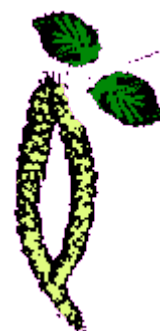


## **docoll rsync server sysadmin guide**



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# 1 Introduction

This document describes the procedure for setting up an rsync server for the docoll system.

## 1.1 Related documentation

In descending order of likely usefulness to a new reader:

- "docoll system introduction"
- "docoll GNU-Linux rsync client sysadmin guide"
- "docoll Windows rsync client sysadmin guide"
- "docoll upgrade guide"
- "docoll files and directories"
- "docoll sysadmin guide"
- "docoll rsync pilot development log"
- RELEASE
- "docoll upgrade guide"

## 2 Prerequisites

Software: rsync. Version 3.0.7 is known to work with docoll.

Access: root

## 3 Configuration

### 3.1 /etc/rsyncd.conf

Owner: root

Permissions: 644

Initial content (the modules are added later, one per client):

```
# Configuration file for rsync in daemon mode, /etc/rsyncd.conf
# Usage described in the rsyncd.conf man page

# Global parameters
# ~~~~~
pid file = /var/run/rsyncd.pid
log file = /var/log/rsyncd.log
timeout = 600

# Module parameters
# ~~~~~
```

### 3.2 /etc/rsyncd.secrets

Owner: root

Permissions: 600

Initial content (the secrets are added later, one per client):

```
# rsync username:password file
```

### 3.3 Directories creation

For each docoll instance, changing `<instance name>` as required, for example to default:

```
dir=/srv/rsync/docoll/<instance name>; mkdir -p $dir && chown root:root $dir
```

### 3.4 Boot script

The boot script's name, directory and any symlinks are distro-dependent. Most distros come with an rsync daemon boot script which may need to be enabled. In case no boot script is supplied, the boot script in 8 Appendix – boot script may be used.

### 3.5 Log rotation

File: /etc/logrotate.d/rsyncd

Ownerships: root:root

Permissions: 644

```
# logrotate configuration for rsync daemon

# Path must be harmonised with "log file" value in /etc/rsyncd.conf

/var/log/rsyncd.log {
    maxage 183
    missingok
    monthly
    rotate 6
}
```

Notes: "rotate 6" is chosen because errors may go unnoticed for more than 3 months (!) and the log is relatively small anyway. In view of the size and for convenience, compression is not used.

## 4 Adding a client

On the rsync server, as root ...

### 4.1 /etc/rsyncd.conf

Add a module for the client, changing the values in red as required.

Note: any lower case letters in the the computer (client) name must be changed to upper case.

```
client=PC-5
instance=default
echo "
[$client]
auth users = $client
incoming chmod = Du=rwx,Dg=rx,Do=rx,Fu=rw,Fg=r,Fo=r
path = /srv/rsync/docoll/$instance/$client
read only = false
secrets file = /etc/rsyncd.secrets
transfer logging = true
```

```
use chroot = false  
" >> /etc/rsyncd.conf
```

## 4.2 /etc/rsyncd.secrets

Add a line for the client, changing the values in red as required.

Note: any lower case letters in the the computer (client) name must be changed to upper case.

```
client=PC-5  
password=password  
echo "$client:$password" >> /etc/rsyncd.secrets
```

## 4.3 /srv/rsync/docoll/<instance name>/<client computer name>

If you are using only one instance of docoll on the server, use "default" for the <instance name>.

The group name to be used below varies between distros:

| Distro    | Group             |
|-----------|-------------------|
| CentOS    | nobody            |
| Debian    | nogroup           |
| Slackware | nobody or nogroup |

Create a directory for the client computer, changing the values in red as required.

Note: any lower case letters in the the computer (client) name must be changed to upper case.

```
group=nogroup  
instance=default  
client=PC-5  
dir=/srv/rsync/docoll/$instance/$client  
mkdir -p $dir && chown root:nogroup $dir
```

## 4.4 Name resolution

If practicable, ensure that the server can resolve the client's IP address to a hostname, for example by creating an entry for the client in /etc/hosts.

If this cannot be done for any reason (perhaps the client computer uses DHCP and dynamic DNS is not implemented), the only impact on docoll rsync is to make the rsync server log messages list clients by IP address rather than hostname.

## 4.5 Samba

Optionally, if user-driven restores are wanted, samba can be configured to make the synchronised files available as SMB file systems.

Edit /etc/samba/smb.conf.source (may not exist), adding the client(s) as this sample.

Note: any lower case letters in the the computer (client) name must be changed to upper case.

```
[PC-5]  
path = /srv/rsync/docoll/PC-5  
public = yes  
writable = no
```

Optionally test:

```
cd /etc/samba && testparm smb.conf.source
```

The following warnings are normal and can be ignored:

```
rlimit_max: rlimit_max (1024) below minimum Windows limit (16384)
WARNING: You have some share names that are longer than 12 characters.
These may not be accessible to some older clients.
(Eg. Windows9x, WindowsMe, and smbclient prior to Samba 3.0.)
```

Create an updated Samba configuration file (it is written when Enter is pressed):

```
cd /etc/samba && testparm smb.conf.source > smb.conf
```

The new Samba configuration should become effective after not more than one minute.

## 5 Testing

1. Restart the rsync daemon using the boot script. If it is not already running, this will start it.

The boot script may be in the `/etc/init.d/` directory and called either `rsync` or `rsyncd` – or it may be in the `/etc/rc.d/` directory and called `rc.rsync` or `rc.rsyncd`. For example, on Debian:

```
/etc/init.d/rsync restart
```

2. Check the rsync daemon status using the boot script, for example:  

```
/etc/init.d/rsync status
```
3. Check `/var/log/rsyncd.log` for the daemon startup message. It should look something like:  

```
rsync.log:2011/12/22 14:34:58 [1598] rsyncd version 3.0.7 starting, listening on port 873
```
4. Ensure the server lists its modules:  

```
rsync rsync://localhost
```
5. logrotate testing must wait for a month!

## 6 Routine monitoring

Check the rsync log file, `/var/logs/rsync.log` and the syslog files.

## 7 Troubleshooting

Check the rsync log file, `/var/logs/rsync.log` and the syslog files.

### 7.1 Online resources

- rsync error messages: <http://steven-linux.javaeye.com/blog/688243> and <http://www.rollingr.net/wordpress/2007/05/01/installing-and-running-rsync/4/>
- rsync mailing list archive: <http://lists.samba.org/archive/rsync>
- rsync man pages: <http://rsync.samba.org/ftp/rsync/rsyncd.conf.html> and <http://rsync.samba.org/ftp/rsync/rsync.html>

## 7.2 Specific error messages

"chdir failed". The /srv/rsync/docoll/<instance name>/<client name> directory does not exist, is spelled incorrectly or does not have the necessary permissions.

## 8 Appendix – boot script

This script does more status reporting than most.

Owner: root

Permissions: 544

```
#!/bin/bash
```

```
# Configure shell
```

```
# ~~~~~
```

```
export PATH=/usr/bin:/bin
```

```
set -o nounset
```

```
unalias -a
```

```
unset IFS # Simple way to ensure bash works as if IFS is default
```

```
# Configuration variables
```

```
# ~~~~~
```

```
PID_file=/var/run/rsyncd.pid
```

```
start_command='/usr/bin/rsync --daemon --config=/etc/rsyncd.conf'
```

```
# Functions
```

```
# ~~~~~
```

```
function get_pids {
```

```
    # An rsync server has a master/daemon process that spawns a worker process
```

```
    # for each connection.
```

```
    # The master's PID is normally in the PID file and, being a daemon, it has a PPID of 1.
```

```
    # The per-connection workers' PPIDs are the master's PID.
```

```
    # Subsequent workers' PPID(s) are earlier workers' PID(s).
```

```
    # If the master is killed the per-connection processes become daemons.
```

```
    local array pid ppid
```

```
    # Use the PID file
```

```
    master_pid=
```

```
    if [[ -f $PID_file ]]; then
```

```
        master_pid=$( < $PID_file )
```

```
        if [[ $master_pid =~ ^[0-9]+$ ]]; then
```

```
            if ! ps -p $master_pid >/dev/null 2>&1 ; then
```

```
                echo "Removing stale $PID_file"
```

```
                rm -f "$PID_file"
```

```
                master_pid=
```

```
            fi
```

```
        else
```

```
            echo -e "Invalid $PID_file contents:\n$pid\nRemoving $PID_file" >&2
```

```
            rm -f "$PID_file"
```

```
            master_pid=
```

```
        fi
```

```
    fi
```

```
    # Use ps output
```

```
    worker_pids=
```

```
    while read line
```

```
    do
```

```
        if [[ $line =~ $start_command$ ]]; then
```

```
            array=( $line ); pid=${array[0]}; ppid=${array[1]};
```

```
            if [[ $ppid = 1 ]]; then
```

```
                if [[ $master_pid = '' ]]; then
```

```
                    master_pid=$pid
```

```

        else
            [[ $pid != $master_pid ]] && echo "Another rsync daemon found, PID $pid"
        fi
    else
        worker_pids+=" $pid"
    fi
fi
done <<< "${ PS_PERSONALITY=linux ps -C rsync --no-headers -o pid,ppid,args )"
}

function start {
    get_pids
    if [[ $master_pid != '' ]]; then
        echo 'rsync daemon is already running'
        return
    fi
    echo "Starting rsync daemon ..."
    $start_command
}

function status {
    get_pids
    [[ $master_pid = '' ]] && msg_part=' not' || msg_part=
    echo "rsync daemon is$msg_part running"
    [[ ${#worker_pids} -gt 0 ]] && echo "rsync worker process(es):$worker_pids"
}

function stop {
    get_pids
    if [[ $master_pid = '' ]]; then
        echo 'rsync daemon is not running'
        return
    fi
    echo "Stopping rsync daemon ..."
    kill $master_pid
    sleep 0.5
    get_pids
    [[ ${#worker_pids} -gt 0 ]] && echo "rsync worker process(es):$worker_pids"
}

# Main sequence
# ~~~~~
case "$1" in
    start)
        start
        ;;
    status)
        status
        ;;
    stop)
        stop
        ;;
    restart)
        stop
        sleep 1
        start
        ;;
    *)
        echo "Usage: $0 start|stop|restart"
esac

```

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Version 1.3, 3 November 2008



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