

Linux hosts.allow and hosts.deny

This presentation sets up hosts.allow and hosts.deny on a Linux host.
This does not have the additional narration, yet.

Preuss

11/4/2019

```
Command Prompt
C:\Users\preuss>echo %COMPUTERNAME%
CSCI1110-F2019

C:\Users\preuss>ipconfig















Windows IP Configuration

Ethernet adapter Ethernet0:

    Connection-specific DNS Suffix  . : localdomain
    Link-local IPv6 Address . . . . . : fe80::c94e:2623:8b6:17c7%10
    IPv4 Address. . . . . : 192.168.74.132
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.74.2

C:\Users\preuss>
```

Mozilla
Thunderbird

-  Recycle Bin
-  Mozilla Thunderbird
-  LibreOffice 6.2
-  Firefox
-  WinSCP
-  PUTTY
-  balenaEtcher
-  Notepad++
-  LEGO MINDSTORMS
-  ROBOTC for LEGO Min...
-  Robotics Engineeri...
-  Robotics Engineeri...
-  VLC media player
-  Graphical ROBOTC f...

```

C:\> Command Prompt
Microsoft Windows [Version 10.0.18362.449]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\student01>echo %COMPUTERNAME%
WIN10-LEGO-S201

C:\Users\student01>ipconfig

Windows IP Configuration

Ethernet adapter Ethernet0:

    Connection-specific DNS Suffix  . : localdomain
    Link-local IPv6 Address . . . . . : fe80::fcff:5805:7daa:7474%13
    IPv4 Address. . . . . : 192.168.74.137
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.74.2

C:\Users\student01>
  
```

preuss@red-vm:~

File Edit View Search Terminal Help

[preuss@red-vm ~]\$ echo \$HOSTNAME

red-vm.mait.minnesota.edu

[preuss@red-vm ~]\$ /sbin/ip a sh

1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000

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: ens33: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000

link/ether 00:0c:29:ab:d8:f9 brd ff:ff:ff:ff:ff:ff

inet 192.168.74.136/24 brd 192.168.74.255 scope global dynamic ens33

valid_lft 1673sec preferred_lft 1673sec

3: virbr0: <NO-CARRIER,BROADCAST,MULTICAST,UP> mtu 1500 qdisc noqueue state DOWN group default qlen 1000

link/ether 52:54:00:08:98:bd brd ff:ff:ff:ff:ff:ff

inet 192.168.122.1/24 brd 192.168.122.255 scope global virbr0

valid_lft forever preferred_lft forever

4: virbr0-nic: <BROADCAST,MULTICAST> mtu 1500 qdisc pfifo_fast master virbr0 state DOWN group default qlen 1000

link/ether 52:54:00:08:98:bd brd ff:ff:ff:ff:ff:ff

[preuss@red-vm ~]\$

CentOS 7 x

preuss@red-vm:/home/preuss

— □ ×

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[preuss@red-vm ~]\$ su

Password:

[root@red-vm preuss]# █



Home



Trash



CentOS 7 x86_64

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```
[preuss@red-vm ~]$ su  
Password:  
[root@red-vm preuss]# yum install openssh-server openssh-clients
```



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[preuss@red-vm ~]\$ su

Password:

[root@red-vm preuss]# yum install openssh-server openssh-clients

Loaded plugins: fastestmirror, langpacks

Loading mirror speeds from cached hostfile

* base: centos-distro.lgservers.com

* epel: pubmirror2.math.uh.edu

* extras: mirror.atlantic.net

* updates: bay.uchicago.edu

Package openssh-server-7.4p1-21.el7.x86_64 already installed and latest version

Package openssh-clients-7.4p1-21.el7.x86_64 already installed and latest version

Nothing to do

[root@red-vm preuss]#

CentOS 7 x

preuss@red-vm:/home/preuss

File Edit View Search Terminal Help

[preuss@red-vm ~]\$ su

Password:

[root@red-vm preuss]# yum install openssh-server openssh-clients

Loaded plugins: fastestmirror, langpacks

Loading mirror speeds from cached hostfile

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* updates: bay.uchicago.edu

Package openssh-server-7.4p1-21.el7.x86_64 already installed and latest version

Package openssh-clients-7.4p1-21.el7.x86_64 already installed and latest version

Nothing to do

[root@red-vm preuss]# systemctl start sshd

[root@red-vm preuss]# systemctl restart sshd

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File Edit View Search Terminal Help

```
[preuss@red-vm ~]$ su
Password:
[root@red-vm preuss]# yum install openssh-server openssh-clients
Loaded plugins: fastestmirror, langpacks
Loading mirror speeds from cached hostfile
 * base: centos-distro.lgservers.com
 * epel: pubmirror2.math.uh.edu
 * extras: mirror.atlantic.net
 * updates: bay.uchicago.edu
Package openssh-server-7.4p1-21.el7.x86_64 already installed and latest version
Package openssh-clients-7.4p1-21.el7.x86_64 already installed and latest version
Nothing to do
[root@red-vm preuss]# systemctl start sshd
[root@red-vm preuss]# systemctl restart sshd
[root@red-vm preuss]# systemctl status sshd
● sshd.service - OpenSSH server daemon
   Loaded: loaded (/usr/lib/systemd/system/sshd.service; enabled; vendor preset: enabled)
   Active: active (running) since Mon 2019-11-04 20:02:39 CST; 6s ago
     Docs: man:sshd(8)
           man:sshd_config(5)
   Main PID: 4709 (sshd)
     Tasks: 1
    CGroup: /system.slice/sshd.service
           └─4709 /usr/sbin/sshd -D

Nov 04 20:02:39 red-vm.mait.minnesota.edu systemd[1]: Stopped OpenSSH server daemon.
Nov 04 20:02:39 red-vm.mait.minnesota.edu systemd[1]: Starting OpenSSH server daemon...
Nov 04 20:02:39 red-vm.mait.minnesota.edu sshd[4709]: Server listening on 0.0.0.0 port 22.
Nov 04 20:02:39 red-vm.mait.minnesota.edu sshd[4709]: Server listening on :: port 22.
Nov 04 20:02:39 red-vm.mait.minnesota.edu systemd[1]: Started OpenSSH server daemon.
[root@red-vm preuss]#
```

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```
[root@red-vm preuss]# firewall-cmd --permanent --add-port=22/tcp
```



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[root@red-vm preuss]# nano /etc/hosts.allow

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GNU nano 2.3.1

File: /etc/hosts.allow

```
#
# hosts.allow This file contains access rules which are used to
# allow or deny connections to network services that
# either use the tcp_wrappers library or that have been
# started through a tcp_wrappers-enabled xinetd.
#
# See 'man 5 hosts_options' and 'man 5 hosts_access'
# for information on rule syntax.
# See 'man tcpd' for information on tcp_wrappers
#
sshd: 192.168.74.132
```

[Read 12 lines]

```
^G Get Help
^X Exit
```

```
^O WriteOut
^J Justify
```

```
^R Read File
^W Where Is
```

```
^Y Prev Page
^V Next Page
```

```
^K Cut Text
^U UnCut Text
```

```
^C Cur Pos
^T To Spell
```

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File Edit View Search Terminal Help

GNU nano 2.3.1 File: /etc/hosts.allow

```

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# hosts.allow This file contains access rules which are used to
# allow or deny connections to network services that
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#
# See 'man 5 hosts_options' and 'man 5 hosts_access'
# for information on rule syntax.
# See 'man tcpd' for information on tcp_wrappers
#
sshd: 192.168.74.132

```

File Name to Write: /etc/hosts.allow

^G Get Help	M-D DOS Format	M-A Append	M-B Backup File
^C Cancel	M-M Mac Format	M-P Prepend	

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File Edit View Search Terminal Help

GNU nano 2.3.1 File: /etc/hosts.allow

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# hosts.allow This file contains access rules which are used to
# allow or deny connections to network services that
# either use the tcp_wrappers library or that have been
# started through a tcp_wrappers-enabled xinetd.
#
# See 'man 5 hosts_options' and 'man 5 hosts_access'
# for information on rule syntax.
# See 'man tcpd' for information on tcp_wrappers
#
sshd: 192.168.74.132

```

[Wrote 12 lines]

^G Get Help	^O WriteOut	^R Read File	^Y Prev Page	^K Cut Text	^C Cur Pos
^X Exit	^J Justify	^W Where Is	^V Next Page	^U UnCut Text	^T To Spell

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```
[root@red-vm preuss]# nano /etc/hosts.allow  
[root@red-vm preuss]# █
```



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CentOS 7 x86_64

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File Edit View Search Terminal Help

GNU nano 2.3.1

File: /etc/hosts.deny

```
#  
# hosts.deny This file contains access rules which are used to  
# deny connections to network services that either use  
# the tcp_wrappers library or that have been  
# started through a tcp_wrappers-enabled xinetd.  
#  
# The rules in this file can also be set up in  
# /etc/hosts.allow with a 'deny' option instead.  
#  
# See 'man 5 hosts_options' and 'man 5 hosts_access'  
# for information on rule syntax.  
# See 'man tcpd' for information on tcp_wrappers  
#  
sshd: 192.168.74.137
```

[Read 15 lines]

^G Get Help
^X Exit

^O WriteOut
^J Justify

^R Read File
^W Where Is

^Y Prev Page
^V Next Page

^K Cut Text
^U UnCut Text

^C Cur Pos
^T To Spell

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File Edit View Search Terminal Help

GNU nano 2.3.1 File: /etc/hosts.deny

```

#
# hosts.deny This file contains access rules which are used to
# deny connections to network services that either use
# the tcp_wrappers library or that have been
# started through a tcp_wrappers-enabled xinetd.
#
# The rules in this file can also be set up in
# /etc/hosts.allow with a 'deny' option instead.
#
# See 'man 5 hosts_options' and 'man 5 hosts_access'
# for information on rule syntax.
# See 'man tcpd' for information on tcp_wrappers
#
sshd: 192.168.74.137

```

File Name to Write: /etc/hosts.deny

^G Get Help	M-D DOS Format	M-A Append	M-B Backup File
^C Cancel	M-M Mac Format	M-P Prepend	



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File Edit View Search Terminal Help

```
[root@red-vm preuss]# nano /etc/hosts.allow  
[root@red-vm preuss]# nano /etc/hosts.deny  
[root@red-vm preuss]# systemctl status sshd
```



Home



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File Edit View Search Terminal Help

```
[root@red-vm preuss]# nano /etc/hosts.allow
```

```
[root@red-vm preuss]# nano /etc/hosts.deny
```

```
[root@red-vm preuss]# systemctl status sshd
```

```
● sshd.service - OpenSSH server daemon
```

```
Loaded: loaded (/usr/lib/systemd/system/sshd.service; enabled; vendor preset: enabled)
```

```
Active: active (running) since Mon 2019-11-04 20:02:39 CST; 2min 59s ago
```

```
Docs: man:sshd(8)
```

```
man:sshd_config(5)
```

```
Main PID: 4709 (sshd)
```

```
Tasks: 1
```

```
CGroup: /system.slice/sshd.service
```

```
└─4709 /usr/sbin/sshd -D
```

```
Nov 04 20:02:39 red-vm.mait.minnesota.edu systemd[1]: Stopped OpenSSH server daemon.
```

```
Nov 04 20:02:39 red-vm.mait.minnesota.edu systemd[1]: Starting OpenSSH server daemon...
```

```
Nov 04 20:02:39 red-vm.mait.minnesota.edu sshd[4709]: Server listening on 0.0.0.0 port 22.
```

```
Nov 04 20:02:39 red-vm.mait.minnesota.edu sshd[4709]: Server listening on :: port 22.
```

```
Nov 04 20:02:39 red-vm.mait.minnesota.edu systemd[1]: Started OpenSSH server daemon.
```

```
[root@red-vm preuss]#
```

CentOS 7 x

Command Prompt

```
C:\Users\preuss>echo %COMPUTERNAME%
CSCI1110-F2019
```

```
C:\Users\preuss>ipconfig
```

```
Windows IP Configuration
```

```
Ethernet adapter Ethernet0:
```

```
Connection-specific DNS Suffix . :
Link-local IPv6 Address . . . . . :
IPv4 Address. . . . . :
Subnet Mask . . . . . :
Default Gateway . . . . . :
```

```
C:\Users\preuss>
```

Mozilla Thunderbird



PuTTY Configuration

Category:

- Session
 - Logging
- Terminal
 - Keyboard
 - Bell
 - Features
- Window
 - Appearance
 - Behaviour
 - Translation
 - Selection
 - Colours
- Connection
 - Data
 - Proxy
 - Telnet
 - Rlogin
 - SSH**
 - Serial

Basic options for your PuTTY session

Specify the destination you want to connect to

Host Name (or IP address) Port

Connection type:
 Raw Telnet Rlogin SSH Serial

Load, save or delete a stored session

Saved Sessions

Default Settings

Close window on exit:
 Always Never Only on clean exit

```
C:\Users\preuss>echo %COMPUTERNAME%
CSCI1110-F2019
```

```
C:\Users\pre
```

```
Windows IP C
```

```
Ethernet ada
```

```
Connectio
Link-locat
IPv4 Addr
Subnet Ma
Default G
```

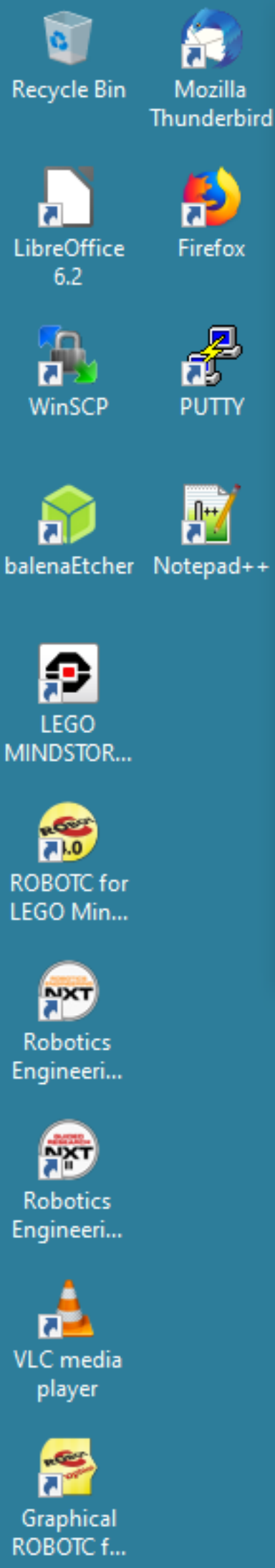
```
C:\Users\pre
```

```
preuss@red-vm:~
login as: preuss
preuss@192.168.74.136's password:
Last login: Mon Nov  4 19:47:18 2019 from 192.168.74.132
[preuss@red-vm ~]$ echo $HOSTNAME
red-vm.mait.minnesota.edu
[preuss@red-vm ~]$ █
```

%10

Mozilla Thunderbird





```

C:\Users\student01>echo %COMPUTERNAME%
WIN10-LEGO-S201

C:\Users\student01>ipconfig

Windows IP Configuration

Ethernet adapter Ethernet0:

    Connection-specific DNS Suffix  . : localdomain
    Link-local IPv6 Address . . . . . : fe80::fcff:5805:7daa:7474%13
    IPv4 Address. . . . . : 192.168.74.137
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.74.2

C:\Users\student01>

```

PuTTY Configuration

Category:

- Session
 - Logging
- Terminal
 - Keyboard
 - Bell
 - Features
- Window
 - Appearance
 - Behaviour
 - Translation
 - Selection
 - Colours
- Connection
 - Data
 - Proxy
 - Telnet
 - Rlogin
 - SSH
 - Serial

Basic options for your PuTTY session

Specify the destination you want to connect to

Host Name (or IP address)	Port
192.168.74.136	22

Connection type:
 Raw Telnet Rlogin SSH Serial

Load, save or delete a stored session

Saved Sessions

Default Settings	Load
	Save
	Delete

Close window on exit:
 Always Never Only on clean exit

Buttons: About, Help, Open, Cancel

- Recycle Bin
- Mozilla Thunderbird
- LibreOffice 6.2
- Firefox
- WinSCP
- PuTTY
- balenaEtcher
- Notepad++
- LEGO MINDSTOR...
- ROBOTC for LEGO Min...
- Robotics Engineeri...
- Robotics Engineeri...
- VLC media player
- Graphical ROBOTC f...

```

C:\> Command Prompt
Microsoft Windows [Version 10.0.18362.449]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\student01>echo %COMPUTERNAME%
WIN10-LEGO-S201

C:\Users\student01>ipconfig

Windows IP Configuration

Ethernet adapter Ethernet0:


    Connection-specific DNS Suffix  . : localdomain
    Link-local IPv6 Address . . . . . : fe80::fcff:5805:7daa:7474%13
    IPv4 Address. . . . . : 192.168.74.137
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.74.2

C:\Users\student01>
  
```

```

192.168.74.136 - PuTTY
[Empty terminal window]
  
```

PuTTY Fatal Error

 Network error: Network error: Software caused connection abort

OK