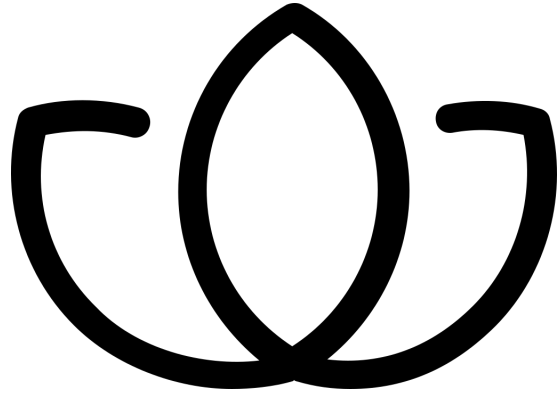


PCONFIGURE



Orchid Core VMS Installation Guide

Version 2.0.0

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About the Orchid Core VMS Installation Guide

The Orchid Core VMS Installation Guide is designed for IPConfigure dealers, integrators, or system administrators who are tasked with software installation. In addition to installation instructions, this guide provides procedures for editing configuration files, working with the Orchid Core VMS services, and uninstalling the Orchid Core VMS software.

This guide covers Orchid Core VMS installation on the following operating systems:

- Windows
- Ubuntu 14.04 LTS
- Ubuntu 16.04 LTS
- Red Hat Enterprise Linux 7

This guide also includes helpful information on the following:

- Installing Orchid Core VMS on Pelco Sarix IME+ Series Cameras
- Installation Support Topics

Installation

Orchid Core VMS is compatible with the following operating systems: Windows, Ubuntu 14.04 LTS, Ubuntu 16.04 LTS, and Red Hat Enterprise Linux 7.

For each of these operating systems, we are providing instructions for installation, editing configuration files, checking/starting/stopping the services, and uninstalling Orchid Core VMS. Please refer to the section that corresponds to the operating system installed on your machine.

Working in Windows

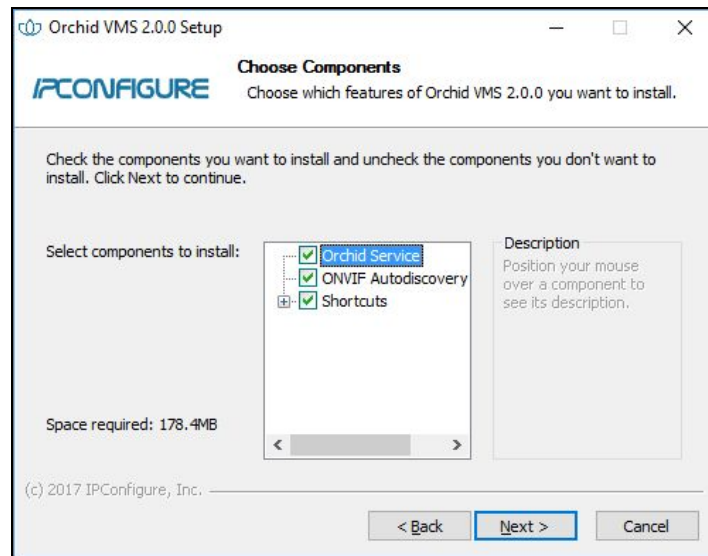
Installing Orchid Core VMS on Windows

IPConfigure distributes a single Windows installer that is valid for all 64-bit versions of Windows 7 and up, as well as 64-bit Windows Server 2008 R2 and up.

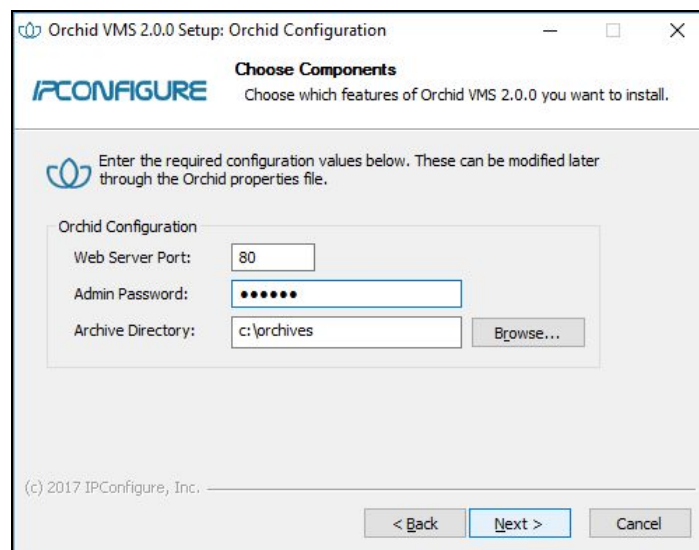
Note: Orchid Core VMS can only be installed on a 64-bit operating system; it is not compatible with 32-bit operating systems.

Note: You must login to the computer as a user with administrative privileges.

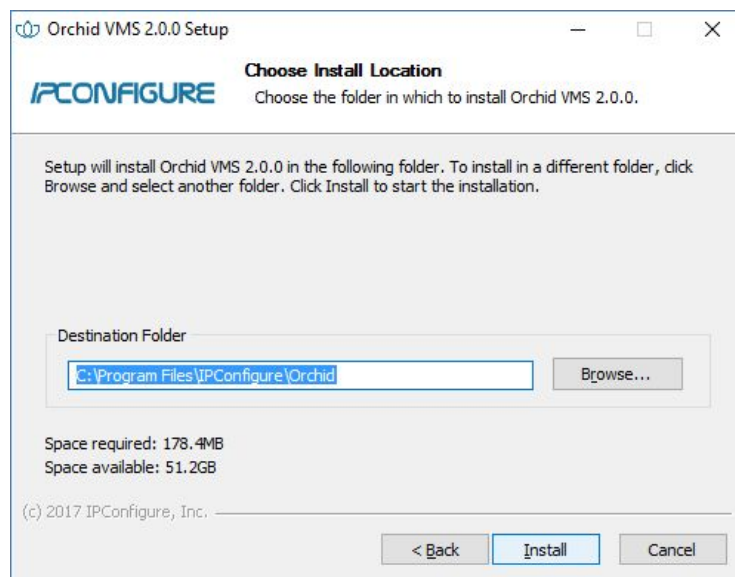
1. Download the Orchid Core VMS executable file. You can find the latest version of the Orchid Core VMS on IPConfigure's website at <http://www.ipconfigure.com/products/orchid#download>.
2. Open the Orchid Core VMS executable file. You will be asked if you want to allow the installer to make changes to your computer. Click **Yes** to allow the installer to open.
3. Before proceeding with the installation, close all other applications, then click **Next** to continue.
4. You will be asked to accept the End-User License Agreement. After reading the agreement, click the **I Agree** button to accept it.
5. You will be asked to select the components you want to install. *Orchid Service*, *Orchid ONVIF Discovery Service*, and *Shortcuts* will already be checked.



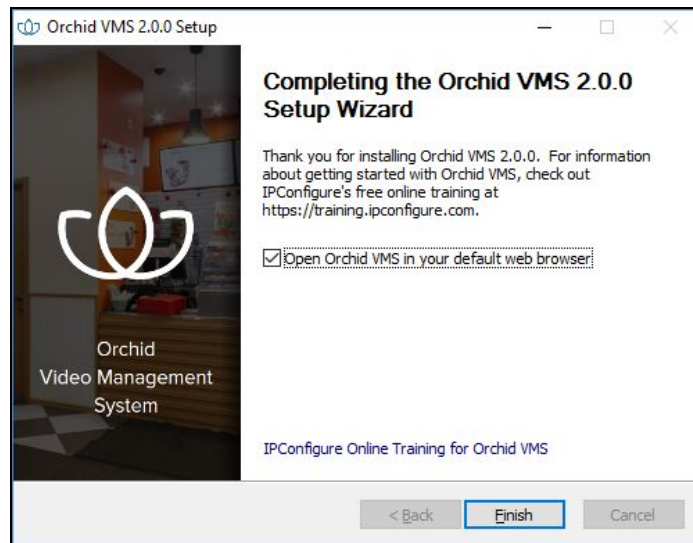
- **Orchid Service:** This Orchid Server service is responsible for recording cameras, managing archives, and serving the web-based Orchid Core VMS user interface to your browser.
 - **ONVIF Autodiscovery:** This is used by the Orchid Server service to automatically discover ONVIF conformant cameras on your local network.
 - **Shortcuts:** This installs shortcuts on the computer to open the Orchid Core VMS user interface in a web browser.
6. Click the **Next** button to proceed with the installation for all components. The installer will ask you to set the Web Server Port, Admin Password, and the Archive Directory for storage.



- By default, the web server port is set to port 80 (recommended for most installations). Update the port number only if Orchid Core VMS needs to use a port other than 80.
 - Enter the password you would like to set for the default admin account in the *Admin Password* field.
 - The default folder for video archives on Windows is *C:\archives*. This can be changed to another directory, if needed.
7. Click the **Next** button to continue.
 8. The installer will ask you to confirm the installation folder. By default this is *C:\Program Files\IPConfigure\Orchid* and does not need to be changed. However, the installation directory can be updated, if needed.



9. Click the **Install** button to proceed with the installation. The installation will complete automatically without any additional prompts. This process may take a few minutes.
10. Once the installer says “*Completed*” at the top of the window, mark the *Open Orchid VMS...* checkbox if you want to open Orchid Core VMS in your default web browser upon exit.



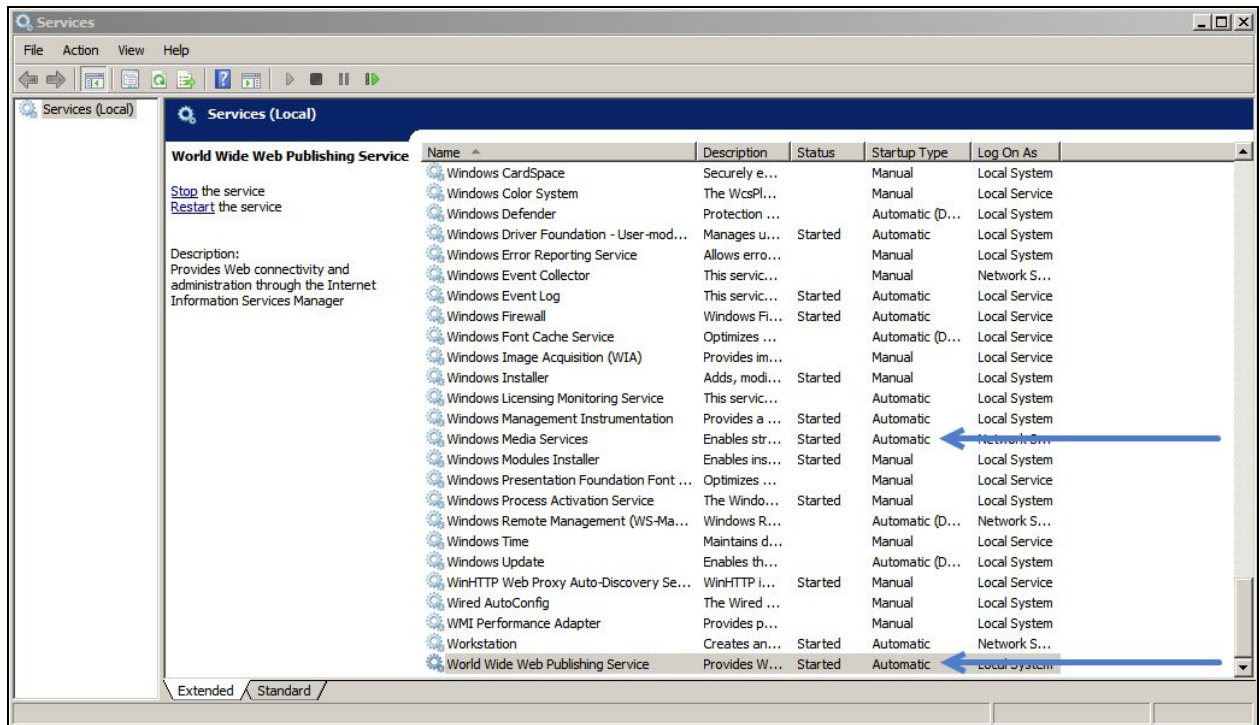
11. Click the **Finish** button to close the installer. Orchid Core VMS will automatically open in the computer's default web browser (if so marked).

If Orchid Core VMS is being installed on Windows Server, there may be some complications that prevent Orchid Core VMS from starting. If this is the case, please review the following topic.

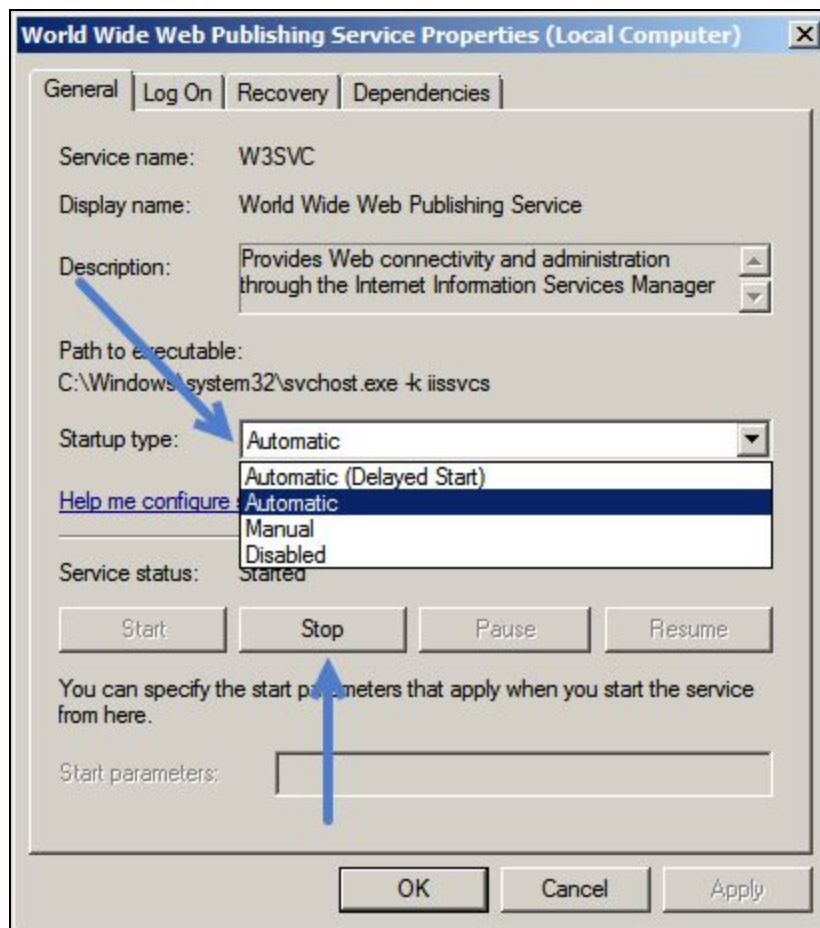
Orchid Core VMS Not Starting In Windows Server

Unless changed during installation, Orchid Core VMS uses port 80 by default for its internal web server. This can cause problems in Windows Server and prevent Orchid Core VMS from starting. To remedy this, please follow the procedure below.

1. Open the web browser and go to *http://localhost*. If you receive a *directory forbidden* screen, or any screen that does not look like Orchid Core VMS, there is another program running that is using port 80.
2. Open the Windows Start Menu and type **services** into the search bar, or select *Windows Administrative Tools*.
3. Click the **Services** icon to open the Services Manager.



4. Locate the service called *World Wide Web Publishing Service*.
5. Right-click on the service and click **Properties** to open the service's settings.



6. Click the **Stop** button to stop the service.
7. Change the startup type to *Disabled* to stop the service from automatically starting at boot.
8. Click the **OK** button to save the new settings and close the window.
9. Repeat steps 4-8 for the *Windows Media Services* service. This service will not prevent Orchid Core VMS from starting, but it will prevent it from streaming live video through port 554.
10. Once both services have been stopped and disabled, locate the Orchid Server service. Right-click on it and select **Start** to start the Orchid Server service.

Orchid Core VMS will now be accessible through the browser and will be able to record and play back live video.

How to Edit a Configuration File in Windows

If it becomes necessary, you can edit the Orchid Core VMS configuration files using a text editor like WordPad or Notepad.

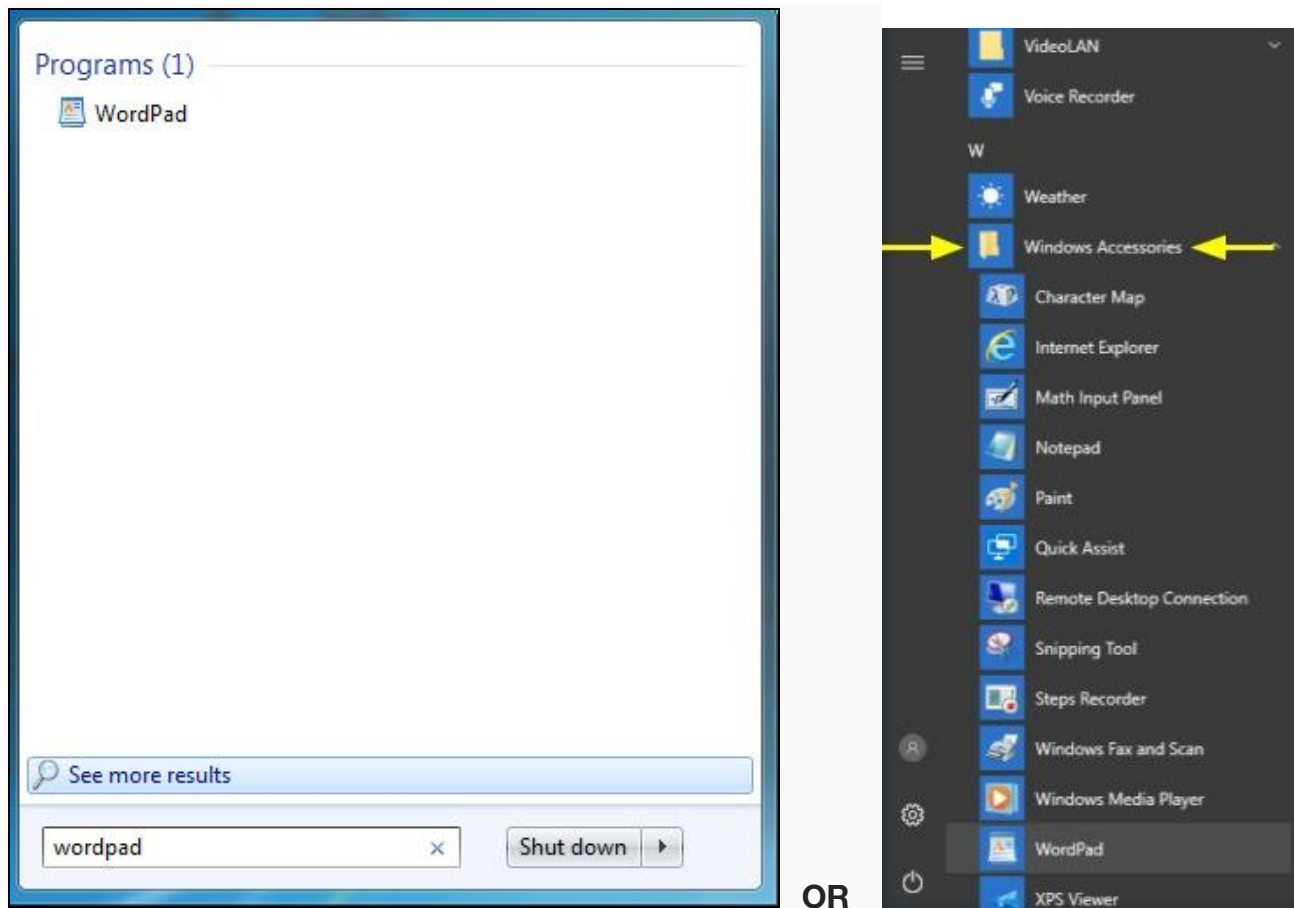
Note: In order to edit Orchid Core VMS's configuration files, you will need to be logged in as an Administrator.

The default locations for Orchid Core VMS's configuration files in Windows are:

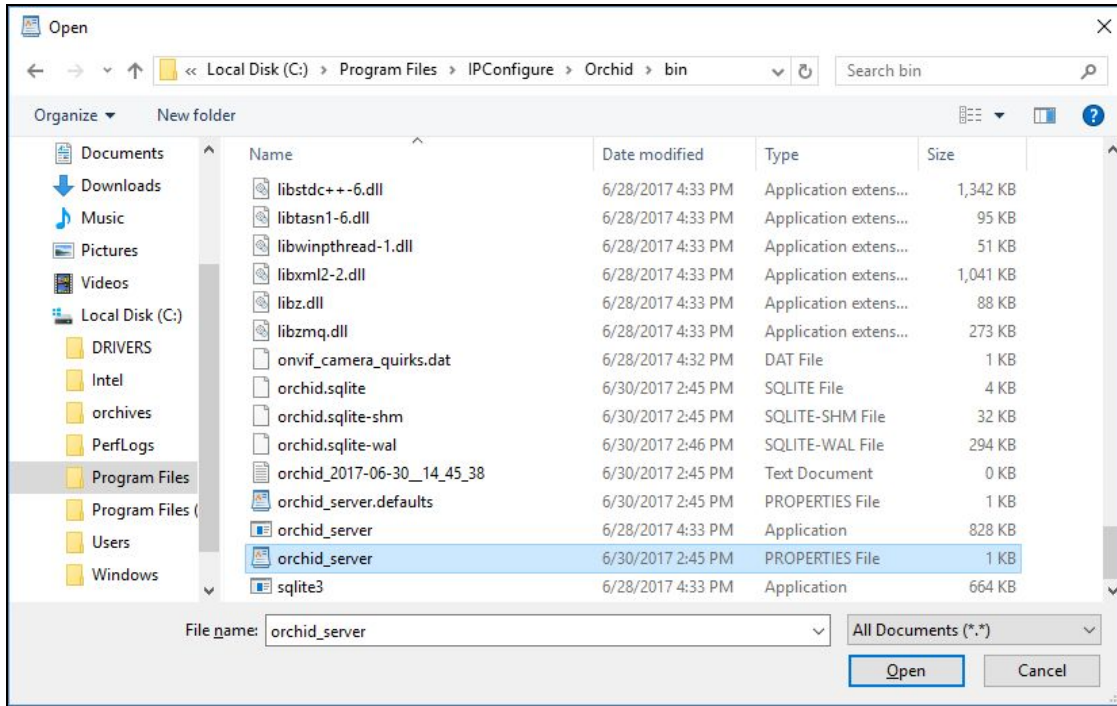
- **Orchid Server Properties:** *C:\Program Files\IPConfigure\Orchid\bin\orchid_server.properties*
 - Stores all of Orchid Core VMS's default settings and can be used to update things like Orchid Core VMS's port number, manually update the admin password, etc.
- **ONVIF Auto-Discovery:** *C:\Program Files\IPConfigure\Orchid\onvif_autodiscovery\onvif_autodiscovery.properties*
 - Used to edit the settings for the ONVIF Auto-Discovery service used by Orchid Core VMS.

Refer to the [Installation Support Topics](#) section for a list of available properties.

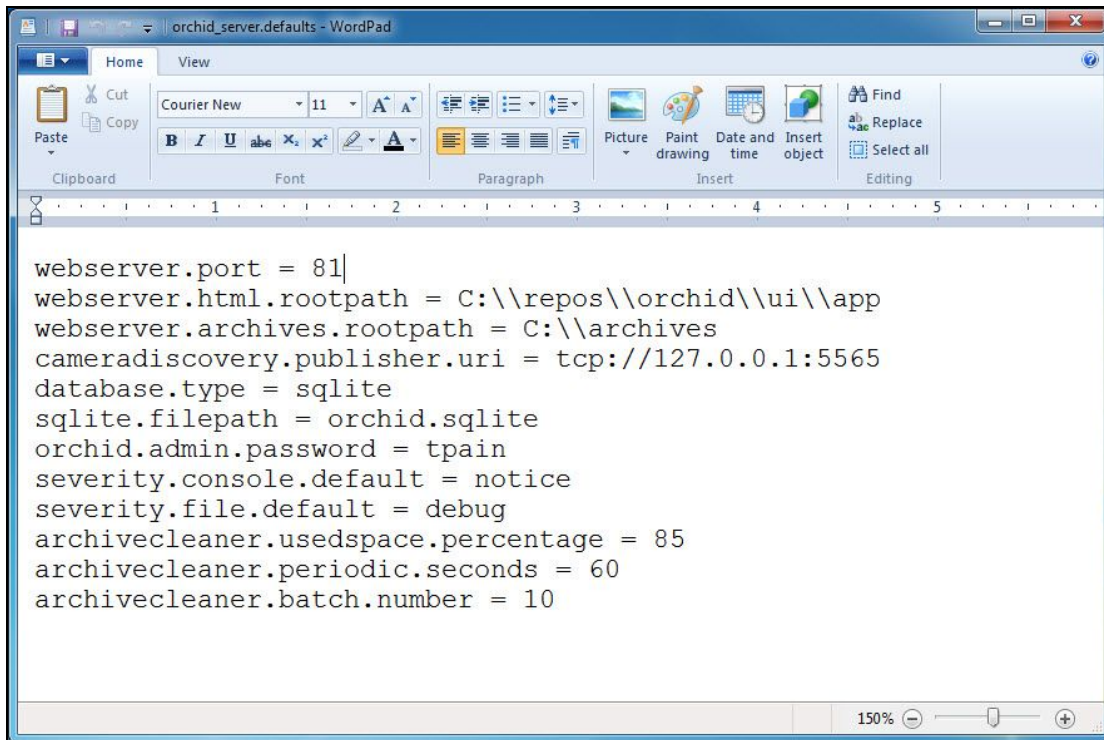
1. Open the Windows start menu and type *Wordpad* into the search bar, or go to *Windows Accessories*.



2. Right click on the **WordPad** icon and click *Run as administrator*.
3. Click the **Yes** button to let WordPad make changes to the computer.
4. Select **File/Open**. When the window opens, navigate to the configuration file you need to edit.



5. Select the file you want to edit and click the **Open** button. (If no files appear, ensure the *All Documents* option is selected.)
6. The file you selected will open in WordPad. Make setting changes as necessary.

A screenshot of a Windows WordPad window titled "orchid_server.defaults - WordPad". The window displays a configuration file with the following text:

```
webserver.port = 81|
webserver.html.rootpath = C:\\repos\\orchid\\ui\\app
webserver.archives.rootpath = C:\\archives
cameradiscovery.publisher.uri = tcp://127.0.0.1:5565
database.type = sqlite
sqlite.filepath = orchid.sqlite
orchid.admin.password = tpain
severity.console.default = notice
severity.file.default = debug
archivecleaner.usedspace.percentage = 85
archivecleaner.periodic.seconds = 60
archivecleaner.batch.number = 10
```

The WordPad interface includes a ribbon with tabs for Home, View, and a status bar at the bottom showing 150% zoom.

7. When you are ready to save the file, select **File/Save** to save the configuration file.
8. You must restart the Orchid Server service in [Windows](#) for the new settings to take effect.

How to Check, Start, or Stop Orchid Core VMS Services in Windows

There are two main services used by Orchid Core VMS on Windows:

- **Orchid Server:** The main Orchid Core VMS server that records and archives video.
- **ONVIF Auto-Discovery Service:** Used by Orchid Core VMS to automatically find cameras that support ONVIF.

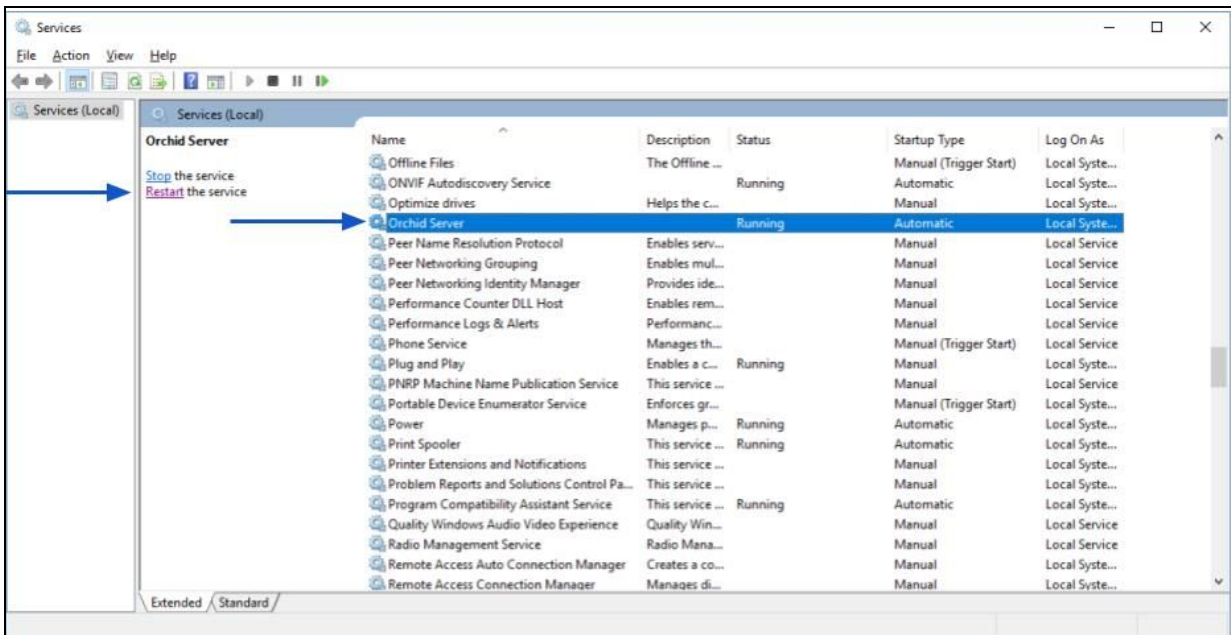
If you need to check the status, start, or stop one of these services, you can do this through the *Services Manager* whenever necessary. (You will need to restart the appropriate service whenever a change has been made to one of Orchid Core VMS's configuration files.)

1. Open the Windows Start Menu and type *Services* into the search bar, or go to *Windows Administrative Tools*.

2. Click the *Services* icon to open the *Services Manager*.

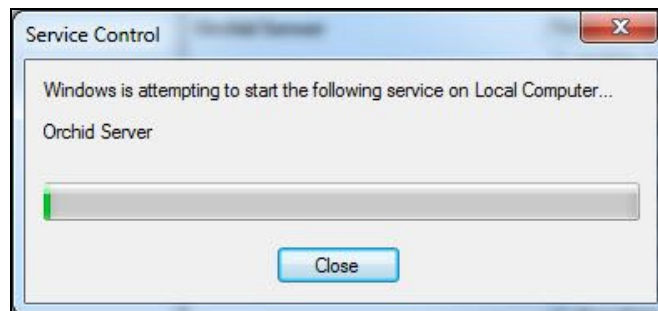
Note: You must be logged into the computer as an administrator in order to use the *Services Manager*.

The *Services Manager* will display a list of all the services setup in Windows. Scroll through the list and click on the service you need to restart.



3. Click the **Restart the service** button (at the left of the list of services).

A status window will appear to show the progress of the restart. Once the service has restarted successfully, the software will return to the *Services Manager* window; the *Status* column will indicate that the service is *Running*.



Uninstalling Orchid Core VMS for Windows

To remove the Orchid Core VMS software, follow the steps below. (This will remove all files installed and created by Orchid Core VMS except the *C:\archives* directory.)

1. To uninstall Orchid Core VMS, locate the uninstall file on the computer. The default location for this file is *C:\Program Files\IPConfigure\Orchid\uninstall.exe*.
2. Double-click on the *uninstall* file.
3. Click the **Yes** button to allow the application to make changes to the computer.
4. Click the **Uninstall** button to proceed with the uninstall process. This may take a moment.
5. Once the uninstall is complete, click the **Close** button to exit.

Working in Ubuntu 14.04

Installing Orchid Core VMS on Ubuntu 14.04 LTS

IPConfigure distributes Orchid Core VMS for Ubuntu through debian package files (.deb files). The recommended method for installing the package file is through GDebi Package installer. GDebi can be used either through command line, or through the Graphical User Interface (GUI). (Note that the 14.04 and 16.04 installers are different)

Note: Orchid Core VMS can only be installed on a 64-bit operating system. If you are currently running a 32-bit operating system, the installer will return an “*Architecture not supported*” error and Orchid Core VMS installation will fail.

Note: You must login to the computer as a user with "root" or “sudo” privileges.

1. Download the Orchid .deb file. You can find the latest version of Orchid Core VMS on IPConfigure's website at <http://www.ipconfigure.com/products/orchid#download>.
2. Once you've downloaded the Orchid Core VMS installation package, decide whether you want to perform the installation via the [Command Line](#) or the [GUI](#).

Installing through the Command Line (Ubuntu Server):

1. Open the *Terminal* program (**CTRL+ALT+T**) and navigate to the directory where you downloaded the Orchid Core VMS installation package. (The package is probably stored in the *Downloads* folder.)
2. Unless GDebi has been installed manually, it will need to be installed using the following command:

```
sudo apt-get install gdebi-core
```

It may take a few minutes for GDebi to install, depending on the speed of your system.

3. The GDebi command can now be used to install the Orchid Core VMS debian package. The syntax is `sudo gdebi {package-name}.deb`. For example, if the name of the package is *ipc-orchid-x86_64_1.12.7.deb*, the following command would be used:

```
sudo gdebi ipc-orchid-x86_64_1.12.7.deb
```



```
orchid@ubuntu: ~/Downloads
orchid@ubuntu:~$ cd Downloads
orchid@ubuntu:~/Downloads$ sudo gdebi ipc-orchid-x86_64_2.0.0.deb
[sudo] password for orchid:
Reading package lists... Done
Building dependency tree
Reading state information... Done
Building data structures... Done
Building data structures... Done
Requires the installation of the following packages: libilmbase6 libmysqlclient18 libodbc1 libopenexr6 libpq5 libsrtmp0 libtbb2 monit mysql-common

Orchid Video Management System
  Packaged generated Wed Jun 28 16:28:14 EDT 2017
Do you want to install the software package? [y/N]:y
Get:1 http://us.archive.ubuntu.com/ubuntu/ trusty/main libilmbase6 amd64 1.0.1-6ubuntu1 [53.6 kB]
Get:2 http://us.archive.ubuntu.com/ubuntu/ trusty-updates/main mysql-common all 5.5.55-0ubuntu0.14.04.1 [13.0 kB]
Get:3 http://us.archive.ubuntu.com/ubuntu/ trusty-updates/main libmysqlclient18 amd64 5.5.55-0ubuntu0.14.04.1 [597 kB]
Get:4 http://us.archive.ubuntu.com/ubuntu/ trusty/main libodbc1 amd64 2.2.14p2-5ubuntu5 [175 kB]
Get:5 http://us.archive.ubuntu.com/ubuntu/ trusty/main libopenexr6 amd64 1.6.1-7ubuntu1 [164 kB]
```

4. You will be asked to accept the End User License Agreement. After reading the agreement, press the **Tab** key, then the **Enter** key to accept it.
5. You will then be asked to accept the agreement in a separate prompt. Use the **Left Arrow** key to select Yes, and press **Enter** to accept it.
6. The installer will then ask for the web server port number to use for Orchid Core VMS. By default, it is set to port 80 (which is the recommended port for most installations). If Orchid Core VMS needs to use a different port, update the port then press the **Enter** key.
7. Enter the password you would like to set for the default admin account, then press the **Enter** key.
8. After setting a password, you will be asked to set the directory for video archives. The default folder is */archives*. Enter a new archives location, if needed, and press the **Enter** key to proceed with the installation.

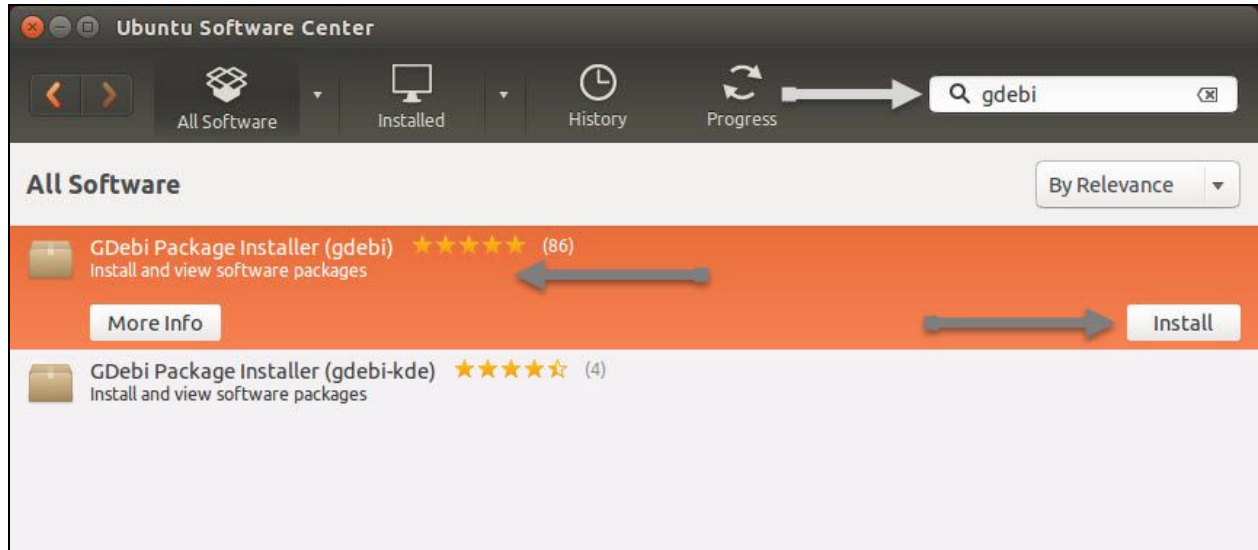
The installation will complete automatically without any additional prompts. This process may take a few minutes. The Orchid Core VMS services start automatically once the package installation is done, after which you can access the Orchid Core VMS user interface in your web browser. (Please refer to the *Login* topic in the Administrator Guide for more details.)

Installing through the GUI (Ubuntu Desktop):

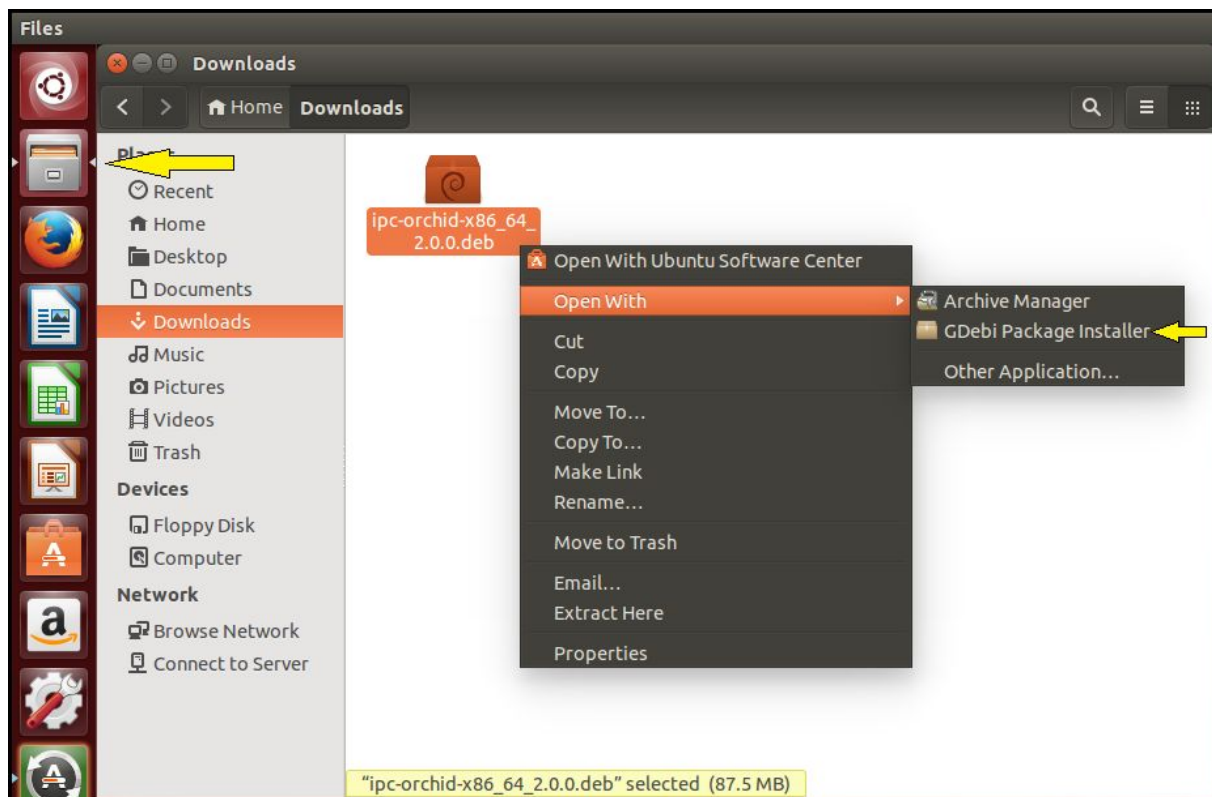
1. Click on the **Launcher** icon and then type in **Software Center**.
2. Click the **Ubuntu Software Center** icon to open it.



3. In the search bar in the top right-hand corner of the Software Center, type ***gdebi***.
4. Select ***GDebi Package Installer (gdebi)*** (which should be the first result), and then click the ***Install*** button.



5. After GDebi has finished installing, click the **Files** icon to open the *Files Explorer*, then navigate to the folder storing your Orchid Core VMS package (.deb file). (The package is probably stored in the *Downloads* folder.)
6. Right-click on the Orchid Core VMS package, hover over *Open With* with the mouse, then select the **GDebi Package Installer** option.



7. Once the GDebi package installer loads, click the **Install Package** button in the top right-hand corner of the window.
8. You will be asked to accept the End User License Agreement. After you read the agreement, mark the *Do you accept the terms of agreement* checkbox and click the **Forward** button.
9. The installer will ask you to set the web server port, default admin password, and the directory to store archives:
 - By default, the web server port is set to port 80, which is recommended for most installations. Update the port number only if Orchid Core VMS needs to use a port other than 80.
 - Enter the password you would like to set for the default admin account.
 - The default folder for video archives on Linux is */orchives*. Enter a new archives location, if needed.



The screenshot shows a terminal window titled "Debconf on orchid". The main content is a configuration form for "Configuring ipc-orchid". The form has three input fields: "Webserver port number." with the value "80", "Default admin password." with a masked password ".....", and "Directory to store archives." with the value "/orchives". A "Forward" button is located at the bottom right of the form.

10. When finished, click the **Forward** button.

The installation will complete automatically without any additional prompts. This may take a few minutes.
11. Once the package installer displays an *"Installation Finished"* message at the top of the screen, click the **Close** button to close the installer and complete the installation. The Orchid Core VMS services will start automatically once the package installation is done, after which you can access the Orchid Core VMS user interface in your web browser. (Please refer to the *Login* topic in the Administrator Guide for more details.)

How to Edit a Configuration File in Ubuntu 14.04 LTS

If it becomes necessary, you can edit the Orchid Core VMS configuration files using standard text editors in Linux as the root user. This section will describe two methods for editing the configuration files: using the *Command Line* and using the *Graphical User Interface*.

Note: In order to edit text files as the root user, you will need administrator access to the computer on which Orchid Core VMS is installed.

The default locations for Orchid Core VMS's configuration files in Linux are:

- **Orchid Core VMS's Default Settings:** `/etc/opt/orchid_server.properties`
 - Stores all of Orchid Core VMS's settings and can be used to update things like Orchid Core VMS's port number, manually update the admin password, etc.
- **ONVIF Auto-Discovery:** `/etc/opt/onvif_autodiscovery.properties`
 - Used to edit the default settings for the ONVIF auto-discovery service used by Orchid Core VMS.

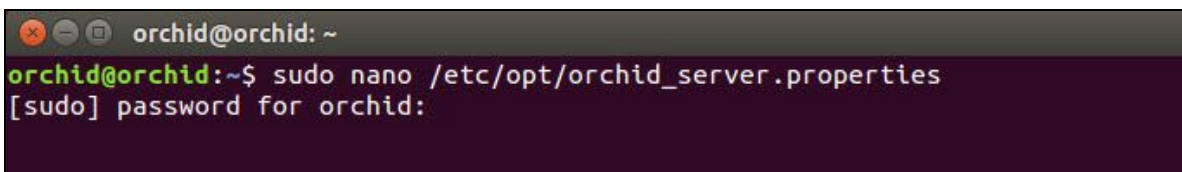
Refer to the [Installation Support Topics](#) section for a list of available properties.

Editing Configuration Files through the Command Line:

1. Open the *Terminal* program (**CTRL+ALT+T**) and open Orchid Core VMS's configuration file in the nano text editor using the following command:

```
sudo nano /etc/opt/orchid_server.properties
```

Note: If a different file needs to be edited, such as the ONVIF auto-discovery configuration file, change the filename in the command above, as needed.

A terminal window screenshot showing the command to edit the configuration file. The prompt is 'orchid@orchid: ~'. The command entered is 'sudo nano /etc/opt/orchid_server.properties'. The prompt changes to '[sudo] password for orchid:'.

```
orchid@orchid: ~  
orchid@orchid:~$ sudo nano /etc/opt/orchid_server.properties  
[sudo] password for orchid:
```

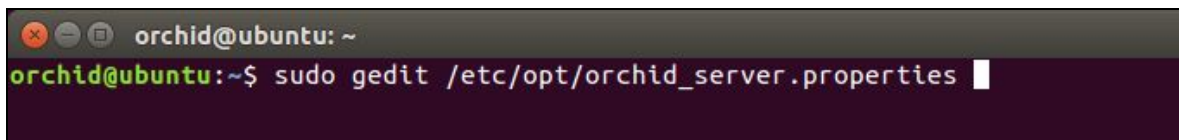
2. After running that command, you will be prompted to enter the *[sudo]* password for your user. Enter the password used to login to your computer.
3. Use the arrow keys to move the cursor around the screen and update any default settings. You may also add new settings to the end of the file.
4. When you are ready to save the file, click **CTRL+X** on the keyboard, then type **Y** and hit **Enter** to save the file and close the text editor. If you do not want to save the file, type **N** (instead of Y) after typing **CTRL+X**.
5. Restart the Orchid Server service in [Linux](#) so that the new settings will take effect.

Editing Configuration Files through the Graphical User Interface (GUI):

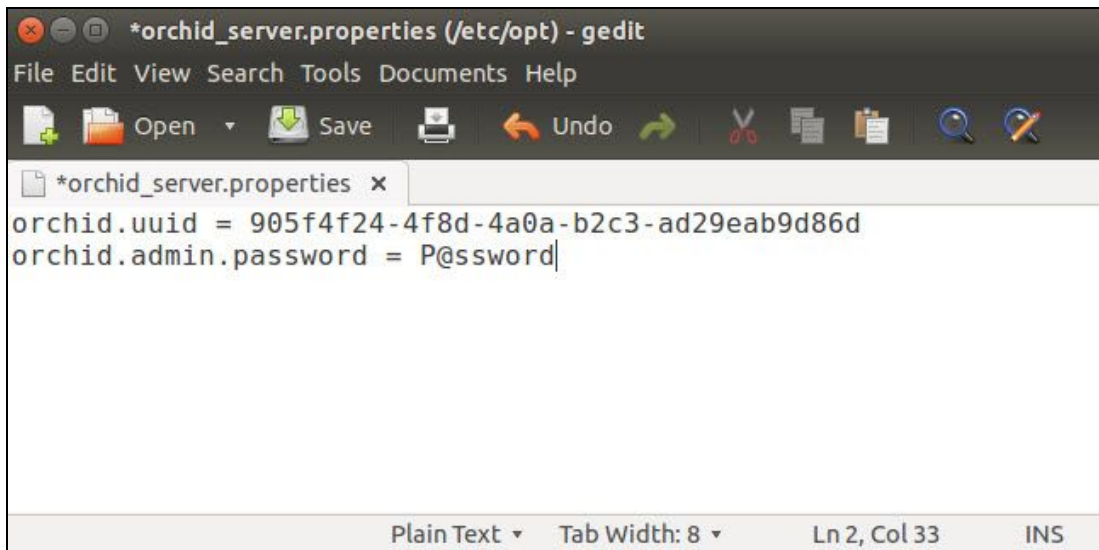
1. Open the *Terminal* program (**CTRL+ALT+T**) and open Orchid Core VMS's configuration file using the following command:

```
sudo gedit /etc/opt/orchid_server.properties
```

Note: If a different file needs to be edited, such as the ONVIF auto-discovery configuration file, change the filename in the command above, as needed.



2. After running that command, you will be prompted to enter your password to perform administrative tasks. Enter the same password you use to login to your computer.
3. A text editor will open in a new window allowing you to edit the configuration file. Update default settings as needed. You may also add new settings to the end of the file.



```
*orchid_server.properties (/etc/opt) - gedit
File Edit View Search Tools Documents Help
Open Save Undo
*orchid_server.properties x
orchid.uuid = 905f4f24-4f8d-4a0a-b2c3-ad29eab9d86d
orchid.admin.password = P@ssword|
Plain Text Tab Width: 8 Ln 2, Col 33 INS
```

4. When you are ready to save the file, click **File/Save** to save the configuration file.
5. You must restart the Orchid Server service in [Linux](#) for the new settings to take effect.

How to Check, Start, or Stop Orchid Core VMS Services in Ubuntu 14.04

Orchid Core VMS runs on Linux as a service and can be managed through the command line, or through Monit (Orchid Core VMS's process monitor). This is often needed when a change has been made to one of Orchid Core VMS's configuration files.

There are two main services used by Orchid Core VMS on Linux:

- **Orchid Server:** The main Orchid Core VMS server that records and archives video.
- **ONVIF Auto-Discovery Service:** Used by Orchid Core VMS to automatically find cameras that support ONVIF.

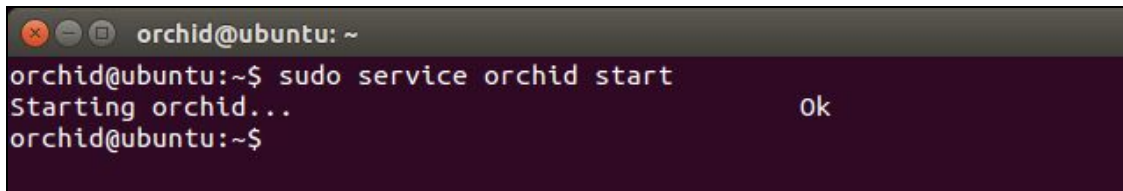
If you need to check the status, start, or stop one of these services, you can do this from the command line or through Monit.

To manage the Orchid Server service from the command line:

1. Open the *Terminal* program (**CTRL+ALT+T**).
2. Enter the command below.

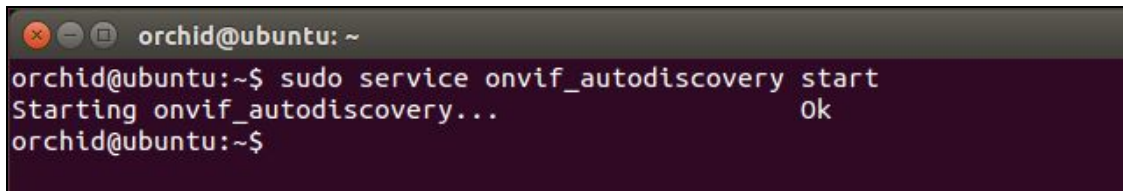
```
sudo service orchid {command}
```

Where the *command* is **start**, **stop**, **restart**, or **status**.



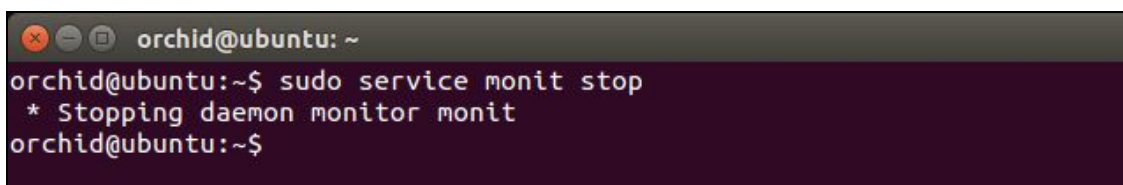
```
orchid@ubuntu: ~  
orchid@ubuntu:~$ sudo service orchid start  
Starting orchid... ok  
orchid@ubuntu:~$
```

Note: This set of commands will only manage the Orchid Server service. If you need to manage the ONVIF Auto-Discovery Service, replace *orchid* with *onvif_autodiscovery* in the command line as in the example below.



```
orchid@ubuntu: ~  
orchid@ubuntu:~$ sudo service onvif_autodiscovery start  
Starting onvif_autodiscovery... ok  
orchid@ubuntu:~$
```

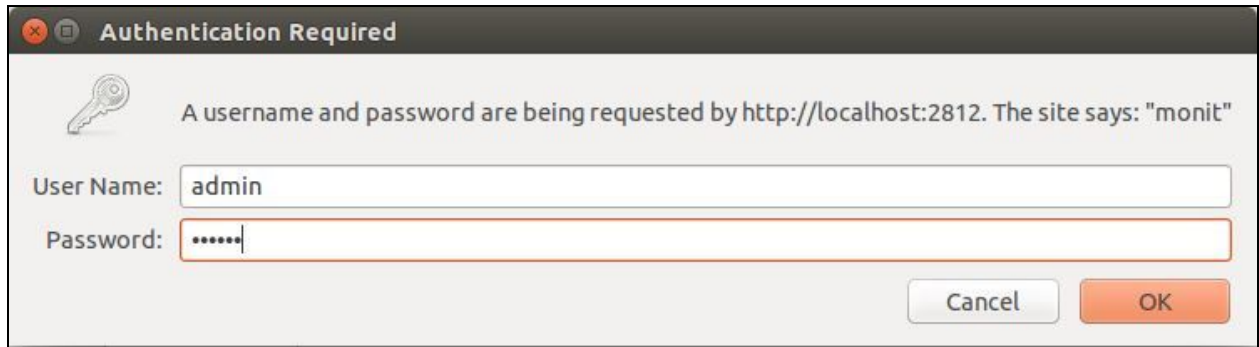
Note: As a fail-safe measure, the Monit Service Manager will restart the Orchid Server and ONVIF Auto-Discovery services if they go down. In order to stop these services, the Monit Service Manager should be stopped first (using the command in the example below).



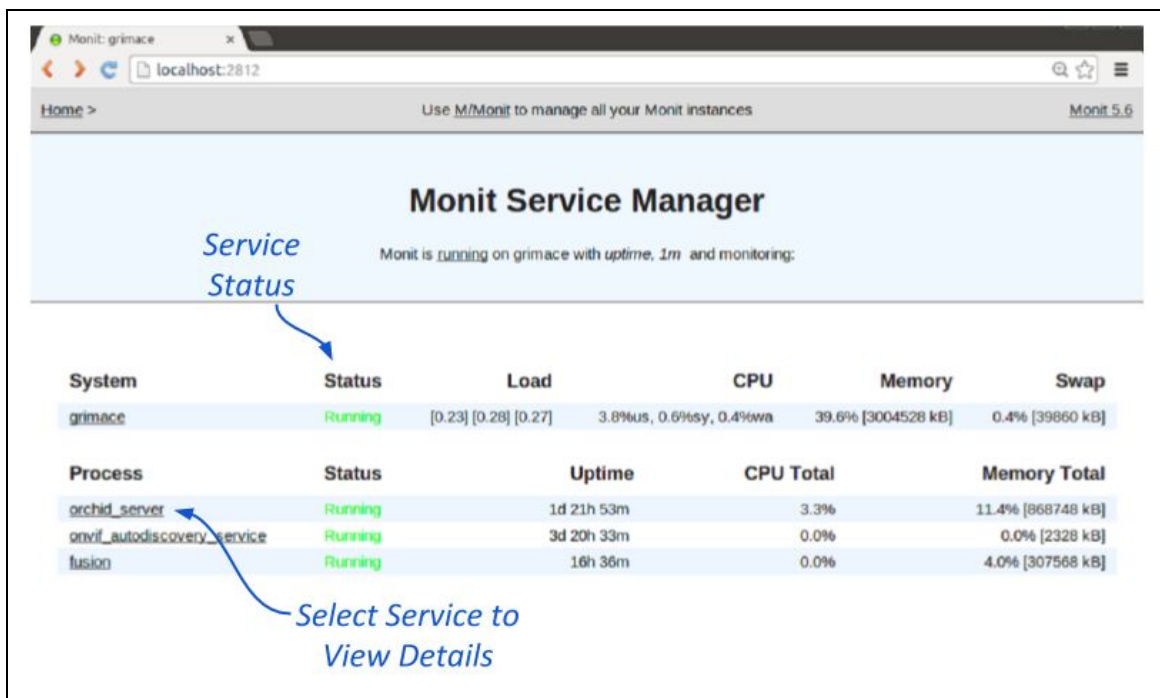
```
orchid@ubuntu: ~  
orchid@ubuntu:~$ sudo service monit stop  
* Stopping daemon monitor monit  
orchid@ubuntu:~$
```


To manage the Orchid Core VMS services from a web browser running on the same computer as the service:

1. Open a web browser and type `http://localhost:2812` into the address bar to access Monit (Orchid Core VMS's process monitor).
2. You will be asked for a username and password. The username is `admin` and the password is `Orc#1d` (unless it was manually changed through Monit's configuration file).



A list of the services setup with Monit will appear, which will include `orchid_server` and `onvif_autodiscovery_service`. The status of each service is listed in the *Status* column.



| System | Status | Load | CPU | Memory | Swap |
|---------|---------|----------------------|------------------------|--------------------|-----------------|
| grimace | Running | [0.23] [0.28] [0.27] | 3.8%us, 0.6%sy, 0.4%wa | 39.6% [3004528 kB] | 0.4% [39860 kB] |

| Process | Status | Uptime | CPU Total | Memory Total |
|-----------------------------|---------|------------|-----------|-------------------|
| orchid_server | Running | 1d 21h 53m | 3.3% | 11.4% [868748 kB] |
| onvif_autodiscovery_service | Running | 3d 20h 33m | 0.0% | 0.0% [2328 kB] |
| fusion | Running | 16h 36m | 0.0% | 4.0% [307568 kB] |

- Click the name of the service you need to stop, start, or restart. A detailed information screen for the monitored service you selected will appear.

Process status

| Parameter | Value |
|-------------------------------------|--|
| Name | orchid_server |
| Pid file | /var/run/orchid.pid |
| Status | Running |
| Monitoring mode | active |
| Monitoring status | Monitored |
| Start program | '/etc/init.d/orchid start' timeout 60 second(s) |
| Stop program | '/etc/init.d/orchid stop' timeout 30 second(s) |
| Existence | If doesn't exist 1 times within 1 cycle(s) then restart else if succeeded 1 times within 1 cycle(s) then alert |
| Data collected | Fri, 07 Jul 2017 08:58:47 |
| Process id | 9367 |
| Parent process id | 1 |
| Process uptime | 1d 21h 55m |
| Children | 0 |
| CPU usage | 3.2% (Usage / Number of CPUs) |
| Total CPU usage (incl. children) | 3.2% |
| Memory usage | 11.4% [871352kB] |
| Total memory usage (incl. children) | 11.4% [871352kB] |
| Pid | If changed 1 times within 1 cycle(s) then alert |
| Ppid | If changed 1 times within 1 cycle(s) then alert |

Start service
Stop service
Restart service
Disable monitoring

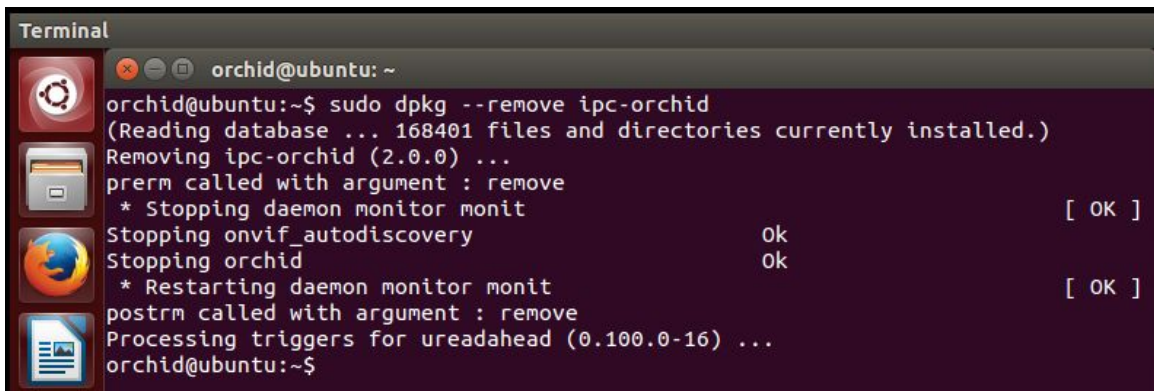
- Click the **Stop Service** button to stop the selected service. This action will keep the service off until the **Start Service** button is clicked.
- Click the **Start Service** button at the bottom of the screen to start the selected service.
- Click the **Restart Service** button to restart the service. The status of the service will update from *Running* to *Running-restart pending*. Once the service has restarted successfully, the status will return to *Running*.

Uninstalling Orchid Core VMS in Ubuntu 14.04

There are a couple of options for removing the Orchid Core VMS software. The *Remove* command will uninstall all files installed and created by Orchid Core VMS except the configuration files and the */archives* directory. The *Purge* command will uninstall all files installed and created by Orchid Core VMS except the */archives* directory.

1. Open the *Terminal* program (**CTRL+ALT+T**).
2. To uninstall Orchid, do either of the following:
 - a. To uninstall Orchid (while keeping the configuration files and the archives), enter the following command; enter the password when prompted to do so:

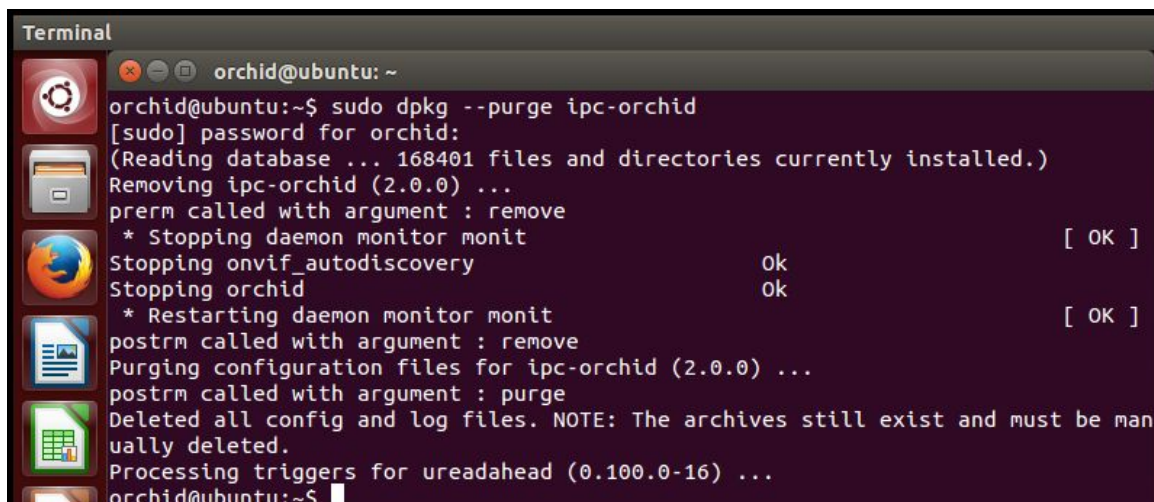
```
sudo dpkg --remove ipc-orchid
```

A terminal window titled "Terminal" showing the execution of the command "sudo dpkg --remove ipc-orchid". The output shows the package being removed, services being stopped, and triggers being processed. The prompt returns to "orchid@ubuntu:~\$".

```
Terminal
orchid@ubuntu:~$ sudo dpkg --remove ipc-orchid
(Reading database ... 168401 files and directories currently installed.)
Removing ipc-orchid (2.0.0) ...
prerm called with argument : remove
* Stopping daemon monitor monit [ OK ]
Stopping onvif_autodiscovery ok
Stopping orchid ok
* Restarting daemon monitor monit [ OK ]
postrm called with argument : remove
Processing triggers for ureadahead (0.100.0-16) ...
orchid@ubuntu:~$
```

- b. To uninstall Orchid (keeping only the archives), enter the following command; enter the password when prompted to do so:

```
sudo dpkg --purge ipc-orchid
```

A terminal window titled "Terminal" showing the execution of the command "sudo dpkg --purge ipc-orchid". The output shows the package being purged, configuration files being deleted, and triggers being processed. The prompt returns to "orchid@ubuntu:~\$".

```
Terminal
orchid@ubuntu:~$ sudo dpkg --purge ipc-orchid
[sudo] password for orchid:
(Reading database ... 168401 files and directories currently installed.)
Removing ipc-orchid (2.0.0) ...
prerm called with argument : remove
* Stopping daemon monitor monit [ OK ]
Stopping onvif_autodiscovery ok
Stopping orchid ok
* Restarting daemon monitor monit [ OK ]
postrm called with argument : remove
Purging configuration files for ipc-orchid (2.0.0) ...
postrm called with argument : purge
Deleted all config and log files. NOTE: The archives still exist and must be manually deleted.
Processing triggers for ureadahead (0.100.0-16) ...
orchid@ubuntu:~$
```

Working in Ubuntu 16.04

Installing Orchid Core VMS on Ubuntu 16.04 LTS

IPConfigure distributes Orchid Core VMS for Ubuntu through debian package files (.deb files). The recommended method for installing the package file is through GDebi Package installer. GDebi can be used either through command line, or through the Graphical User Interface (GUI). (Note that the 14.04 and 16.04 installers are different)

Note: Orchid Core VMS can only be installed on a 64-bit operating system. If you are currently running a 32-bit operating system, the installer will return an “*Architecture not supported*” error and Orchid Core VMS installation will fail.

Note: You must login to the computer as a user with "root" or “sudo” privileges.

1. Download the Orchid .deb file. You can find the latest version of Orchid Core VMS on IPConfigure's website at <http://www.ipconfigure.com/products/orchid#download>.
2. Once you've downloaded the Orchid Core VMS installation package, decide whether you want to perform the installation via the [Command Line](#) or the [GUI](#).

Installing through the Command Line (Ubuntu Server):

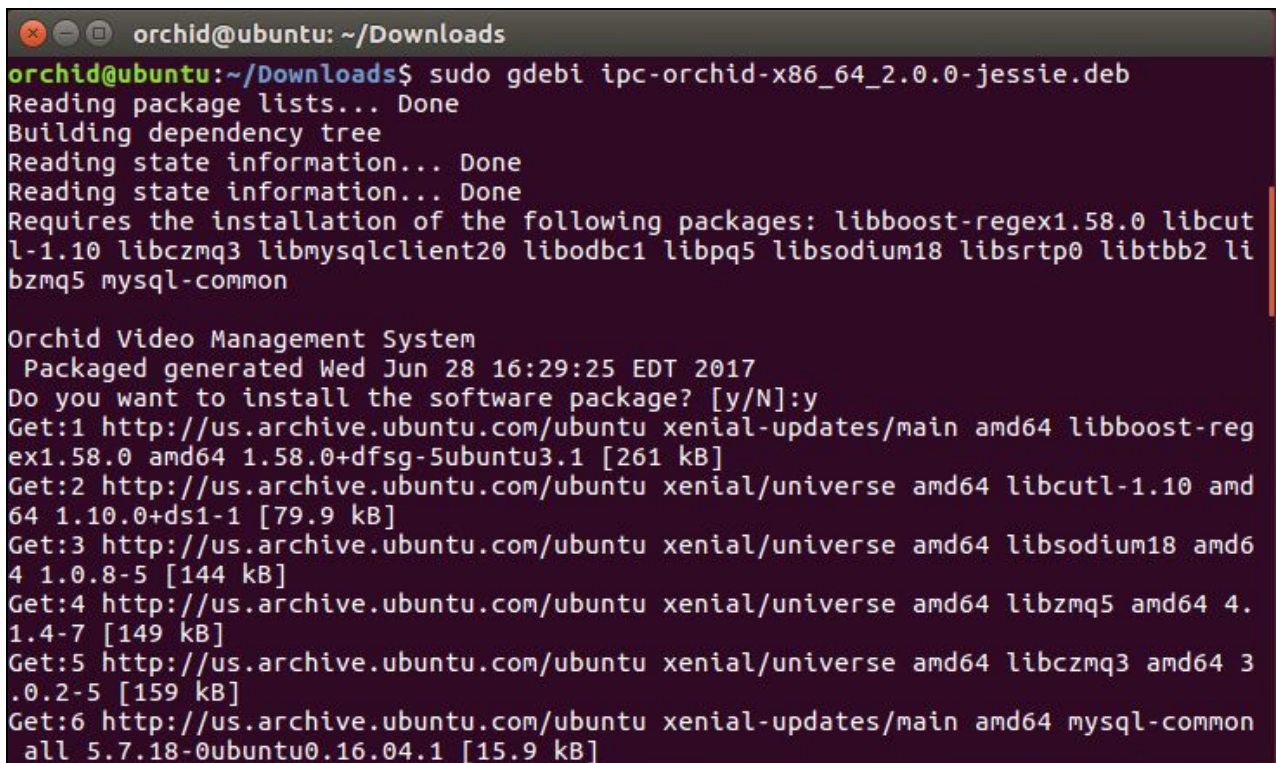
1. Open the *Terminal* program (**CTRL+ALT+T**) and navigate to the directory where you downloaded the Orchid Core VMS installation package. (The package is probably stored in the *Downloads* folder.)
2. Unless GDebi has been installed manually, it will need to be installed using the following command:

```
sudo apt-get install gdebi-core
```

It may take a few minutes for GDebi to install, depending on the speed of your system.

3. The GDebi command can now be used to install the Orchid Core VMS debian package. The syntax is `sudo gdebi {package-name}.deb`. For example, if the name of the package is `ipc-orchid-x86_64_2.0.0-jessie.deb`, the following command would be used:

```
sudo gdebi ipc-orchid-x86_64_2.0.0-jessie.deb
```



```
orchid@ubuntu: ~/Downloads
orchid@ubuntu:~/Downloads$ sudo gdebi ipc-orchid-x86_64_2.0.0-jessie.deb
Reading package lists... Done
Building dependency tree
Reading state information... Done
Reading state information... Done
Requires the installation of the following packages: libboost-regex1.58.0 libcutl-1.10 libczmq3 libmysqlclient20 libodbc1 libpq5 libsodium18 libsrtp0 libtbb2 libbmq5 mysql-common

Orchid Video Management System
Packaged generated Wed Jun 28 16:29:25 EDT 2017
Do you want to install the software package? [y/N]:y
Get:1 http://us.archive.ubuntu.com/ubuntu xenial-updates/main amd64 libboost-regex1.58.0 amd64 1.58.0+dfsg-5ubuntu3.1 [261 kB]
Get:2 http://us.archive.ubuntu.com/ubuntu xenial/universe amd64 libcutl-1.10 amd64 1.10.0+ds1-1 [79.9 kB]
Get:3 http://us.archive.ubuntu.com/ubuntu xenial/universe amd64 libsodium18 amd64 1.0.8-5 [144 kB]
Get:4 http://us.archive.ubuntu.com/ubuntu xenial/universe amd64 libzmq5 amd64 4.1.4-7 [149 kB]
Get:5 http://us.archive.ubuntu.com/ubuntu xenial/universe amd64 libczmq3 amd64 3.0.2-5 [159 kB]
Get:6 http://us.archive.ubuntu.com/ubuntu xenial-updates/main amd64 mysql-common all 5.7.18-0ubuntu0.16.04.1 [15.9 kB]
```

4. You will be asked to accept the End User License Agreement. After reading the agreement, press the **Tab** key, then the **Enter** key to accept it.

5. You will then be asked to accept the agreement in a separate prompt. Use the **Left Arrow** key to select *Yes*, and press **Enter** to accept it.
6. The installer will then ask for the web server port number to use for Orchid Core VMS. By default, it is set to port 80 (which is the recommended port for most installations). If Orchid Core VMS needs to use a different port, update the port then press the **Enter** key.
7. Enter the password you would like to set for the default admin account, then press the **Enter** key.
8. After setting a password, you will be asked to set the directory for video archives. The default folder is */archives*. Enter a new archives location, if needed, and press the **Enter** key to proceed with the installation.

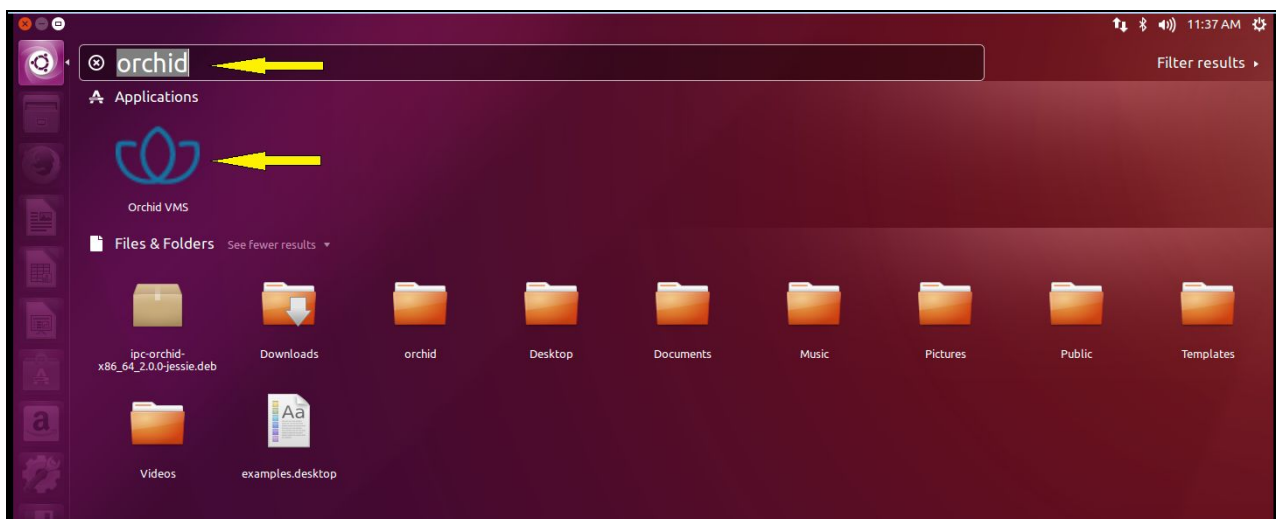
The installation will complete automatically without any additional prompts. This process may take a few minutes. Orchid Core VMS starts automatically once the package installation is done, after which you can access the Orchid Core VMS user interface in your web browser. (Please refer to the *Login* topic in the Administrator Guide for more details.)

You can automatically launch a browser to Orchid Core VMS using the menu link installed on your server:

- a. Click on the **Launcher** icon in the top left corner of the screen.



- b. Type *orchid* in the search box, then click the **Orchid VMS** icon listed under Applications.

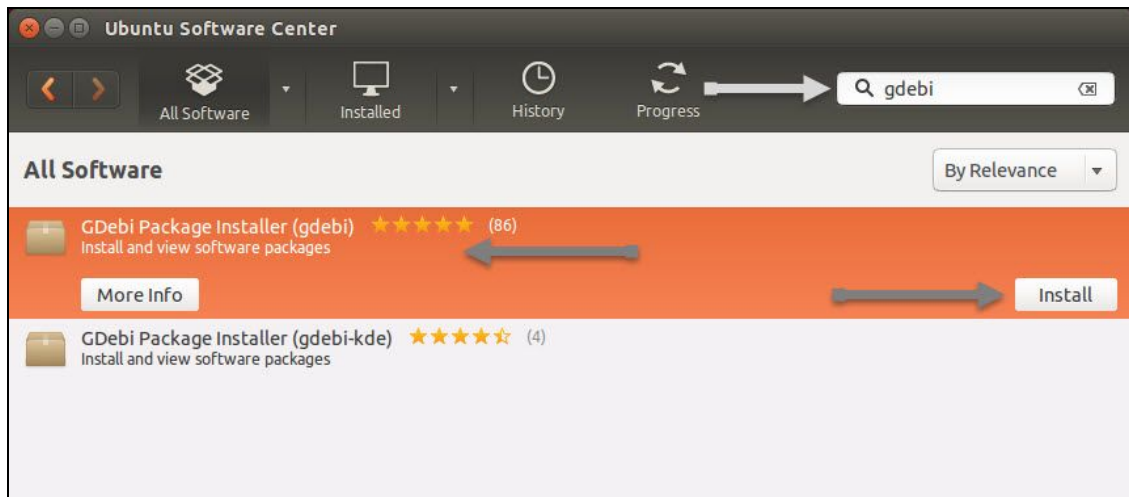


Installing through the GUI (Ubuntu Desktop):

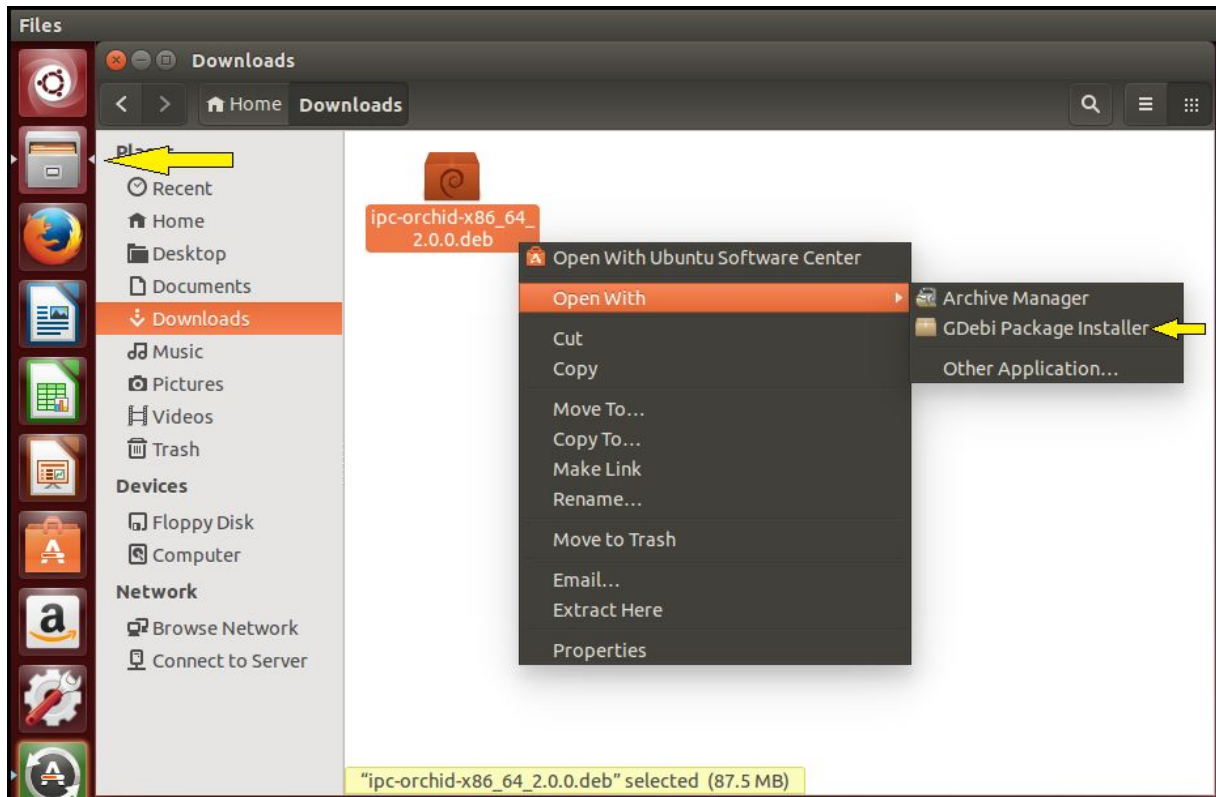
1. Click on the **Launcher** icon and then type in **Software Center**.
2. Click the **Ubuntu Software Center** icon to open it.



3. In the search bar in the top right-hand corner of the Software Center, type ***gdebi***.
4. Select ***GDebi Package Installer (gdebi)*** (which should be the first result), and then click the ***Install*** button



5. After GDebi has finished installing, click the **Files** icon to open the *Files Explorer*, then navigate to the folder storing your Orchid Core VMS package (.deb file). (The package is probably stored in the *Downloads* folder.)
6. Right-click on the Orchid Core VMS package, hover over *Open With* with the mouse, then select the **GDebi Package Installer** option.



7. Once the GDebi package installer loads, click the **Install Package** button in the top right-hand corner of the window.
8. You will be asked to accept the End User License Agreement. After you read the agreement, mark the *Do you accept the terms of agreement* checkbox and click the **Forward** button.
9. The installer will ask you to set the web server port, default admin password, and the directory to store archives:
 - By default, the web server port is set to port 80, which is recommended for most installations. Update the port number only if Orchid Core VMS needs to use a port other than 80.
 - Enter the password you would like to set for the default admin account.
 - The default folder for video archives on Linux is */archives*. Enter a new archives location, if needed.



Debconf on orchid

Configuring ipc-orchid

Webserver port number.

Default admin password.

Directory to store archives.

Forward

10. When finished, click the **Forward** button.

The installation will complete automatically without any additional prompts.

This may take a few minutes.

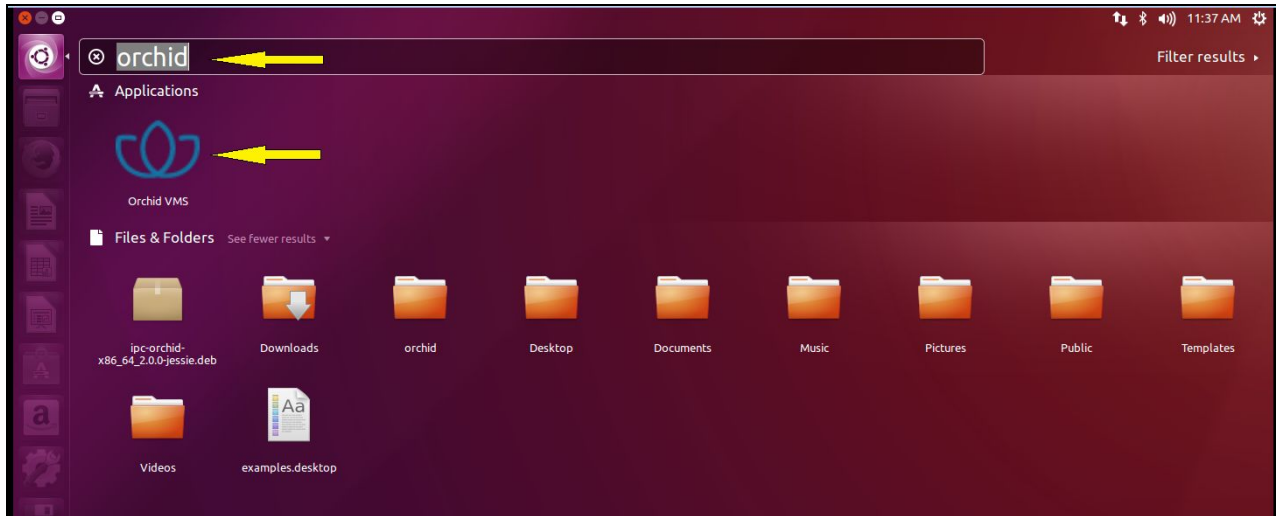
11. Once the package installer displays an “*Installation Finished*” message at the top of the screen, click the **Close** button to close the installer and complete the installation. The Orchid Core VMS services will start automatically once the package installation is done, after which you can access the Orchid Core VMS user interface in your web browser. (Please refer to the *Login* topic in the Administrator Guide for more details.)

You can automatically launch a browser to Orchid Core VMS using the menu link installed on your server:

- a. Click on the **Launcher** icon in the top left corner of the screen.



- b. Type **Orchid** in the search box, then click the **Orchid VMS** icon listed under Applications.



How to Edit a Configuration File in Ubuntu 16.04 LTS

If it becomes necessary, you can edit the Orchid Core VMS configuration files using standard text editors in Linux as the root user. This section will describe two methods for editing the configuration files: using the *Command Line* and using the *Graphical User Interface*.

Note: In order to edit text files as the root user, you will need administrator access to the computer on which Orchid Core VMS is installed.

The default locations for Orchid Core VMS's configuration files in Linux are:

- **Orchid Core VMS's Default Settings:** `/etc/opt/orchid_server.properties`
 - Stores all of Orchid Core VMS's settings and can be used to update things like Orchid Core VMS's port number, manually update the admin password, etc.
- **ONVIF Auto-Discovery:** `/etc/opt/onvif_autodiscovery.properties`
 - Used to edit the default settings for the ONVIF auto-discovery service used by Orchid Core VMS.

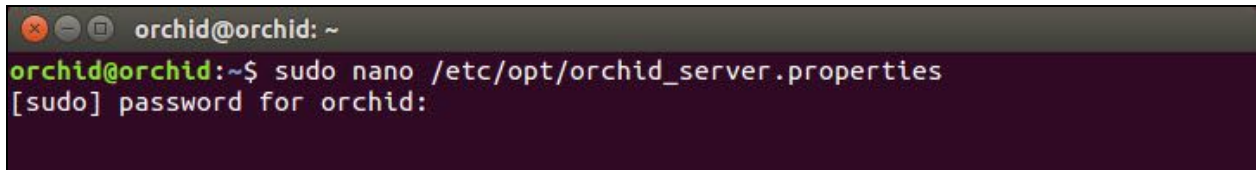
Refer to the [Installation Support Topics](#) section for a list of available properties.

Editing Configuration Files through the Command Line:

1. Open the *Terminal* program and open Orchid Core VMS's configuration file in the nano text editor using the following command:

```
sudo nano /etc/opt/orchid_server.properties
```

Note: If a different file needs to be edited, such as the ONVIF auto-discovery configuration file, change the filename in the command above, as needed.



```
orchid@orchid: ~  
orchid@orchid:~$ sudo nano /etc/opt/orchid_server.properties  
[sudo] password for orchid:
```

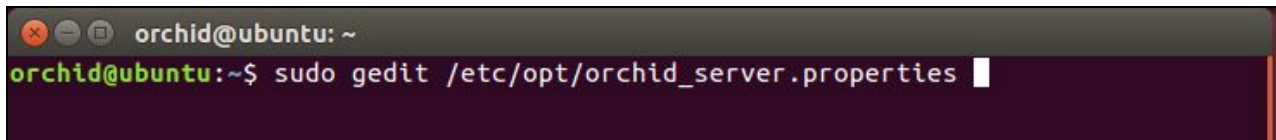
2. After running that command, you will be prompted to enter the *[sudo] password* for your user. Enter the password used to login to your computer.
3. Use the arrow keys to move the cursor around the screen and update any default settings. You may also add new settings to the end of the file.
4. When you are ready to save the file, click **CTRL+X** on the keyboard, then type **Y** and hit **Enter** to save the file and close the text editor. If you do not want to save the file, type **N** (instead of Y) after typing **CTRL+X**.
5. Restart the Orchid Server service in [Linux](#) so that the new settings will take effect.

Editing Configuration Files through the Graphical User Interface (GUI):

1. Open the *Terminal* program and open Orchid Core VMS's configuration file using the following command:

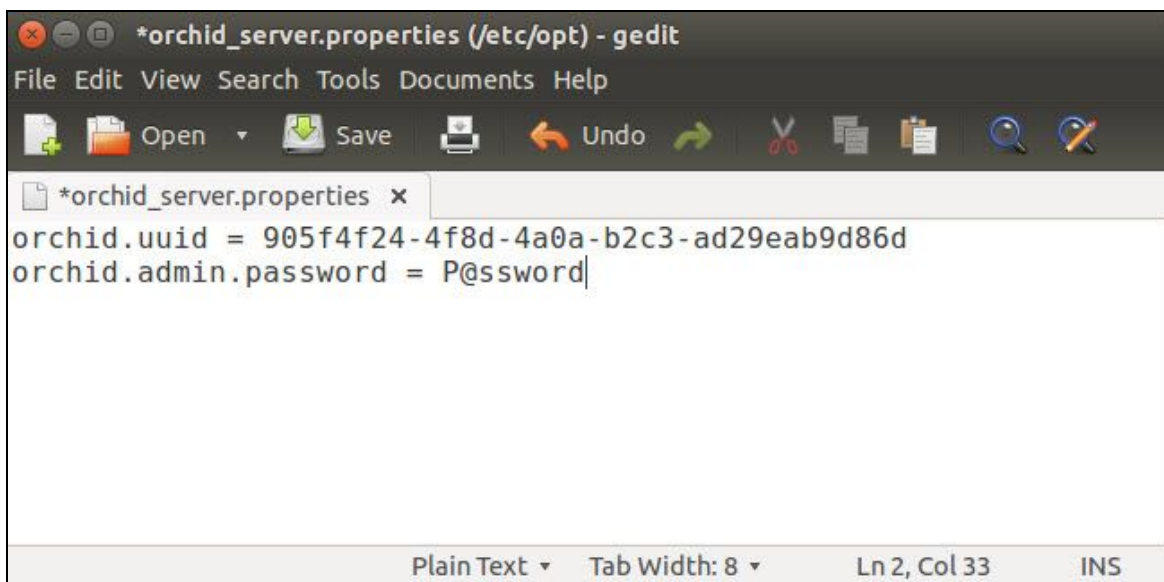
```
sudo gedit /etc/opt/orchid_server.properties
```

Note: If a different file needs to be edited, such as the ONVIF auto-discovery configuration file, change the filename in the command above, as needed.



```
orchid@ubuntu: ~  
orchid@ubuntu:~$ sudo gedit /etc/opt/orchid_server.properties
```

2. After running that command, you will be prompted to enter your password to perform administrative tasks. Enter the same password you use to login to your computer.
3. A text editor will open in a new window allowing you to edit the configuration file. Update default settings as needed. You may also add new settings to the end of the file.



```
*orchid_server.properties (/etc/opt) - gedit  
File Edit View Search Tools Documents Help  
Open Save Undo  
*orchid_server.properties x  
orchid.uuid = 905f4f24-4f8d-4a0a-b2c3-ad29eab9d86d  
orchid.admin.password = P@ssword|  
Plain Text Tab Width: 8 Ln 2, Col 33 INS
```

4. When you are ready to save the file, click **File/Save** to save the configuration file.
5. You must restart the Orchid Server service in [Linux](#) for the new settings to take effect.

How to Check, Start, or Stop Orchid Core VMS Services in Ubuntu 16.04 LTS

Orchid Core VMS runs on Linux as a service and can be managed through the command line. This is often needed when a change has been made to one of Orchid Core VMS's configuration files.

There are two main services used by Orchid Core VMS on Linux:

- **Orchid Server:** The main Orchid Core VMS server that records and archives video.
- **ONVIF Auto-Discovery Service:** Used by Orchid Core VMS to automatically find cameras that support ONVIF.

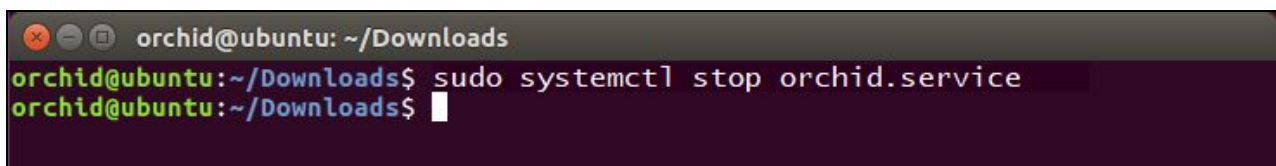
If you need to check the status, start, or stop one of these services, you can do this using the appropriate command at the command line.

To manage the Orchid Server service from the command line:

1. Open the *Terminal* program (**CTRL+ALT+T**).
2. Enter the command below.

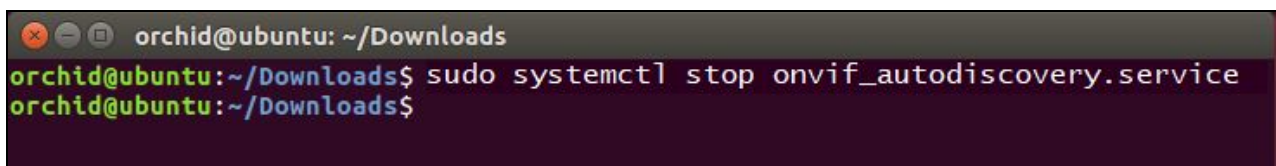
```
sudo systemctl {command} orchid.service
```

Where the *command* is **start**, **stop**, **restart**, or **status**.



```
orchid@ubuntu: ~/Downloads
orchid@ubuntu:~/Downloads$ sudo systemctl stop orchid.service
orchid@ubuntu:~/Downloads$
```

(Note: This set of commands will only manage the Orchid Server service. If you need to manage the ONVIF Auto-Discovery Service, replace *orchid* with *onvif_autodiscovery* in the command line as in the example below.



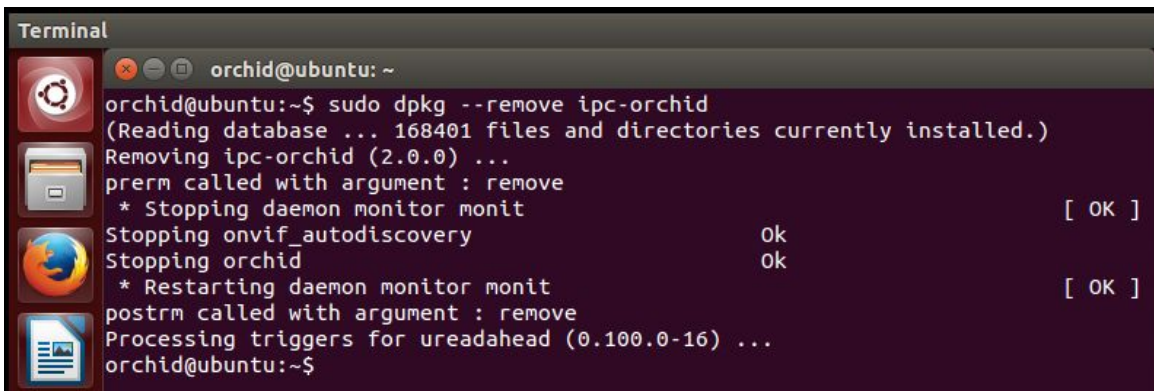
```
orchid@ubuntu: ~/Downloads
orchid@ubuntu:~/Downloads$ sudo systemctl stop onvif_autodiscovery.service
orchid@ubuntu:~/Downloads$
```

Uninstalling Orchid Core VMS in Ubuntu 16.04

There are a couple of options for removing the Orchid Core VMS software. The *Remove* command will uninstall all files installed and created by Orchid Core VMS except the configuration files and the */archives* directory. The *Purge* command will uninstall all files installed and created by Orchid Core VMS except the */archives* directory.

1. Open the *Terminal* program (**CTRL+ALT+T**).
2. To uninstall Orchid, do either of the following:
 - a. To uninstall Orchid (while keeping the configuration files and the archives), enter the following command; enter the password when prompted to do so:

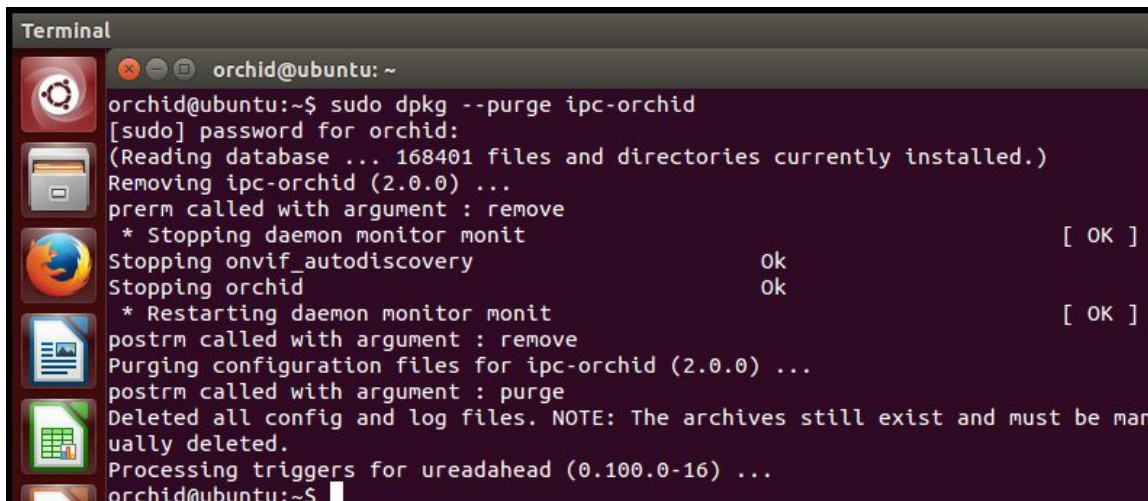
```
sudo dpkg --remove ipc-orchid
```



```
Terminal
orchid@ubuntu: ~
orchid@ubuntu:~$ sudo dpkg --remove ipc-orchid
(Reading database ... 168401 files and directories currently installed.)
Removing ipc-orchid (2.0.0) ...
prerm called with argument : remove
* Stopping daemon monitor monit [ OK ]
Stopping onvif_autodiscovery ok
Stopping orchid ok
* Restarting daemon monitor monit [ OK ]
postrm called with argument : remove
Processing triggers for ureadahead (0.100.0-16) ...
orchid@ubuntu:~$
```

- b. To uninstall Orchid (keeping only the archives), enter the following command; enter the password when prompted to do so:

```
sudo dpkg --purge ipc-orchid
```



```
Terminal
orchid@ubuntu: ~
orchid@ubuntu:~$ sudo dpkg --purge ipc-orchid
[sudo] password for orchid:
(Reading database ... 168401 files and directories currently installed.)
Removing ipc-orchid (2.0.0) ...
prerm called with argument : remove
* Stopping daemon monitor monit [ OK ]
Stopping onvif_autodiscovery ok
Stopping orchid ok
* Restarting daemon monitor monit [ OK ]
postrm called with argument : remove
Purging configuration files for ipc-orchid (2.0.0) ...
postrm called with argument : purge
Deleted all config and log files. NOTE: The archives still exist and must be manually deleted.
Processing triggers for ureadahead (0.100.0-16) ...
orchid@ubuntu:~$
```

Working in Red Hat

Installing Orchid Core VMS on Red Hat Enterprise Linux 7

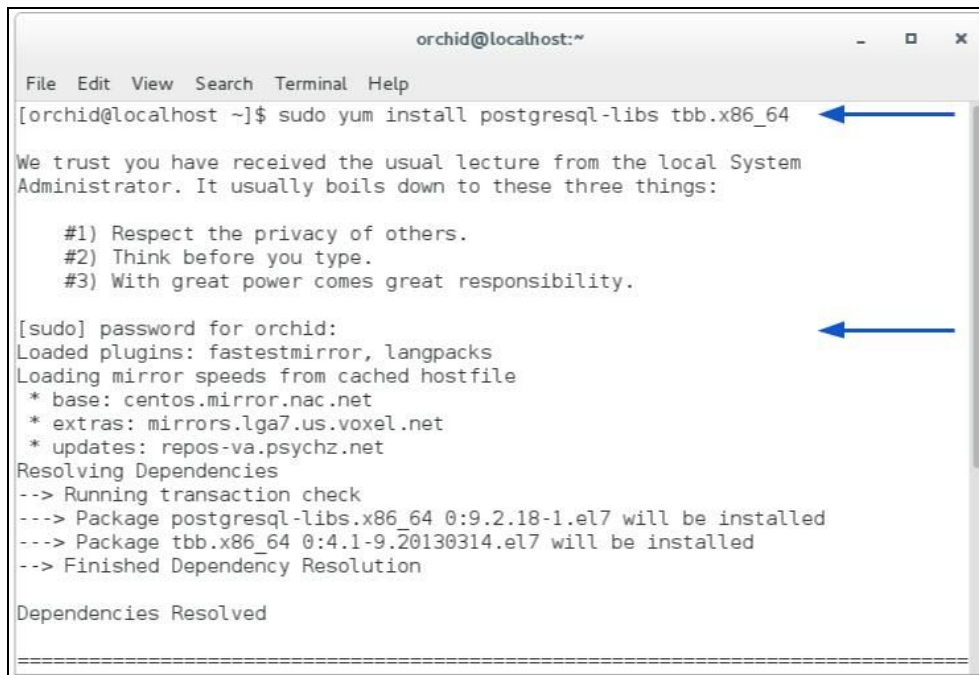
The following installation instructions provided for Red Hat Enterprise Linux 7 also apply to CentOS 7.

Note: You must login to the computer as a user with “root” access.

1. Open the *Terminal* program (**Applications/Terminal**) and install prerequisite packages using this command:

```
sudo yum install postgresql-libs tbb.x86_64
```

2. Enter your Linux user password, then press **Enter**.

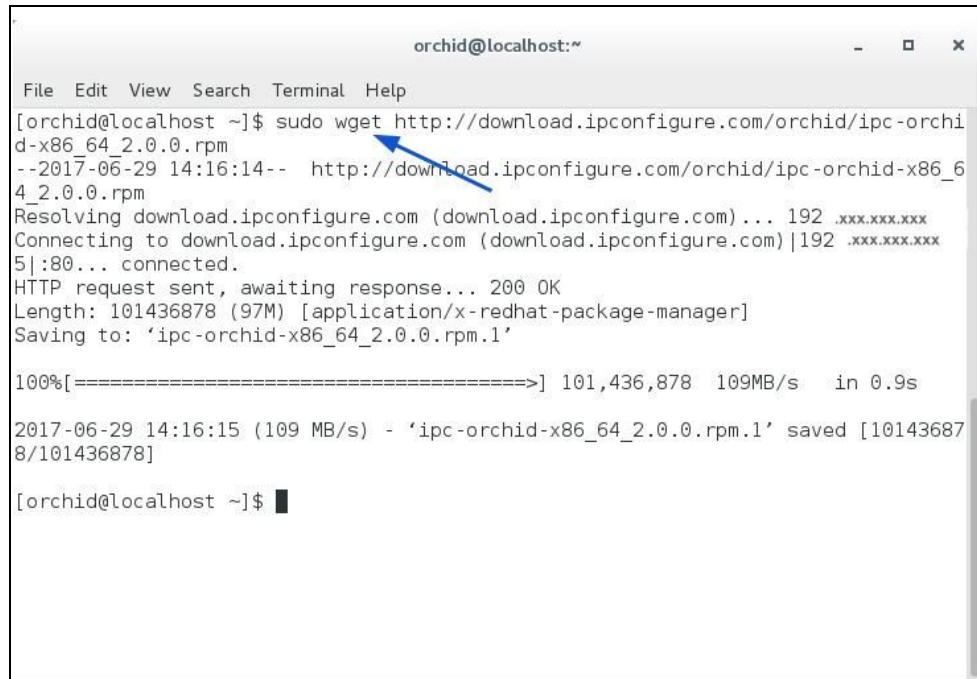


```
orchid@localhost:~  
File Edit View Search Terminal Help  
[orchid@localhost ~]$ sudo yum install postgresql-libs tbb.x86_64  
We trust you have received the usual lecture from the local System  
Administrator. It usually boils down to these three things:  
  
#1) Respect the privacy of others.  
#2) Think before you type.  
#3) With great power comes great responsibility.  
  
[sudo] password for orchid:  
Loaded plugins: fastestmirror, langpacks  
Loading mirror speeds from cached hostfile  
* base: centos.mirror.nac.net  
* extras: mirrors.lga7.us.voxel.net  
* updates: repos-va.psychz.net  
Resolving Dependencies  
--> Running transaction check  
--> Package postgresql-libs.x86_64 0:9.2.18-1.el7 will be installed  
--> Package tbb.x86_64 0:4.1-9.20130314.el7 will be installed  
--> Finished Dependency Resolution  
  
Dependencies Resolved
```

3. The system will find the files that it needs to install. Press **Y** and **Enter** to proceed. (Press **Y** and **Enter** again.)

4. Download the Orchid Core VMS installation package (.rpm file) with a web browser, or from the command line with the following command:

```
sudo wget
http://download.ipconfigure.com/orchid/ipc-orchid-x86_64_{VERSION}.rpm
```



```
orchid@localhost:~
File Edit View Search Terminal Help
[orchid@localhost ~]$ sudo wget http://download.ipconfigure.com/orchid/ipc-orchid-x86_64_2.0.0.rpm
--2017-06-29 14:16:14-- http://download.ipconfigure.com/orchid/ipc-orchid-x86_64_2.0.0.rpm
Resolving download.ipconfigure.com (download.ipconfigure.com)... 192.xxx.xxx.xxx
Connecting to download.ipconfigure.com (download.ipconfigure.com)|192.xxx.xxx.xxx|:80... connected.
HTTP request sent, awaiting response... 200 OK
Length: 101436878 (97M) [application/x-redhat-package-manager]
Saving to: 'ipc-orchid-x86_64_2.0.0.rpm.1'

100%[=====>] 101,436,878 109MB/s in 0.9s

2017-06-29 14:16:15 (109 MB/s) - 'ipc-orchid-x86_64_2.0.0.rpm.1' saved [101436878/101436878]

[orchid@localhost ~]$
```

5. Install Orchid Core VMS with the following command:

```
sudo rpm -U ipc-orchid-x86_64_{VERSION}.rpm
```



```
orchid@localhost:~
File Edit View Search Terminal Help

[orchid@localhost ~]$ sudo rpm -U ipc-orchid-x86_64_2.0.0.rpm
IPCONFIGURE INC. END USER LICENSE AGREEMENT

Terms of Use and Acceptance of Contract Terms. The following are terms of a lega
```

This will install all necessary files for the Orchid Server and ONVIF_autodiscovery services. By default, these programs will **not** be started.

6. Press the **Y** key to accept the EULA, or **N** to decline.

webserver.port

Controls the port on which the Orchid Core VMS user interface is accessed. The default port is 80, but if your RHEL system is running an HTTP server such as Apache or Nginx, you will likely need to change this value.

archivecleaner.usedspace.percentage

Controls the percentage of disk space Orchid Core VMS will use. Find it on the volume specified in *webserver.archives.rootpath*.

If, during the course of your modifications, the properties file becomes malformed, Orchid Core VMS may fail to start. If this happens, check the Orchid Core VMS logs (at */var/log/orchid_server/*) for error details.

Note: A default Orchid Core VMS properties file is installed in */opt/orchid/orchid_server.properties.defaults* and can be used as a reference.

How to Enable Orchid Core VMS Services in Red Hat

There are two main services used by Orchid Core VMS:

- **Orchid Server:** The main Orchid Core VMS server that records and archives video.
- **ONVIF Auto-Discovery Service:** Used by Orchid Core VMS to automatically find cameras that support ONVIF.

1. To enable the services, run the two commands listed below. This will allow the services to automatically start on bootup and restart in the case of failure.

```
sudo systemctl enable onvif_autodiscovery.service
```

```
sudo systemctl enable orchid.service
```



```
orchid@localhost:~  
File Edit View Search Terminal Help  
[orchid@localhost ~]$ sudo systemctl enable onvif_autodiscovery.service  
[sudo] password for orchid:
```



```
orchid@localhost:~  
File Edit View Search Terminal Help  
[orchid@localhost ~]$ sudo systemctl enable orchid.service
```

How to Start Orchid Core VMS Services in Red Hat

1. To start the services, run the two commands listed below.

```
sudo systemctl start onvif_autodiscovery.service
```

```
sudo systemctl start orchid.service
```

A terminal window titled 'orchid@localhost:~' with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal shows the command 'sudo service orchid start' being executed. The output shows a password prompt, a redirection to '/bin/systemctl start orchid.service', and the command prompt returning to the user.

```
orchid@localhost:~  
File Edit View Search Terminal Help  
[orchid@localhost ~]$ sudo service orchid start  
[sudo] password for orchid:  
Redirecting to /bin/systemctl start orchid.service  
[orchid@localhost ~]$
```

2. Configure the firewall.

By default, the *firewalld* service will block access to Orchid Core VMS. Refer to the [Installation Support Topics](#) for a list of the ports used by Orchid Core VMS, and consult your RHEL 7 documentation for configuring *firewalld*. The following example will open default ports used by Orchid Core VMS, but you should understand the security implications of modifying your firewall settings before proceeding.

```
sudo firewall-cmd --zone=public add-port=80/tcp --permanent
```

```
sudo firewall-cmd --zone=public add-port=554/tcp --permanent
```

```
sudo firewall-cmd --zone=public add-port=40000-50000/udp  
--permanent
```

```
sudo firewall-cmd --zone=public add-port=5565/tcp  
--permanent
```

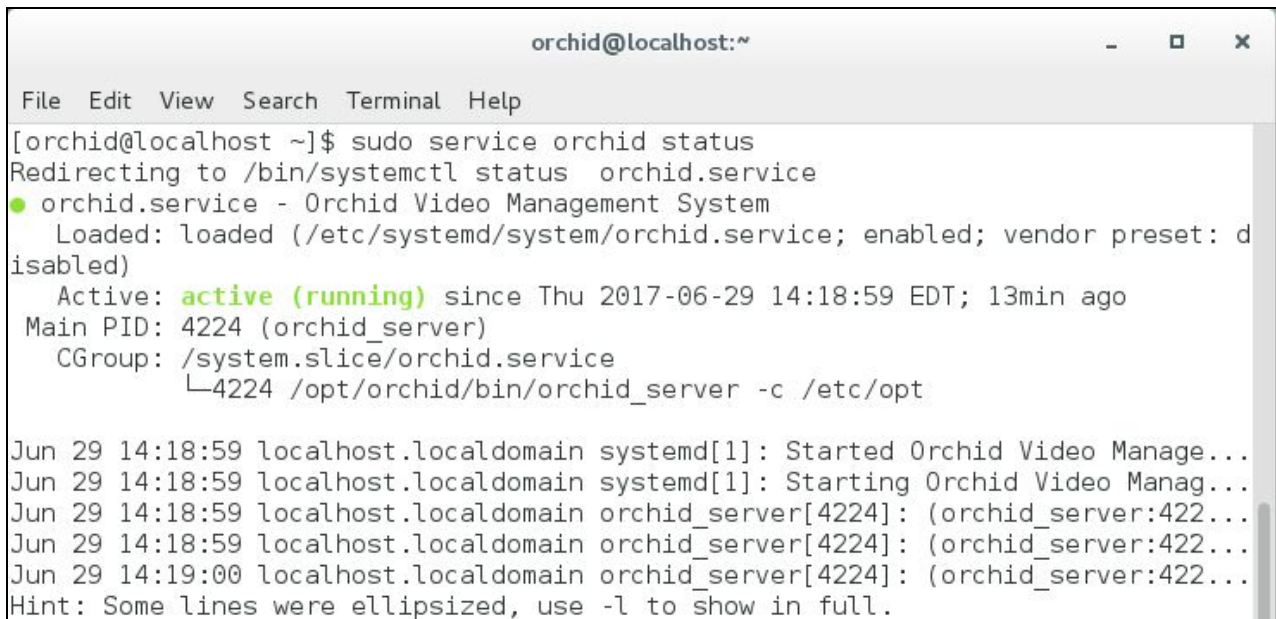
```
sudo firewall-cmd --reload
```

How to Check the Status of the Services in Red Hat

After you've configured your Orchid Core VMS properties and started the service, you should check the service statuses to verify Orchid Core VMS is running.

1. To check the status of the services, use the commands below.

```
sudo systemctl status orchid.service
sudo systemctl status onvif_autodiscovery.service
```



```
orchid@localhost:~
File Edit View Search Terminal Help
[orchid@localhost ~]$ sudo service orchid status
Redirecting to /bin/systemctl status orchid.service
● orchid.service - Orchid Video Management System
   Loaded: loaded (/etc/systemd/system/orchid.service; enabled; vendor preset: disabled)
   Active: active (running) since Thu 2017-06-29 14:18:59 EDT; 13min ago
     Main PID: 4224 (orchid_server)
    CGroup: /system.slice/orchid.service
            └─4224 /opt/orchid/bin/orchid_server -c /etc/opt
Jun 29 14:18:59 localhost.localdomain systemd[1]: Started Orchid Video Manage...
Jun 29 14:18:59 localhost.localdomain systemd[1]: Starting Orchid Video Manag...
Jun 29 14:18:59 localhost.localdomain orchid_server[4224]: (orchid_server:422...
Jun 29 14:18:59 localhost.localdomain orchid_server[4224]: (orchid_server:422...
Jun 29 14:19:00 localhost.localdomain orchid_server[4224]: (orchid_server:422...
Hint: Some lines were ellipsized, use -l to show in full.
```

How to Login to Orchid Core VMS in Red Hat

1. Login to Orchid Core VMS using a web browser pointed to your server's IP address at the port specified above (default is 80). Unless changed during the configuration process, the default login credentials are *admin* and *password*.

Uninstalling the Orchid Core VMS Package in RedHat

1. To remove the Orchid Core VMS package, use the command below. (This will remove all files installed and created by Orchid Core VMS except the */archives* directory specified at **webserver.archives.rootpath** in the properties file.)

```
rpm -e ipc-orchid-{version}.x86_64
```

Installing Orchid Core VMS on Pelco Sarix IME+ Series Cameras

The installer for Orchid Core VMS on Pelco Sarix IME+ Series Cameras is currently available as a Technology Preview. At this stage, installing the software on Pelco cameras is a manual process and technical support for installation is limited.

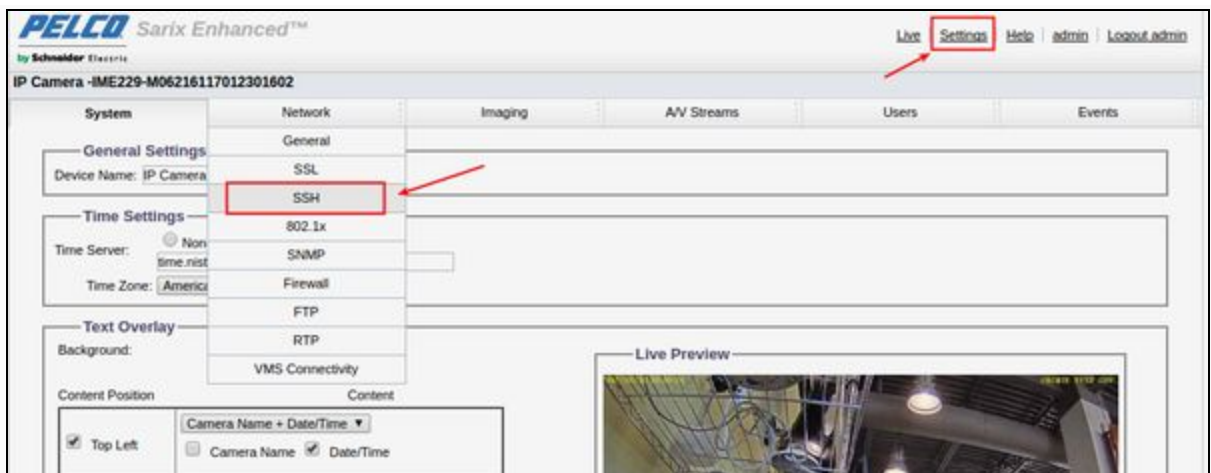
Prerequisites:

To install the Orchid Core VMS on a Pelco camera, you will need:

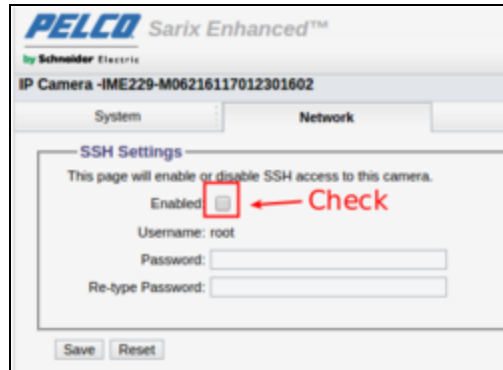
- Pelco Sarix IME+ Next Gen Series camera (**Verified:** Pelco IME229-1IS)
- Class 10 or better SD Card installed in the camera
- Your camera's IP address
- An SSH client (such as [PuTTY](#))

Enable SSH Access

1. To enable SSH access to your camera, open a web browser and login to your camera's IP address.
2. Go to **Settings/SSH** to configure the camera's SSH server.



3. In the *SSH Settings* section, mark the **Enabled** checkbox, specify a root password, and press the **Save** button.



4. Log in to the camera's command line interface using [PuTTY](#) or the SSH client of your choice. Use your camera's IP address, the username root, and the password you set above.

Configure the SD Card

If you're using a new SD card, it's likely that it's formatted using the *FAT32* file system. You will need to format the SD Card to use the *ext2* or *ext4* file system.

Note: If you are able to format the SD card using a Linux computer, the *ext4* file system is less likely to be corrupted when power cycling the camera and should be used instead of *ext2*. When formatting your SD card on the camera itself, only the *ext2* file system is available.

1. Using the command line with SSH, verify the camera sees your SD card:

```
ls /dev/mmc*
```

You should see several devices listed, including `/dev/mmcblk0p1`.

2. Make sure that the SD card is unmounted; reformat it, and then mount it again:

```
umount /dev/mmcblk0p1
```

```
mkfs.ext2 /dev/mmcblk0p1
```

```
mount /dev/mmcblk0p1 /sdcard
```

3. With your SD card properly formatted, you can now download the Orchid Core VMS installation script for Pelco cameras:

```
cd /sdcard

wget
http://download.ipconfigure.com/orchid/pelco/pelco_orchid_install.sh
```

4. Give the installation script permission to be executed, and then run it:

```
chmod 755 pelco_orchid_install.sh

./pelco_orchid_install.sh
```

Orchid Core VMS is now installed on your Pelco camera.

Running Orchid Core VMS

1. Access the Orchid Core VMS user interface with a web browser by navigating to the camera's IP address using port 81. For example: *http://192.168.1.100:81*. The default Orchid Core VMS credentials will be *admin* and *password*.
2. By default, Orchid Core VMS will not record any cameras (including the camera it's installed on). To learn how to configure the camera to record its own video stream, please refer to the *Adding and Managing Cameras* topic in the Administrator Guide. (You will need to add the camera to Orchid Core VMS in manual mode using the ONVIF Device URL *http://127.0.0.1/onvif/device_service*.)

Important: IPConfigure recommends a single recording stream with a maximum resolution and frame rate of 720p @ 10fps on Pelco Sarix IME+ Series cameras.

Installation Support Topics

Orchid Core VMS Configuration Settings

Orchid Core VMS has two configuration files: Orchid Core VMS's Settings (*orchid_server.properties*) and ONVIF Auto-Discovery Settings (*onvif_autodiscovery.properties*). These files contain settings that don't change on a regular basis, and are reserved for those with administrator access. If a change to the configuration settings is required, please refer to the appropriate installation topic in the Installation Guide.

Orchid Core VMS's configuration settings are included below.

Web Server Settings

webservice.protocol

Possible values include *http* and *https*. (The *tls.key* and *tls.certificate* also need to be set. See [SSL/TLS Settings](#).)

webservice.port

Port number of the web server.

webservice.html.rootpath

Root path to the Orchid Core VMS HTML files.

webservice.archives.rootpath

Full path for the desired storage location of media archives. (This value cannot be changed after installation; it is used ONLY when Orchid Core VMS starts for the first time.)

RTSP Server Settings

rtsp.protocol

Protocol of the RTSP server. Note that the RTSP server transport (UDP/TCP/HTTP) is dynamically chosen by the client, while the encryption RTSP v. RTSPS is set by the server.

rtsp

Default - Orchid Core VMS UI will access the streams via UDP.

rtsp

Orchid Core VMS UI will access the streams via TCP-interleaved.

rtsp

Orchid Core VMS UI will access the streams via UDP SRTP.

rtspst

Orchid Core VMS UI will access the streams via TCP-interleaved TLS.

rtsp.service

Configure RTSP server to accept connections on the given service. This should be a string containing a port number between 1 and 65535. When service is set to 0, the server will listen on a random free port.

rtsp.session_cleanup_period

Number of seconds between checking to cleanup inactive sessions.

rtsp.server_backlog

The maximum amount of queued requests for the server.

rtsp.max_threads

The maximum threads used by the pool to handle client requests. A value of 0 will use the pool mainloop, a value of -1 will use an unlimited number of threads.

rtsp.max_sessions

The maximum allowed number of sessions. A value of 0 means there is an unlimited amount of sessions.

rtsp.rtp_port_range.min

Set the minimum RTP port range.

rtsp.rtp_port_range.max

Set the maximum RTP port range.

SSL/TLS Settings

tls.certificate

Full path to the PEM encoded TLS certificate file. This can include a chain of certificates.

tls.key

Full path to the PEM encoded TLS key file.

Camera Discovery Settings

cameradiscovery.publisher.uri

URI to the auto-discovery service. This allows you to connect to another ONVIF Auto-discovery service on another subnet. Usually this is set to tcp://127.0.0.1:5565.

Database Settings

database.type

Database type used by Orchid Core VMS (must be "sqlite").

sqlite.filepath

Full path (with filename) for the desired location of the sqlite database file.

sqlite.wal

To enable sqlite WAL mode, set default to true.

Orchid Core VMS Server Settings

orchid.admin.password

Orchid Core VMS administrator user password.

orchid.uuid

Server ID. Changing this value will disassociate all currently saved Orchid Core VMS settings and video archives with the Orchid Core VMS server.

orchid.max_player_count

Max number of allowed players on the stage per client.

RLIMIT/ULIMITS (Linux Only) Settings

rlimit.core.max

Max core size. Equivalent to ulimit -c. -1 for unlimited.

rlimit.openfiles.max

Max number of open files. Equivalent to ulimit -n.

rlimit.stack.max

Max stack size. Equivalent to ulimit -s.

Logging Settings

severity.file.default

File logging level. The Orchid Core VMS logging system uses the levels below to determine what information will be logged. These levels are listed in order of ascending severity (but descending detail). For example, if you set this to *trace*, the system will keep very detailed logging. If you set this to *critical*, the system will log fewer details, including only those events that are critical. (Keep in mind that increasing the amount of detail in the log file will reduce the total amount of time that the logs will cover.)

trace

debug

normal - Recommended

notice

warning

error

critical

logger.dir

Log file location.

severity.console.default

Console logging level.

severity.syslog.default

Syslog logging level.

severity.console.channel

Console channel log levels (ie. `Gst_Logger:trace, filesplit:debug`)

severity.file.channel

File channel log levels.

severity.syslog.channel

Syslog channel log levels.

gst.debug

Gstreamer Debugging levels (ie. `rtspclient:5, filesrc:3`).

logs.file_size

Maximum size of a single log file in MB.

logs.split_time

Maximum duration of a single log file in minutes.

logs.total_size

Maximum size of all log files (in MB) until cleanup occurs.

syslog.address

Hostname of syslog server.

syslog.port

Port of syslog server.

Archive Cleaner Settings

archivecleaner.usedspace.percentage

Max disk usage percentage before the archive cleaner will start deleting archives.

archivecleaner.delete.percentage

Percentage of additional space to delete when overflow detected.

archivecleaner.periodic.seconds

Archive cleaner check period in seconds.

Low-bandwidth Playback Settings

playback.maxpipelines - Max number of allowed playback pipelines.

framepuller.timeout - Number of seconds to wait before closing playback pipeline if no additional frames are requested.

framepuller.threadpool.count - Number of threads for handling low-bandwidth playback construction.

framepuller.threadpool.maxtasks - Max number of playback pipeline construction requests before dropping new requests.

Video Archive Writer Settings

filewriter.max.finalize.duration

Set the maximum duration in milliseconds for the file writer to finalize a file before abandoning the file and entering failover mode. Default: 500

filewriter.max.op.duration

Set the maximum duration in milliseconds that an individual file operation is permitted to take. Default: 30000

filewriter.max.threads

Maximum number of filewriter threads per stream. Default: 2

Orchid Core VMS Firewall/Ports Configuration

If your Orchid Core VMS server has internet access but is behind a router or firewall, you will likely need to configure port-forwarding on your router or firewall to be able to access your Orchid Core VMS server from the internet. This topic describes all of the network ports used by Orchid Core VMS and which configuration properties allow you to change each port.

Required External Ports

This port is *required* to access Orchid Core VMS in any configuration.

- Web server TCP port
 - Default: 80
 - Configuration property: **webserver.port** (number between 1 and 65535)

Optional External Ports

These ports must be open to stream full-motion, native video to Orchid Core VMS's FBGST browser plugin. If these ports are not available, Orchid Core VMS will only be accessible in low-bandwidth mode.

- RTSP TCP port
 - Default: 554
 - Configuration property: **rtsp.service** (number between 1 and 65535)
- RTP UDP port range
 - Default: None (chosen dynamically; if manually specified, 40000 - 50000 is recommended)
 - Configuration properties: **rtsp.rtp_port_range.min** and **rtsp.rtp_port_range.max** (numbers between 1 and 65535)

Optional Internal Ports

If a software firewall is running directly on your Orchid Core VMS server itself, the following port needs to be open (for localhost) for Orchid Core VMS to communicate with its ONVIF Auto-Discovery Service.

- ONVIF Auto-Discovery URI
 - Default: tcp://127.0.0.1:5565
 - Orchid Core VMS Configuration Property:
cameradiscovery.publisher.uri (a full URI string, as above)
- ONVIF Auto-Discovery Server Port (configured in autodiscovery.properties)
 - Default: 5565
 - ONVIF Auto-Discovery Configuration Property: **port** (number between 1 and 65535)

Linux Tips & Tricks

If you are using Orchid Core VMS with Linux, these tips will help you navigate the system so that you can perform tasks and find files faster.

Opening and Navigating a Terminal

Access a Linux command line terminal to perform system administration tasks by pressing **Ctrl-Alt-T**. Navigate the filesystem using a few simple commands:

pwd

show the working (current) directory

ls

list the contents of the working directory

ls -lh --color

list detailed contents of the working directory

cd directory

change to a new working directory

cd ..

go up one directory

mv src dst

move a file or directory

cp src dst

copy a file

nano file

edit a text file

sudo cmd

run any command (editing a file, for example) as the superuser (root/Administrator).

sudo gedit

open a graphical text editor with superuser permission

Note: Commands, files, and directories can be auto-completed by tapping the **Tab** key—use it liberally, it makes things much easier!

Important Orchid Core VMS Directories and Files

Orchid Core VMS stores video, logs, configuration files, and a variety of other data in different directories:

~/Downloads

Download directory for the OS user *orchid*; exported video files will be saved here

/media/orchid/{random}

USB drives inserted while the *orchid* user is logged in

/opt/orchid

Orchid Core VMS's installation directory

/opt/orchid/bin

Orchid Core VMS executables

/opt/orchid/lib

Orchid Core VMS library files

/archives

Default location of video files

/archives/{camera-stream-id}/{date}/{time}.mkv

Video file naming format

/var/log/orchid_server

Default log file directory

/var/lib/orchid_server/orchid.sqlite

Orchid Core VMS database file

/etc/opt/orchid_server.properties

Orchid Core VMS properties file (advanced configuration options)