How to test password strength with Hydra from Kali Linux

Introduction

The motivation behind this paper is to explore using Hydra that comes with Kali Linux to test a web site's password strength.

Requirements

If you see the following $ symbol on a command line to execute, what that means is that the command is executed as a regular user, i.e. the Ubuntu user. Ignore the leading $ and execute the rest of the command.

```
$ command to execute as a regular user
```

If you see a command line lead with the # symbol, then that means that the command is executed as the root user. This implies you need to elevate to the root user before running the command, e.g. with: `sudo su – root`.

```
# command to execute as the root user
```

VirtualBox

Go to: https://www.virtualbox.org/wiki/Downloads and download VirtualBox.

The author is running on Ubuntu 17.04, so following to this URL: https://www.virtualbox.org/wiki/Linux_Downloads

For Ubuntu, double click on the .deb file, i.e. virtualbox-5.2_5.2.0-118431-Ubuntu-zesty_amd64.deb, and install VirtualBox on your local workstation.

Clean VirtualBox Networking

Run these two commands from a Terminal:

```
VBoxManage list natnetworks
VBoxManage list dhcpservers
```

```
Output:
NetworkName:    192.168.139-NAT
IP:             192.168.139.1
Network:        192.168.139.0/24
IPv6 Enabled:   No
IPv6 Prefix:    fd17:625c:f037:a88b::/64
DHCP Enabled:   Yes
Enabled:        Yes
loopback mappings (ipv4)
        127.0.0.1=2

NetworkName:    192.168.139-NAT
IP:             192.168.139.3
NetworkMask:    255.255.255.0
lowerIPAddress: 192.168.139.101
```

```
upperIPAddress: 192.168.139.254
Enabled:        Yes

NetworkName:    HostInterfaceNetworking-vboxnet0
IP:             172.20.0.3
NetworkMask:    255.255.255.0
lowerIPAddress: 172.20.0.101
upperIPAddress: 172.20.0.254
Enabled:        Yes

NetworkName:    HostInterfaceNetworking-vboxnet1
IP:             0.0.0.0
NetworkMask:    0.0.0.0
lowerIPAddress: 0.0.0.0
upperIPAddress: 0.0.0.0
Enabled:        No
```

Now, delete ALL of the pre-installed VirtualBox networks (one at a time following the syntax below):

```
VBoxManage natnetwork remove --netname <NetworkName_from_above>
VBoxManage natnetwork remove --netname 192.168.139-NAT
# repeat as many times as necessary to delete all of them.
```

```
VBoxManage dhcpserver remove --netname <DHCP_Server_NetworkName_from_above>
VBoxManage dhcpserver remove --netname 192.168.139-NAT
# repeat as many times as necessary to delete all of them.
```

Add VirtualBox Networking

Now, add the new VirtualBox networks so the Kali Linux guides work.

```
VBoxManage natnetwork add \
  --netname 192.168.139-NAT \
  --network "192.168.139.0/24" \
  --enable --dhcp on

VBoxManage dhcpserver add \
  --netname 192.168.139-NAT \
  --ip 192.168.139.3 \
  --lowerip 192.168.139.101 \
  --upperip 192.168.139.254 \
  --netmask 255.255.255.0 \
  --enable
```

```
VBoxManage hostonlyif create

VBoxManage hostonlyif ipconfig vboxnet0 \
  --ip 172.20.0.1 \
  --netmask 255.255.255.0

VBoxManage dhcpserver add \
  --ifname vboxnet0 \
  --ip 172.20.0.3 \
  --lowerip 172.20.0.101 \
  --upperip 172.20.0.254 \
  --netmask 255.255.255.0

VBoxManage dhcpserver modify \
  --ifname vboxnet0 \
  --enable
```

Vagrant

Go to: https://www.vagrantup.com/downloads.html, follow the appropriate link to your OS and 32 or 64 bit version representing your local workstation. Download.

For Ubuntu, double click on the .deb file, i.e. vagrant_2.0.1_x86_64.deb, and install Vagrant on your local system.

Kali Linux

The author highly recommends to create a directory structure that is easy to navigate and find your code. As an example, you could use something similar to:
${HOME}/Source_Code/Education/vagrant-machines/kali-linux-vm/

Go ahead and make this structure with the following command (inside a Terminal):

```
$ mkdir –p ${HOME}/Source_Code/Education/vagrant-machines/kali-linux-vm/
```

Inside of the kali-linux-vm directory, populate a new file with the exact name, “Vagrantfile”. Case matters, uppercase the “V”.

Vagrantfile:

```
# -*- mode: ruby -*-
# vi: set ft=ruby :

# Vagrantfile API/syntax version.
VAGRANTFILE_API_VERSION = "2"

Vagrant.configure(VAGRANTFILE_API_VERSION) do |config|
  config.vm.box = "Sliim/kali-2017.2-amd64"
  config.vm.box_version = "1"

  # For Linux systems with the Wireless network, uncomment the line:
  config.vm.network "public_network", bridge: "wlo1", auto_config: true

  # For macbook/OSx systems, uncomment the line:
  #config.vm.network "public_network", bridge: "en0: Wi-Fi (AirPort)", auto_config: true

  config.vm.hostname = "kali-linux-vagrant"

  config.vm.provider "virtualbox" do |vb|
     vb.memory = "4096"
     vb.cpus = "3"
     vb.gui = true
     vb.customize ["modifyvm", :id, "--cpuexecutioncap", "95"]
     vb.customize ["modifyvm", :id, "--vram", "32"]
     vb.customize ["modifyvm", :id, "--accelerate3d", "on"]
     vb.customize ["modifyvm", :id, "--ostype", "Debian_64"]
     vb.customize ["modifyvm", :id, "--boot1", "dvd"]
     vb.customize ["modifyvm", :id, "--boot2", "disk"]
     vb.customize ["modifyvm", :id, "--audio", "none"]
     vb.customize ["modifyvm", :id, "--clipboard", "hosttoguest"]
     vb.customize ["modifyvm", :id, "--draganddrop", "hosttoguest"]
     vb.customize ["modifyvm", :id, "--paravirtprovider", "kvm"]
  end
end
```

Save and write this file.

From a Terminal, change directory to:

```
$ cd ${HOME}/Source_Code/Education/vagrant-machines/kali-linux-vm/
```

Then run (inside the directory kali-linux-vm):

```
$ vagrant up
```

This will download the appropriate image and start the virtual machine.

Once running, through the VirtuaBox GUI, login as root. Password is “toor”, root backwards. Edit the following file:

```
/etc/ssh/sshd_config
```

And change the line:

```
#PermitRootLogin prothibit-password
```

To:

```
PermitRootLogin yes
```

Then restart the ssh daemon:

```
# kill –HUP $(pgrep sshd)
```

Notice, you are on a Bridged adapter, this will open the instance to allow root to ssh in with the most unsecure password in the world. Only make this change (allowing root to login via SSH) if you require root SSH access. You can change the root user’s password, which is highly recommended.

Damn Vulnerable Web Application (DVWA)

Go ahead and make this structure with the following command (inside a Terminal):

```
$ mkdir –p ${HOME}/Source_Code/Education/vagrant-machines/dvwa-linux-vm/
```

Inside of the dvwa-linux-vm directory, populate a new file with the exact name, “Vagrantfile”. Case matters, uppercase the “V”.

Vagrantfile:

```
#
# setup local instance of Damn Vulnerable Web Application (DVWA):
#

# Vagrantfile API/syntax version. Don't touch unless you know what you're doing!
VAGRANTFILE_API_VERSION = "2"

Vagrant.configure(VAGRANTFILE_API_VERSION) do |config|

  # For Linux systems with the Wireless network, uncomment the line:
  config.vm.network "public_network", bridge: "wlo1", auto_config: true

  # For macbook/OSx systems, uncomment the line:
  #config.vm.network "public_network", bridge: "en0: Wi-Fi (AirPort)", auto_config: true
  # uncomment the next line for Macbook/OSx systems, wireless :
  # config.vm.network "public_network", bridge: "en0: Wi-Fi (AirPort)", auto_config: true

  config.vm.provision :shell, path: "bootstrap.sh"
  config.vm.hostname = "dvwa"

  config.vm.provider "virtualbox" do |vb|
    vb.memory = "1024"
    vb.cpus = "2"
    vb.gui = false
    vb.customize ["modifyvm", :id, "--cpuexecutioncap", "95"]
    vb.customize ["modifyvm", :id, "--vram", "32"]
    vb.customize ["modifyvm", :id, "--accelerate3d", "on"]
    vb.customize ["modifyvm", :id, "--ostype", "Ubuntu_64"]
    vb.customize ["modifyvm", :id, "--boot1", "dvd"]
    vb.customize ["modifyvm", :id, "--boot2", "disk"]
    vb.customize ["modifyvm", :id, "--audio", "none"]
    vb.customize ["modifyvm", :id, "--clipboard", "hosttoguest"]
    vb.customize ["modifyvm", :id, "--draganddrop", "hosttoguest"]
    vb.customize ["modifyvm", :id, "--paravirtprovider", "kvm"]
  end
end
```

Save and write this file.

Inside of the dvwa-linux-vm directory, populate a new file with the exact name, “bootstrap.sh”. Case matters, all lowercase.

bootstrap.sh (include the shebang in your file, the `#!/usr/bin/env bash`):

```
#!/usr/bin/env bash
PHP_FPM_PATH_INI='/etc/php/7.0/fpm/php.ini'
PHP_FPM_POOL_CONF='/etc/php/7.0/fpm/pool.d/www.conf'
MYSQL_ROOT_PW='Assword12345'
MYSQL_dvwa_user='dvwa_root'
MYSQL_dvwa_password='sunshine'
DVWA_admin_password='admin'
recaptcha_public_key='u8392ihj32kl8hujalkshuil32'
recaptcha_private_key='89ry8932873832lih32ilj32'


install_base() {
    add-apt-repository -y ppa:nginx/stable
    sudo apt-get update
    sudo apt-get dist-upgrade -y
    sudo apt-get install -y nginx mariadb-server mariadb-client php php-common php-cgi php-fpm
php-gd php-cli php-pear php-mcrypt php-mysql php-gd git vim
}


config_mysql(){
    mysqladmin -u root password "${MYSQL_ROOT_PW}"
    #  Config the mysql config file for root so it doesn't prompt for password.
    #  Also sets pw in plain text for easy access.
    # Don't forget to change the password here!!

cat <<EOF > /root/.my.cnf
[client]
user="root"
password="${MYSQL_ROOT_PW}"
EOF
    mysql -BNe "drop database if exists dvwa;"
    mysql -BNe "CREATE DATABASE dvwa;"
    mysql -BNe "GRANT ALL ON *.* TO '"${MYSQL_dvwa_user}"'@'localhost' IDENTIFIED BY
'"${MYSQL_dvwa_password}"';"

    service mysql restart
```

```
}


config_php(){
    ##Config PHP FPM INI to disable some security settings

    sed -i 's/^;cgi.fix_pathinfo.*$/cgi.fix_pathinfo = 0/g' ${PHP_FPM_PATH_INI}
    sed -i 's/allow_url_include = Off/allow_url_include = On/g' ${PHP_FPM_PATH_INI}
    sed -i 's/allow_url_fopen = Off/allow_url_fopen = On/g' ${PHP_FPM_PATH_INI}
    sed -i 's/safe_mode = On/safe_mode = Off/g' ${PHP_FPM_PATH_INI}
    echo "magic_quotes_gpc = Off" >> ${PHP_FPM_PATH_INI}
    sed -i 's/display_errors = Off/display_errors = On/g' ${PHP_FPM_PATH_INI}

    ##explicitly set pool options (these are defaults in ubuntu 16.04 so i'm commenting them out.
If they are not defaults for you try uncommenting these
    #sed -i 's/^;security.limit_extensions.*$/security.limit_extensions
= .php .php3 .php4 .php5 .php7/g' /etc/php/7.0/fpm/pool.d/www.conf
    #sed -i 's/^listen.owner.*$/listen.owner = www-data/g' /etc/php/7.0/fpm/pool.d/www.conf
    #sed -i 's/^listen.group.*$/listen.group = www-data/g' /etc/php/7.0/fpm/pool.d/www.conf
    #sed -i 's/^;listen.mode.*$/listen.mode = 0660/g' /etc/php/7.0/fpm/pool.d/www.conf

    systemctl restart php7.0-fpm
}


config_nginx(){

cat << 'EOF' > /etc/nginx/sites-enabled/default
server
{
    listen  80;
    root /var/www/html;
    index index.php index.html index.htm;
    #server_name localhost
    location "/"
    {
        index index.php index.html index.htm;
        #try_files $uri $uri/ =404;
    }

    location ~ \.php$
    {
        include /etc/nginx/fastcgi_params;
        fastcgi_pass unix:/var/run/php/php7.0-fpm.sock;
        fastcgi_index index.php;
        fastcgi_param SCRIPT_FILENAME $request_filename;
    }
}
EOF

    systemctl restart nginx
}


install_dvwa(){

    if [[ ! -d "/var/www/html" ]];
    then
          mkdir -p /var/www;
          ln -s /usr/share/nginx/html /var/www/html;
          chown -R www-data. /var/www/html;
    fi

    cd /var/www/html
    rm -rf /var/www/html/.[!.]*
    rm -rf /var/www/html/*
    git clone https://github.com/ethicalhack3r/DVWA.git ./
    chown -R www-data. ./
    cp config/config.inc.php.dist config/config.inc.php

    ### chmod uploads and log file to be writable by nobody
    chmod 777 ./hackable/uploads/
    chmod 777 ./external/phpids/0.6/lib/IDS/tmp/phpids_log.txt

    ## change the values in the config to match our setup (these are what you need to update!
    sed -i '/db_user/ s/root/'${MYSQL_dvwa_user}'/' /var/www/html/config/config.inc.php
    sed -i '/db_password/ s/p@ssw0rd/'${MYSQL_dvwa_password}'/'
/var/www/html/config/config.inc.php
    sed -i "/recaptcha_public_key/ s/''/'"${recaptcha_public_key}"'/"
/var/www/html/config/config.inc.php
    sed -i "/recaptcha_private_key/ s/''/'"${recaptcha_private_key}"'/"
/var/www/html/config/config.inc.php

}


update_mysql_user_pws(){
## The mysql passwords are set via /usr/share/nginx/html/dvwa/includes/DBMS/MySQL.php.
#  If you edit this every time they are reset it will reset to those.
#  Otherwise you can do a sql update statement to update them all (they are just md5's of the
string.
#  The issue is the users table doesn't get created until you click that button T_T to init.

#mysql -BNe "UPDATE dvwa.users SET password = md5('YOUR_MYSQL_PW_HERE') WHERE user = 'admin';"
#mysql -BNe "UPDATE dvwa.users SET password = md5('YOUR_MYSQL_PW_HERE') WHERE user = 'gordonb';"
#mysql -BNe "UPDATE dvwa.users SET password = md5('YOUR_MYSQL_PW_HERE') WHERE user = '1337';"
#mysql -BNe "UPDATE dvwa.users SET password = md5('YOUR_MYSQL_PW_HERE') WHERE user = 'pablo';"
#mysql -BNe "UPDATE dvwa.users SET password = md5('YOUR_MYSQL_PW_HERE') WHERE user = 'smithy';"

sed -i '/admin/ s/password/'${DVWA_admin_password}'/g'
/var/www/html/dvwa/includes/DBMS/MySQL.php
sed -i '/gordonb/ s/abc123/'${DVWA_admin_password}'/g'
/var/www/html/dvwa/includes/DBMS/MySQL.php
sed -i '/1337/ s/charley/'${DVWA_admin_password}'/g'  /var/www/html/dvwa/includes/DBMS/MySQL.php
sed -i '/pablo/ s/letmein/'${DVWA_admin_password}'/g'  /var/www/html/dvwa/includes/DBMS/MySQL.php
sed -i '/smithy/ s/password/'${DVWA_admin_password}'/g'
/var/www/html/dvwa/includes/DBMS/MySQL.php
}


install_base
config_mysql
install_dvwa
update_mysql_user_pws
config_php
config_nginx
```

Save and write this file.

From a Terminal, change directory to:

```
$ cd ${HOME}/Source_Code/Education/vagrant-machines/dvwa-linux-vm/
```

Then run (inside the directory dvwa-linux-vm):

```
$ vagrant up
```

You will need the IP address from the new DVWA virtual machine.

Login with:

```
$ vagrant ssh
```

Then run:

```
$ ip a
```

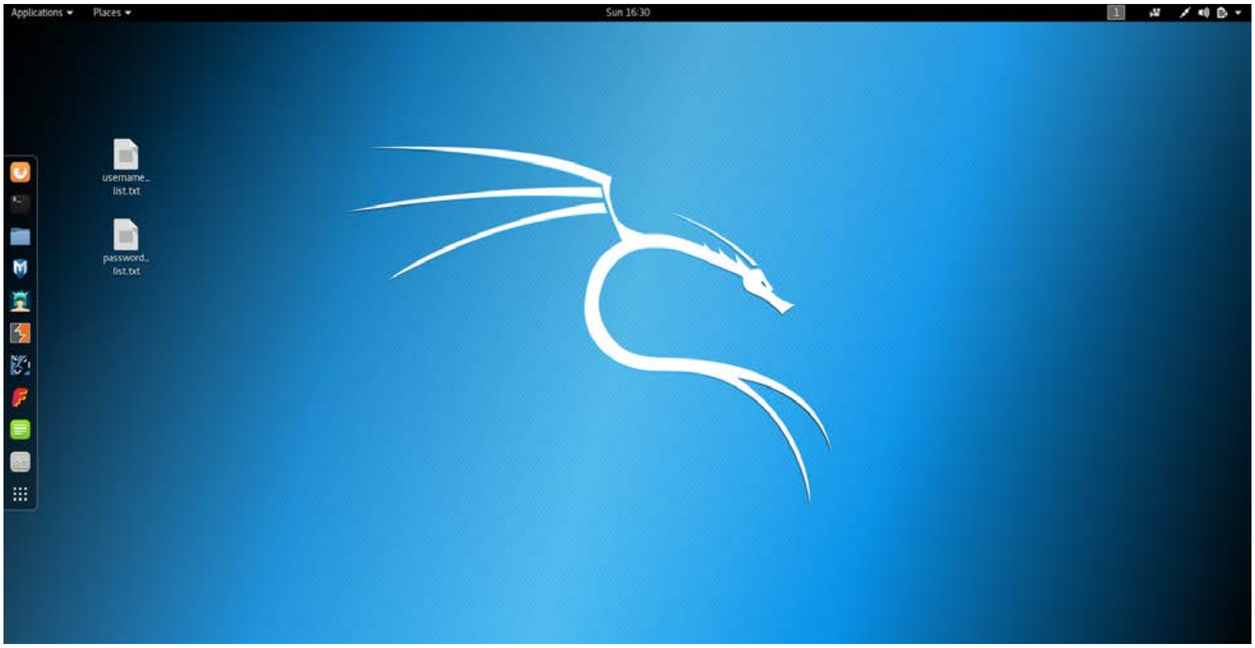
Choose the second network adapter, it should look like:

```
ubuntu@dvwa:~$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN
group default qlen 1
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
       valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
       valid_lft forever preferred_lft forever
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast
state UP group default qlen 1000
    link/ether 02:53:17:3c:de:80 brd ff:ff:ff:ff:ff:ff
    inet 10.0.2.15/24 brd 10.0.2.255 scope global enp0s3
       valid_lft forever preferred_lft forever
    inet6 fe80::53:17ff:fe3c:de80/64 scope link
       valid_lft forever preferred_lft forever
3: enp0s8: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast
state UP group default qlen 1000
    link/ether 08:00:27:f0:77:2d brd ff:ff:ff:ff:ff:ff
    inet 172.20.156.76/24 brd 172.20.156.255 scope global enp0s8
       valid_lft forever preferred_lft forever
    inet6 fe80::a00:27ff:fef0:772d/64 scope link
       valid_lft forever preferred_lft forever
```

The author’s home wireless network uses 172.20.156.0/24 as the network range. Therefore, the adapter, enp0s8 is what he is looking for. The IP to use as a target is 172.20.156.76. Write down your value.

Hydra password cracker (Kali-Linux version)

Fire up both vagrant boxes of Kali-Linux and DVWA with vagrant up.
Login to kali linux. Username: root, Password: toor.



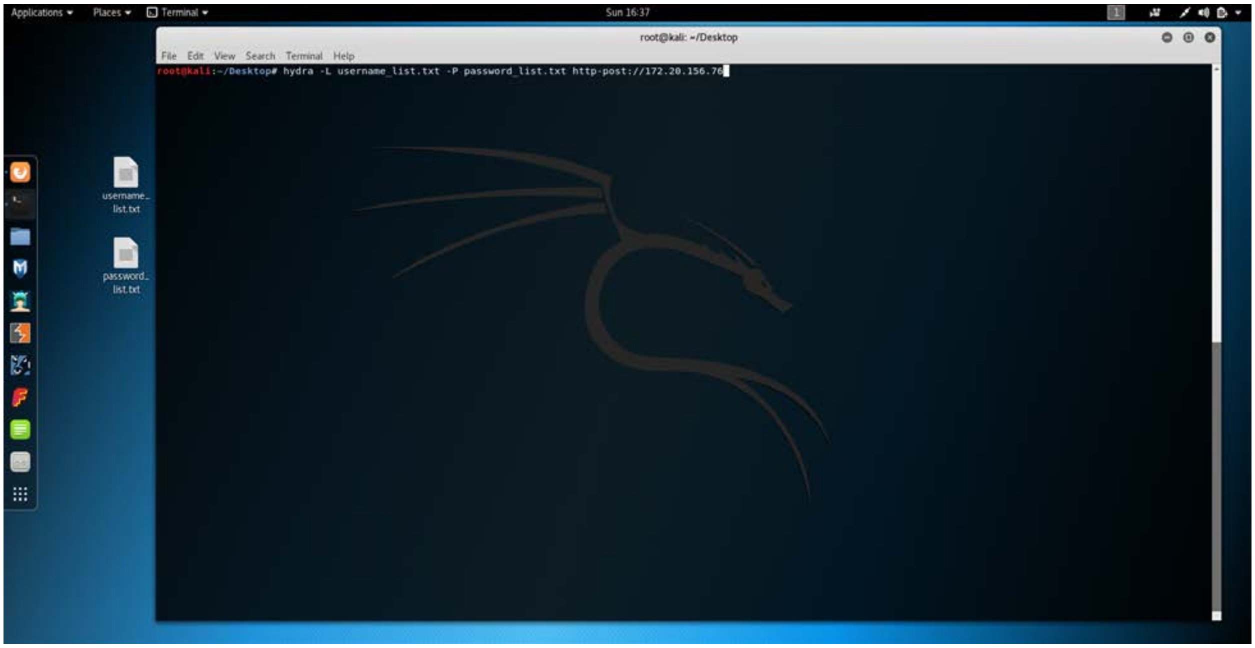
Once logged in, you are going to need to create two files and save on your desktop. In the Appendix, the author has referenced models for both username_list.txt and password_list.txt. You can use these of course, but will probably want to download larger sets of known passwords. The following are suggestions from a quick Google search:

https://directory.thehacktoday.com/wordlists/

https://wiki.skullsecurity.org/Passwords

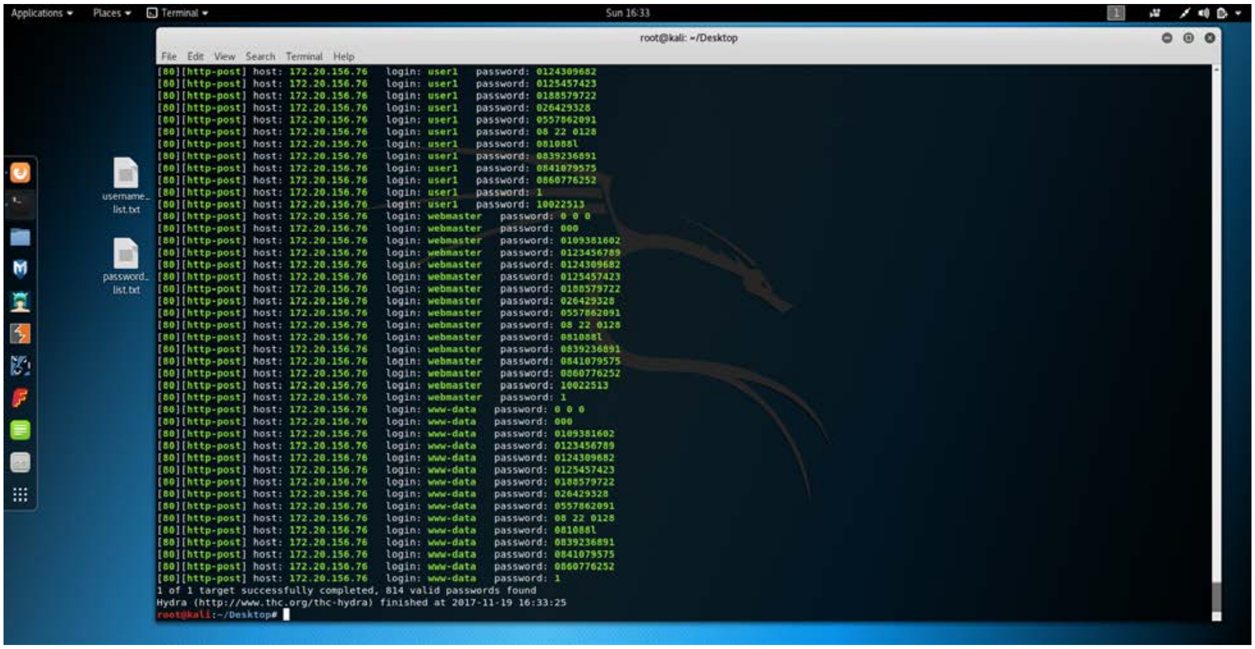
https://github.com/danielmiessler/SecLists/tree/master/Passwords

Pick a few password lists, download them, concatenate the results into one file, run a sort and uniq on said and finally move to the name password_list.txt. The username_list.txt will suffice for testing DVWA.



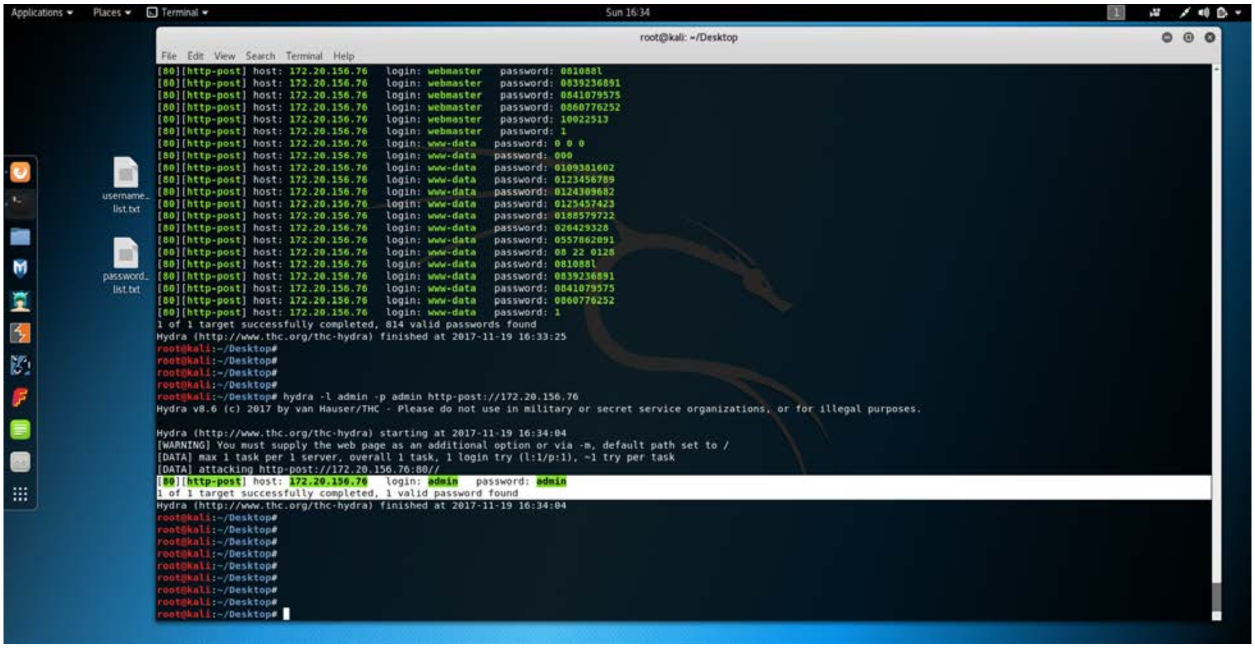
```
root@kali:~/Desktop# hydra -L username_list.txt -P password_list.txt http-post://172.20.156.76
```

Above is the command you want to type. Substitute the target IP address for your local laptop's DVWA instance IP address.
Notice the capital L, and also the capital P, each mean that they are pulling in a file name, versus using lowercase and supplying the username and password on the command line. Also notice the http-post method, verus using http://. Attention to detail. Once set, hit Enter and let execute.



```
[80][http-post] host: 172.20.156.76   login: user1   password: 0124309682
[80][http-post] host: 172.20.156.76   login: user1   password: 0125457423
[80][http-post] host: 172.20.156.76   login: user1   password: 0188579722
[80][http-post] host: 172.20.156.76   login: user1   password: 026429328
[80][http-post] host: 172.20.156.76   login: user1   password: 0557862091
[80][http-post] host: 172.20.156.76   login: user1   password: 08 22 0128
[80][http-post] host: 172.20.156.76   login: user1   password: 081088l
[80][http-post] host: 172.20.156.76   login: user1   password: 0839236891
[80][http-post] host: 172.20.156.76   login: user1   password: 0841079575
[80][http-post] host: 172.20.156.76   login: user1   password: 0860776252
[80][http-post] host: 172.20.156.76   login: user1   password: 1
[80][http-post] host: 172.20.156.76   login: user1   password: 10022513
[80][http-post] host: 172.20.156.76   login: webmaster   password: 0 0 0
[80][http-post] host: 172.20.156.76   login: webmaster   password: 000
[80][http-post] host: 172.20.156.76   login: webmaster   password: 0109381602
[80][http-post] host: 172.20.156.76   login: webmaster   password: 0123456789
[80][http-post] host: 172.20.156.76   login: webmaster   password: 0124309682
[80][http-post] host: 172.20.156.76   login: webmaster   password: 0125457423
[80][http-post] host: 172.20.156.76   login: webmaster   password: 0188579722
[80][http-post] host: 172.20.156.76   login: webmaster   password: 026429328
[80][http-post] host: 172.20.156.76   login: webmaster   password: 0557862091
[80][http-post] host: 172.20.156.76   login: webmaster   password: 08 22 0128
[80][http-post] host: 172.20.156.76   login: webmaster   password: 081088l
[80][http-post] host: 172.20.156.76   login: webmaster   password: 0839236891
[80][http-post] host: 172.20.156.76   login: webmaster   password: 0841079575
[80][http-post] host: 172.20.156.76   login: webmaster   password: 0860776252
[80][http-post] host: 172.20.156.76   login: webmaster   password: 10022513
[80][http-post] host: 172.20.156.76   login: webmaster   password: 1
[80][http-post] host: 172.20.156.76   login: www-data   password: 0 0 0
[80][http-post] host: 172.20.156.76   login: www-data   password: 000
[80][http-post] host: 172.20.156.76   login: www-data   password: 0109381602
[80][http-post] host: 172.20.156.76   login: www-data   password: 0123456789
[80][http-post] host: 172.20.156.76   login: www-data   password: 0124309682
[80][http-post] host: 172.20.156.76   login: www-data   password: 0125457423
[80][http-post] host: 172.20.156.76   login: www-data   password: 0188579722
[80][http-post] host: 172.20.156.76   login: www-data   password: 026429328
[80][http-post] host: 172.20.156.76   login: www-data   password: 0557862091
[80][http-post] host: 172.20.156.76   login: www-data   password: 08 22 0128
[80][http-post] host: 172.20.156.76   login: www-data   password: 081088l
[80][http-post] host: 172.20.156.76   login: www-data   password: 0839236891
[80][http-post] host: 172.20.156.76   login: www-data   password: 0841079575
[80][http-post] host: 172.20.156.76   login: www-data   password: 0860776252
[80][http-post] host: 172.20.156.76   login: www-data   password: 1
1 of 1 target successfully completed, 814 valid passwords found
Hydra (http://www.thc.org/thc-hydra) finished at 2017-11-19 16:33:25
root@kali:~/Desktop# 
```

What we see in the picture above is the hydra password cracking run, the author has found a combination of 814 valid usernames and passwords.



```
[80][http-post] host: 172.20.156.76   login: webmaster   password: 0810881
[80][http-post] host: 172.20.156.76   login: webmaster   password: 0839236891
[80][http-post] host: 172.20.156.76   login: webmaster   password: 0841079575
[80][http-post] host: 172.20.156.76   login: webmaster   password: 0860776252
[80][http-post] host: 172.20.156.76   login: webmaster   password: 10022513
[80][http-post] host: 172.20.156.76   login: webmaster   password: 1
[80][http-post] host: 172.20.156.76   login: www-data   password: 0 0 0
[80][http-post] host: 172.20.156.76   login: www-data   password: 000
[80][http-post] host: 172.20.156.76   login: www-data   password: 0109381602
[80][http-post] host: 172.20.156.76   login: www-data   password: 0123456789
[80][http-post] host: 172.20.156.76   login: www-data   password: 0124309682
[80][http-post] host: 172.20.156.76   login: www-data   password: 0125457423
[80][http-post] host: 172.20.156.76   login: www-data   password: 0188579722
[80][http-post] host: 172.20.156.76   login: www-data   password: 026429328
[80][http-post] host: 172.20.156.76   login: www-data   password: 0557862091
[80][http-post] host: 172.20.156.76   login: www-data   password: 08 22 0128
[80][http-post] host: 172.20.156.76   login: www-data   password: 0810881
[80][http-post] host: 172.20.156.76   login: www-data   password: 0839236891
[80][http-post] host: 172.20.156.76   login: www-data   password: 0841079575
[80][http-post] host: 172.20.156.76   login: www-data   password: 0860776252
[80][http-post] host: 172.20.156.76   login: www-data   password: 1
1 of 1 target successfully completed, 814 valid passwords found
Hydra (http://www.thc.org/thc-hydra) finished at 2017-11-19 16:33:25
root@kali:~/Desktop#
root@kali:~/Desktop#
root@kali:~/Desktop#
root@kali:~/Desktop#
root@kali:~/Desktop# hydra -l admin -p admin http-post://172.20.156.76
Hydra v8.6 (c) 2017 by van Hauser/THC - Please do not use in military or secret service organizations, or for illegal purposes.

Hydra (http://www.thc.org/thc-hydra) starting at 2017-11-19 16:34:04
[WARNING] You must supply the web page as an additional option or via -m, default path set to /
[DATA] max 1 task per 1 server, overall 1 task, 1 login try (l:1/p:1), ~1 try per task
[DATA] attacking http-post://172.20.156.76:80//
[80][http-post] host: 172.20.156.76   login: admin   password: admin
1 of 1 target successfully completed, 1 valid password found
Hydra (http://www.thc.org/thc-hydra) finished at 2017-11-19 16:34:04
root@kali:~/Desktop#
root@kali:~/Desktop#
root@kali:~/Desktop#
root@kali:~/Desktop#
root@kali:~/Desktop#
root@kali:~/Desktop#
root@kali:~/Desktop#
root@kali:~/Desktop#
root@kali:~/Desktop#
```

In the picture above, the author is showing how to run a single username and password combination for testing the site.

In this case:

```
# hydra -l admin -p admin http-post://172.20.156.76
```

Conclusion

By following this paper, the user has successfully installed and should be running VirtualBox, Vagrant, kali-Linux, and DVWA. The user should have also launched a successful Hydra attack against his/her local instance of DVWA. The author was able to put together an impressive password list, around 106 MB in size, with over 10 million entries in a matter of minutes. The attack itself took a little less than 30 seconds on a laptop that is 5+ years old. The author is not sharing the list because of size constraints (a 100+ MB document is not funny). However, the sources are presented and the user can go to town building their own password list.

Appendix

username_list.txt:

```
111111
123456
12345678
Admin
Administrator
POS
SQL
abc123
account
accounting
ad
adm
admin
administrator
adver
advert
advertising
alex
bank
billing
business
company
contact
db2admin
demo
dir
director
email
export
finance
help
manager
marketing
mysql
office
oracle
pos
postmaster
root
sale
sales
secretar
secretary
sql
support
test
testing
user
user1
webmaster
www-data
```

password_list.txt:

```
ABJABER7
ABJS2578
ABJT8109
ABK23039
ABK3928
ABKFishka13
ABKIJA
ABKNP5
ABKO$&
ABKOBABKOB
ABKallday
ABKumbIA
```

```
ABL091896
ABL109
ABL1320
ABL5470
ABLA04
ABLAJENN
ABLANKENZEE
ABLAZA
ABLAZE33
ABLAZO
ABLDMCC
ABLE25
ABLE2COLD
ABLE892
ABLE976ARM332
ABLECOMP
ABLEEMT20
ABLENAT2
ABLEONE1
ABLER05
ABLERT21
ABLMGL36
ABLNHS
ABLOCK51
ABLOCK700
ABLOK1
ABLONG
ABLORH
ABLOVE
ABLOVESSB
ABLT22
ABLUEBIRD
ABLUESKY
ABLUVER
ABLZBAB33
ABM021
ABM1000
ABM15101982
ABM1573
ABM4LIFE
ABM52568981
ABM5268981
ABM5UP
ABM6790669
ABM703
ABMARK
ABMBITCH
ABMC3ME
ABMDJL
ABMDPGC
ABMEKT
ABMENT
ABMGYR1
ABMILLER
ABMILLER08
ABMNIGGA6
ABMOB
ABMONEY1
ABMRIDA
ABMU_929B
ABMWblabule
ABMallday32
```