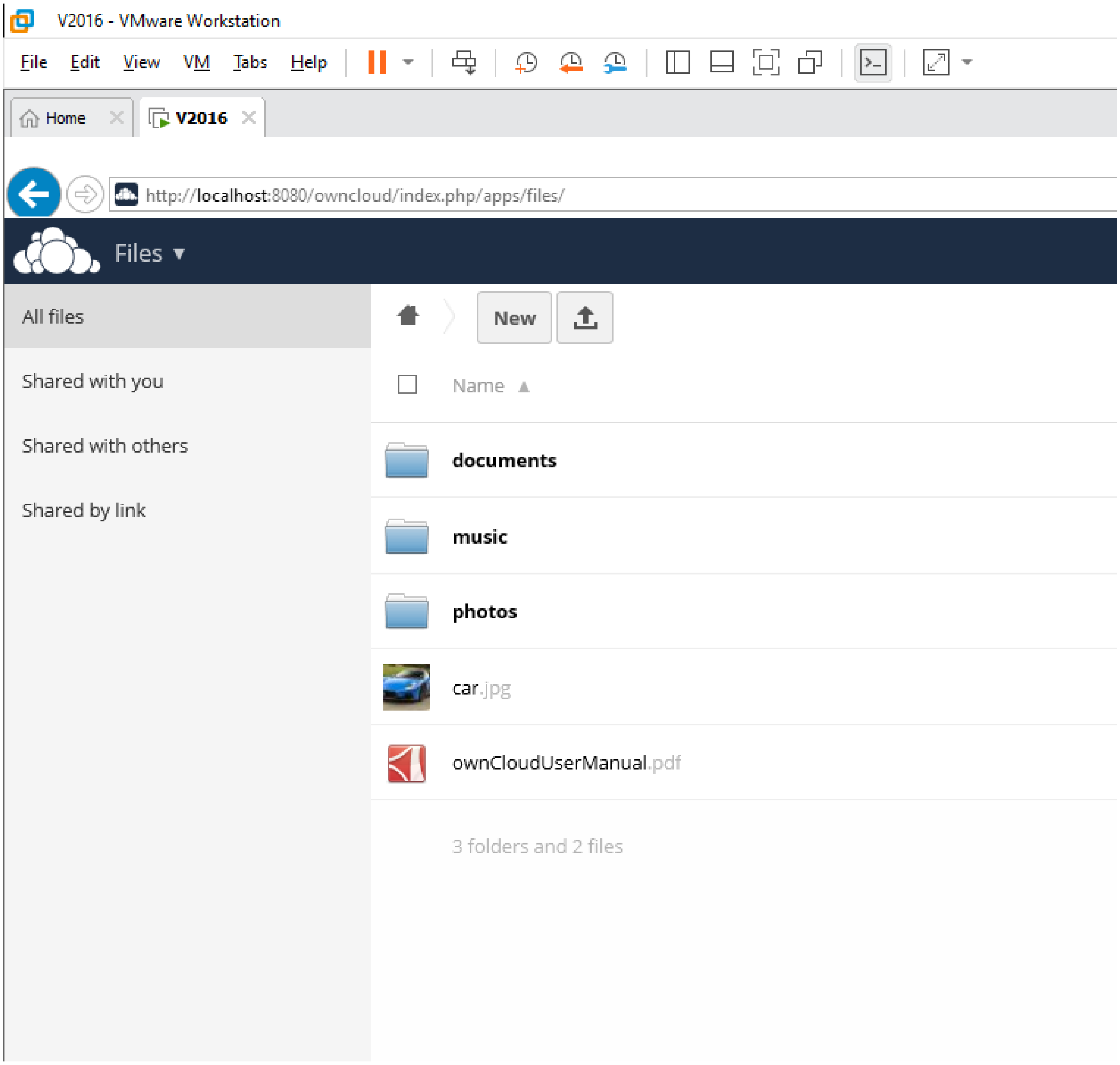
```php
<?php
$CONFIG = array (
  'instanceid' => 'oc77815f1eed',
  'passwordsalt' => 'b2d3975b3d92791450d168224dce08',
  'secret' => '7ac285fad02433e806dbf407d044452710968b62e291cbde777ef561686f9b90407dd895e0248
  //'trusted_domains' =>
  array (
    0 => 'localhost',
  ),
  'datadirectory' => 'C:\\wamp64\\www\\owncloud\\data',
  'overwrite.cli.url' => 'http://localhost:8080/owncloud',
  'dbtype' => 'sqlite3',
  'version' => '7.0.15.2',
  'installed' => true,
);
```



V2016 - VMware Workstation
le Edit View VM Tabs Help
Home
V2016
http://localhost:8080/owncloud/
ownCloud
ownCloud
remember
Log in

shane

●●●●●●●●●●●●



http://localhost:8080/owncloud/index.php/apps/files/

documents

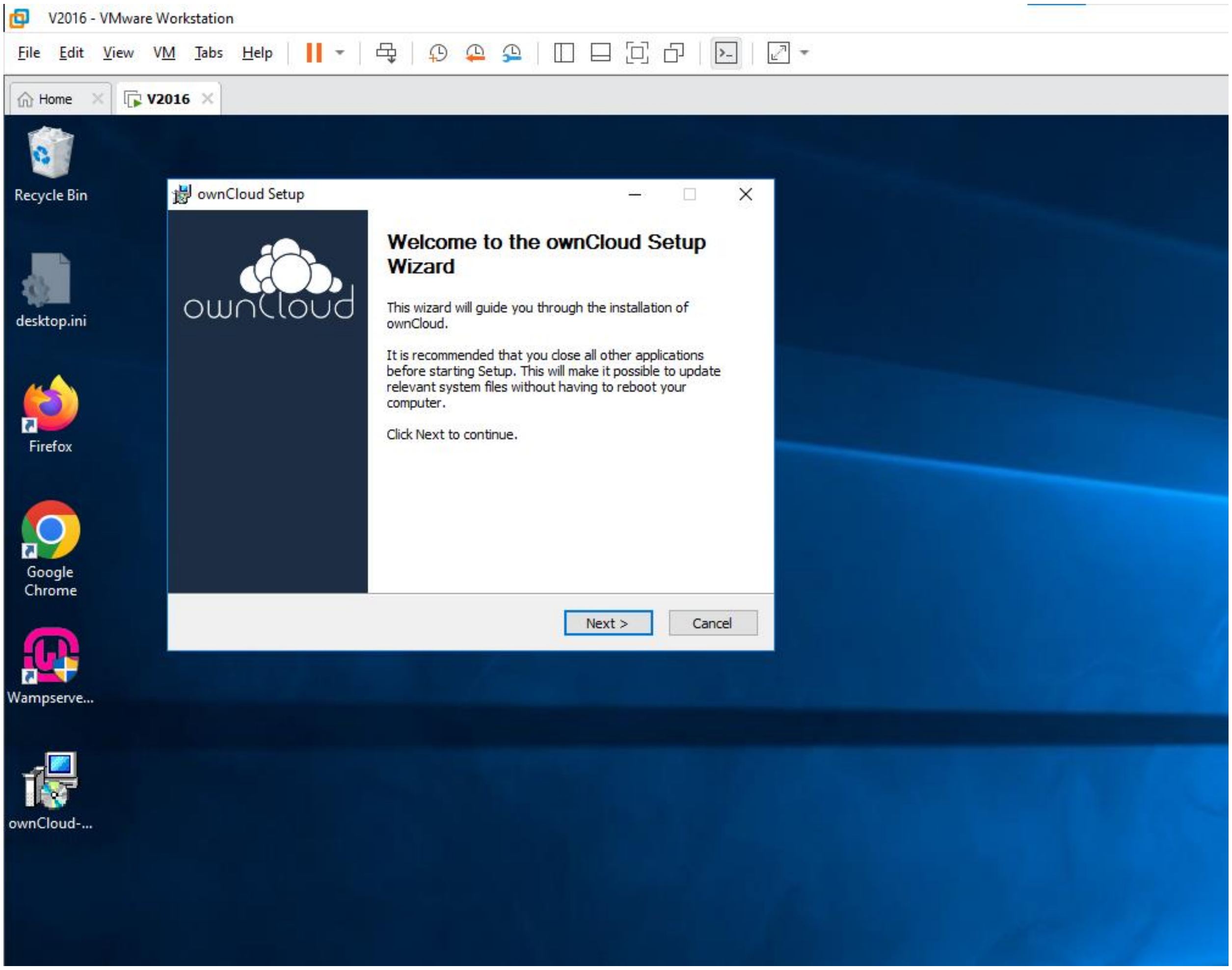
music

photos

car.jpg

ownCloudUserManual.pdf

3 folders and 2 files

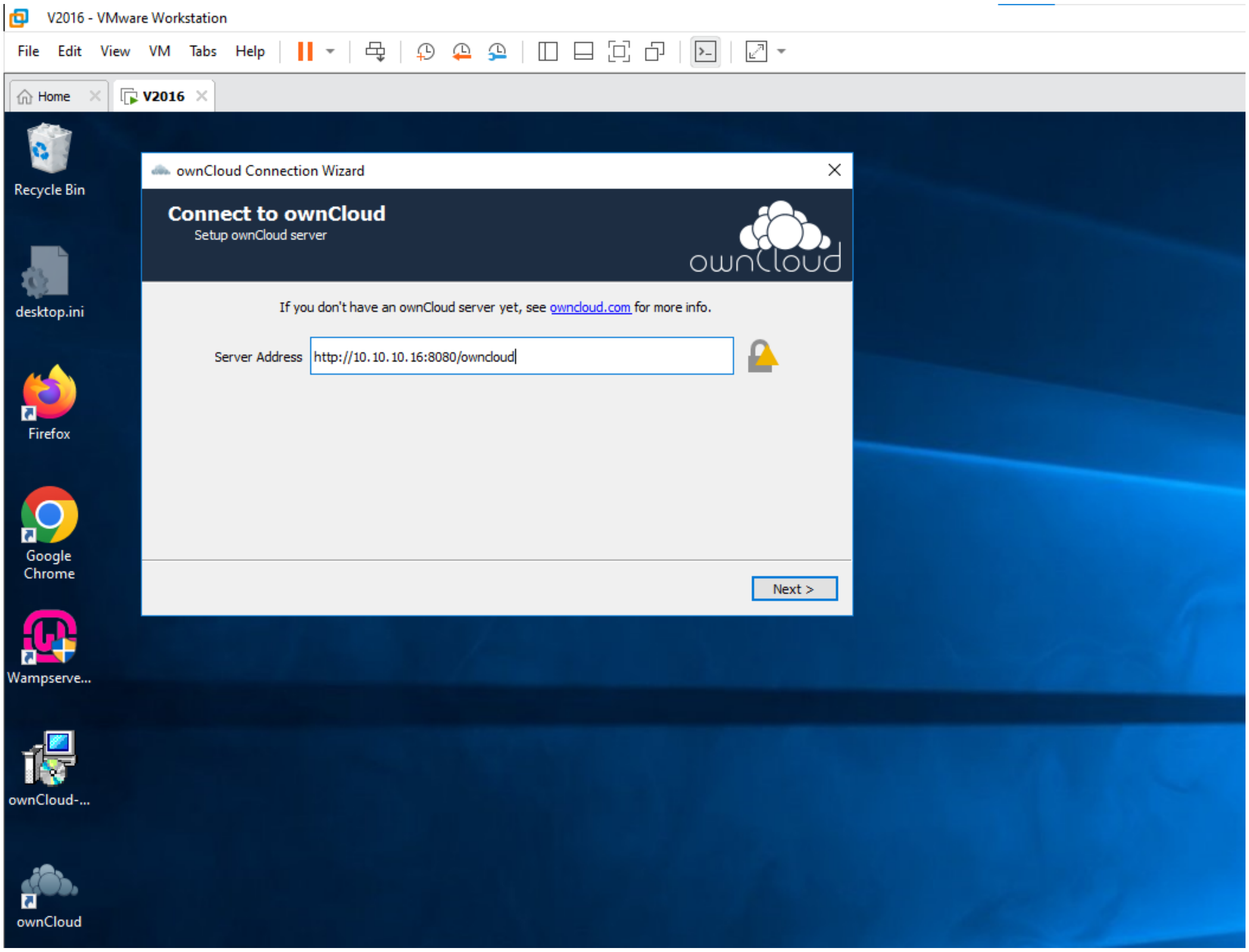


Welcome to the ownCloud Setup Wizard

This wizard will guide you through the installation of ownCloud.

It is recommended that you close all other applications before starting Setup. This will make it possible to update relevant system files without having to reboot your computer.

Click Next to continue.



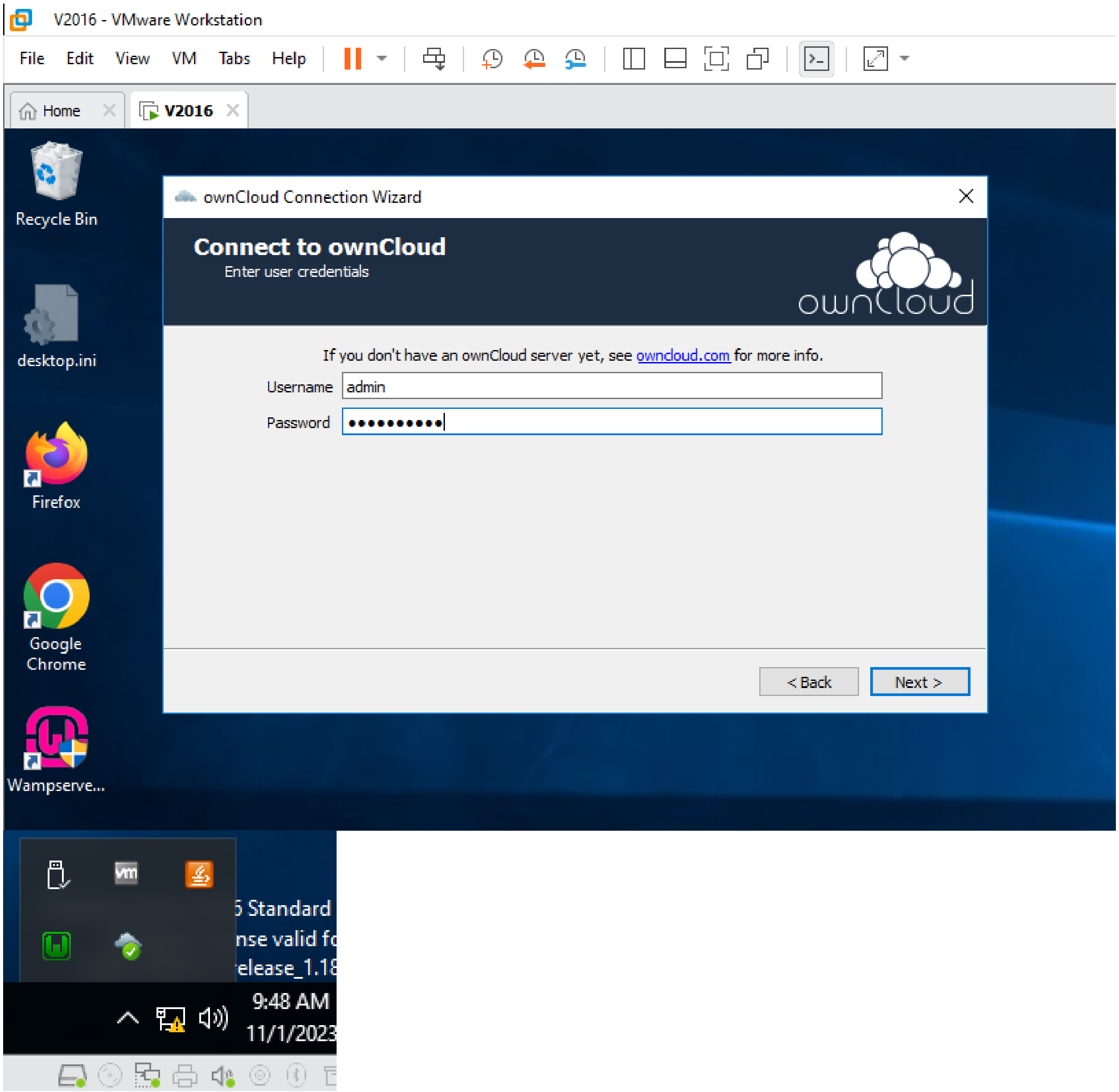
ownCloud Connection Wizard

Connect to ownCloud

Setup ownCloud server

If you don't have an ownCloud server yet, see owncloud.com for more info.

Server Address http://10.10.10.16:8080/owncloud



ownCloud Connection Wizard

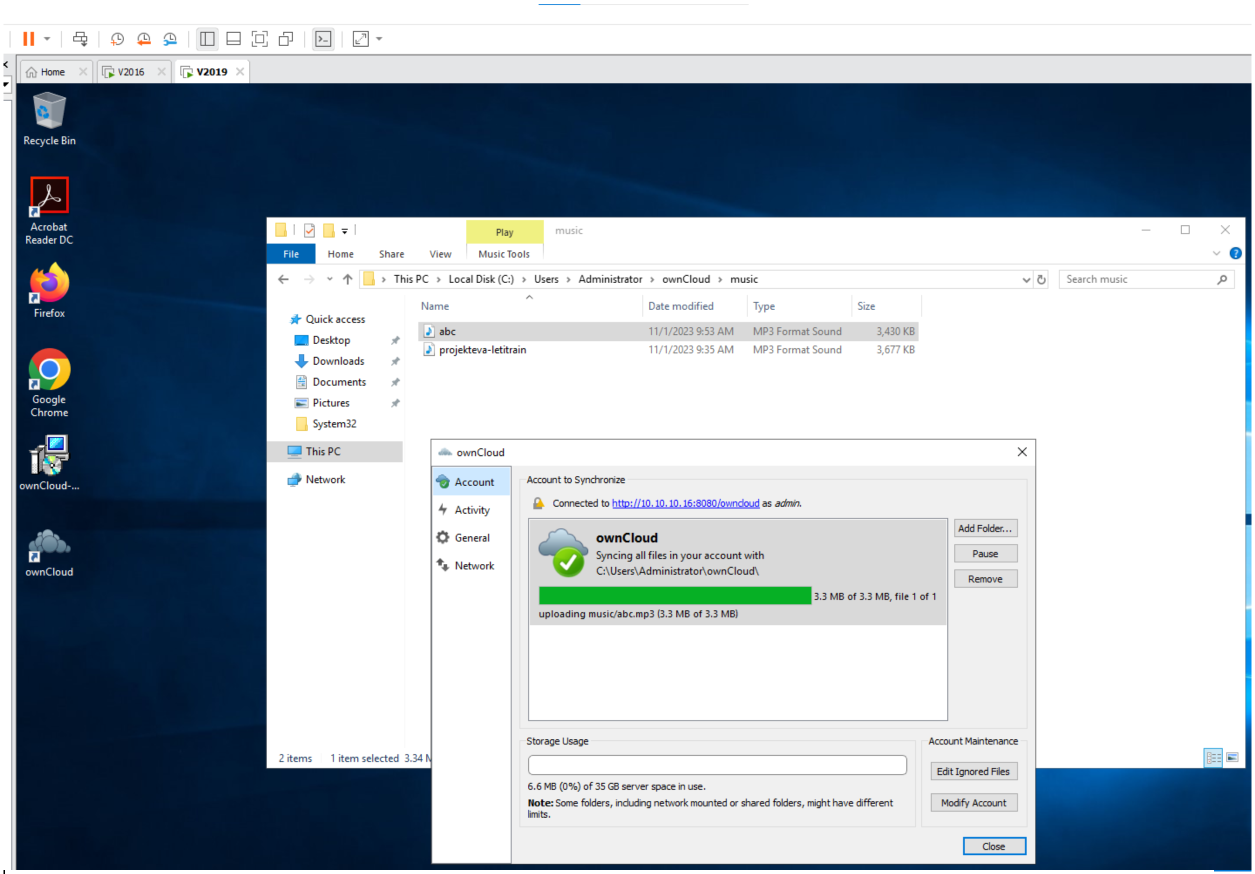
Connect to ownCloud

Enter user credentials

If you don't have an ownCloud server yet, see owncloud.com for more info.

Username: admin

Password: ••••••••••



Name	Date modified	Type	Size
abc	11/1/2023 9:53 AM	MP3 Format Sound	3,430 KB
projekteva-letitrain	11/1/2023 9:35 AM	MP3 Format Sound	3,677 KB

2 items 1 item selected 3.34 M

ownCloud

Account to Synchronize

Connected to http://10.10.10.16:8080/owncloud as *admin*.

ownCloud
Syncing all files in your account with
C:\Users\Administrator\ownCloud\

3.3 MB of 3.3 MB, file 1 of 1

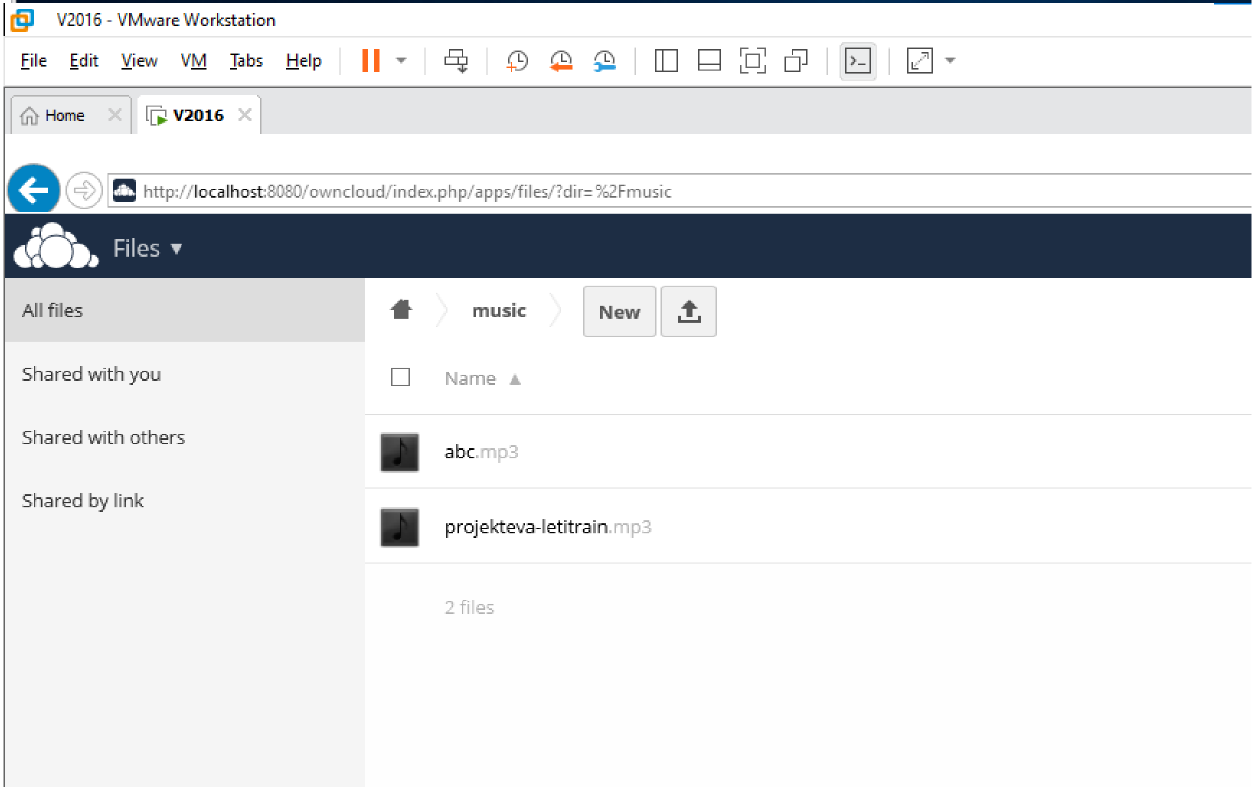
uploading music/abc.mp3 (3.3 MB of 3.3 MB)

Storage Usage

6.6 MB (0%) of 35 GB server space in use.

Note: Some folders, including network mounted or shared folders, might have different limits.

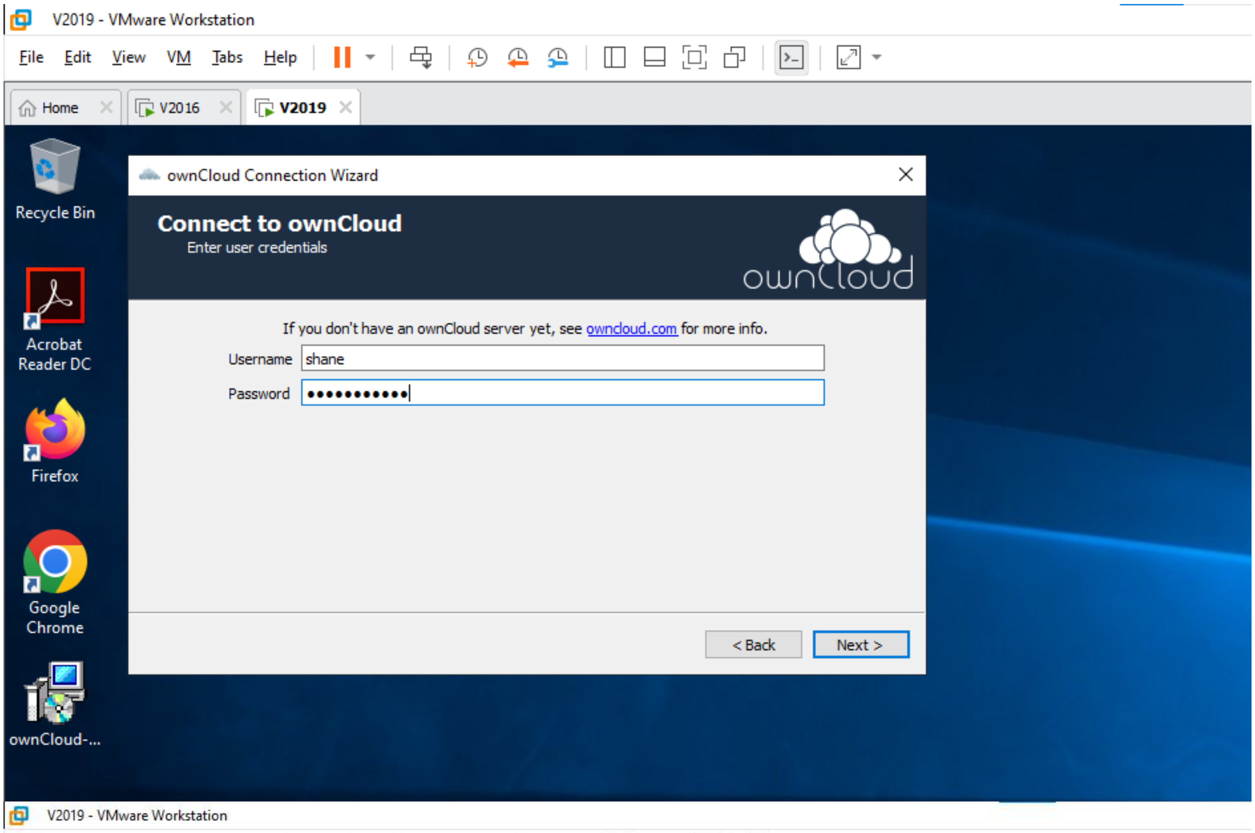
Account Maintenance



http://localhost:8080/owncloud/index.php/apps/files/?dir=%2Fmusic

□	Name ▲
	abc.mp3
	projekteva-letitrain.mp3

2 files



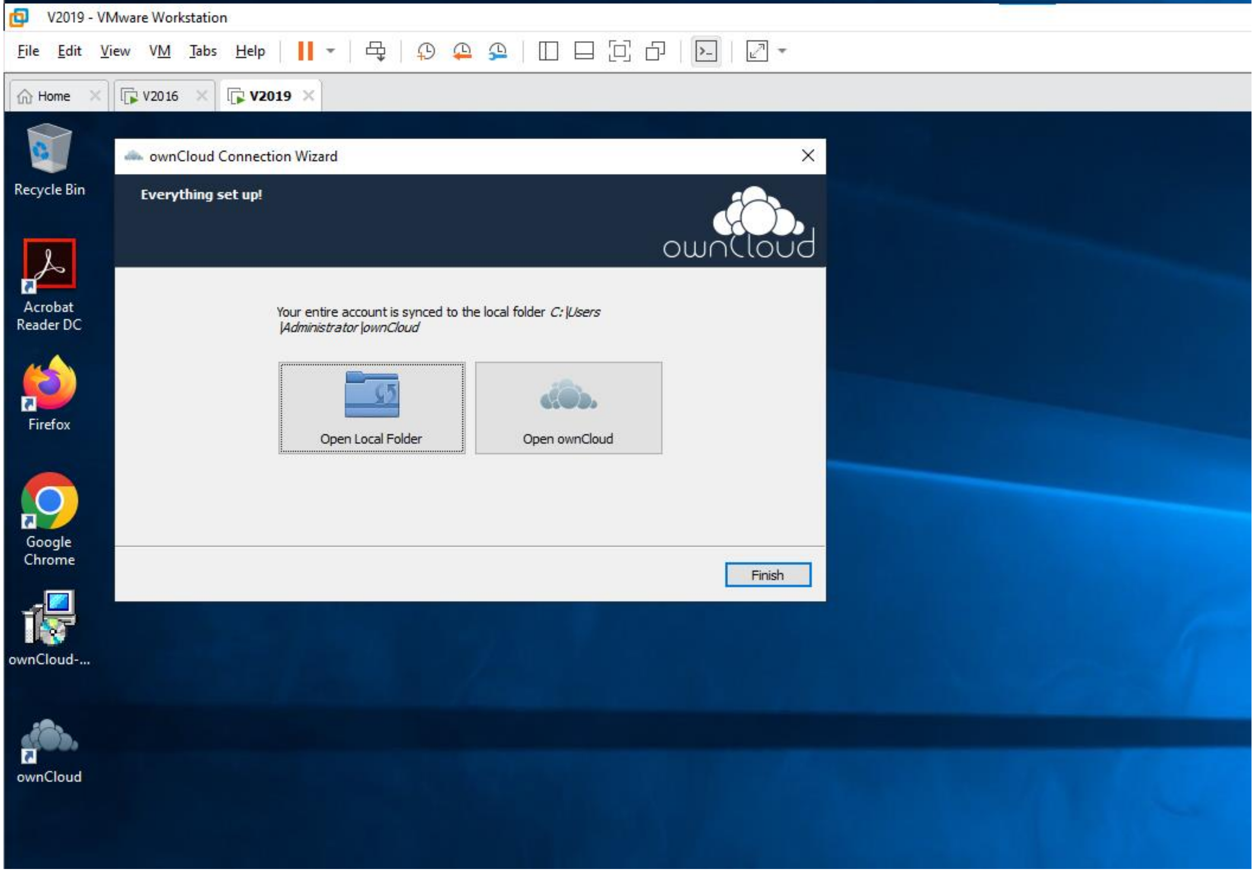
Connect to ownCloud

Enter user credentials

If you don't have an ownCloud server yet, see owncloud.com for more info.

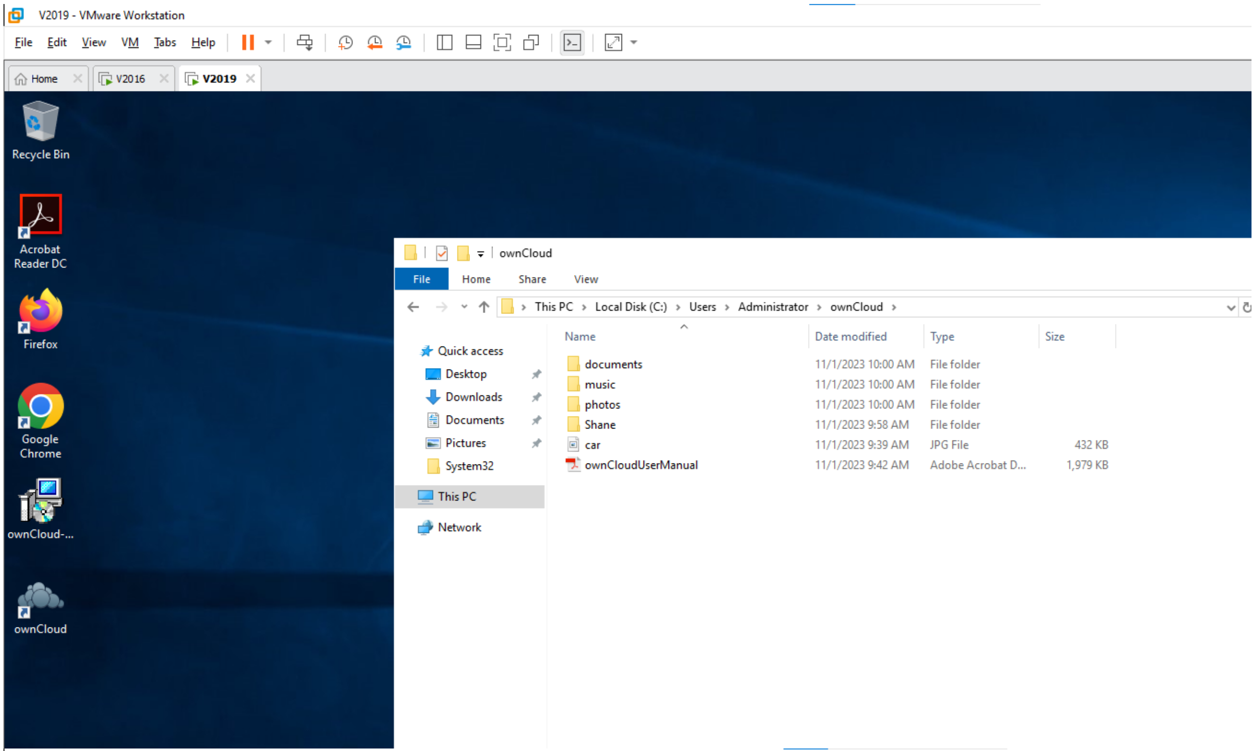
Username: shane

Password: ●●●●●●●●●●●



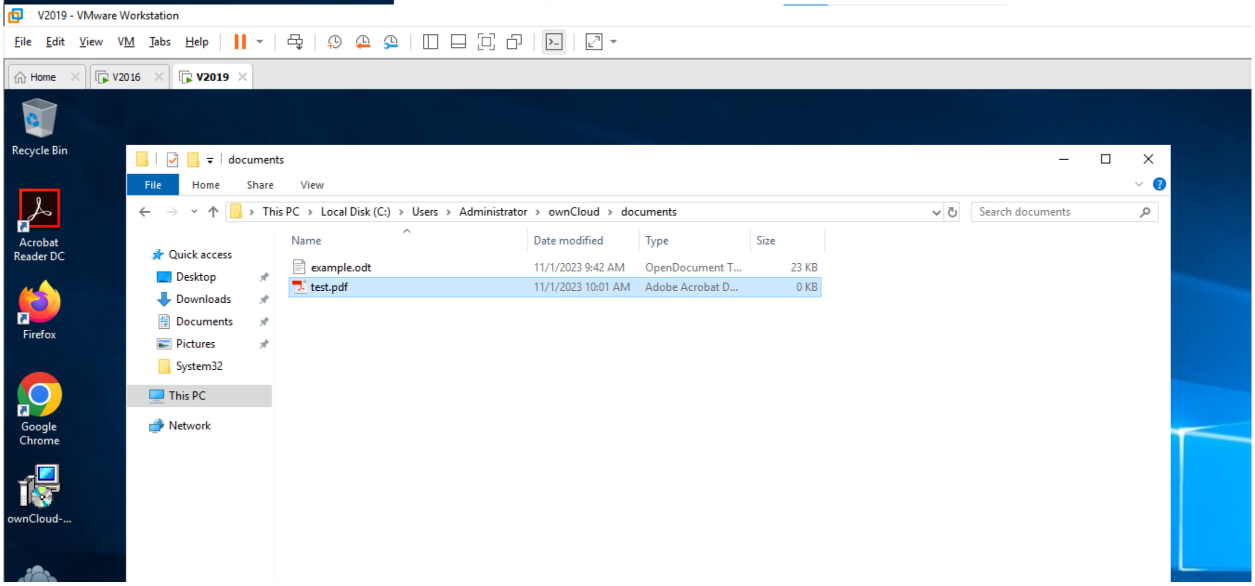
Everything set up!

Your entire account is synced to the local folder *C:\Users\Administrator\ownCloud*



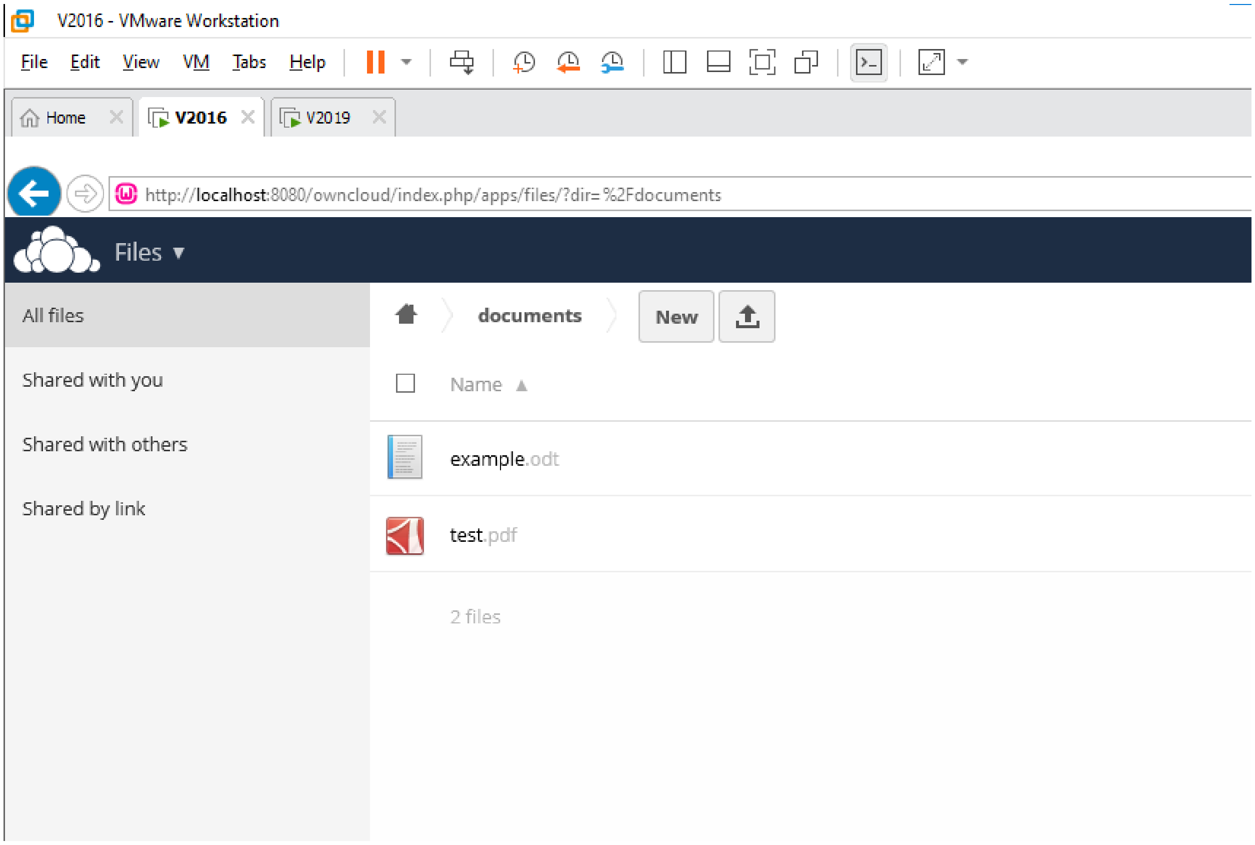
This PC › Local Disk (C:) › Users › Administrator › ownCloud ›

Name	Date modified	Type	Size
documents	11/1/2023 10:00 AM	File folder	
music	11/1/2023 10:00 AM	File folder	
photos	11/1/2023 10:00 AM	File folder	
Shane	11/1/2023 9:58 AM	File folder	
car	11/1/2023 9:39 AM	JPG File	432 KB
ownCloudUserManual	11/1/2023 9:42 AM	Adobe Acrobat D...	1,979 KB



This PC › Local Disk (C:) › Users › Administrator › ownCloud › documents

Name	Date modified	Type	Size
example.odt	11/1/2023 9:42 AM	OpenDocument T...	23 KB
test.pdf	11/1/2023 10:01 AM	Adobe Acrobat D...	0 KB



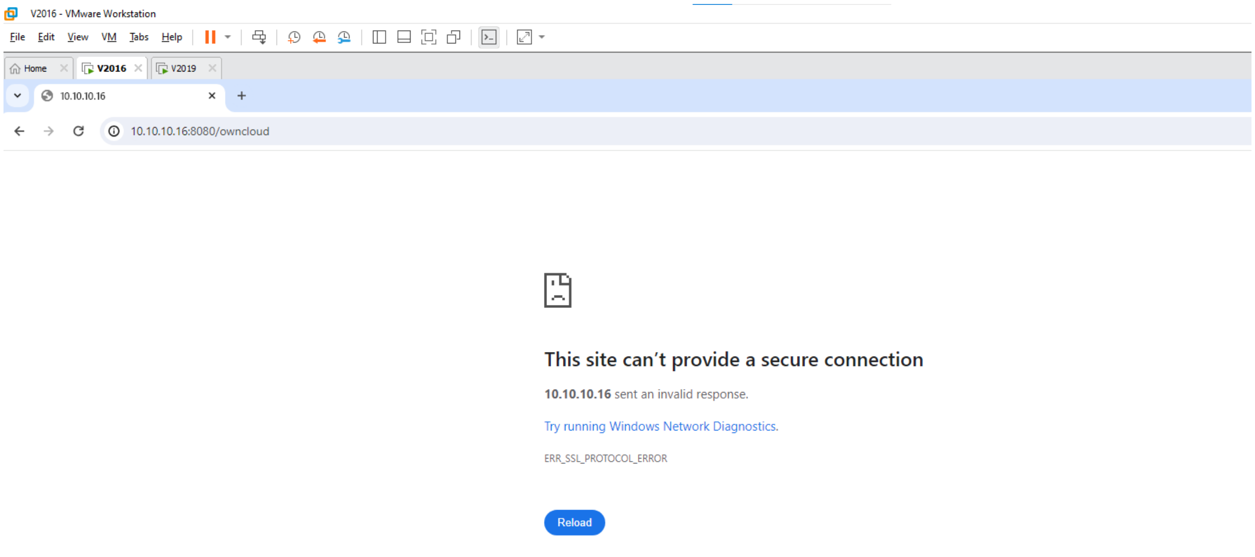
http://localhost:8080/owncloud/index.php/apps/files/?dir=%2Fdocuments

example.odt

test.pdf

2 files

2. Transferring Cloud Data Over Secure Channel

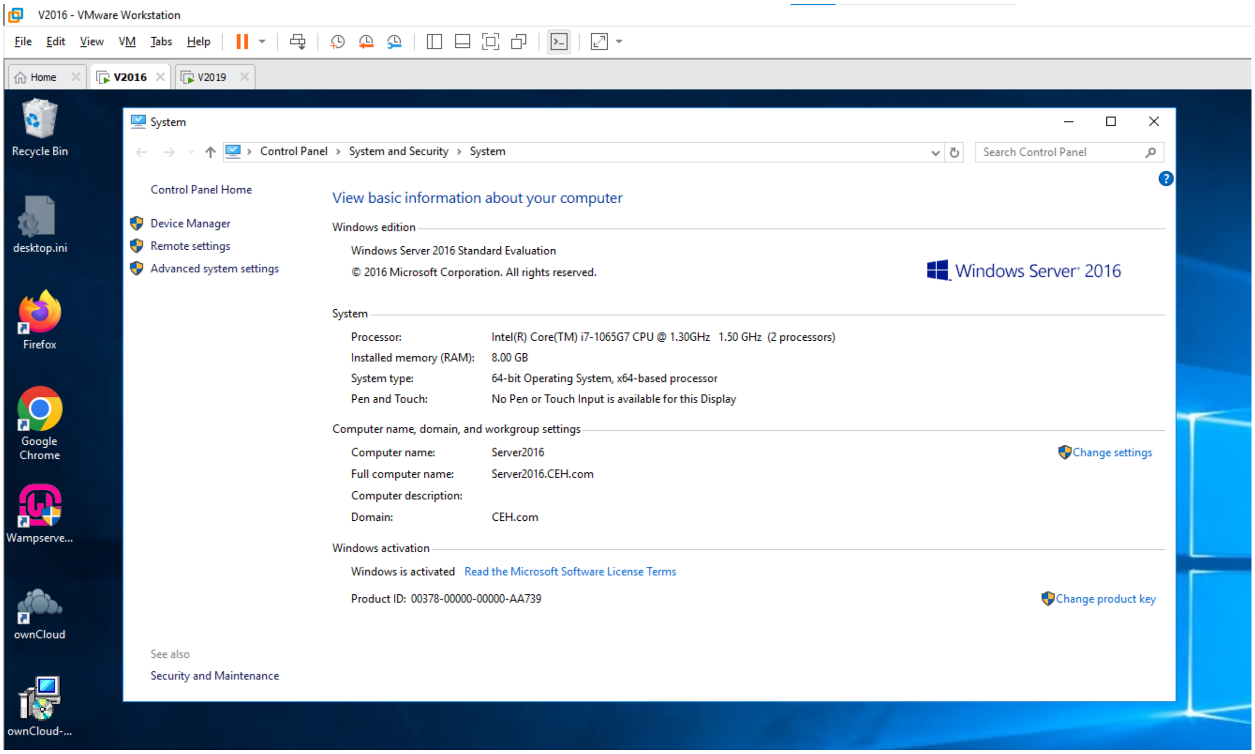

V2016 - VMware Workstation
File Edit View VM Tabs Help
Home
V2016
V2019
10.10.10.16
10.10.10.16:8080/owncloud

This site can’t provide a secure connection

10.10.10.16 sent an invalid response.

Try running Windows Network Diagnostics.

ERR_SSL_PROTOCOL_ERROR



View basic information about your computer

Windows edition

Windows Server 2016 Standard Evaluation

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System

Processor: Intel(R) Core(TM) i7-1065G7 CPU @ 1.30GHz 1.50 GHz (2 processors)

Installed memory (RAM): 8.00 GB

System type: 64-bit Operating System, x64-based processor

Pen and Touch: No Pen or Touch Input is available for this Display

Computer name, domain, and workgroup settings

Computer name: Server2016

Full computer name: Server2016.CEH.com

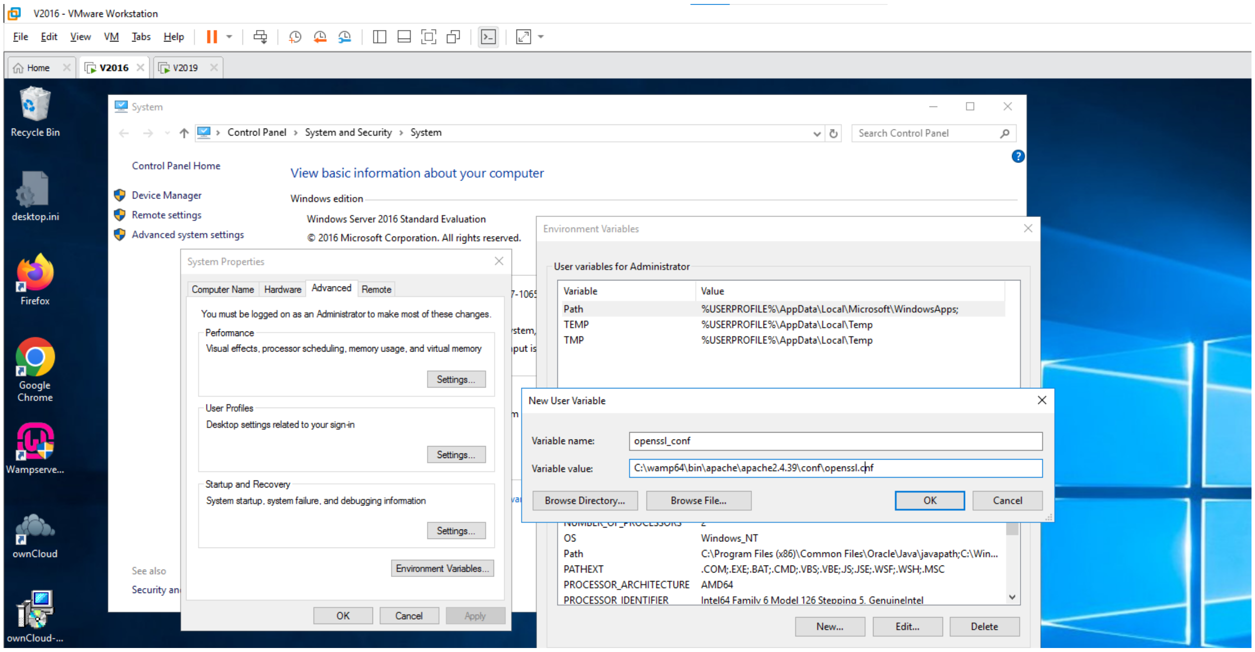
Computer description:

Domain: CEH.com

Windows activation

Windows is activated Read the Microsoft Software License Terms

Product ID: 00378-00000-00000-AA739



View basic information about your computer

Windows edition

Windows Server 2016 Standard Evaluation

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You must be logged on as an Administrator to make most of these changes.

Performance

Visual effects, processor scheduling, memory usage, and virtual memory

User Profiles

Desktop settings related to your sign-in

Startup and Recovery

System startup, system failure, and debugging information

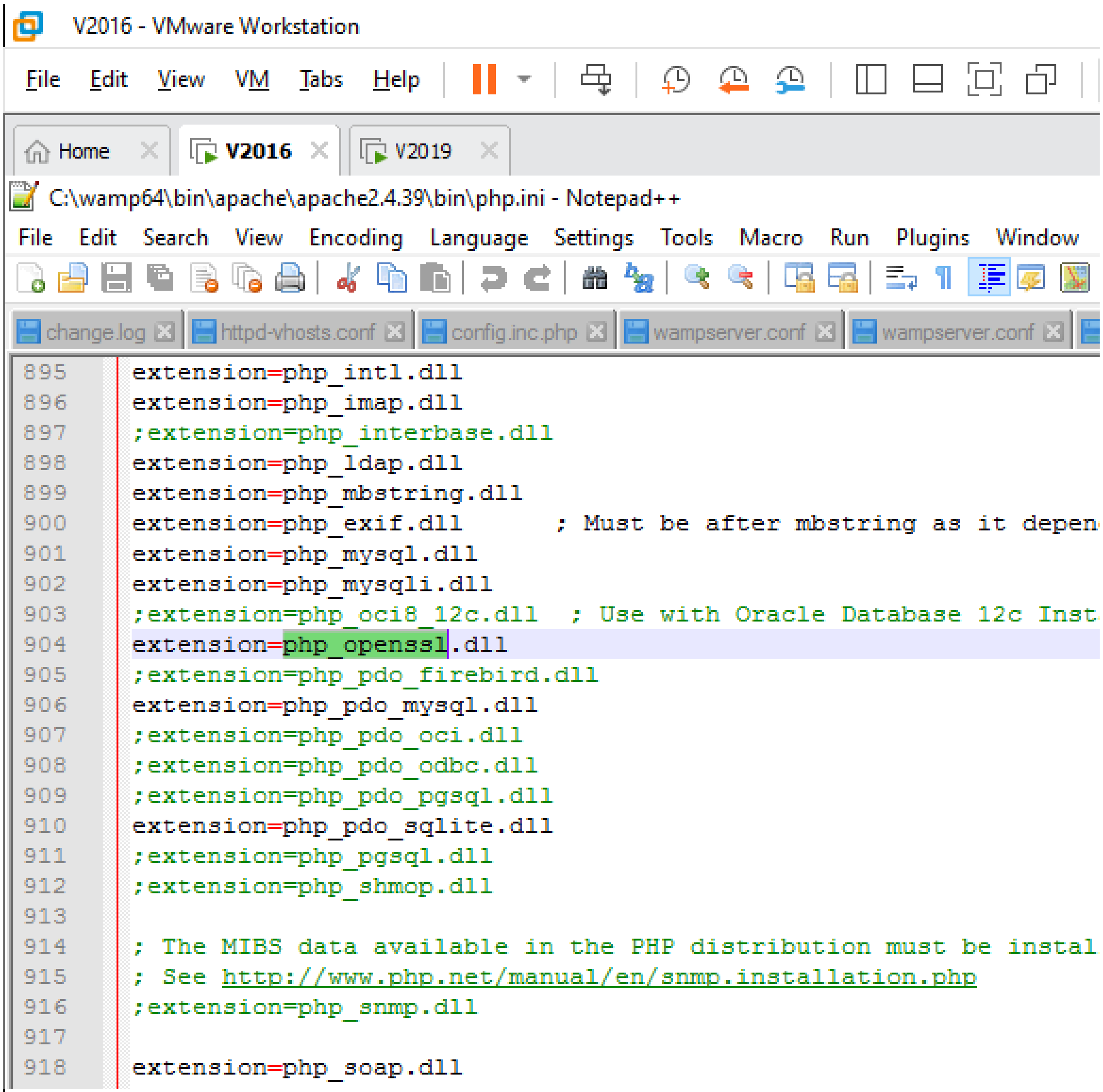
User variables for Administrator

Variable	Value
Path	%USERPROFILE%\AppData\Local\Microsoft\WindowsApps;
TEMP	%USERPROFILE%\AppData\Local\Temp
TMP	%USERPROFILE%\AppData\Local\Temp

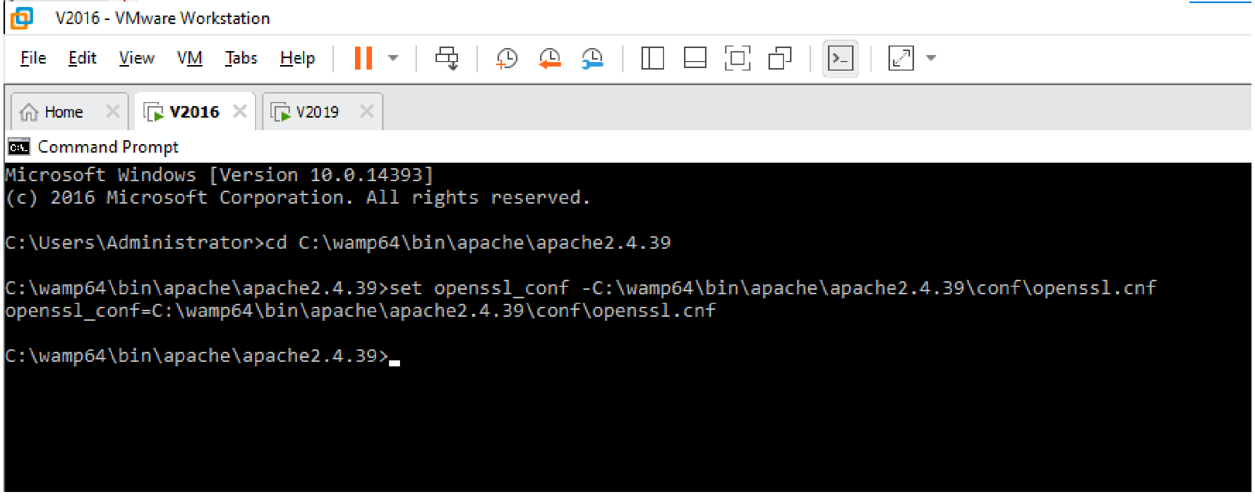
Variable name: openssl_conf

Variable value: C:\wamp64\bin\apache\apache2.4.39\conf\openssl.cnf

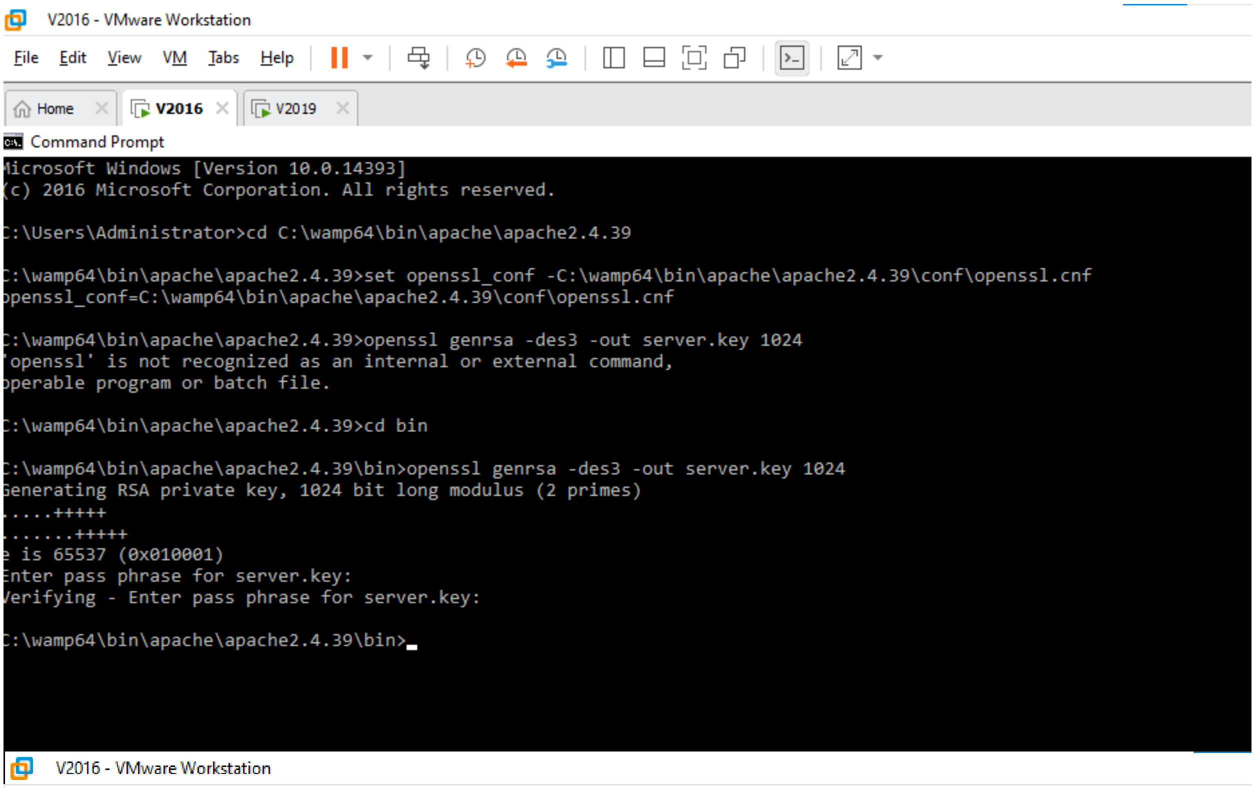
NUMBER_OF_PROCESSORS	2
OS	Windows_NT
Path	C:\Program Files (x86)\Common Files\Oracle\Java\javapath;C:\Win...
PATHEXT	.COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.WSF;.WSH;.MSC
PROCESSOR_ARCHITECTURE	AMD64
PROCESSOR_IDENTIFIER	Intel64 Family 6 Model 126 Stepping 5, GenuineIntel


V2016 - VMware Workstation
File Edit View VM Tabs Help
Home
V2016
V2019
C:\wamp64\bin\apache\apache2.4.39\bin\php.ini - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window
change.log
httpd-vhosts.conf
config.inc.php
wampserver.conf
wampserver.conf

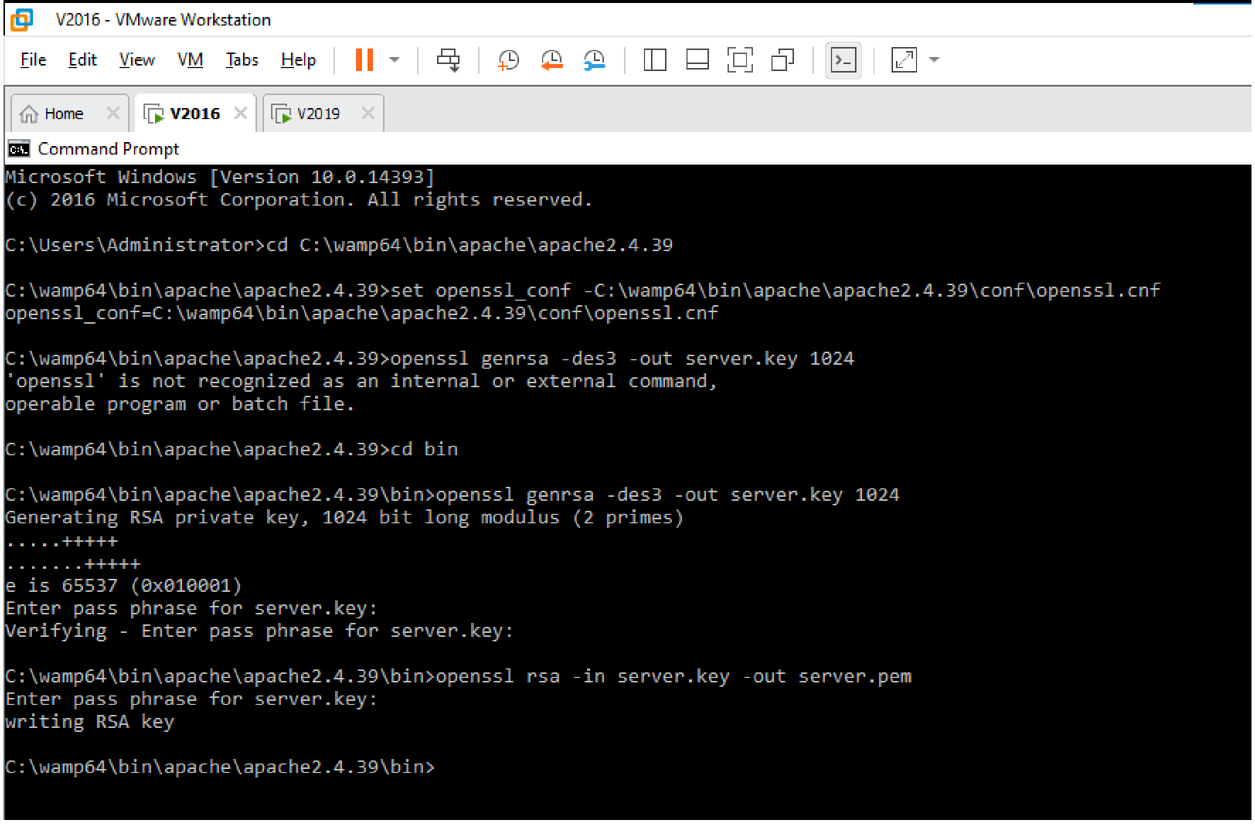
```
extension=php_intl.dll
extension=php_imap.dll
;extension=php_interbase.dll
extension=php_ldap.dll
extension=php_mbstring.dll
extension=php_exif.dll      ; Must be after mbstring as it depen
extension=php_mysql.dll
extension=php_mysqli.dll
;extension=php_oci8_12c.dll  ; Use with Oracle Database 12c Inst
extension=php_openssl.dll
;extension=php_pdo_firebird.dll
extension=php_pdo_mysql.dll
;extension=php_pdo_oci.dll
;extension=php_pdo_odbc.dll
;extension=php_pdo_pgsql.dll
extension=php_pdo_sqlite.dll
;extension=php_pgsql.dll
;extension=php_shmop.dll

; The MIBS data available in the PHP distribution must be instal
; See http://www.php.net/manual/en/snmp.installation.php
;extension=php_snmp.dll

extension=php_soap.dll
```



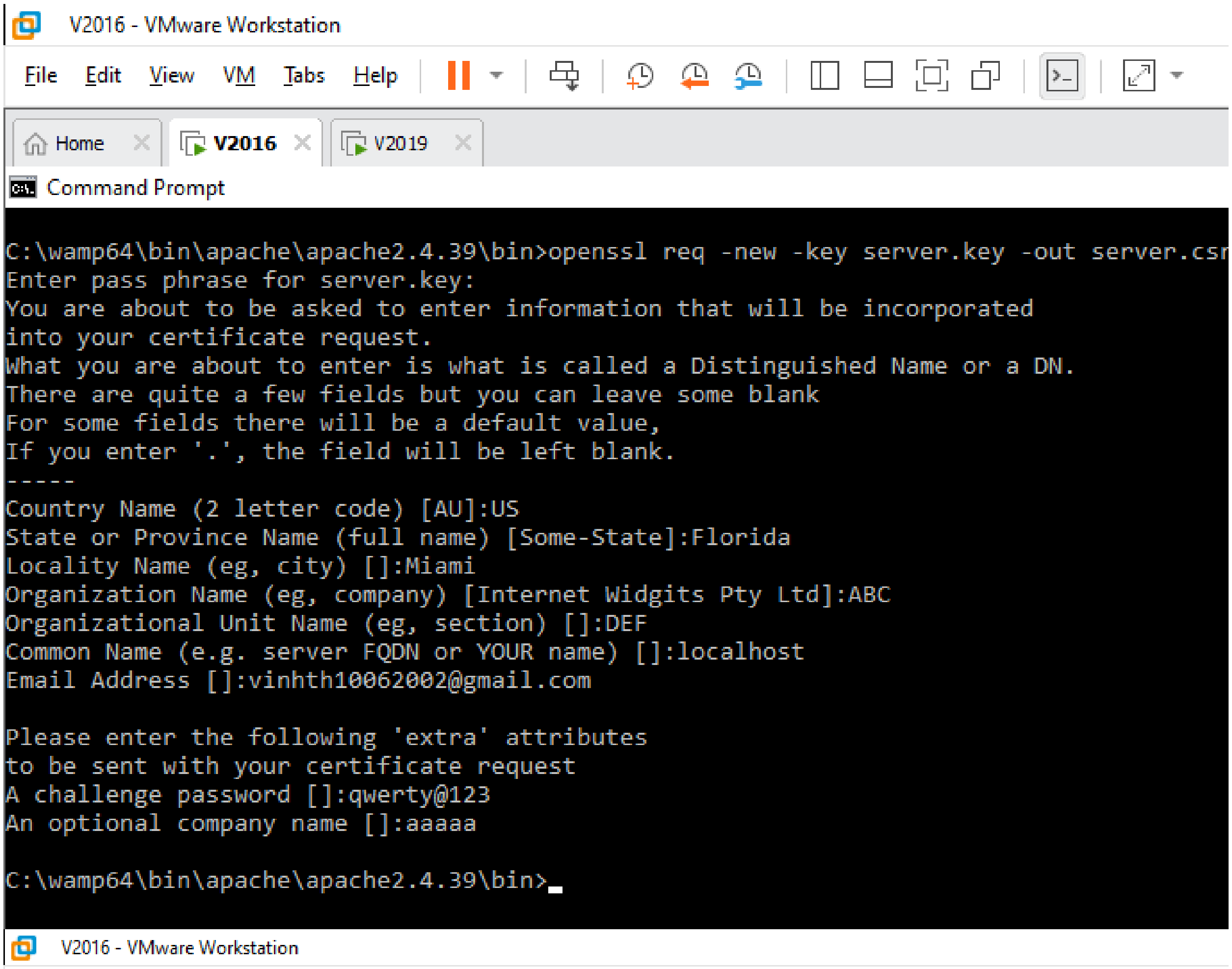
```
Microsoft Windows [Version 10.0.14393]
(c) 2016 Microsoft Corporation. All rights reserved.

C:\Users\Administrator>cd C:\wamp64\bin\apache\apache2.4.39

C:\wamp64\bin\apache\apache2.4.39>set openssl_conf -C:\wamp64\bin\apache\apache2.4.39\conf\openssl.cnf
openssl_conf=C:\wamp64\bin\apache\apache2.4.39\conf\openssl.cnf

C:\wamp64\bin\apache\apache2.4.39>_
```



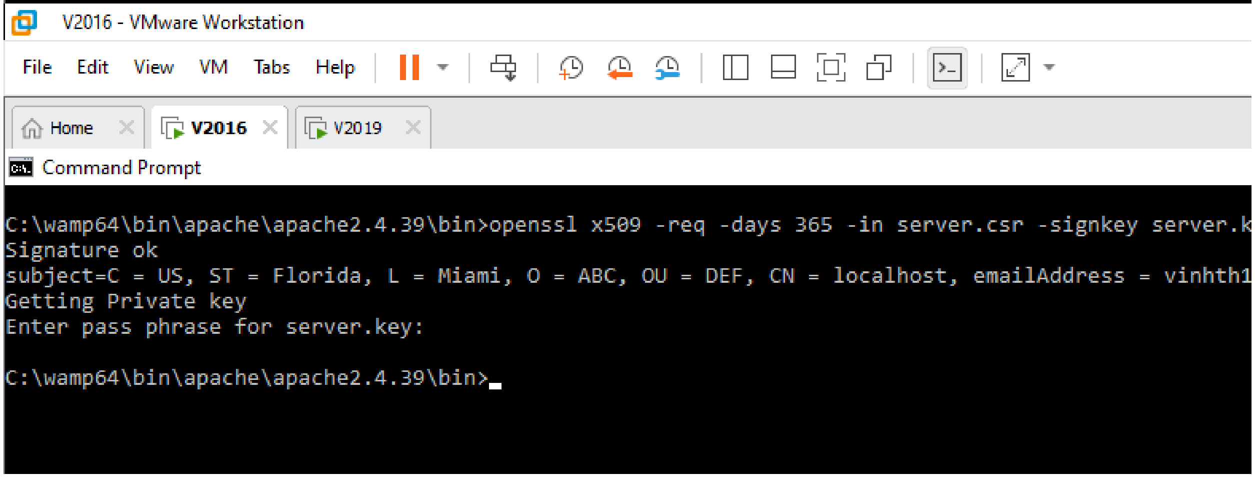
```
icrosoft Windows [Version 10.0.14393]
(c) 2016 Microsoft Corporation. All rights reserved.

:\Users\Administrator>cd C:\wamp64\bin\apache\apache2.4.39

:\wamp64\bin\apache\apache2.4.39>set openssl_conf -C:\wamp64\bin\apache\apache2.4.39\conf\openssl.cnf
penssl_conf=C:\wamp64\bin\apache\apache2.4.39\conf\openssl.cnf

:\wamp64\bin\apache\apache2.4.39>openssl genrsa -des3 -out server.key 1024
'openssl' is not recognized as an internal or external command,
perable program or batch file.

:\wamp64\bin\apache\apache2.4.39>cd bin

:\wamp64\bin\apache\apache2.4.39\bin>openssl genrsa -des3 -out server.key 1024
enerating RSA private key, 1024 bit long modulus (2 primes)
....+++++
.......+++++
 is 65537 (0x010001)
nter pass phrase for server.key:
erifying - Enter pass phrase for server.key:

:\wamp64\bin\apache\apache2.4.39\bin>_
```



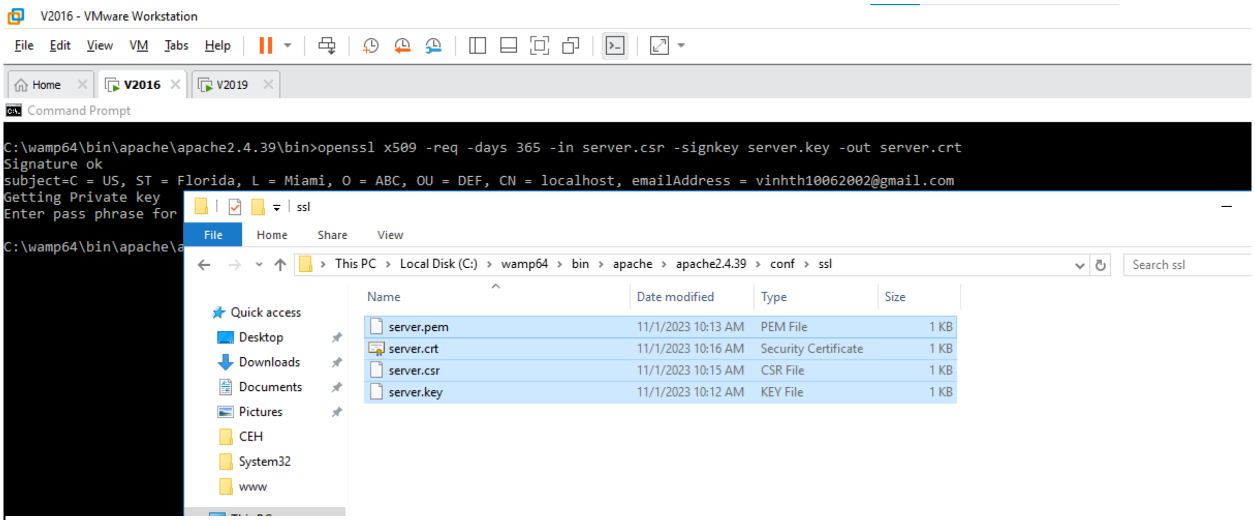
```
Microsoft Windows [Version 10.0.14393]
(c) 2016 Microsoft Corporation. All rights reserved.

C:\Users\Administrator>cd C:\wamp64\bin\apache\apache2.4.39

C:\wamp64\bin\apache\apache2.4.39>set openssl_conf -C:\wamp64\bin\apache\apache2.4.39\conf\openssl.cnf
openssl_conf=C:\wamp64\bin\apache\apache2.4.39\conf\openssl.cnf

C:\wamp64\bin\apache\apache2.4.39>openssl genrsa -des3 -out server.key 1024
'openssl' is not recognized as an internal or external command,
operable program or batch file.

C:\wamp64\bin\apache\apache2.4.39>cd bin

C:\wamp64\bin\apache\apache2.4.39\bin>openssl genrsa -des3 -out server.key 1024
Generating RSA private key, 1024 bit long modulus (2 primes)
.....+++++
.......+++++
e is 65537 (0x010001)
Enter pass phrase for server.key:
Verifying - Enter pass phrase for server.key:

C:\wamp64\bin\apache\apache2.4.39\bin>openssl rsa -in server.key -out server.pem
Enter pass phrase for server.key:
writing RSA key

C:\wamp64\bin\apache\apache2.4.39\bin>
```



```
C:\wamp64\bin\apache\apache2.4.39\bin>openssl req -new -key server.key -out server.csr
Enter pass phrase for server.key:
You are about to be asked to enter information that will be incorporated
into your certificate request.
What you are about to enter is what is called a Distinguished Name or a DN.
There are quite a few fields but you can leave some blank
For some fields there will be a default value,
If you enter '.', the field will be left blank.
-----
Country Name (2 letter code) [AU]:US
State or Province Name (full name) [Some-State]:Florida
Locality Name (eg, city) []:Miami
Organization Name (eg, company) [Internet Widgits Pty Ltd]:ABC
Organizational Unit Name (eg, section) []:DEF
Common Name (e.g. server FQDN or YOUR name) []:localhost
Email Address []:vinhth10062002@gmail.com

Please enter the following 'extra' attributes
to be sent with your certificate request
A challenge password []:qwerty@123
An optional company name []:aaaaa

C:\wamp64\bin\apache\apache2.4.39\bin>_
```

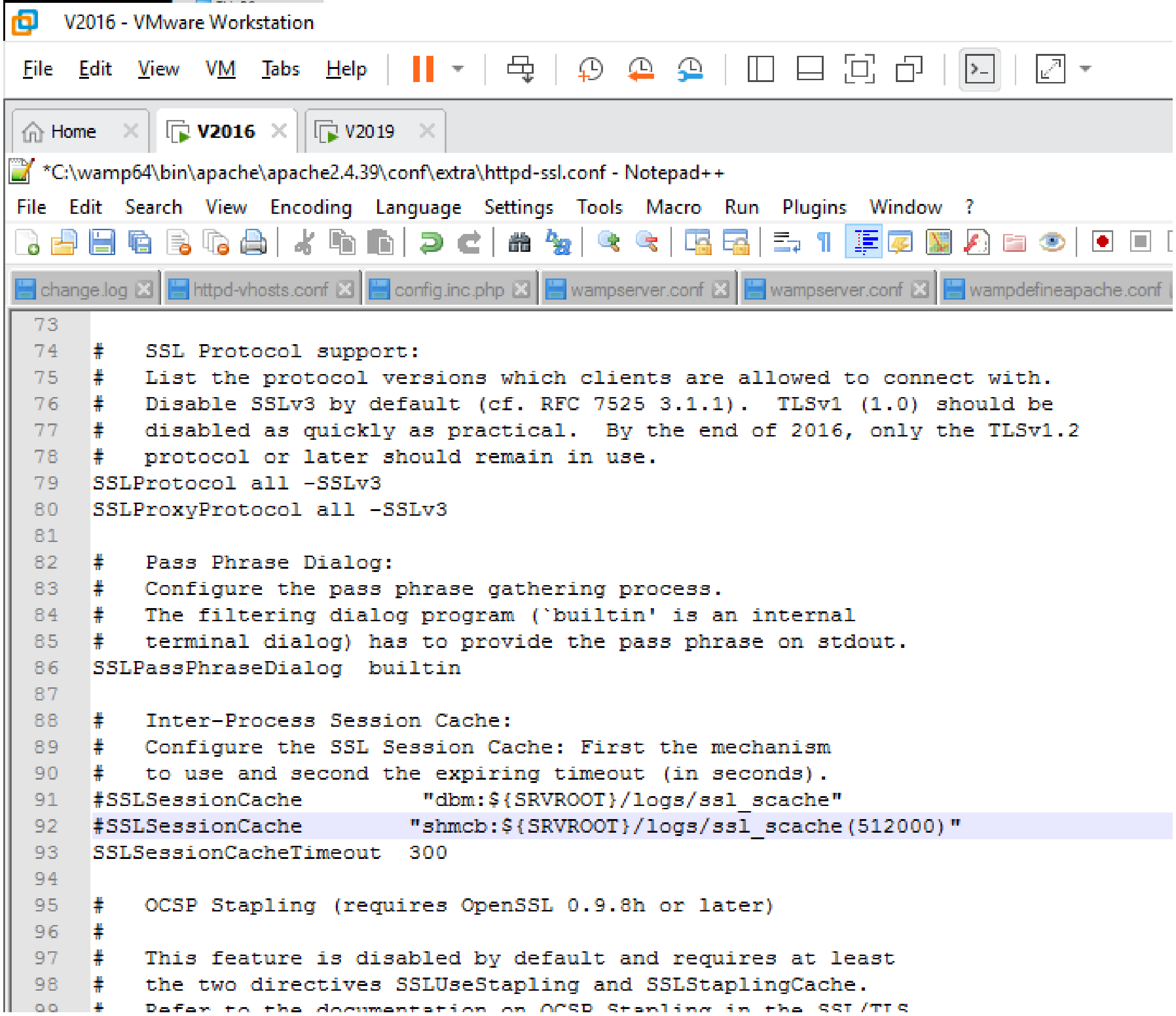


```
C:\wamp64\bin\apache\apache2.4.39\bin>openssl x509 -req -days 365 -in server.csr -signkey server.k
Signature ok
subject=C = US, ST = Florida, L = Miami, O = ABC, OU = DEF, CN = localhost, emailAddress = vinhth1
Getting Private key
Enter pass phrase for server.key:

C:\wamp64\bin\apache\apache2.4.39\bin>_
```


V2016 - VMware Workstation
File Edit View VM Tabs Help
Home V2016 V2019
Command Prompt
ssl
File Home Share View
This PC › Local Disk (C:) › wamp64 › bin › apache › apache2.4.39 › conf › ssl
Search ssl
Quick access
Desktop
Downloads
Documents
Pictures
CEH
System32
www

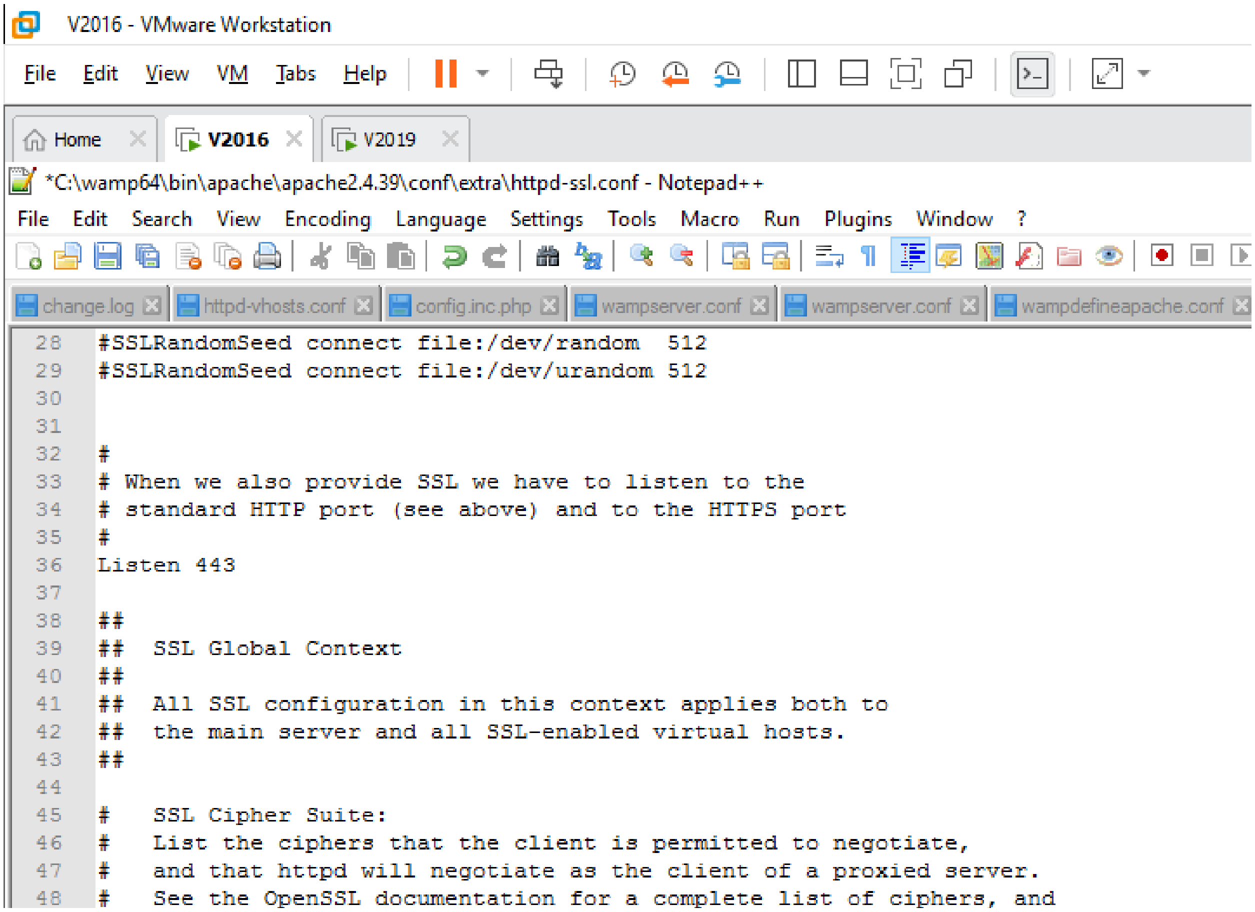
```
C:\wamp64\bin\apache\apache2.4.39\bin>openssl x509 -req -days 365 -in server.csr -signkey server.key -out server.crt
Signature ok
subject=C = US, ST = Florida, L = Miami, O = ABC, OU = DEF, CN = localhost, emailAddress = vinhth10062002@gmail.com
Getting Private key
Enter pass phrase for

C:\wamp64\bin\apache\a
```

Name	Date modified	Type	Size
server.pem	11/1/2023 10:13 AM	PEM File	1 KB
server.crt	11/1/2023 10:16 AM	Security Certificate	1 KB
server.csr	11/1/2023 10:15 AM	CSR File	1 KB
server.key	11/1/2023 10:12 AM	KEY File	1 KB

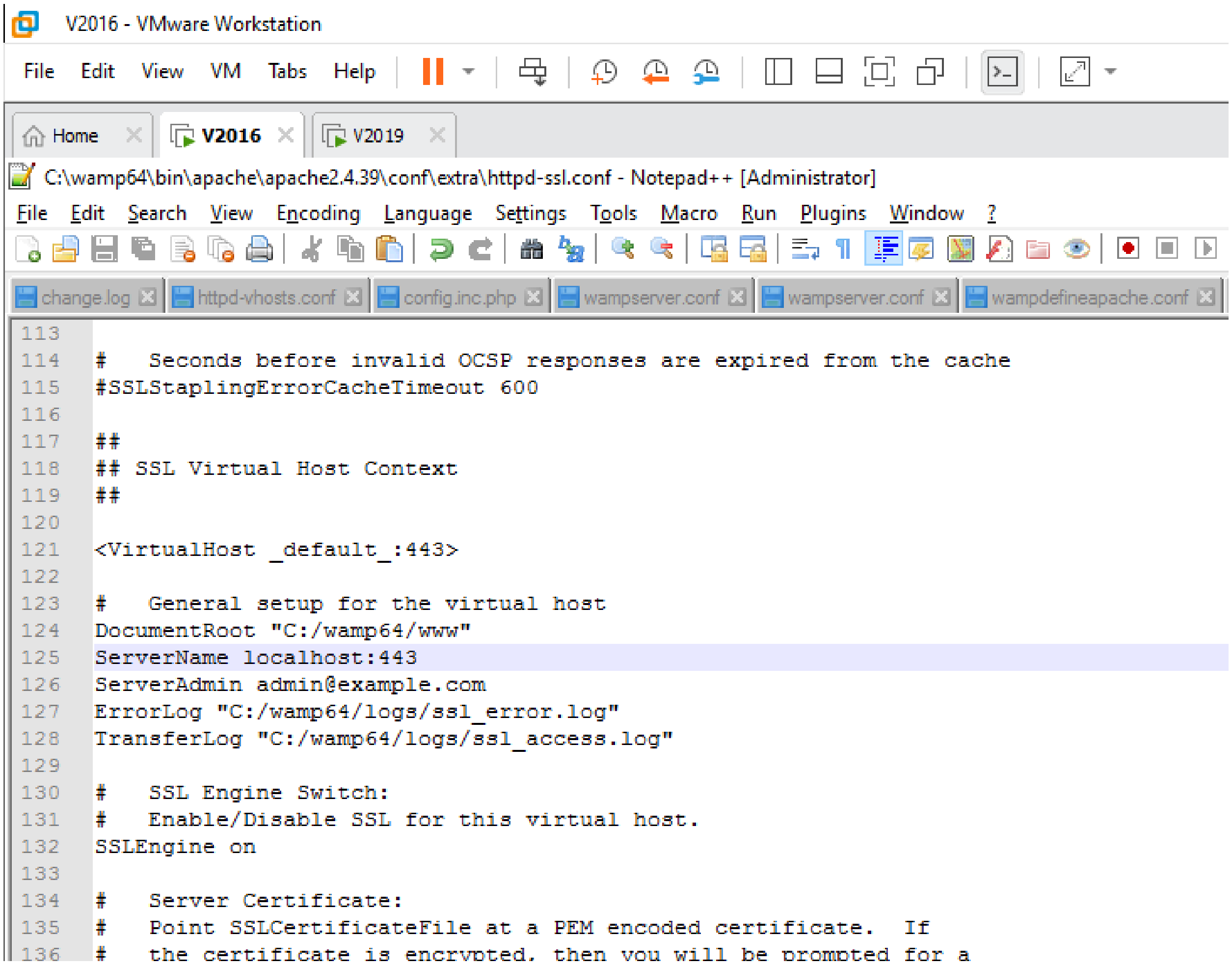

V2016 - VMware Workstation
File Edit View VM Tabs Help
Home V2016 V2019
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
change.log
httpd-vhosts.conf
config.inc.php
wampserver.conf
wampserver.conf
wampdefineapache.conf

*C:\wamp64\bin\apache\apache2.4.39\conf\extra\httpd-ssl.conf - Notepad++

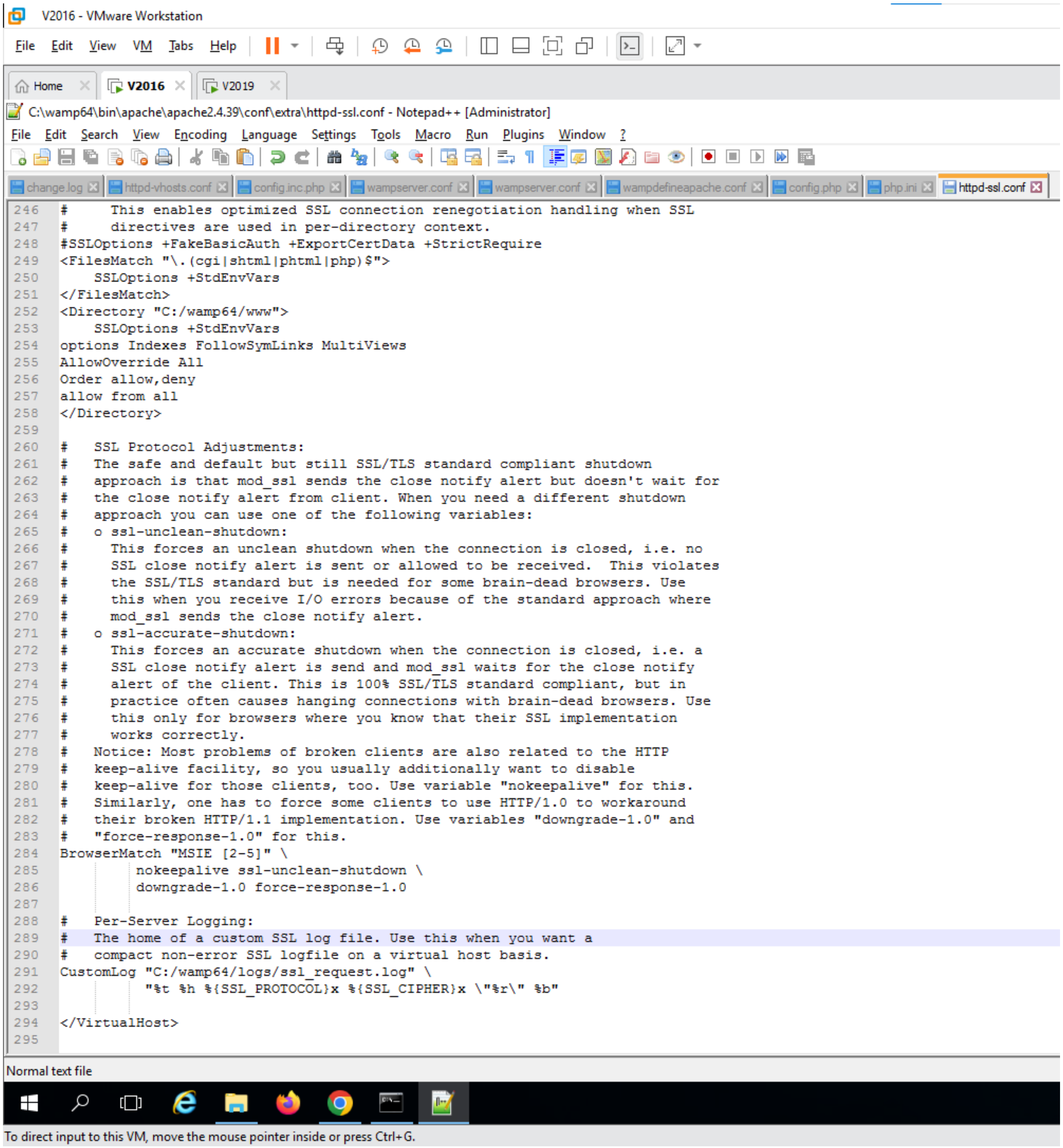
```

#   SSL Protocol support:
#   List the protocol versions which clients are allowed to connect with.
#   Disable SSLv3 by default (cf. RFC 7525 3.1.1).  TLSv1 (1.0) should be
#   disabled as quickly as practical.  By the end of 2016, only the TLSv1.2
#   protocol or later should remain in use.
SSLProtocol all -SSLv3
SSLProxyProtocol all -SSLv3

#   Pass Phrase Dialog:
#   Configure the pass phrase gathering process.
#   The filtering dialog program (`builtin' is an internal
#   terminal dialog) has to provide the pass phrase on stdout.
SSLPassPhraseDialog  builtin

#   Inter-Process Session Cache:
#   Configure the SSL Session Cache: First the mechanism
#   to use and second the expiring timeout (in seconds).
#SSLSessionCache         "dbm:${SRVROOT}/logs/ssl_scache"
#SSLSessionCache        "shmcb:${SRVROOT}/logs/ssl_scache(512000)"
SSLSessionCacheTimeout  300

#   OCSP Stapling (requires OpenSSL 0.9.8h or later)
#
#   This feature is disabled by default and requires at least
#   the two directives SSLUseStapling and SSLStaplingCache.
#   Refer to the documentation on OCSP Stapling in the SSL/TLS
```



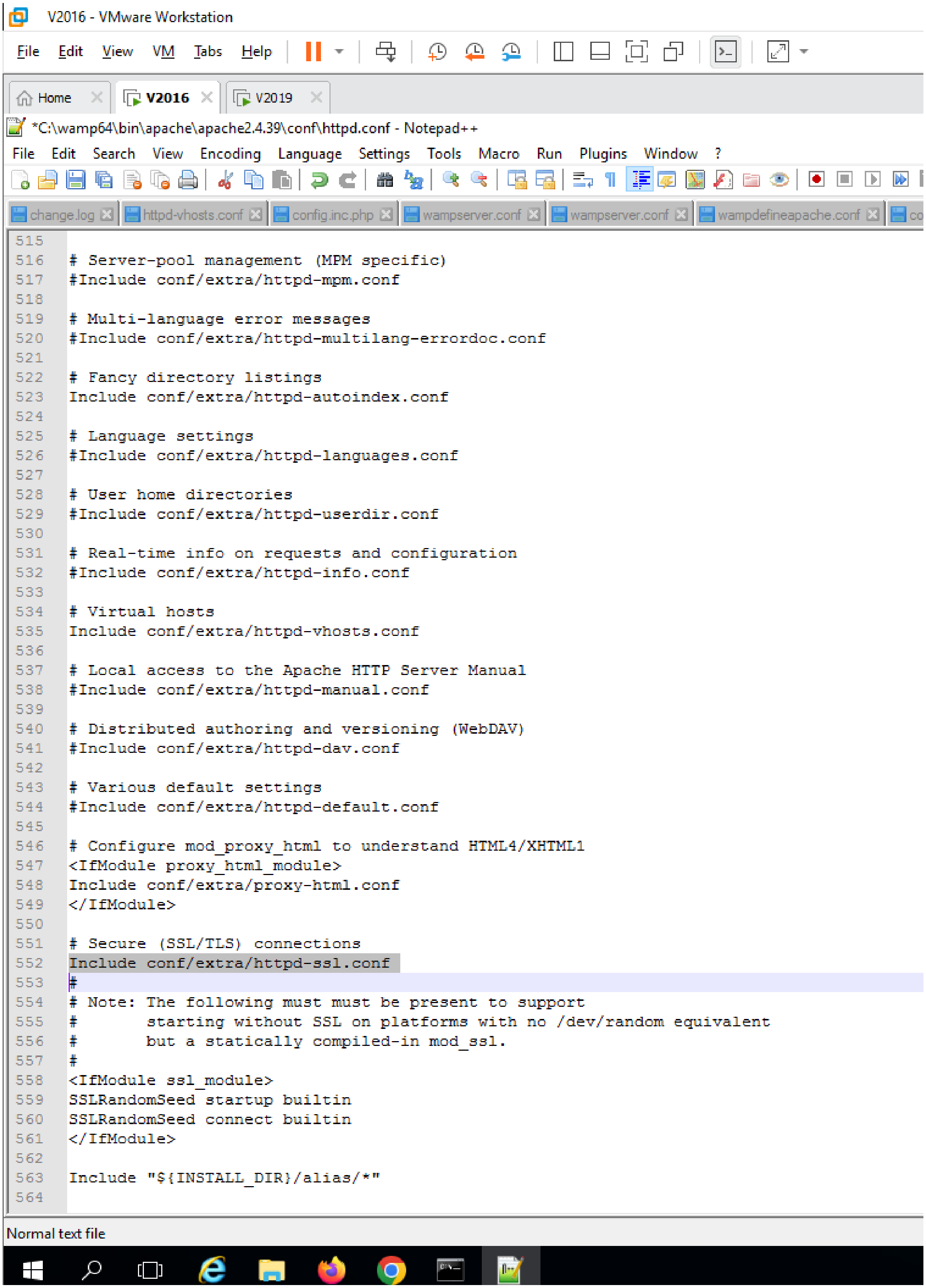
```
#SSLRandomSeed connect file:/dev/random  512
#SSLRandomSeed connect file:/dev/urandom 512


#
# When we also provide SSL we have to listen to the
# standard HTTP port (see above) and to the HTTPS port
#
Listen 443

##
##  SSL Global Context
##
##  All SSL configuration in this context applies both to
##  the main server and all SSL-enabled virtual hosts.
##

#   SSL Cipher Suite:
#   List the ciphers that the client is permitted to negotiate,
#   and that httpd will negotiate as the client of a proxied server.
#   See the OpenSSL documentation for a complete list of ciphers, and
```


V2016 - VMware Workstation
File Edit View VM Tabs Help
Home
V2016
V2019
C:\wamp64\bin\apache\apache2.4.39\conf\extra\httpd-ssl.conf - Notepad++ [Administrator]
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
change.log
httpd-vhosts.conf
config.inc.php
wampserver.conf
wampserver.conf
wampdefineapache.conf

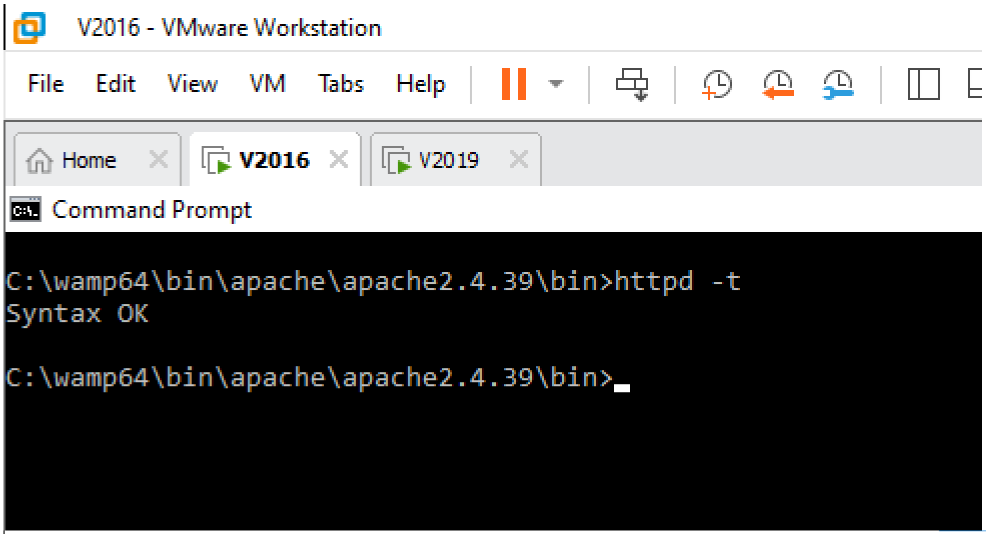
```

#   Seconds before invalid OCSP responses are expired from the cache
#SSLStaplingErrorCacheTimeout 600

##
## SSL Virtual Host Context
##

<VirtualHost _default_:443>

#   General setup for the virtual host
DocumentRoot "C:/wamp64/www"
ServerName localhost:443
ServerAdmin admin@example.com
ErrorLog "C:/wamp64/logs/ssl_error.log"
TransferLog "C:/wamp64/logs/ssl_access.log"

#   SSL Engine Switch:
#   Enable/Disable SSL for this virtual host.
SSLEngine on

#   Server Certificate:
#   Point SSLCertificateFile at a PEM encoded certificate.  If
#   the certificate is encrypted, then you will be prompted for a
```


V2016 - VMware Workstation
File Edit View VM Tabs Help
Home
V2016
V2019
C:\wamp64\bin\apache\apache2.4.39\conf\extra\httpd-ssl.conf - Notepad++ [Administrator]
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
change.log
httpd-vhosts.conf
config.inc.php
wampserver.conf
wampserver.conf
wampdefineapache.conf
config.php
php.ini
httpd-ssl.conf
Normal text file
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.

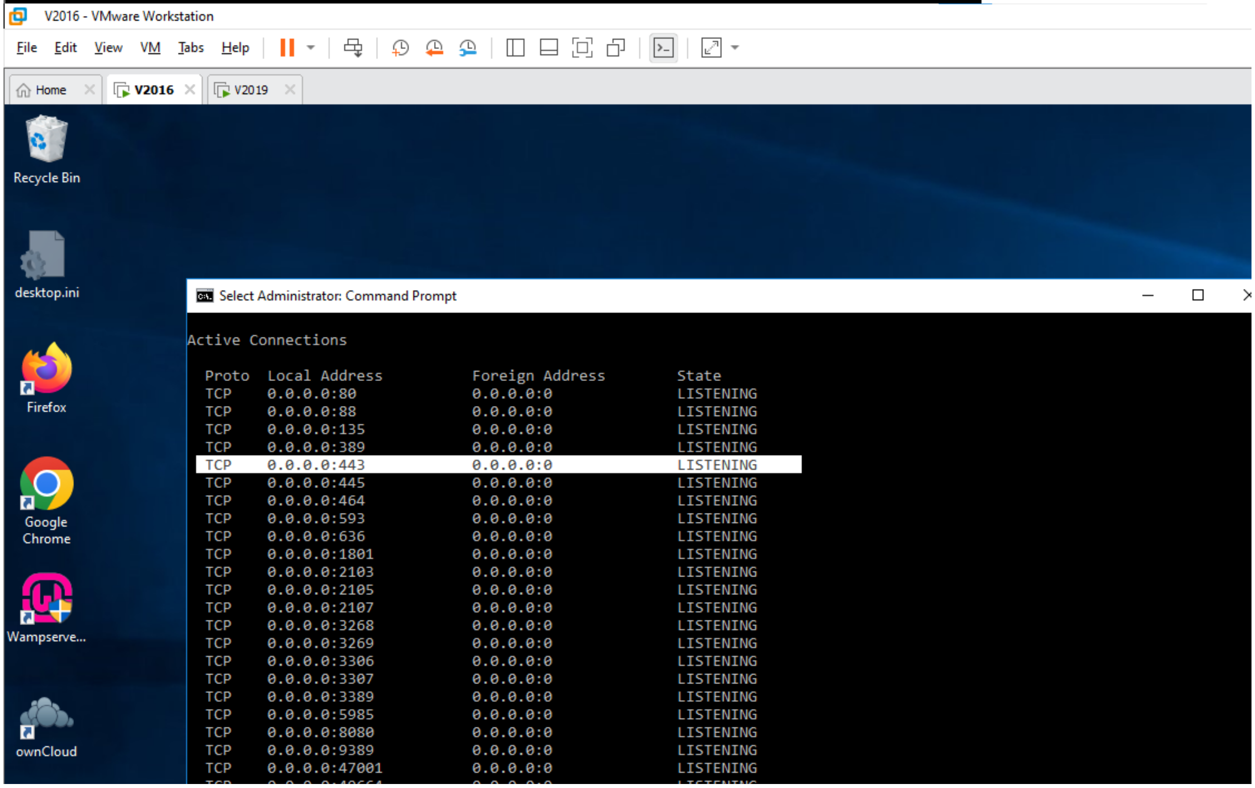
```
#     This enables optimized SSL connection renegotiation handling when SSL
#     directives are used in per-directory context.
#SSLOptions +FakeBasicAuth +ExportCertData +StrictRequire
<FilesMatch "\.(cgi|shtml|phtml|php)$">
    SSLOptions +StdEnvVars
</FilesMatch>
<Directory "C:/wamp64/www">
    SSLOptions +StdEnvVars
options Indexes FollowSymLinks MultiViews
AllowOverride All
Order allow,deny
allow from all
</Directory>

#   SSL Protocol Adjustments:
#   The safe and default but still SSL/TLS standard compliant shutdown
#   approach is that mod_ssl sends the close notify alert but doesn't wait for
#   the close notify alert from client. When you need a different shutdown
#   approach you can use one of the following variables:
#   o ssl-unclean-shutdown:
#     This forces an unclean shutdown when the connection is closed, i.e. no
#     SSL close notify alert is sent or allowed to be received.  This violates
#     the SSL/TLS standard but is needed for some brain-dead browsers. Use
#     this when you receive I/O errors because of the standard approach where
#     mod_ssl sends the close notify alert.
#   o ssl-accurate-shutdown:
#     This forces an accurate shutdown when the connection is closed, i.e. a
#     SSL close notify alert is send and mod_ssl waits for the close notify
#     alert of the client. This is 100% SSL/TLS standard compliant, but in
#     practice often causes hanging connections with brain-dead browsers. Use
#     this only for browsers where you know that their SSL implementation
#     works correctly.
#   Notice: Most problems of broken clients are also related to the HTTP
#   keep-alive facility, so you usually additionally want to disable
#   keep-alive for those clients, too. Use variable "nokeepalive" for this.
#   Similarly, one has to force some clients to use HTTP/1.0 to workaround
#   their broken HTTP/1.1 implementation. Use variables "downgrade-1.0" and
#   "force-response-1.0" for this.
BrowserMatch "MSIE [2-5]" \
         nokeepalive ssl-unclean-shutdown \
         downgrade-1.0 force-response-1.0

#   Per-Server Logging:
#   The home of a custom SSL log file. Use this when you want a
#   compact non-error SSL logfile on a virtual host basis.
CustomLog "C:/wamp64/logs/ssl_request.log" \
          "%t %h %{SSL_PROTOCOL}x %{SSL_CIPHER}x \"%r\" %b"

</VirtualHost>

```



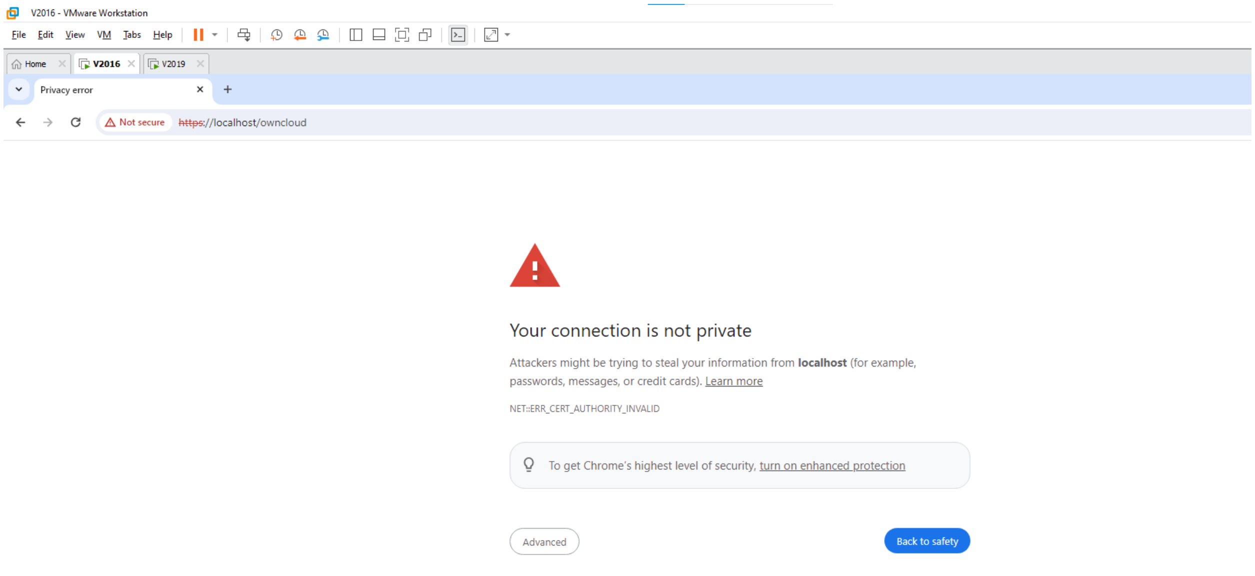
```

# Server-pool management (MPM specific)
#Include conf/extra/httpd-mpm.conf

# Multi-language error messages
#Include conf/extra/httpd-multilang-errordoc.conf

# Fancy directory listings
Include conf/extra/httpd-autoindex.conf

# Language settings
#Include conf/extra/httpd-languages.conf

# User home directories
#Include conf/extra/httpd-userdir.conf

# Real-time info on requests and configuration
#Include conf/extra/httpd-info.conf

# Virtual hosts
Include conf/extra/httpd-vhosts.conf

# Local access to the Apache HTTP Server Manual
#Include conf/extra/httpd-manual.conf

# Distributed authoring and versioning (WebDAV)
#Include conf/extra/httpd-dav.conf

# Various default settings
#Include conf/extra/httpd-default.conf

# Configure mod_proxy_html to understand HTML4/XHTML1
<IfModule proxy_html_module>
Include conf/extra/proxy-html.conf
</IfModule>

# Secure (SSL/TLS) connections
Include conf/extra/httpd-ssl.conf
#
# Note: The following must must be present to support
#       starting without SSL on platforms with no /dev/random equivalent
#       but a statically compiled-in mod_ssl.
#
<IfModule ssl_module>
SSLRandomSeed startup builtin
SSLRandomSeed connect builtin
</IfModule>

Include "${INSTALL_DIR}/alias/*"

```



```
C:\wamp64\bin\apache\apache2.4.39\bin>httpd -t
Syntax OK

C:\wamp64\bin\apache\apache2.4.39\bin>_
```



```
Active Connections

  Proto  Local Address          Foreign Address        State
  TCP    0.0.0.0:80             0.0.0.0:0              LISTENING
  TCP    0.0.0.0:88             0.0.0.0:0              LISTENING
  TCP    0.0.0.0:135            0.0.0.0:0              LISTENING
  TCP    0.0.0.0:389            0.0.0.0:0              LISTENING
  TCP    0.0.0.0:443            0.0.0.0:0              LISTENING
  TCP    0.0.0.0:445            0.0.0.0:0              LISTENING
  TCP    0.0.0.0:464            0.0.0.0:0              LISTENING
  TCP    0.0.0.0:593            0.0.0.0:0              LISTENING
  TCP    0.0.0.0:636            0.0.0.0:0              LISTENING
  TCP    0.0.0.0:1801           0.0.0.0:0              LISTENING
  TCP    0.0.0.0:2103           0.0.0.0:0              LISTENING
  TCP    0.0.0.0:2105           0.0.0.0:0              LISTENING
  TCP    0.0.0.0:2107           0.0.0.0:0              LISTENING
  TCP    0.0.0.0:3268           0.0.0.0:0              LISTENING
  TCP    0.0.0.0:3269           0.0.0.0:0              LISTENING
  TCP    0.0.0.0:3306           0.0.0.0:0              LISTENING
  TCP    0.0.0.0:3307           0.0.0.0:0              LISTENING
  TCP    0.0.0.0:3389           0.0.0.0:0              LISTENING
  TCP    0.0.0.0:5985           0.0.0.0:0              LISTENING
  TCP    0.0.0.0:8080           0.0.0.0:0              LISTENING
  TCP    0.0.0.0:9389           0.0.0.0:0              LISTENING
  TCP    0.0.0.0:47001          0.0.0.0:0              LISTENING
```


V2016 - VMware Workstation
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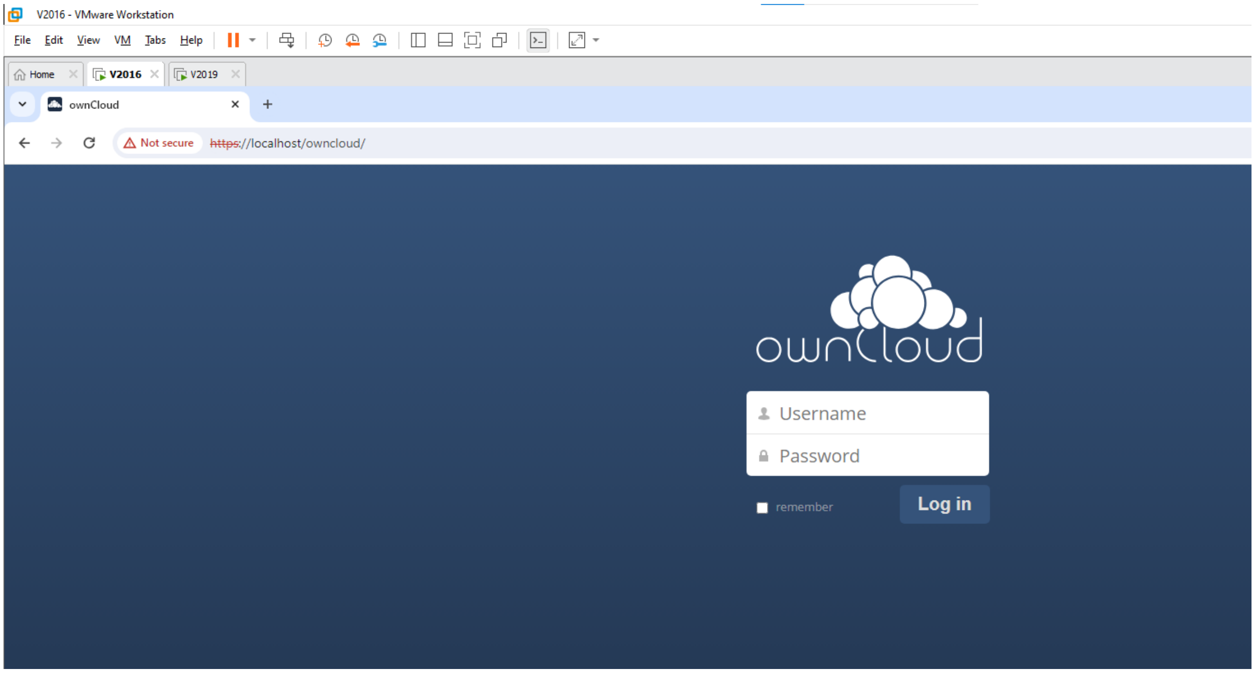
Home
V2016
V2019
Privacy error
Not secure
https://localhost/owncloud

Your connection is not private

Attackers might be trying to steal your information from **localhost** (for example, passwords, messages, or credit cards). Learn more

NET::ERR_CERT_AUTHORITY_INVALID

To get Chrome's highest level of security, turn on enhanced protection


V2016 - VMware Workstation
File Edit View VM Tabs Help
Home
V2016
V2019
ownCloud
Not secure
https://localhost/owncloud/
ownCloud
Username
Password
remember
Log in

3. Harvesting Cloud Credentials by Exploiting Java Vulnerability