

1. Installing an Ubuntu installation point

This article guides how to set up an installation point on Ubuntu 16.04 LTS platform. All described steps should be performed using the “root” account.

1.1. Install Apache and Samba

First, install a server with minimal Ubuntu.

Then, install Apache2 web server and Samba file server

```
apt-get install apache2 samba
```

1.2. Samba settings

After a successful installation, find the configuration file of Samba (/etc/samba/smb.conf).

Before making any changes to the configuration file, make sure you have a backup copy of the original configuration file. If you haven't, you can make one with the following command:

```
cp /etc/samba/smb.conf /etc/samba/smb.conf.bak
```

Remove the default file share definition from the configuration file.

Notice that if you're using the Samba file server also for other purposes than just as a Miradore installation point, you should not remove the share definitions. Instead, in this case, you should skip the next removal step and jump to the step which instructs how to add Miradore installation point definition to the configuration file.

You can remove the share definitions with a text editor by searching for a row which says “Share definitions” and removing all rows that come after that in the configuration file. An alternative way, is to use the sed tool:

```
sed -ni '/Share Definitions/q;p' /etc/samba/smb.conf
```

Use a text editor to add a definition of a Miradore installation point to the configuration file.

Add the following rows to the end of the file:

```
# Miradore installation point
[Setup]
writable = yes
path = /var/miradore/setup
browseable = no
available = yes
```

```
guest ok = no
guest only = no
read only = no
read list = mdreader
write list = mdwriter
acl allow execute always = true
# Miradore installation point end
```

For enhanced security, add the following definition to the [global] section of the configuration file:

```
server signing = mandatory
```

After that you're done. Save the Samba configuration file.

Next, add the users mentioned in the configuration file's read list and write list to Samba.

Start this by creating the users. The users accounts should be normal Linux user accounts without a password and which cannot be used to login to the system.

```
useradd mdreader -G users
useradd mdwriter -G users
```

Add the user accounts to Samba and define their Samba-passwords.

```
smbpasswd -a mdreader
smbpasswd -a mdwriter
```

Lastly, create a root directory for the installation point contents and define the needed access rights for it.

"mdreader" user account has only reader permission, whereas "mdwriter" also has writer permission. Miradore needs the writer permissions, for example, for replicating the installation point files and contents between the installation points.

```
mkdir -p /var/miradore/setup
chown -R mdwriter:mdwriter /var/miradore/setup
chmod -R 775 /var/miradore/setup
chmod -R u+s,g+s /var/miradore/setup
```

Now, Samba is ready for use.

Command Samba to read the new configurations or start if it wasn't running already:

```
systemctl reload-or-restart smbd
```

1.3. Apache settings

Add an HTTP installation point to Apache.

Create a configuration file (/etc/apache2/sites-available/installation-point.conf) and use a text editor to add the following rows into the file:

```
Alias "/Setup" "/var/miradore/setup"  
<Directory "/var/miradore/setup">  
    AllowOverride None  
    Options Indexes FollowSymLinks  
    Require all granted  
</Directory>
```

Command Apache to read the new configurations or start if it wasn't running already:

```
systemctl reload-or-restart apache2
```

1.4. Support for initial installation

The following services must be installed and configured for enabling the support for Miradore initial installations:

- TFTP server
- DHCP server

1.4.1. TFTP server

Install a TFTP server.

TFTP server uses TFTP protocol to provide the files needed in the network boot to the computer which is being initial installed with Miradore.

```
apt-get install tftpd-hpa
```

Make a backup copy of the configuration file by adding ".bak" ending to the file name:

```
mv /etc/default/tftpd-hpa /etc/default/tftpd-hpa.bak
```

Use a text editor to create a new configuration file (/etc/default/tftpd-hpa) which looks like this:

```
TFTP_USERNAME="tftp"  
TFTP_DIRECTORY="/var/miradore/setup/_System/_Start"  
TFTP_OPTIONS="-l -s -v -v -v -m /etc/default/tftpd.remap"  
TFTP_ADDRESS="0.0.0.0:69"  
RUN_DAEMON="yes"  
OPTIONS="-l -s /var/miradore/setup/_System/_Start"
```

Then create a "remap" file, which is used by the TFTP. This file defines some conversion rules for file paths. For example, the "\ " in Windows paths is converted to "/" on Linux file paths etc.

Create a text file with the following contents:

```
rg \\ /
rg /Boot /boot
```

Lastly, create the installation point root directory for the TFTP server and start up the TFTP server.

```
mkdir -p /var/miradore/setup/_System/_Start
systemctl reload-or-restart tftpd-hpa
```

1.4.2. DHCP server

Install a DHCP server only if you don't have any DHCP server in your environment already.

If you already have a DHCP server in place, make the needed [configuration changes](#) to your existing DHCP server.

Install a DHCP server:

```
apt-get install isc-dhcp-server
```

The configuration file of the DHCP server is: /etc/dhcp/dhcpd.conf.

You can use the below shown as an example of a configuration file. Make sure to configure at least the ones with **yellow** color to match with your environment.

```
ddns-update-style interim;

authoritative;

#Miradore specific options
option miradore-server code 230 = { string };
option miradore-instance code 231 = { text };
option miradore-port code 232 = { text };
option miradore-use-https code 233 = { text };
option miradore-proxy-server code 235 = { ip-address };
option miradore-proxy-authentication-method code 236 = { text };
option miradore-proxy-user code 237 = { text };
option miradore-proxy-password code 238 = { text };

ignore client-updates;
set vendorclass = option vendor-class-identifier;

option pxe-system-type code 93 = unsigned integer 16;
```

```

subnet 172.18.90.0 netmask 255.255.255.0 {
    option routers 172.18.90.1;
    option subnet-mask 255.255.255.0;
    range dynamic-bootp 172.18.90.30 172.18.90.150;
    default-lease-time 21600;
    max-lease-time 43200;
    option ntp-servers 171.18.90.20;
    next-server 172.18.90.20;
    option miradore-server "Miradore";
    option miradore-port "80";
    option miradore-use-https "0";

    class "pxeclients" {
match if substring (option vendor-class-identifier, 0, 9) =
"PXEClient";
        if option pxe-system-type = 00:06 {
            filename "boot\\bootia32.efi";
        } else if option pxe-system-type = 00:07 {
            filename "boot\\bootx64.efi";
        } else {
            filename "boot\\pxeboot.com";
        }
    }
}

```

After the you've done the configuration changes, command the DHCP server to read the modified configuration file:

```
systemctl reload-or-restart isc-dhcp-server
```

1.5. Firewall

If a firewall is used on the Ubuntu server, make sure to open the following ports for Miradore installation point:

```

67/UDP
68/UDP
69/UDP
137/TCP
137/UDP
138/TCP
138/UDP
139/TCP
139/UDP
445/TCP
445/UDP
443/TCP
873/TCP
873/UDP

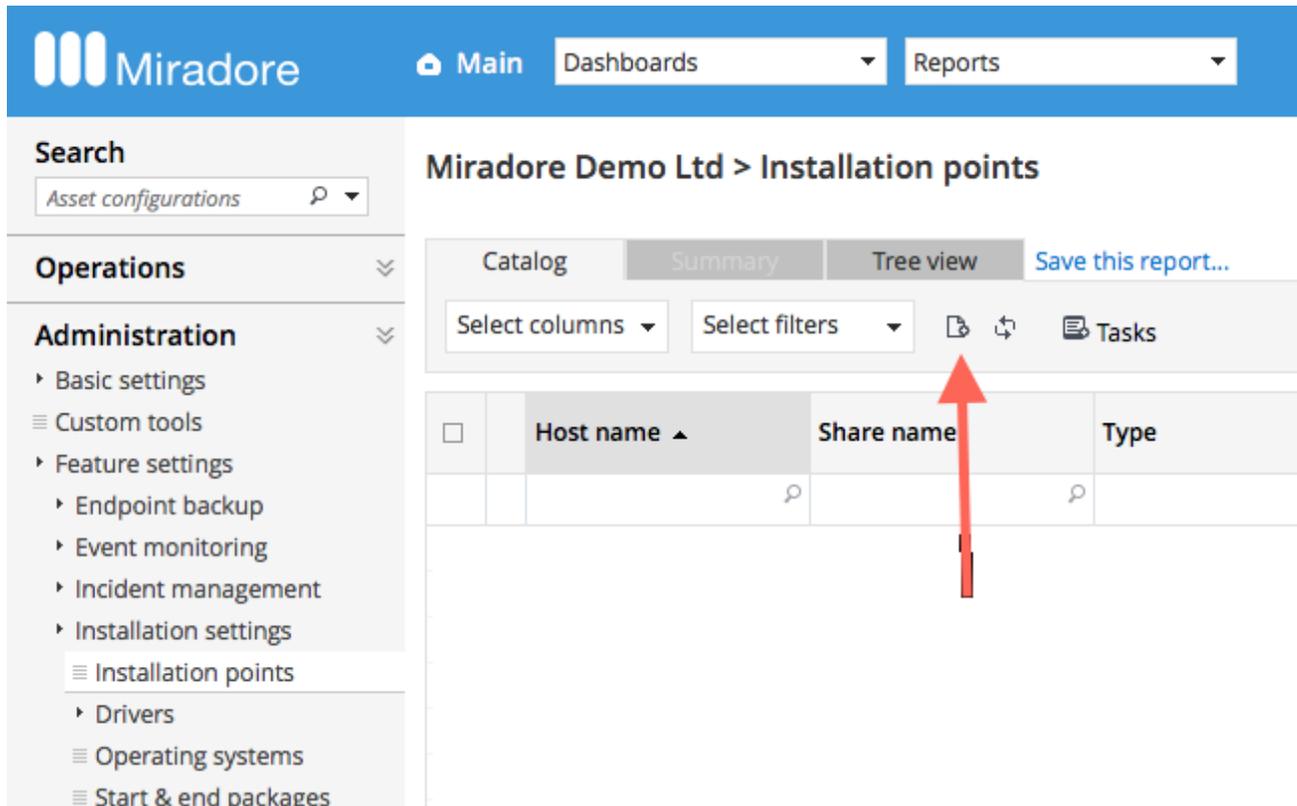
```

1.6. Adding an installation point to Miradoreen

Follow the next steps to add the installation point to Miradore Management Suite:

First, navigate to “Administration > Feature settings > Installation settings > Installation points”

Add a new installation point either by clicking the quick menu icon, or through the Tasks menu > Create.



The screenshot shows the Miradore Management Suite interface. The top navigation bar includes the Miradore logo, a 'Main' button, and dropdown menus for 'Dashboards' and 'Reports'. The left sidebar contains a search bar and a navigation menu with categories like 'Operations' and 'Administration'. Under 'Administration', 'Installation points' is selected. The main content area displays the 'Installation points' page for 'Miradore Demo Ltd'. It features a table with columns for 'Host name', 'Share name', and 'Type'. A red arrow points to the 'Share name' column header. Above the table, there are tabs for 'Catalog', 'Summary', and 'Tree view', along with a 'Save this report...' link. Below the tabs are 'Select columns' and 'Select filters' dropdowns, and a 'Tasks' button.

Configure the installation point settings.

Notice that you have to create both: **a network share** for Windows and **an HTTP installation point**.

For field descriptions, see [Package item attributes](#) page in the product guide.

If you have multiple installation points and you want to configure installation point reporting and file replication, please refer to the following articles in the product guide:

[File management on installation points](#)

[How to implement installation point reporting and replication](#)

Notice that if you want to use file replication with Ubuntu installation points, you need to install cifs-utils and rsync packages to the installation point servers.

```
apt-get install rsync cifs-utils
```