

## Running DXSpider On Raspberry Pi 3 And Configuring Partner Links

1. Set your adjacent node by node type. You need to have your cluster running. (ie., ./cluster.pl) and theDXSpider console open. If you don't have the console open, bring up another SSH session and login as sysop, then run

```
/spider/perl/console.pl
```

Once your console comes up type in the command:

```
set/spider <adjacent_node_callsign>
```

2. Quit console.pl by typing in "q", without the "" marks and press enter. Now create a connect script to allow connection to your adjacent node partner. You will have a file for each adjacent node. Login as sysop.

```
touch /spider/connect/<adjacent_node_callsign>
```

```
nano /spider/connect/<adjacent_node_callsign>
```

3. Copy and paste the following into your connect script, then edit with the correct "adjacent\_node\_callsign", "cluster.xyz.com" and "your\_node\_callsign". Make sure to remove the "<>" when editing.

```
timeout 60
```

```
abort (Busy|Sorry|Fail)
```

```
# your partners host. example: connect telnet pi.k0pir.us 7300
```

```
connect telnet cluster.xyz.com 7300
```

```
# your node. example: 'login' 'k0pir-3'
```

```
'login' <your_node_callsign>'
```

```
# partners node callsign. example: client wb3ffv-3 telnet
```

```
client <adjacent_node_callsign> telnet
```

a. Ctrl X and save file

4. Change mode on this file

```
chmod 775 /spider/connect/<adjacent_node_callsign>
```

5. Initiate a connection to your new adjacent node partner.

```
/spider/perl/console.pl
```

```
connect <adjacent_node_callsign>
```

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6. You should now see spots in the console. It may take a few seconds before you see them.
7. You need a cron job to connect to the nodes automatically when starting DXSpider. Quit console.pl by typing in "q", without the "" marks and press enter.

```
sudo su
```

```
touch /spider/local_cmd/crontab
```

```
nano /spider/local_cmd/crontab
```

8. Copy and paste this into the file then edit the callsign. One crontab, just keep adding your partners to it starting on a new line at the bottom.

```
# Check every 10 minutes to see if xxxx is connected and if not
```

```
# start a connect job
```

```
0,10,20,30,40,50 * * * * start_connect('k0pir-2') unless connected('k0pir-2')
```

a. Ctrl X then save file.

9. Change mode on this file.

```
chmod 775 /spider/local_cmd/crontab
```

10. To allow a partner node to connect to your DXSpider node at startup it must be declared as a spider type. Do this with a startup file.

```
nano /spider/scripts/startup
```

11. Copy and paste the following into the startup file. One startup file, just keep adding your partners to it starting on a new line. This allows your partner nodes to connect to your node. Make sure to remove the "<>" when editing.

```
#
```

```
# startup script
```

```
#
```

```
#set maximum number of spots allowed to 100
```

```
set/var $Spot::maxspots = 100
```

```
set/spider <adjacent_node_callsign>
```

a. Ctrl X then save file.

12. DXSpider will be writing a lot of data so it must be purged regularly. Courtesy [DO7PSL](#).

```
touch /etc/cron.daily/spider
```

```
nano /etc/cron.daily/spider
```

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13. Copy and paste this into the file.

```
#!/bin/sh

# We need to delete old files.

spiderdir="/spider/data/spots/2016"

if [ -n "$spiderdir" ] && [ -d "$spiderdir" ]; then
    # only keep three days' depth of these
    find "$spiderdir" -type f -mtime +3 -exec rm {} \;
fi

spiderdir="/spider/data/debug/2016"

if [ -n "$spiderdir" ] && [ -d "$spiderdir" ]; then
    # only keep a couple of day's depth of these
    find "$spiderdir" -type f -mtime +2 -exec rm {} \;
fi

spiderdir="/spider/data/log/2016"

if [ -n "$spiderdir" ] && [ -d "$spiderdir" ]; then
    # only keep a week's depth of these
    find "$spiderdir" -type f -mtime +7 -exec rm {} \;

fi
```

a. Ctrl X then save file.

14. Make it executable.

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```
chmod a+x /etc/cron.daily/spider
```

15. Let's do it weekly too. Courtesy [DO7PSL](#).

```
touch /etc/cron.weekly/clear_log.sh
```

```
nano /etc/cron.weekly/clear_log.sh
```

16. Copy and paste this into the file.

```
#!/bin/sh
```

```
# We need to delete old files.
```

```
logdir="/var/log"
```

```
rm $logdir/*.gz
```

a) Ctrl X then save file.

17. Make it executable.

```
chmod a+x /etc/cron.weekly/clear_log.sh
```

18. Let's reboot to see if everything is still working. At the prompt type in:

```
shutdown -r now
```

19. After rebooting , login and start your cluster and in another SSH session open your console. You should see spots after a few minutes. Give it some time.

```
cd /spider/perl
```

```
./cluster
```

/spider/perl/console.pl (Open another SSH session and start the console. In a few minutes, could be longer, do you see spots? Yes, awesome! No, go back and check the connect script and chmod 775.)

20. Just a couple of more things. We want DXSpider to restart on reboot and in the Raspberry Pi 3 we will need to start it as a service. We'll use a script which was written by [SV5FRI](#).

```
sudo nano /etc/init.d/dxspider
```

21. Copy and paste the following script into the file then save and close.

```
#!/bin/sh
```

```
### BEGIN INIT INFO
```

```
# Provides: dxspider
```

```
# Required-Start: $all
```

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```
# Required-Stop:    $all
# Default-Start:   2 3 5
# Default-Stop:    0 1 6
# Short-Description:  Dxspider
### END INIT INFO
#
# Created by SV5FRI
# Email: sv5fri@gmail.com
#
#####
NAME=dxspider
DESC=dxspider

PID=`ps -A |grep perl|awk '{print $1}`

set -e

pidfile=/spider/local/cluster.lck

./lib/lsb/init-functions

RETVAL=0

# See how we were called.

start()
{
    echo "Starting DxSpider Server..."
    /bin/su -c "/usr/bin/perl -w /spider/perl/cluster.pl" > /dev/tty3&
    RETVAL=$?
    [ $RETVAL -eq 0 ] && touch /var/lock/dxspider
    echo
    return $RETVAL
}

stop()
{
    echo "Stopping DxSpider Server..."
    pkill -F $pidfile
    RETVAL=$?
    [ $RETVAL -eq 0 ] && rm -f /var/lock/dxspider
    echo
    return $RETVAL
}

restart()
{
    stop
```

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```
    start
  }

case "$1" in
  start)
    start
    ;;

  stop)
    stop
    ;;

  restart)
    restart
    ;;

  status)
    if [ -f "$pidfile" ];
    then
      echo "Dxspider is running with pid: $PID"
    else
      echo "Dxspider is stopped..."
    fi
    #   RETVAL=$?
    ;;

  *)
    echo $"Usage: $0 {start|stop|restart|status}"
    exit $?
    ;;
esac
exit $?
```

- a. Ctrl X and save the file.
22. Change permission

```
sudo chmod +x /etc/init.d/dxspider
```

23. Let's install sysv-rc-conf to enable DXSpider to startup automatically on reboot.

```
sudo apt-get update
```

```
sudo apt-get install sysv-rc-conf
```

24. Run sysv-rc-conf and check off DXSpider to start. Check 2, 3 and 5. Then exit.

```
sudo sysv-rc-conf
```

Check DXSpider 2,3 and 5

Exit

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### 25. Reboot Raspberry pi

```
sudo su shutdown -r now
```

26. Upon reboot DXSpider will startup automatically. You can go into the console and make sure it's running. Use SSH and login as sysop. Run the command `/spider/perl/console.pl`. It may take a few minutes (10 minutes) before spots start appearing. Give it time.

### 27. Backup your Raspberry Pi 3

- a. Insert a USB stick into one of the Raspberry Pi's USB ports
- b. Login using VNC
- c. Click on the Raspberry button in the toolbar
- d. Go to Accessories
- e. Go to SD Card Copier
- f. Make your selections and click start