

# Orchid Recorder Installation Guide

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IPConfigure

# Table of Contents

- About the Orchid Recorder Installation Guide..... 3
- Installation ..... 4
  - Working in Windows ..... 5
    - Installing Orchid Recorder on Windows ..... 6
    - How to Edit the Configuration Files in Windows.....13
    - How to Manage the Orchid Recorder Services in Windows .....16
    - How to Uninstall Orchid Recorder in Windows .....18
  - Working in Ubuntu 14.04.....19
    - Installing Orchid Recorder on Ubuntu 14.04.....20
    - How to Edit the Configuration Files in Ubuntu 14.04 .....30
    - How to Manage the Orchid Recorder Services in Ubuntu 14.04 .....34
    - How to Uninstall Orchid Recorder in Ubuntu 14.04.....38
  - Working in Ubuntu 16.04 to 22.04 (LTS versions) .....40
    - Installing Orchid Recorder on Ubuntu 16.04 to 22.04.....41
    - How to Edit the Configuration Files in Ubuntu 16.04 to 22.04 .....50
    - How to Manage the Orchid Recorder Services in Ubuntu 16.04 to 22.04 .....54
    - How to Uninstall Orchid Recorder in Ubuntu 16.04 to 22.04.....56
  - Working in Red Hat .....57
    - Installing Orchid Recorder on Red Hat Enterprise Linux 7 and 8.....58
    - How to Edit Configuration Files in Red Hat .....60
    - How to Manage the Orchid Recorder Services in Red Hat.....63
    - Post-Installation Steps in Red Hat .....66
    - How to Uninstall Orchid Recorder in Red Hat .....67
- Installation Support Topics .....68
  - Orchid Recorder Configuration Settings.....69
  - Orchid Recorder Firewall/Ports Configuration .....81
  - Dynamic Configuration.....82
  - Changing the Orchid Recorder Administrator Password .....84
  - Changing the Forensic Timestamp Options.....85
  - Changing the Orchid Recorder Archives Storage Location.....87
  - Changing the Orchid Recorder Archives Retention Percentage .....89
  - Enabling a STUN Server for WebRTC Mode .....90
  - Disabling Database Optimization .....92
  - Linux Tips & Tricks .....93
  - Windows Tips & Tricks .....95
  - Important Directories and Files .....97

# About the Orchid Recorder Installation Guide

The Orchid Recorder 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 optimizing the database, editing configuration files, working with the Orchid Recorder services, and uninstalling the Orchid Recorder software.

This guide covers Orchid Recorder installation on the following operating systems:

- Windows
- Ubuntu 14.04 LTS
- Ubuntu 16.04 to 22.04 (LTS versions) (Refer to Ubuntu 16.04 LTS)
- Red Hat Enterprise Linux 7 and 8 (Refer to Red Hat Enterprise Linux 7)
- CentOS 7 and 8 (Refer to Red Hat Enterprise Linux 7)
- Debian Jessie (Refer to Ubuntu 16.04 LTS)
- Raspbian Jessie (Refer to Ubuntu 16.04 LTS)

This guide provides additional information on a variety of topics listed under [Installation Support Topics](#).



Orchid Recorder now supports both 32-bit and 64-bit ARM devices.

# Installation

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Orchid Recorder is compatible with the following operating systems: Windows, Ubuntu 14.04 LTS, Ubuntu 16.04 to 22.04 (LTS versions), Red Hat Enterprise Linux 7 and 8 (64-bit), CentOS 7 and 8, Raspbian Jessie, and Debian Jessie.

For each of these operating systems, we are providing instructions for installation, database optimization, editing configuration files, managing services, and uninstalling Orchid Recorder. Please refer to the section that corresponds to the operating system installed on your machine.

# Working in Windows

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The following topics will describe how to install and maintain Orchid Recorder on a Windows operating system.

# Installing Orchid Recorder 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.

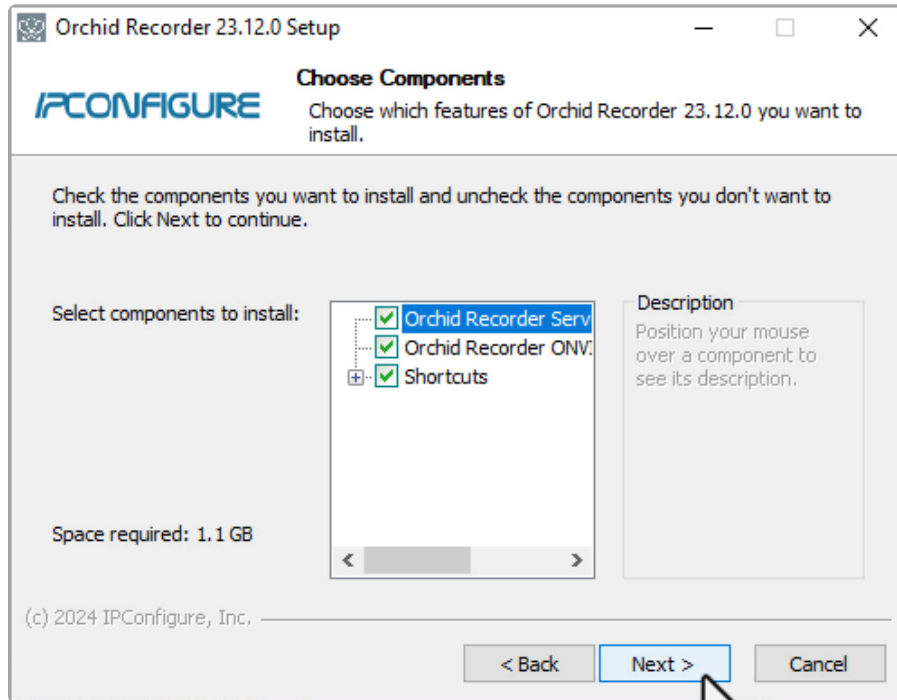
✿ Orchid Recorder can only be installed on a 64-bit Windows operating system; it is not compatible with 32-bit Windows operating systems.

✿ You must sign in to the computer as a user with administrative privileges.

1. Download the Orchid Recorder executable file. You can find the latest version of the Orchid Recorder on IPConfigure's website at <https://www.ipconfigure.com/download>.

✿ -IMPORTANT INSTRUCTIONS FOR UPGRADES: If you are performing a software upgrade, the installer will optimize the database automatically. Optimization is important because it will improve the overall performance of the system, especially notable in larger systems with video retentions greater than 40 TB. The optimization process may take a while to complete (and Orchid Recorder will be unavailable during this time).  
-Administrators have the option to disable the default optimization process by entering a custom command during installation. For important details, please refer to the [Disabling Database Optimization](#) topic.

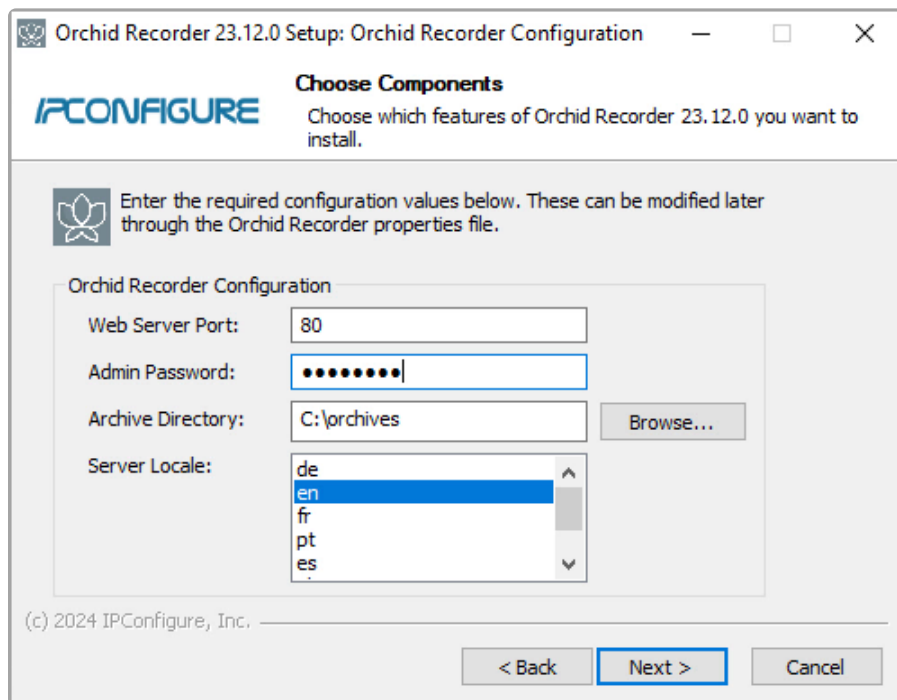
2. Open the Orchid Recorder executable file (ipc-orchid\_23.12.0.exe, for example). You will be asked if you want to allow the installer to make changes to your computer. Click **Yes** to allow the installer to open.
3. Before proceeding with the installation, close all other applications, then click **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.



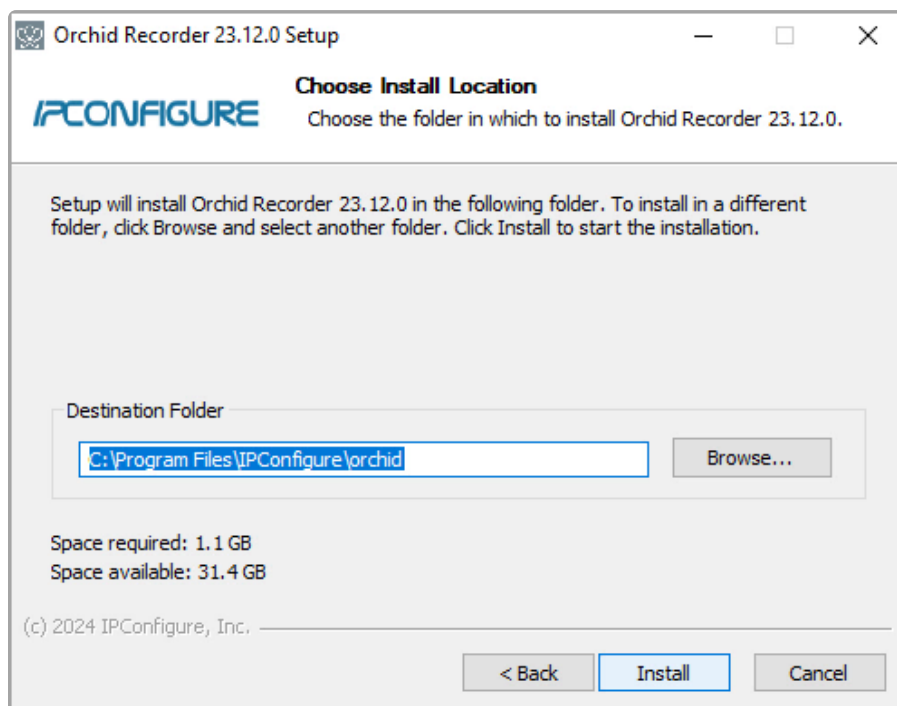
- **Orchid Recorder Service:** This service is responsible for recording cameras, managing archives, and serving the web-based Orchid Recorder user interface to your browser.
- **Orchid Recorder ONVIF Autodiscovery:** This service is used by Orchid Recorder to automatically discover ONVIF conformant cameras on your local network.
- **Shortcuts:** This installs a shortcut on the computer to open the Orchid Recorder user interface in a web browser.

6. Click the **Next** button to continue.
7. If this is a new installation, the installer will ask you to set the Web Server Port, Admin Password, and the Archive Directory for storage. You will also have the opportunity to select the language for the user interface.
  - a. By default, the web server port is set to port 80 (recommended for most installations). Update the port number only if Orchid Recorder needs to use a port other than 80.
  - b. Enter the password you would like to set for the default admin account in the *Admin Password* field.
  - c. The default folder for video archives on Windows is *C:\orchives*. This can be changed to another directory, if needed.
  - d. Use the *Server Locale* list to select one of the available languages. Current supported languages include the following: de (German), en (English), es (Spanish), fr (French), it (Italian), nl (Dutch), pt (Portuguese), and ru (Russian).

✿ If your system has a RAID volume, you may want to move the *orchives* folder to another drive (such as the D or E-drive). In this case, you may also want to change the `archivecleaner.usespace.percentage` property to 99%. (Please refer to the section on [How to Edit the Configuration Files](#) for more details.)

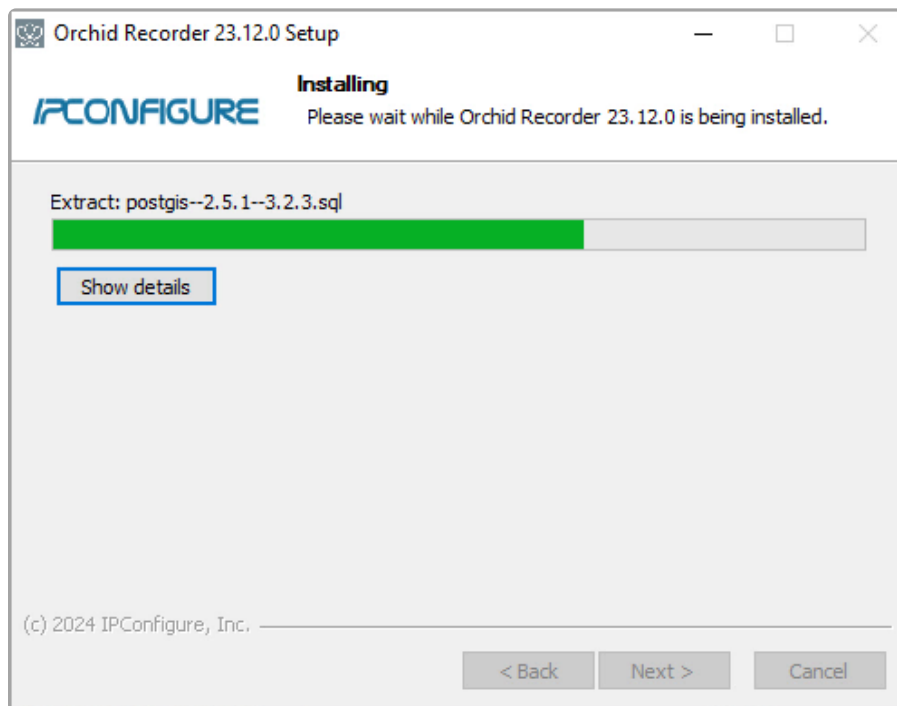


8. Click the **Next** button to continue.
9. The installer will ask you to confirm the installation folder. By default this is *C:\Program Files\IPConfigure\Orchid* and does not need to be changed. However, the installation directory can be updated, if needed.

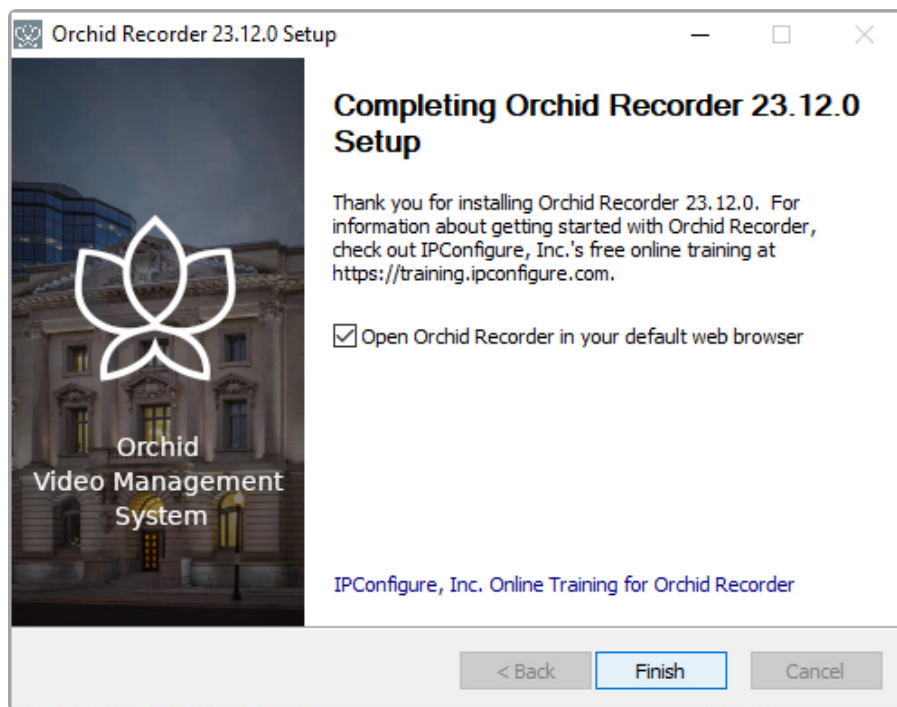


10. Click the **Install** button to proceed with the installation. The installation will complete automatically without any additional prompts.





11. Once the installer says “*Completing*” at the top of the window, mark the *Open Orchid VMS...* checkbox if you want to open Orchid Recorder in your default web browser upon exit.



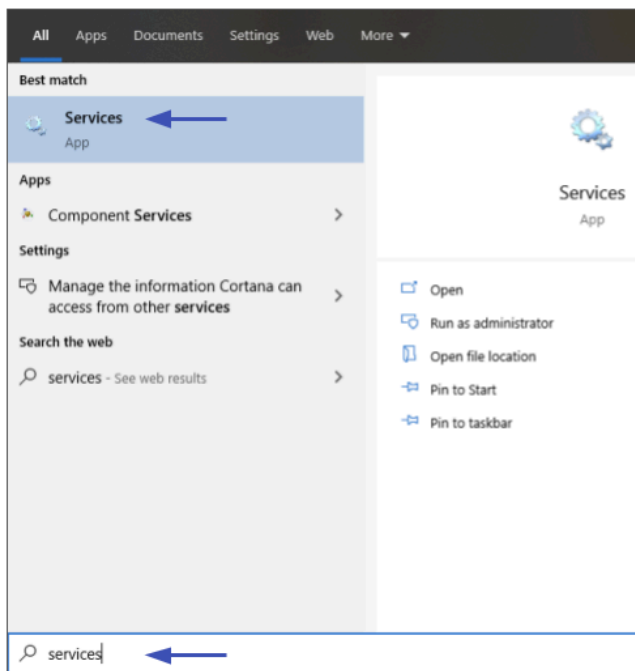
12. Click the **Finish** button to close the installer. Orchid Recorder will automatically open in the computer’s default web browser (if so marked).

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

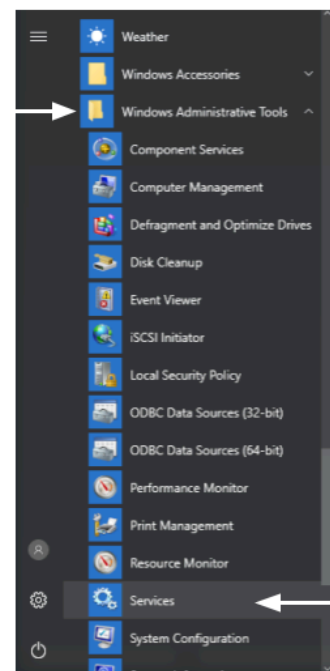
## Orchid Recorder Not Starting In Windows Server

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

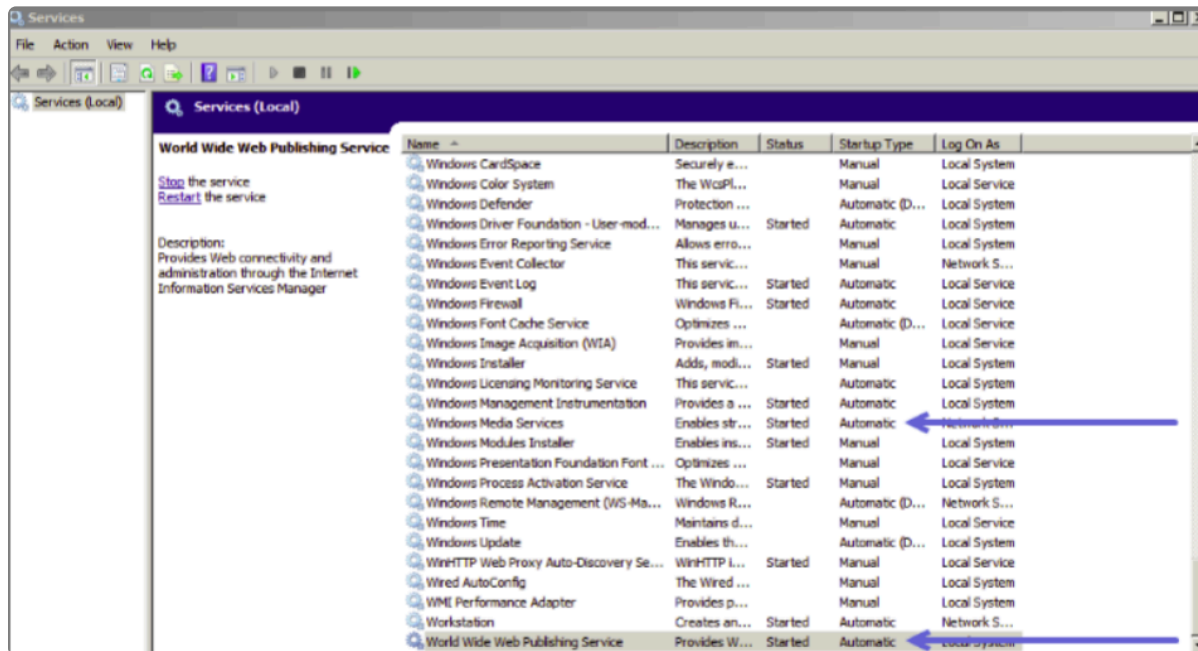
1. Open a web browser and go to *http://localhost*. If you receive a *directory forbidden* screen, or any screen that does not look like Orchid Recorder, there is another program running that is using port 80.
2. Open the Windows Start Menu and type *Services* into the search bar, or select *Windows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



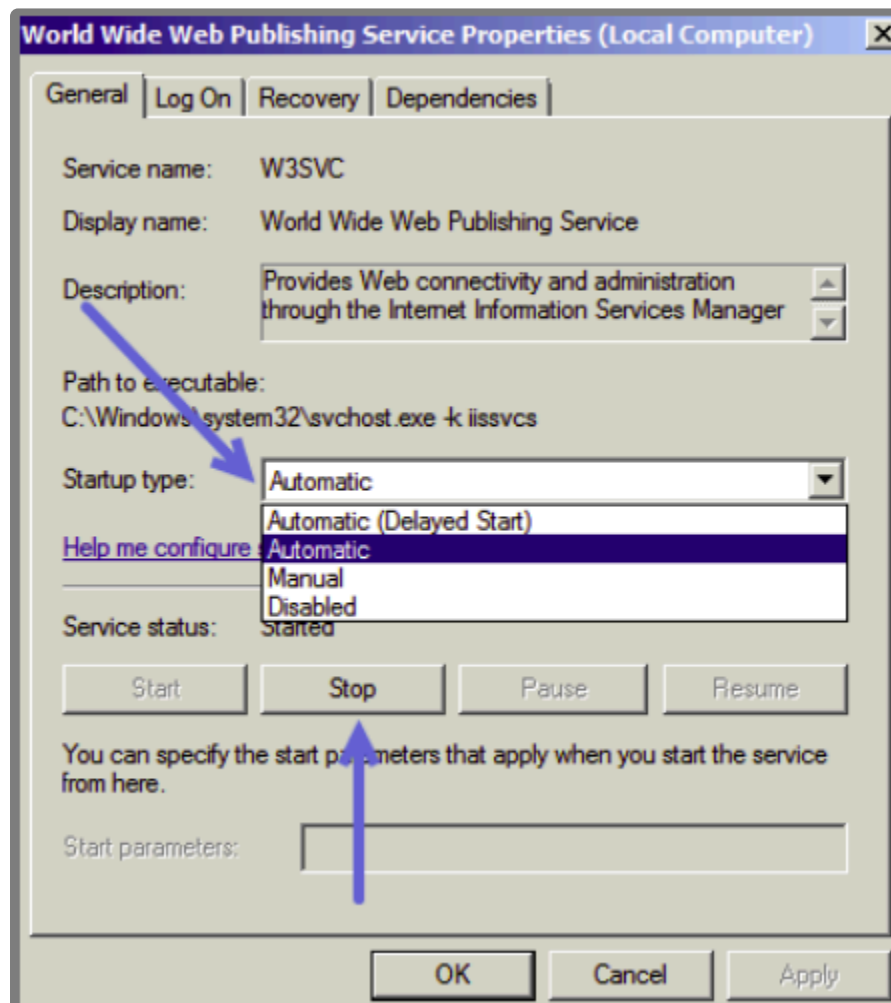
- OR -



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 Recorder 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 Recorder service. Right-click on it and select **Start** to start the Orchid Recorder service.

Orchid Recorder will now be accessible through the browser and will be able to play and record video.

# How to Edit the Configuration Files in Windows

Some of the configuration settings can be edited from within the Orchid Recorder software. (This is done using the *Advanced Settings* feature which is explained in the [Orchid Recorder Administrator Guide](#).) There are some settings, however, that will still need to be changed by editing the configuration file directly. These settings need to be protected from unauthorized changes because they are critical for program stability and reliability. These critical settings include the following:

• archives.dir	• streampipeline.decode.keyFramesOnly
• database.type	• streampipeline.filesplit.motionMode
• logger.dir	• streampipeline.filesplit.recordState
• orchid.admin.password	• streampipeline.filesplit.timePeriod
• orchid.lock_properties	• streampipeline.mode
• orchid.uuid	• streampipeline.motionReducer
• rtsp.protocol	• tls.certificate
• sqlite.filepath	• tls.key
• streampipeline.bgseg.boxArea	• webrtc.public_ip
• streampipeline.bgseg.dialate	• webserver.archives.rootpath
• streampipeline.bgseg.postErode	• webserver.html.rootpath
• streampipeline.bgseg.preErode	• webserver.protocol
• streampipeline.bgseg.threshold	

If it becomes necessary to change one of these critical settings, you can edit the Orchid Recorder configuration files using a text editor like WordPad or Notepad.



In order to edit Orchid Recorder's configuration files, you will need to be signed in as an Administrator.

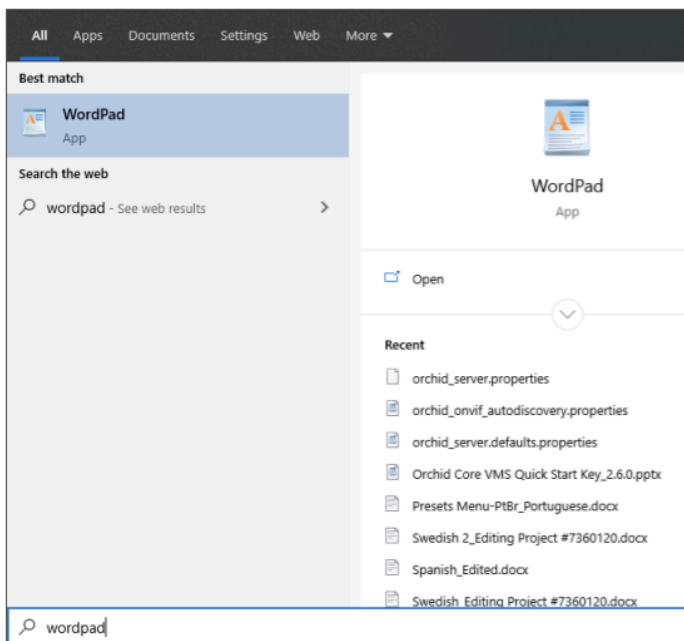
The default locations for Orchid Recorder's configuration files in Windows are:

- **Orchid Server Properties:** *C:\Program Files\IPConfigure\Orchid\bin\orchid\_server.properties*
  - Stores all of the Orchid Recorder settings and can be used to update things like the Orchid Recorder port number, manually update the admin password, etc.

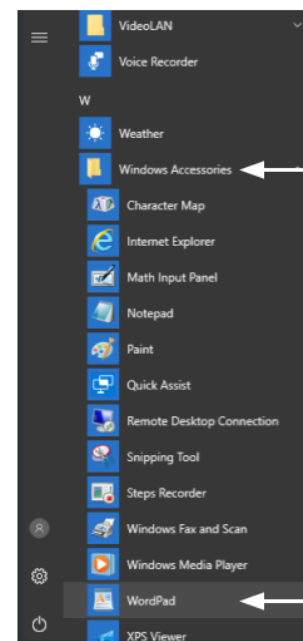
- Settings entered in this file will override the default settings in the Orchid Server Default Properties file (described below).
- **Orchid Server Default Properties:** *C:\Program Files\IPConfigure\Orchid\bin\orchid\_server.defaults.properties*
  - Stores all of the Orchid Recorder default settings and serves as a good reference. [While you may make changes in this file, settings will be overridden by the Orchid Server Properties file (described above).]
- **Orchid ONVIF Auto-Discovery:** *C:\Program Files\IPConfigure\Orchid\onvif\_autodiscovery\orchid\_onvif\_autodiscovery.properties*
  - Used to edit the settings for the Orchid ONVIF Auto-Discovery service used by Orchid Recorder.

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

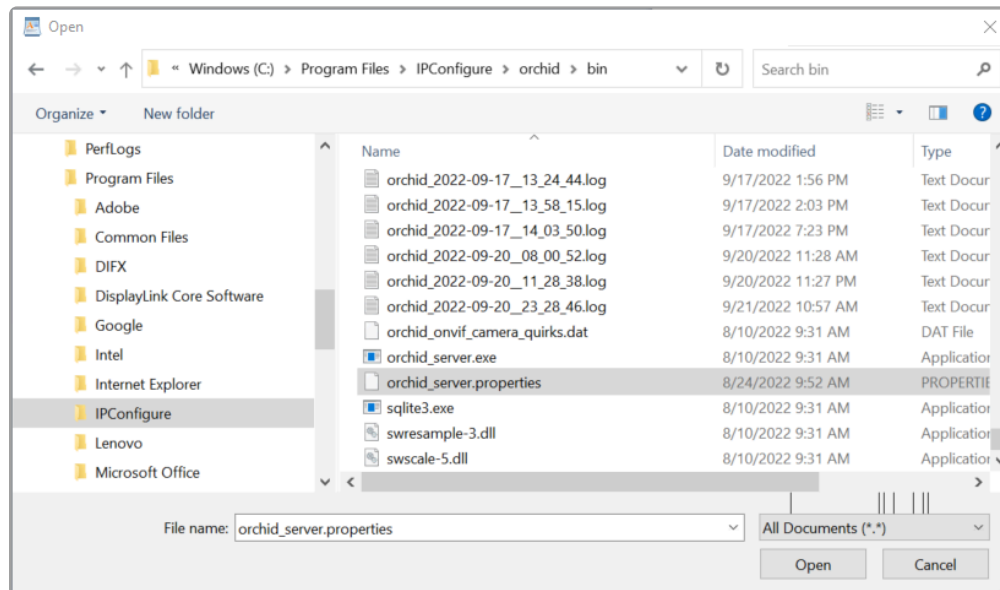
1. Open the Windows start menu and type *Wordpad* into the search bar, or go to *Windows Accessories*



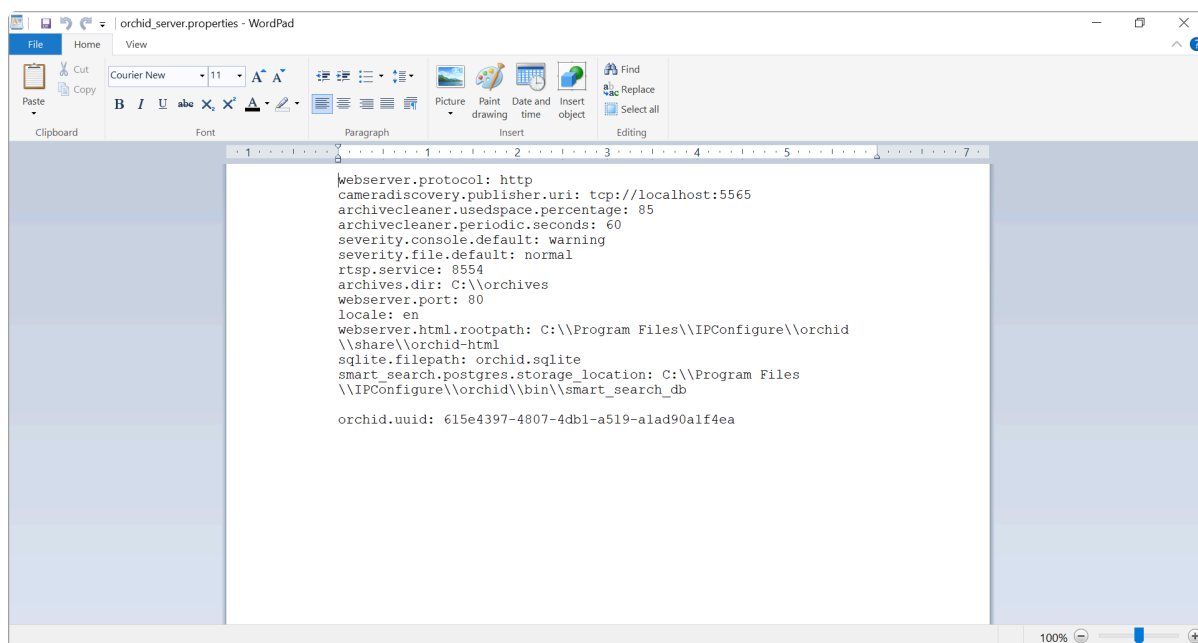
- OR -



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. (If no files appear, ensure the *All Documents* option is selected.)



5. Select the file you want to edit and click the *Open* button.
6. The file you selected will open in WordPad. Make setting changes as necessary.



7. When you are ready to save the file, select *File/Save* to save the configuration file.
8. You must restart the Orchid Recorder service in Windows to implement the new settings. (See next topic.)

# How to Manage the Orchid Recorder Services in Windows

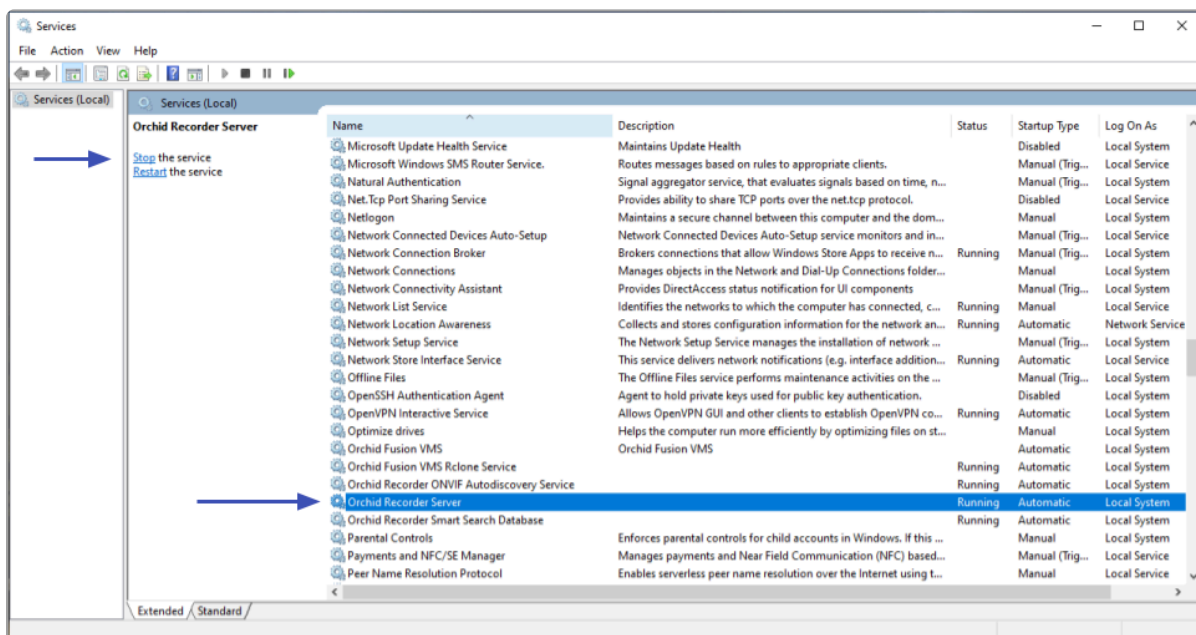
The two services listed below are used by Orchid Recorder on Windows. If you need to check the status, start, or stop one of these services, you can do this through the *Services Manager* whenever necessary. (You will need to restart the appropriate service whenever a change has been made to one of Orchid Recorder's configuration files.)

- **Orchid Recorder Service:** The main Orchid Recorder service that records and archives video.
- **Orchid Recorder ONVIF Autodiscovery Service:** Used by Orchid Recorder to automatically find cameras that support ONVIF.

✿ You must be signed into the computer as a user with administrator privileges in order to use the *Services Manager*.

To manage an Orchid Recorder service:

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*. The *Services Manager* will display a list of all the services setup in Windows.

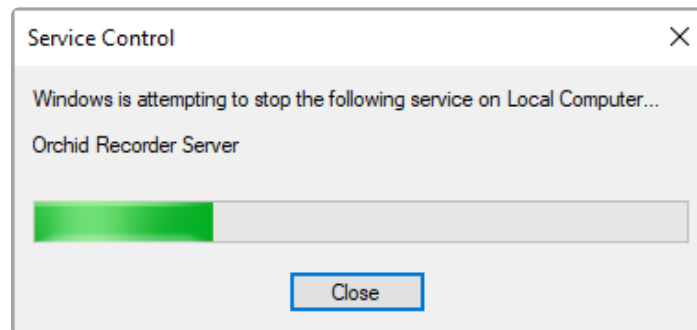


3. Scroll through the list and click on the service you need to restart. (Notice that the status of the service will appear in the *Status* column.)
4. Click the **Restart the service** button (at the left of the list of services). (Click the **Stop the**



*Service* link if you need to stop the service.)

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*.



# How to Uninstall Orchid Recorder in Windows

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

1. To uninstall Orchid Recorder, 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

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The following topics will describe how to install and maintain Orchid Recorder on the Ubuntu 14.04 operating system.

# Installing Orchid Recorder on Ubuntu 14.04

IPConfigure distributes Orchid Recorder 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).

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

\* Orchid Recorder requires Linux kernel 3.17.0 or greater.

\* You must sign in to the computer as a user with “root” or “sudo” privileges.

\* The Ubuntu 14.04 and 16.04 installers are different.

\* -IMPORTANT INSTRUCTIONS FOR UPGRADES: If you are performing a software upgrade, the installer will optimize the database automatically (by default). Optimization is important because it will improve the overall performance of the system, especially notable in larger systems with video archives greater than 40 TB. The optimization process may take a while to complete (and Orchid Recorder will be unavailable during this time).  
-Administrators have the option to disable the default optimization process by entering a custom command during installation. For important details, please refer to the [Disabling Database Optimization](#) topic.

1. Download the Orchid .deb file. You can find the latest version of Orchid Recorder on IPConfigure’s website at <http://www.ipconfigure.com/download>.
2. Once you’ve downloaded the Orchid Recorder installation package, decide whether you want to perform the installation via the Command Line or the GUI.

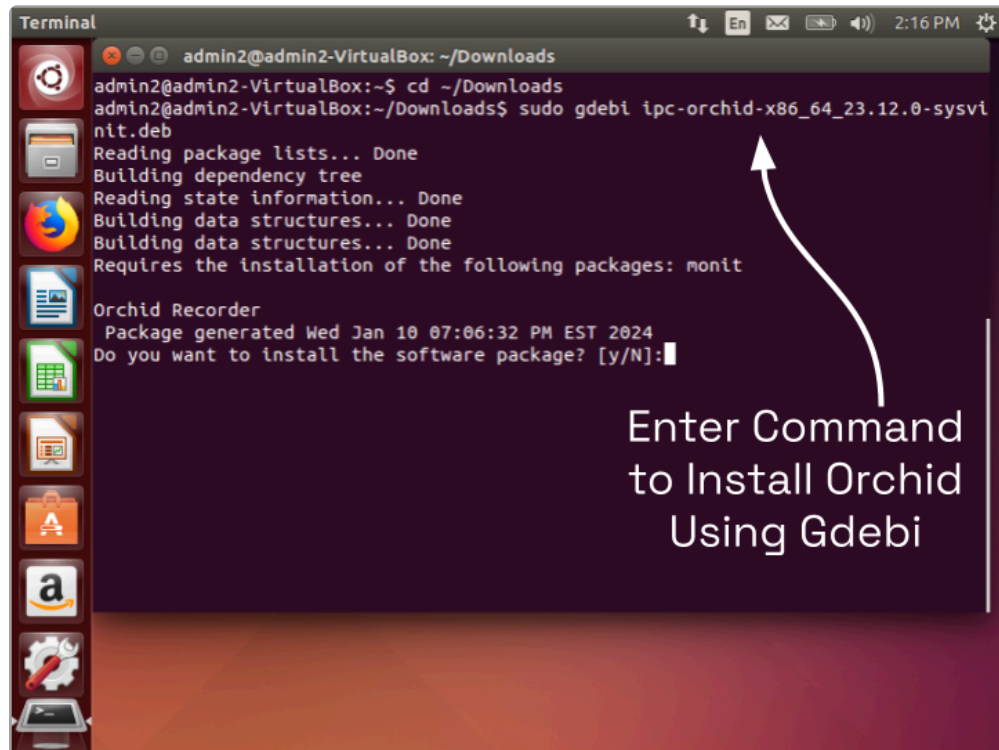
## Installing through the Command Line (Ubuntu Server)

1. Open the *Terminal* program (**CTRL+ALT+T**) and navigate to the directory where you downloaded the Orchid Recorder 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`

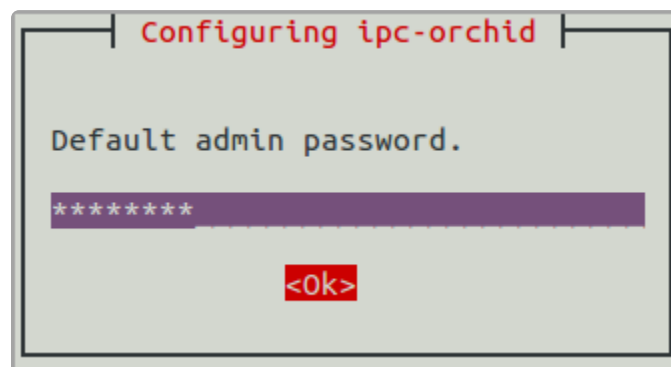
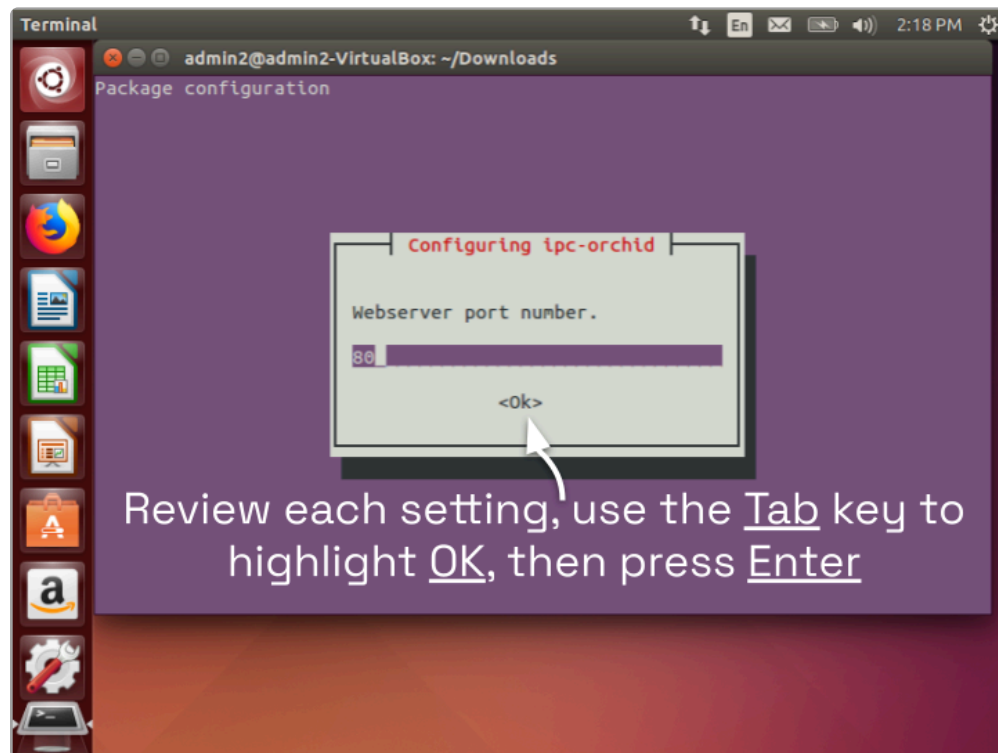
It may take a few minutes for GDebi to install, depending on the speed of your system.

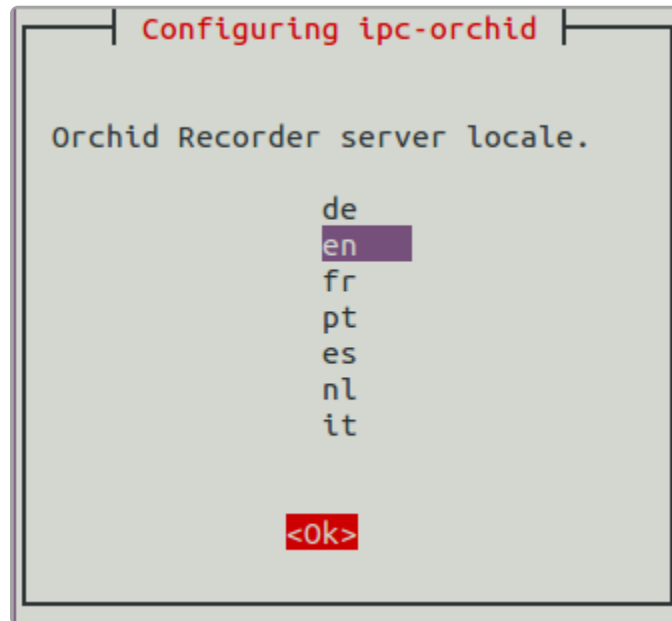
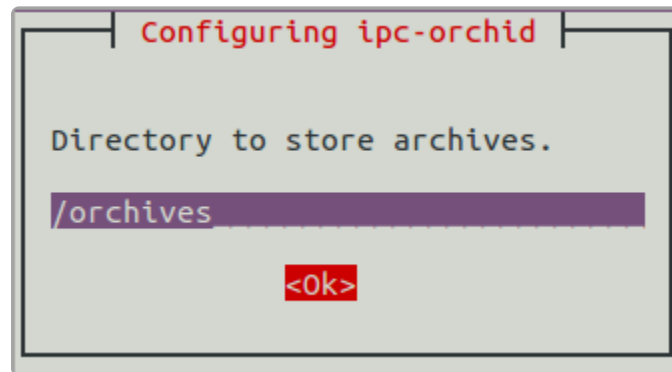
3. The GDebi command can now be used to install the Orchid Recorder debian package. The syntax is `sudo gdebi (package-name).deb`. For example, if the name of the package is *ipc-orchid-x86\_64\_23.12.0-sysvinit.deb*, the following command would be used: `sudo gdebi ipc-orchid-x86_64_23.12.0-sysvinit.deb`



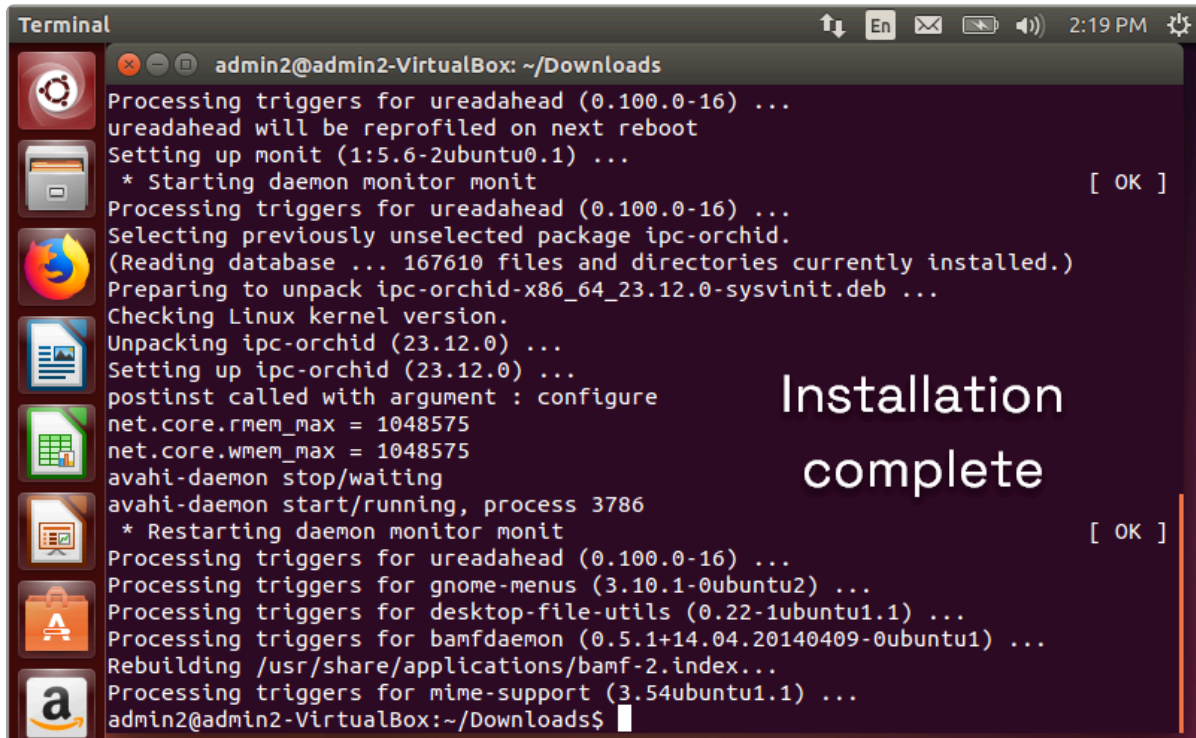
4. The system may ask for your Ubuntu user password. Type in the password and press *Enter*.
5. The system will then ask if you want to install the software. Enter *Y* for yes, and press *Enter*.
6. On a new installation, you will be asked to accept the End User License Agreement. After reading the agreement, press the *Tab* key to select *Ok*, then the *Enter* key to accept it.
7. You will then be asked to accept the agreement in a separate prompt. Use the *Left Arrow* or *Tab* key to select *Yes*, and press *Enter* to accept it.
8. Next, the installer will ask you to set the Web Server Port, Admin Password, and the Archive Directory for storage. You will also have an opportunity to select the language for the user interface.
  - a. By default, the web server port is set to port 80 (which is the recommended port for most installations). If Orchid Recorder needs to use a different port, update the port, then press the *Tab* key to select *Ok*, and press *Enter*.
  - b. Enter the password you would like to set for the default admin account, then press the *Tab* key to select *Ok*, and press *Enter*.
  - c. Set the directory for video archives. The default folder is */archives*. Enter a new

- archives location, if needed, then press the **Tab** key to select **Ok**, and press **Enter**.
- d. Use the *Orchid Recorder locale* drop-down list to select the language. Available selections include the following: *de* (German), *en* (English), *es* (Spanish), *fr* (French), *it* (Italian), *nl* (Dutch), *pt* (Portuguese), and *ru* (Russian). Press the **Tab** key to select **Ok**, and press **Enter**.





The installation will complete automatically without any additional prompts. This process may take a few minutes.



The Orchid Recorder services start automatically once the package installation is done, after which you can access the Orchid Recorder user interface in your web browser. (Please refer to the *Sign in* topic in the [Orchid Recorder Administrator Guide](#) for more details.)

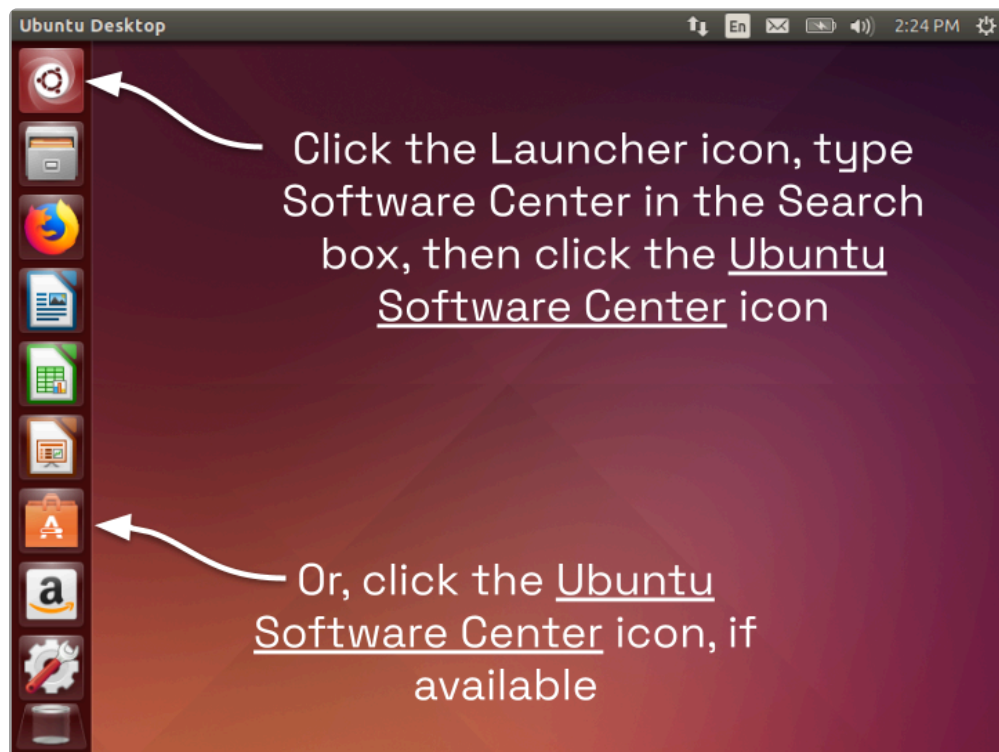
9. You can automatically launch a browser to Orchid Recorder using the link installed on your server:
  - Click on the **Launcher** icon in the top left corner of the screen.
  - Type **Orchid** in the search box, then click the **Orchid Recorder** icon listed under *Applications*.



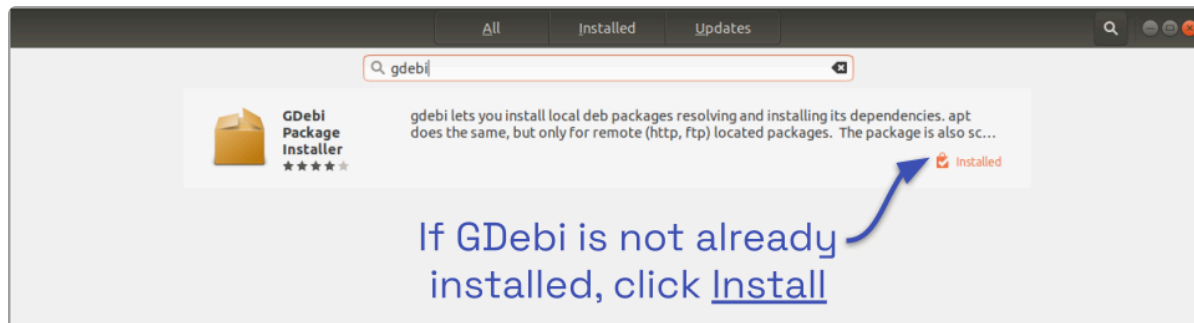


## Installing through the GUI (Ubuntu Desktop)

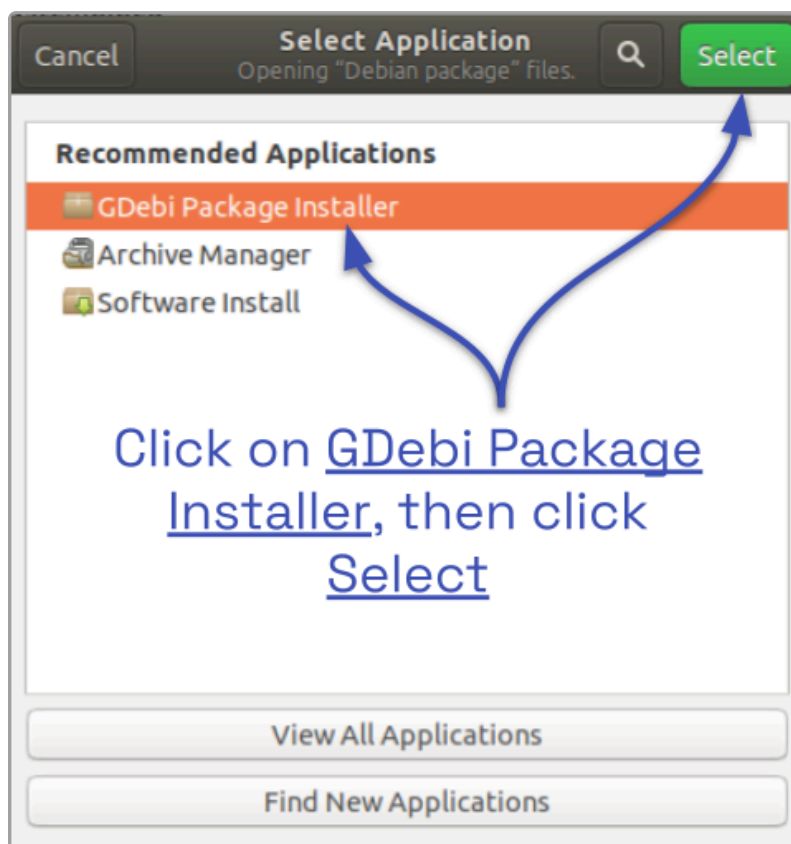
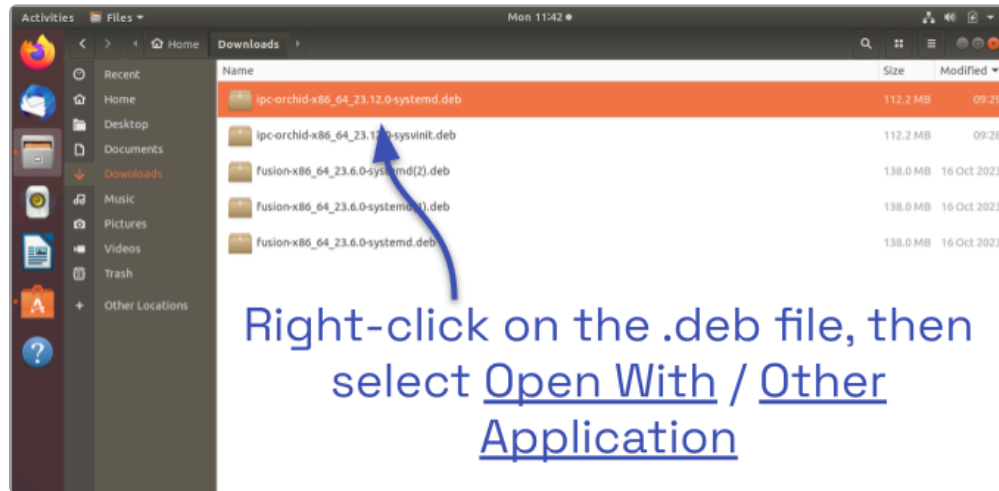
1. Click on the *Launcher* icon and then type in *Software Center*. If it is listed on the toolbar, click the *Ubuntu Software Center* icon to open it.



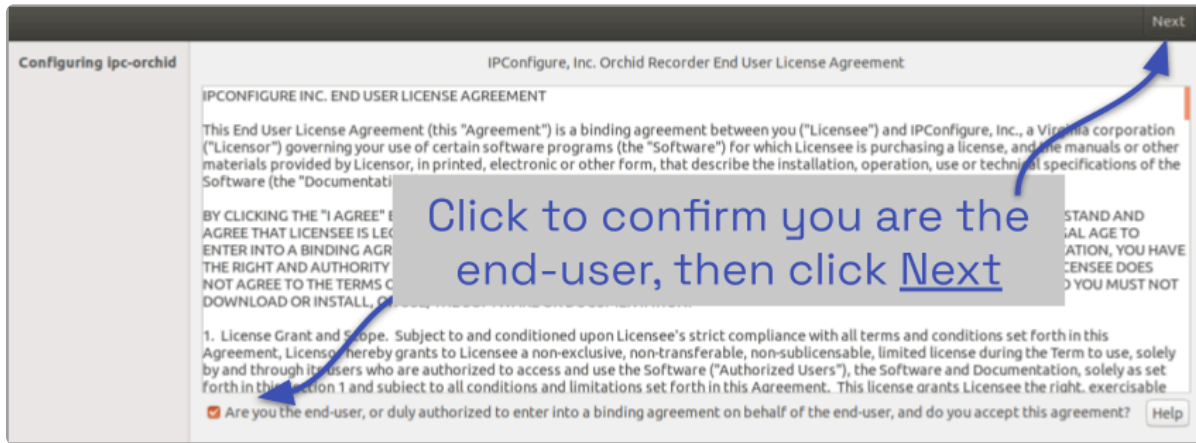
2. In the search bar in the top right-hand corner of the Software Center, type **gdebi**.
3. Select *GDebi Package Installer (gdebi)* (which should be the first result). If it is not already installed, click the **Install** button.



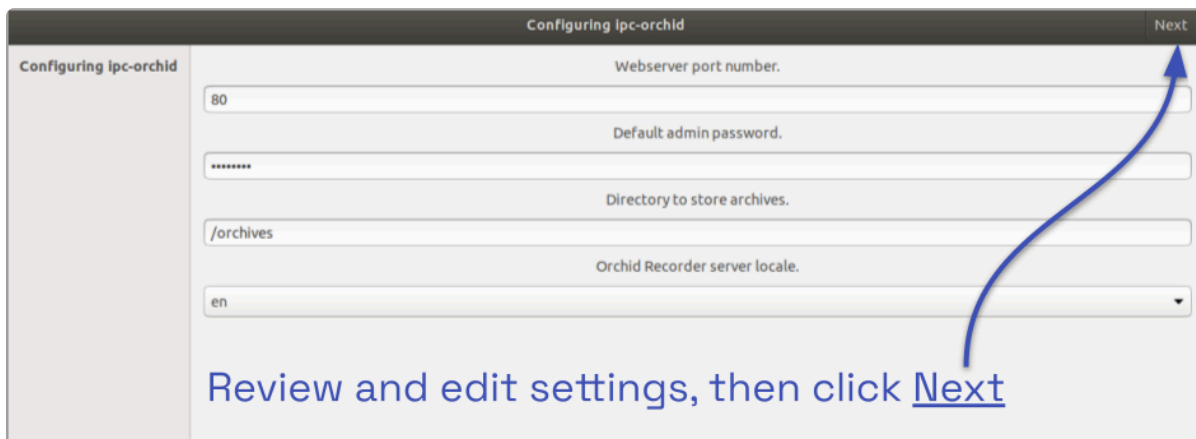
4. After GDebi has finished installing, click the **Files** icon to open the *Files Explorer*, then navigate to the folder storing your Orchid Recorder package (.deb file). (The package is probably stored in the *Downloads* folder.)
5. Right-click on the Orchid Recorder package, then select *Open With*, and *Other Application*.
6. At the *Select Application* screen, click on *GDebi Package Installer* and click **Select**.



7. Once the GDebi package installer loads, click the **Install Package** button in the top right-hand corner of the window.
8. You may be asked for your system password. Type it in and click **OK**.
9. If this is a new installation, you will be asked to accept the End User License Agreement. After you read the agreement, mark the *Are you the end-user...* checkbox and click the **Next** button.



10. Next, the installer will ask you to set the Web Server Port, Admin Password, and the Archive Directory for storage. You will also have an opportunity to select the language for the user interface.
- By default, the web server port is set to port 80, which is recommended for most installations. Update the port number only if Orchid Recorder 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.
  - Use the *Orchid Recorder locale* list to select the language. Available selections include the following: *de* (German), *en* (English), *es* (Spanish), *fr* (French), *it* (Italian), *nl* (Dutch), *pt* (Portuguese), and *ru* (Russian).



11. When finished, click the **Next** button.

The installation will complete automatically without any additional prompts. This may take a few minutes.

12. 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 Recorder services will start automatically once the package installation is done, after which you can access the Orchid Recorder user interface in your web browser.

(Please refer to the *Sign in* topic in the [Orchid Recorder Administrator Guide](#) for more details.)

13. You can automatically launch a browser to Orchid Recorder using the 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 Recorder* icon.




# How to Edit the Configuration Files in Ubuntu 14.04

Some of the configuration settings can be edited from within the Orchid Recorder software. (This is done using the *Advanced Settings* feature which is explained in the [Orchid Recorder Administrator Guide](#).) There are some settings, however, that will still need to be changed by editing the configuration file directly. These settings need to be protected from unauthorized changes because they are critical for program stability and reliability. These critical settings include the following:

• archives.dir	• streampipeline.decode.keyFramesOnly
• database.type	• streampipeline.filesplit.motionMode
• logger.dir	• streampipeline.filesplit.recordState
• orchid.admin.password	• streampipeline.filesplit.timePeriod
• orchid.lock_properties	• streampipeline.mode
• orchid.uuid	• streampipeline.motionReducer
• rtsp.protocol	• tls.certificate
• sqlite.filepath	• tls.key
• streampipeline.bgseg.boxArea	• webrtc.public_ip
• streampipeline.bgseg.dialate	• webserver.archives.rootpath
• streampipeline.bgseg.postErode	• webserver.html.rootpath
• streampipeline.bgseg.preErode	• webserver.protocol
• streampipeline.bgseg.threshold	

If it becomes necessary to change one of these critical settings, you can edit the Orchid Recorder configuration files using standard text editors in Linux. This section will describe two methods for editing the configuration files: using the Command Line and using the Graphical User Interface.

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

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

- **Orchid Server Properties:** */etc/opt/orchid\_server.properties*

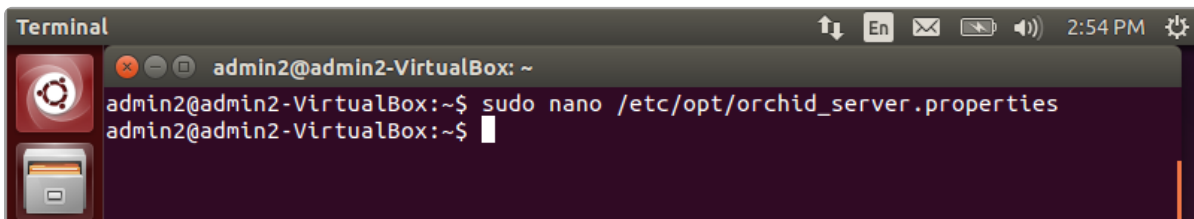
- Stores all of the Orchid Recorder settings and can be used to update things like the port number, manually update the admin password, etc.
- Settings entered in this file will override the default settings in the *Orchid Server Default Properties* file (described below).
- **Orchid Server Default Properties:** `/etc/opt/orchid_server.properties.default`
  - Stores all of the Orchid Recorder default settings and may serve as a good reference. [Any changes made to this file will be ignored.]
- **Orchid ONVIF Auto-Discovery:** `/etc/opt/orchid_onvif_autodiscovery.properties`
  - Used to edit the default settings for the ONVIF auto-discovery service used by Orchid Recorder.

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

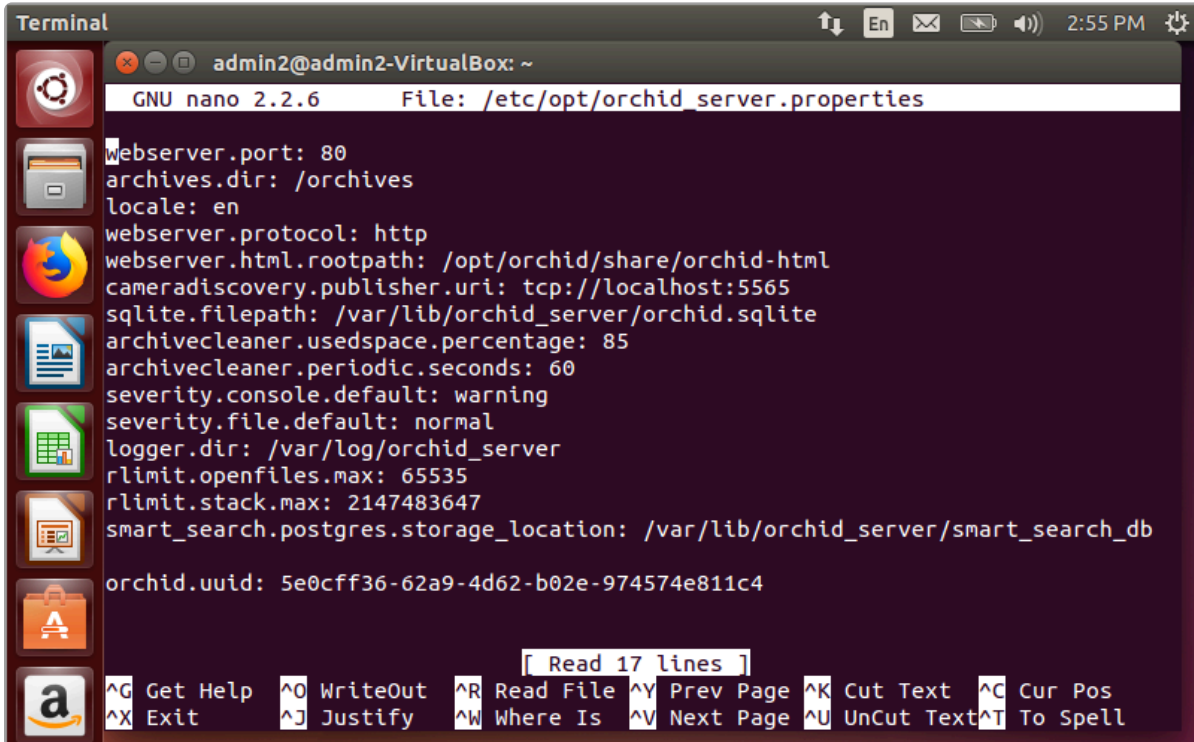
## Editing Configuration Files through the Command Line:

1. Open the *Terminal* program (**CTRL+ALT+T**) and open Orchid Recorder's configuration file in the nano text editor by typing the following command: `sudo nano /etc/opt/orchid_server.properties`. Then press **Enter**.

✿ If a different file needs to be edited, such as the Orchid 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 the *[sudo]* password for your user. Type the password used to sign in to your computer, then press **Enter**. The configuration file will open.



```

Terminal
admin2@admin2-VirtualBox: ~
GNU nano 2.2.6 File: /etc/opt/orchid_server.properties

webserver.port: 80
archives.dir: /orchives
locale: en
webserver.protocol: http
webserver.html.rootpath: /opt/orchid/share/orchid-html
cameradiscovery.publisher.uri: tcp://localhost:5565
sqlite.filepath: /var/lib/orchid_server/orchid.sqlite
archivecleaner.usespace.percentage: 85
archivecleaner.periodic.seconds: 60
severity.console.default: warning
severity.file.default: normal
logger.dir: /var/log/orchid_server
rlimit.openfiles.max: 65535
rlimit.stack.max: 2147483647
smart_search.postgres.storage_location: /var/lib/orchid_server/smart_search_db

orchid.uuid: 5e0cff36-62a9-4d62-b02e-974574e811c4

[ Read 17 lines ]
^G Get Help ^O WriteOut ^R Read File ^Y Prev Page ^K Cut Text ^C Cur Pos
^X Exit ^J Justify ^W Where Is ^V Next Page ^U UnCut Text ^T To Spell

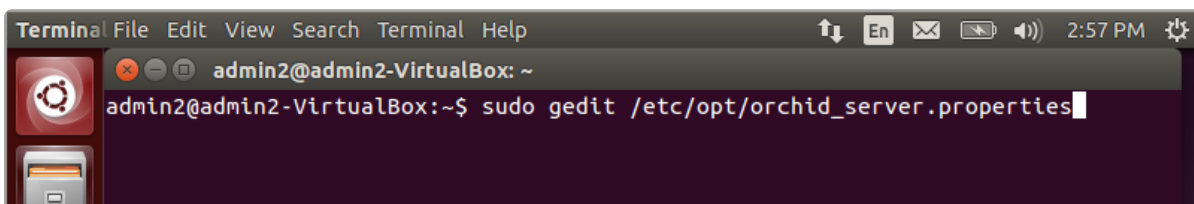
```

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** 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 Recorder service in [Linux](#) to implement the new settings.

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

1. Open the *Terminal* program (**CTRL+ALT+T**) and open Orchid Recorder's configuration file by typing the following command: `sudo gedit /etc/opt/orchid_server.properties`. Then press **Enter**.

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



```

Terminal File Edit View Search Terminal Help
admin2@admin2-VirtualBox: ~
admin2@admin2-VirtualBox:~$ sudo gedit /etc/opt/orchid_server.properties

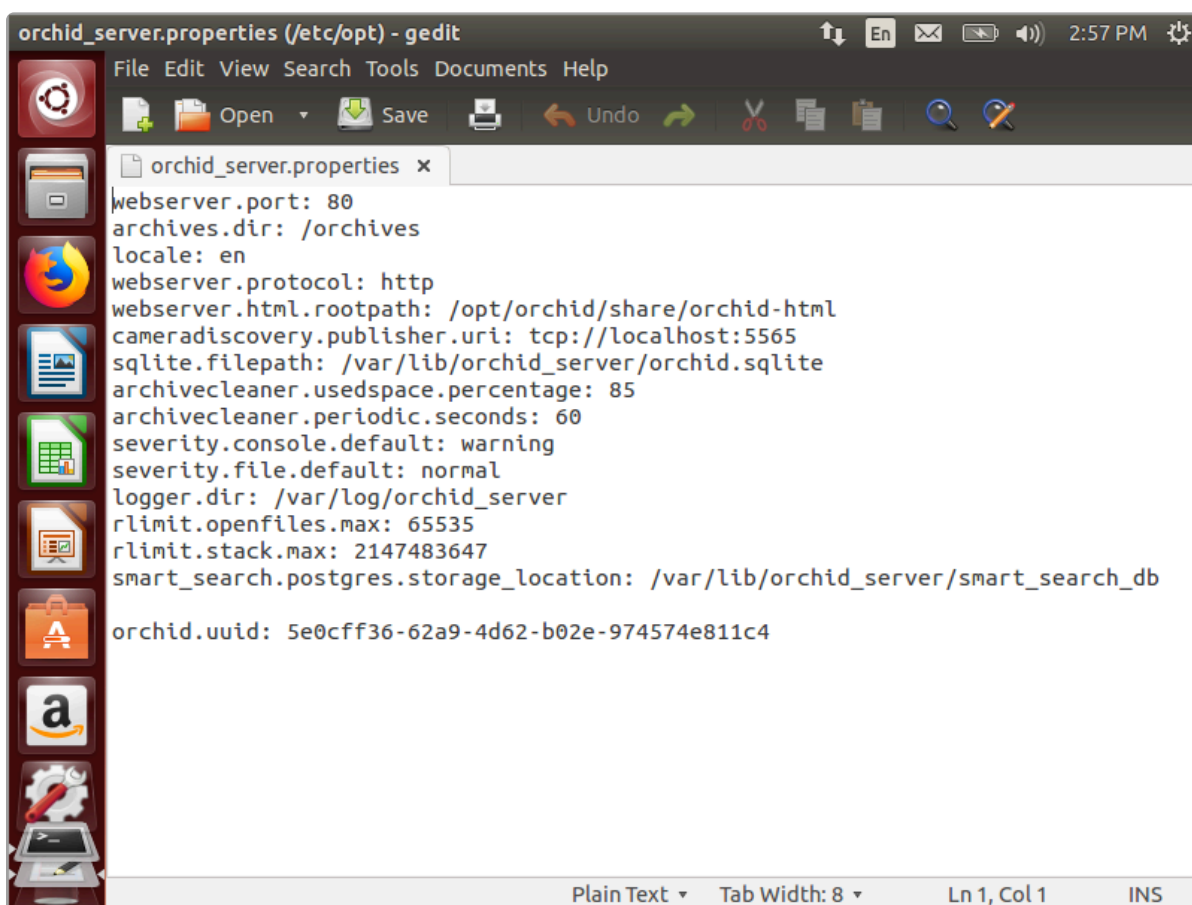
```

2. After running that command, you will be prompted to enter your password to perform



administrative tasks. Type the same password you use to sign in to your computer, then press **Enter**.

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.



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

# How to Manage the Orchid Recorder Services in Ubuntu 14.04

---

Orchid Recorder runs on Linux as a service. If you need to check the status, start, or stop one of these services, you can do this from the command line or the GUI.

There are two main services used by Orchid Recorder on Linux:

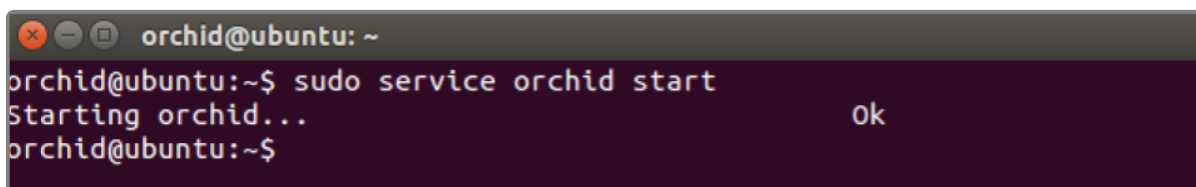
- **Orchid Recorder Service:** The main Orchid Recorder service that records and archives video.
- **Orchid Recorder ONVIF Auto-Discovery Service:** Used by Orchid Recorder to automatically find cameras that support ONVIF.

## Tips

- After you've configured your Orchid Recorder properties and started the services, you should check the status of both services to verify Orchid Recorder is running.
- You will need to restart the services whenever a change has been made to the Orchid Recorder configuration files.

## How to Manage the Orchid Recorder Services Through the Command Line

1. Open the *Terminal* program (**CTRL+ALT+T**).
2. Type the following command: `sudo service orchid (command)` (where the *command* is `start`, `stop`, `restart`, or `status`). Then press **Enter**.



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

\* This set of commands will only manage the Orchid Recorder service. If you need to manage the Orchid ONVIF Auto-Discovery Service, replace `orchid` with `orchid_onvif_autodiscovery` in the command line as in the example below.

```
orchid@orchid-000000: ~  
orchid@orchid-000000:~$ sudo service orchid_onvif_autodiscovery start  
Starting orchid_onvif_autodiscovery...      Ok  
orchid@orchid-000000:~$
```

\* As a fail-safe measure, the Monit Service Manager will restart the Orchid Recorder and Orchid 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).

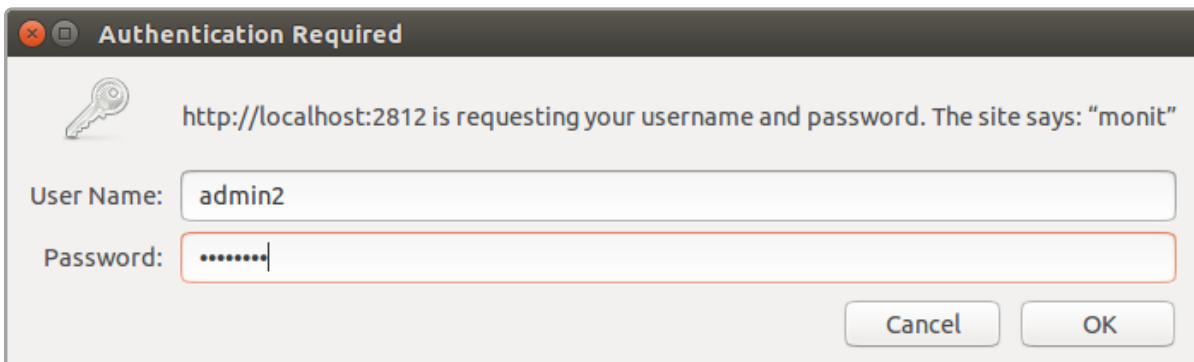
```
orchid@ubuntu: ~  
orchid@ubuntu:~$ sudo service monit stop  
* Stopping daemon monitor monit  
orchid@ubuntu:~$
```



## How to Manage the Orchid Recorder Services Through the GUI

To manage the Orchid Recorder 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 Recorder'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 `orchid_onvif_autodiscovery_service`. The status of each service is listed in the *Status* column.

Monit: admin2-VirtualBox - Mozilla Firefox

Monit: admin2-VirtualBo X +

localhost:2812

Home > Use [M/Monit](#) to manage all your Monit instances [Monit 5.6](#)

## Monit Service Manager

is running on admin2-VirtualBox with *uptime, 3m* and monitoring:

System	Status	Load	CPU	Memory
<a href="#">admin2-VirtualBox</a>	Running	[0.40] [0.45] [0.25]	9.4%us, 2.7%sy, 0.6%wa	39.5% [909552 kB]

Process	Status	Uptime	CPU	Memory
<a href="#">orchid smart search postgres</a>	Running	7m	0.0%	0.7% [19144 kB]
<a href="#">orchid onvif autodiscovery service</a>	Running	7m	0.0%	0.7% [15508 kB]
<a href="#">orchid server</a>	Running	9m	0.0%	3.3% [68088 kB]

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3. 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.

Home > orchid\_server Use [M/Monit](#) to manage all your Monit instances [Monit 5.6](#)

### 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	Mon, 29 Jan 2024 15:11:45
Process id	5518
Parent process id	5516
Process uptime	11m
Children	0
CPU usage	0.0% (Usage / Number of CPUs)
Total CPU usage (incl. children)	0.0%
Memory usage	3.3% [68352kB]
Total memory usage (incl. children)	3.3% [68352kB]
Pid	If changed 1 times within 1 cycle(s) then alert
Ppid	If changed 1 times within 1 cycle(s) then alert

**Service Options**

Start service Stop service Restart service Disable monitoring

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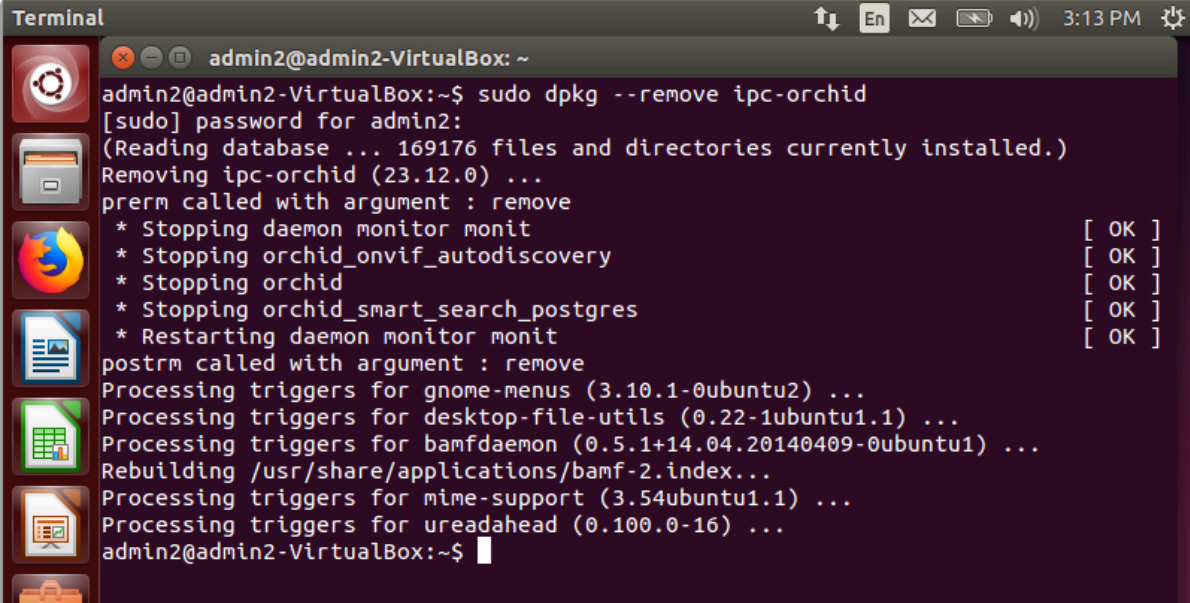
- Click the **Stop Service** button to stop the selected service. This action will keep the service off until the **Start Service** button is clicked.
- Click the **Start Service** button at the bottom of the screen to start the selected service.
- Click the **Restart Service** button to restart the 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*.

# How to Uninstall Orchid Recorder in Ubuntu 14.04

---

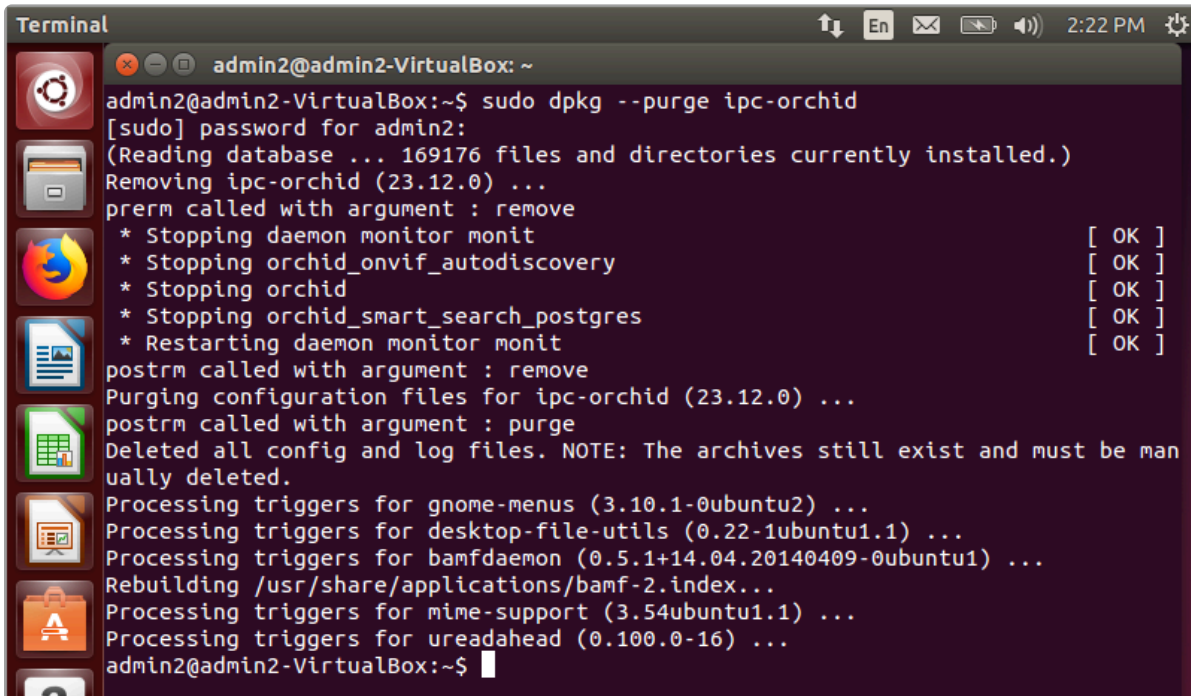
There are a couple of options for removing the Orchid Recorder software. The *Remove* command will uninstall all files installed and created by Orchid Recorder except the configuration files and the */archives* directory. The *Purge* command will uninstall all files installed and created by Orchid Recorder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

1. Open the *Terminal* program (**CTRL+ALT+T**).
2. To uninstall Orchid Recorder, do either of the following:
  - To uninstall Orchid Recorder (while keeping the configuration files and the archives), type the following command, then press **Enter**, and enter the password when prompted to do so: `sudo dpkg --remove ipc-orchid`



```
Terminal
admin2@admin2-VirtualBox: ~
admin2@admin2-VirtualBox:~$ sudo dpkg --remove ipc-orchid
[sudo] password for admin2:
(Reading database ... 169176 files and directories currently installed.)
Removing ipc-orchid (23.12.0) ...
prerm called with argument : remove
* Stopping daemon monitor monit [ OK ]
* Stopping orchid_onvif_autodiscovery [ OK ]
* Stopping orchid [ OK ]
* Stopping orchid_smart_search_postgres [ OK ]
* Restarting daemon monitor monit [ OK ]
postrm called with argument : remove
Processing triggers for gnome-menus (3.10.1-0ubuntu2) ...
Processing triggers for desktop-file-utils (0.22-1ubuntu1.1) ...
Processing triggers for bamfdaemon (0.5.1+14.04.20140409-0ubuntu1) ...
Rebuilding /usr/share/applications/bamf-2.index...
Processing triggers for mime-support (3.54ubuntu1.1) ...
Processing triggers for ureadahead (0.100.0-16) ...
admin2@admin2-VirtualBox:~$
```

- To uninstall Orchid Recorder (keeping only the archives), type the following command, then press **Enter**, and enter the password when prompted to do so: `sudo dpkg --purge ipc-orchid`

A terminal window titled "Terminal" with a dark background and light text. The window shows the execution of the command "sudo dpkg --purge ipc-orchid". The output includes the password prompt, database reading status, package removal confirmation, and a list of services being stopped (monit, orchid\_onvif\_autodiscovery, orchid, orchid\_smart\_search\_postgres) with "OK" status for each. It also shows the purging of configuration files, deletion of config and log files, and processing of triggers for various system components like gnome-menus, desktop-file-utils, bamfdaemon, mime-support, and ureadahead. The prompt "admin2@admin2-VirtualBox:~\$" is visible at the bottom.

```
admin2@admin2-VirtualBox: ~
admin2@admin2-VirtualBox:~$ sudo dpkg --purge ipc-orchid
[sudo] password for admin2:
(Reading database ... 169176 files and directories currently installed.)
Removing ipc-orchid (23.12.0) ...
prerm called with argument : remove
* Stopping daemon monitor monit [ OK ]
* Stopping orchid_onvif_autodiscovery [ OK ]
* Stopping orchid [ OK ]
* Stopping orchid_smart_search_postgres [ OK ]
* Restarting daemon monitor monit [ OK ]
postrm called with argument : remove
Purging configuration files for ipc-orchid (23.12.0) ...
postrm called with argument : purge
Deleted all config and log files. NOTE: The archives still exist and must be manually deleted.
Processing triggers for gnome-menus (3.10.1-0ubuntu2) ...
Processing triggers for desktop-file-utils (0.22-1ubuntu1.1) ...
Processing triggers for bamfdaemon (0.5.1+14.04.20140409-0ubuntu1) ...
Rebuilding /usr/share/applications/bamf-2.index...
Processing triggers for mime-support (3.54ubuntu1.1) ...
Processing triggers for ureadahead (0.100.0-16) ...
admin2@admin2-VirtualBox:~$
```

# Working in Ubuntu 16.04 to 22.04 (LTS versions)

---

Topics in this section will describe how to install and maintain Orchid Recorder on the following platforms:

- Ubuntu 16.04 LTS
- Ubuntu 18.04 LTS
- Ubuntu 20.04 LTS
- Ubuntu 22.04 LTS
- Debian for ARMv7 (armhf) processors
- Debian for 64-bit ARM (aarch64) processors



# Installing Orchid Recorder on Ubuntu 16.04 to 22.04

---

IPConfigure distributes Orchid Recorder 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).

The installation instructions provided for Ubuntu 16.04 LTS also apply to Ubuntu 18.04, Ubuntu 20.04, Ubuntu 22.04, Debian for ARMv7 (armhf) processors, and Debian for 64-bit ARM (aarch64) processors. Please note, however, that there are different installation package files for Ubuntu, Debian (armhf), and Debian (aarch64).

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

✿ Orchid Recorder now supports both 32-bit and 64-bit ARM devices.

✿ Orchid Recorder requires Linux kernel 3.17.0 or greater.

✿ You must sign in to the computer as a user with “root” or “sudo” privileges.

✿ The Ubuntu 14.04 and 16.04 installers are different.

✿ -IMPORTANT INSTRUCTIONS FOR UPGRADES: If you are performing a software upgrade, the installer will optimize the database automatically (by default). Optimization is important because it will improve the overall performance of the system, especially notable in larger systems with video archives greater than 40 TB. The optimization process may take a while to complete (and Orchid Recorder will be unavailable during this time).  
-Administrators have the option to disable the default optimization process by entering a custom command during installation. For important details, please refer to the [Disabling Database Optimization](#) topic.

1. Download the Orchid .deb file. You can find the latest version of Orchid Recorder for

Ubuntu 16.04, Ubuntu 18.04, Ubuntu 20.04, Ubuntu 22.04, Debian (armhf), and Debian (aarch64) on IPConfigure's website at <http://www.ipconfigure.com/download>.

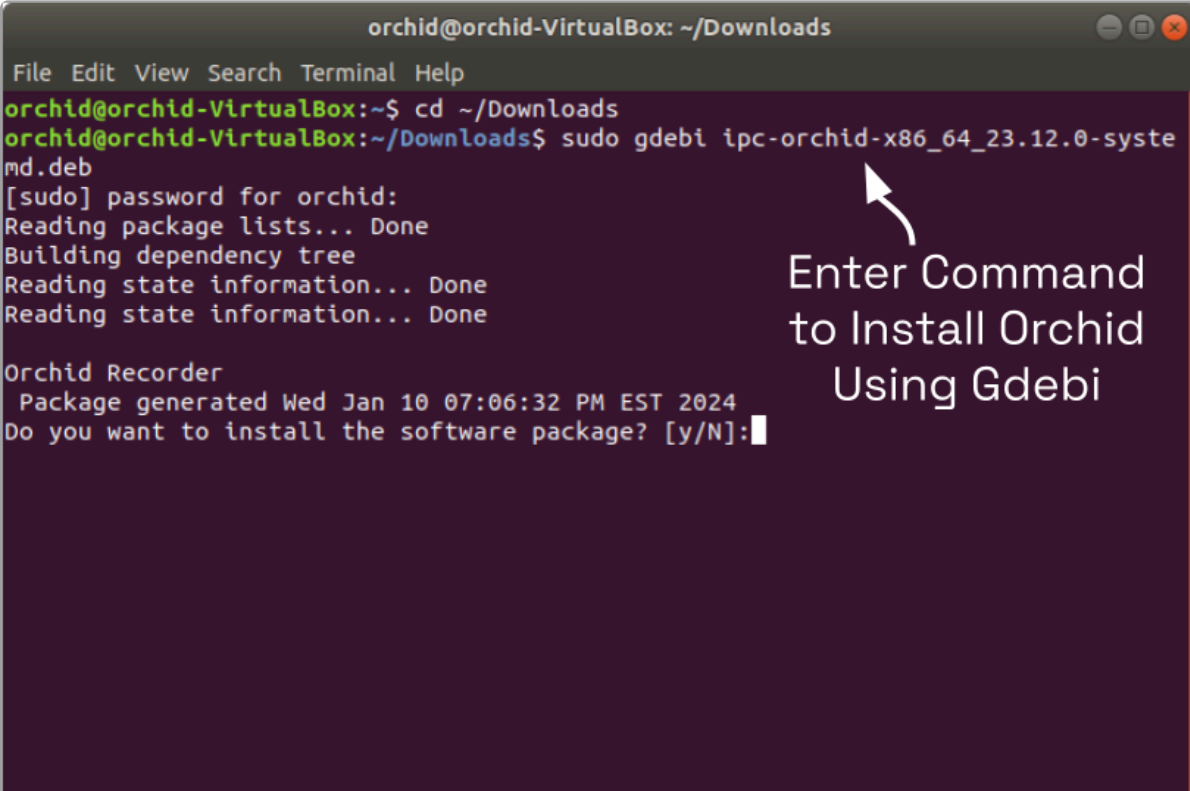
2. Once you've downloaded the Orchid Recorder installation package, decide whether you want to perform the installation via the Command Line or the GUI.

## 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 Recorder installation package. (The package is probably stored in the *Downloads* folder.)
2. Unless GDebi has been installed manually, it will need to be installed by typing the following command: `sudo apt-get install gdebi-core`. Then press **Enter**.

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 Recorder debian package. The syntax is `sudo gdebi (_package-name_).deb`. For example, if the name of the package is *ipc-orchid-x86\_64\_23.12.0-systemd.deb*, type the following command: `sudo gdebi ipc-orchid-x86_64_23.12.0-systemd.deb`. Then press **Enter**.



The screenshot shows a terminal window titled "orchid@orchid-VirtualBox: ~/Downloads". The terminal output is as follows:

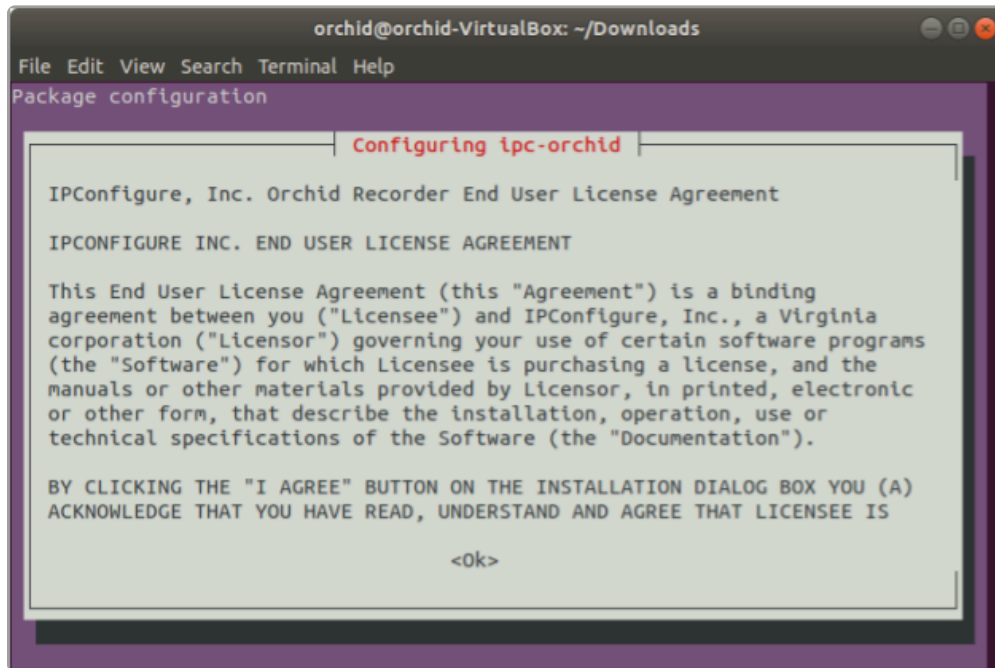
```
File Edit View Search Terminal Help
orchid@orchid-VirtualBox:~$ cd ~/Downloads
orchid@orchid-VirtualBox:~/Downloads$ sudo gdebi ipc-orchid-x86_64_23.12.0-systemd.deb
[sudo] password for orchid:
Reading package lists... Done
Building dependency tree
Reading state information... Done
Reading state information... Done

Orchid Recorder
Package generated Wed Jan 10 07:06:32 PM EST 2024
Do you want to install the software package? [y/N]:
```

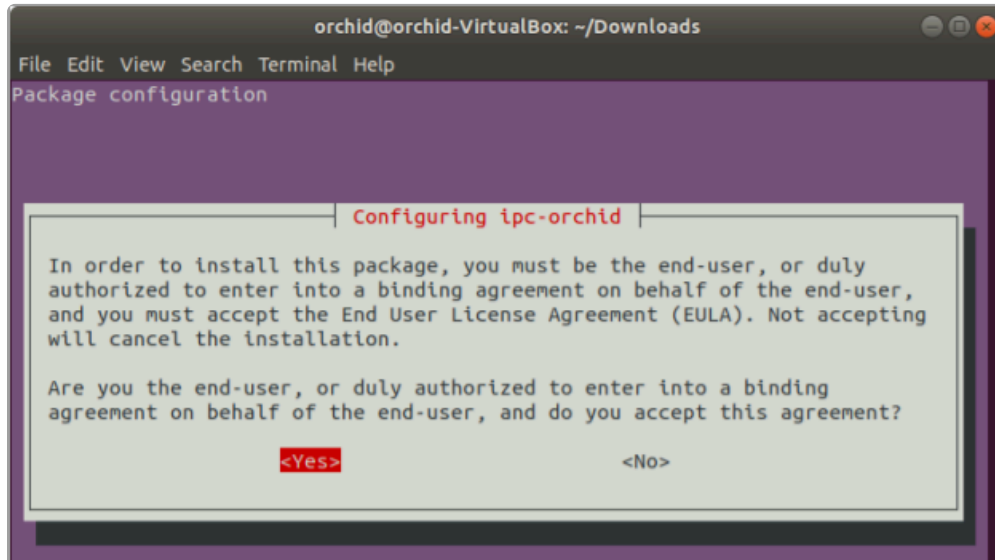
An arrow points to the command line with the text "Enter Command to Install Orchid Using Gdebi".

4. The system may ask for your Ubuntu user password. Type in the password and press **Enter**.
5. The system will then ask if you want to install the software. Enter **Y** for yes, and press **Enter**.

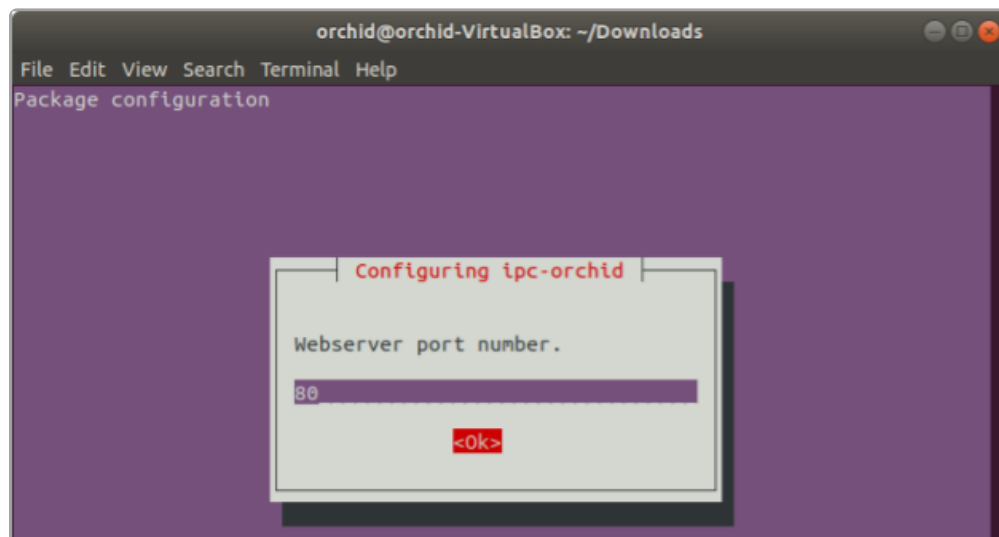
6. If this is a new installation, you will be asked to accept the End User License Agreement. After reading the agreement, use the **Tab** key to highlight **Ok**, then press **Enter**.



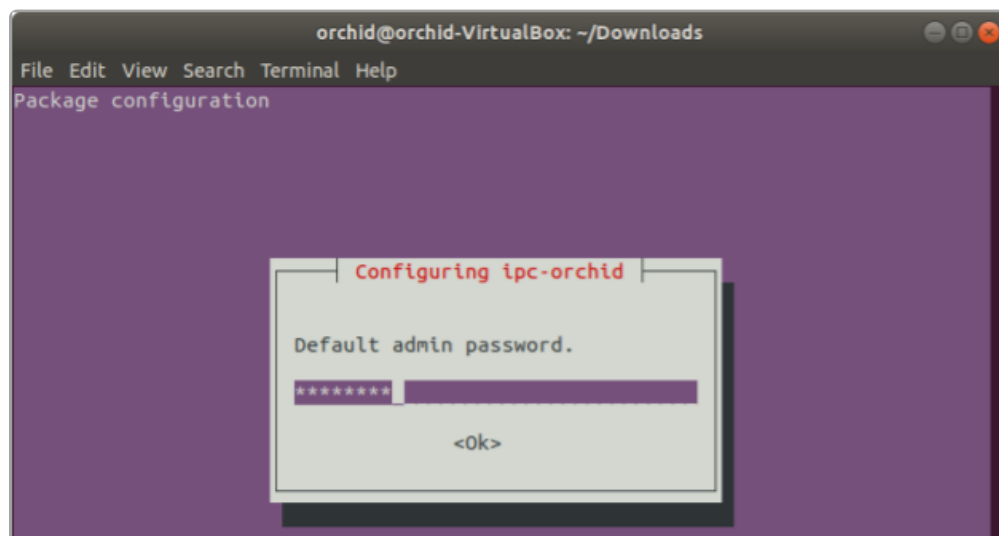
7. Next, the installer will ask you to confirm that you are the end-user and authorized to accept the License Agreement. Use the **Tab** key to highlight **Yes**, then press **Enter**.



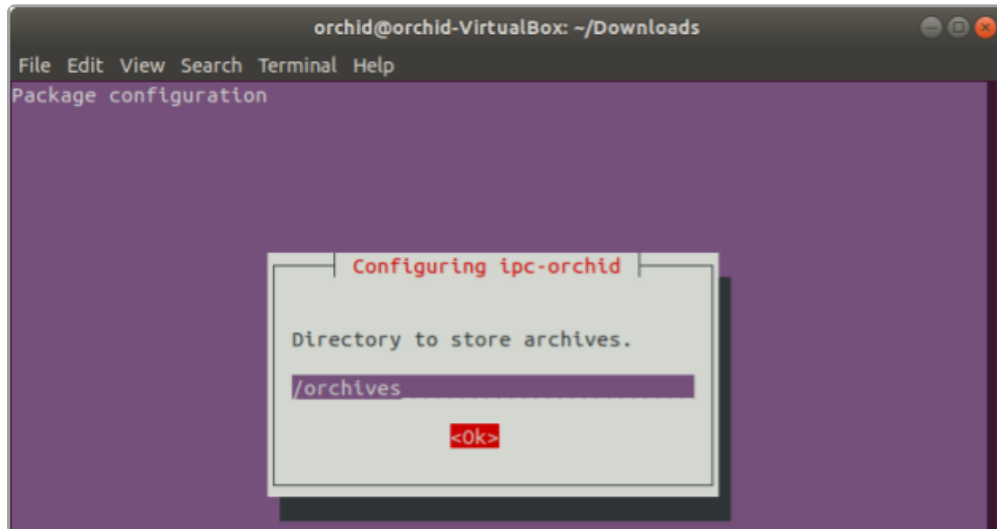
8. Next, the installer will ask you to enter several software settings. First, set the Web Server Port number. By default, the web server port is set to port 80 (which is the recommended port for most installations). If Orchid Recorder needs to use a different port, enter a new setting. Use the **Tab** key to highlight **Ok**, then press **Enter**.



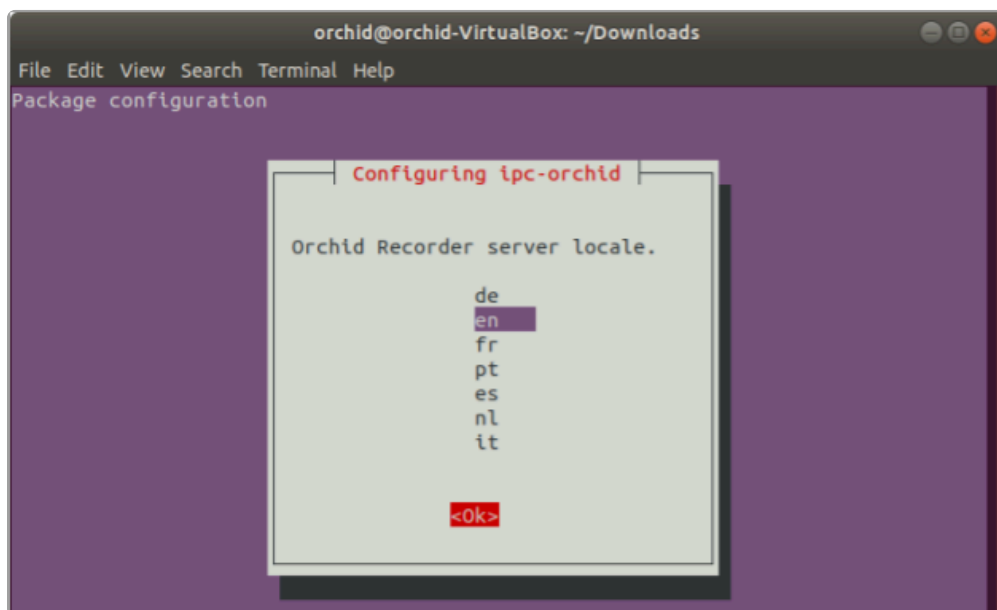
9. Now enter the password you would like to set for the default admin account. Use the **Tab** key to highlight *Ok*, then press **Enter**.



10. Now set the directory for video archives. The default folder is */archives*. Enter a new archives location, if needed. Use the **Tab** key to highlight *Ok*, then press **Enter**.



11. Use the *Orchid Recorder locale* list to select the language. Available selections include the following: *de* (German), *en* (English), *es* (Spanish), *fr* (French), *it* (Italian), *nl* (Dutch), *pt* (Portuguese), and *ru* (Russian). Use the up and down arrow keys to highlight your selection. Then use the **Tab** key to highlight *Ok*, then press **Enter**.



The installation will complete automatically without any additional prompts. This process may take a few minutes.

The Orchid Recorder services start automatically once the package installation is done, after which you can access the Orchid Recorder user interface in your web browser. (Please refer to the *Sign in* topic in the [Orchid Recorder Administrator Guide](#) for more details.)

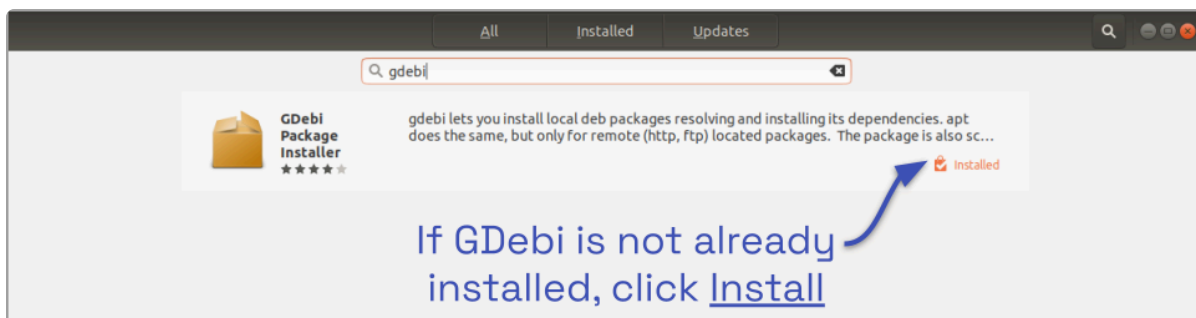
12. You can automatically launch a browser to Orchid Recorder using the link installed on your server:
  - a. Click on the **Applications** icon in the lower-left corner of the screen.

- b. Click the *Orchid Recorder* icon listed under Applications. (If you don't see it, use the *Search* box and type *Orchid*.)



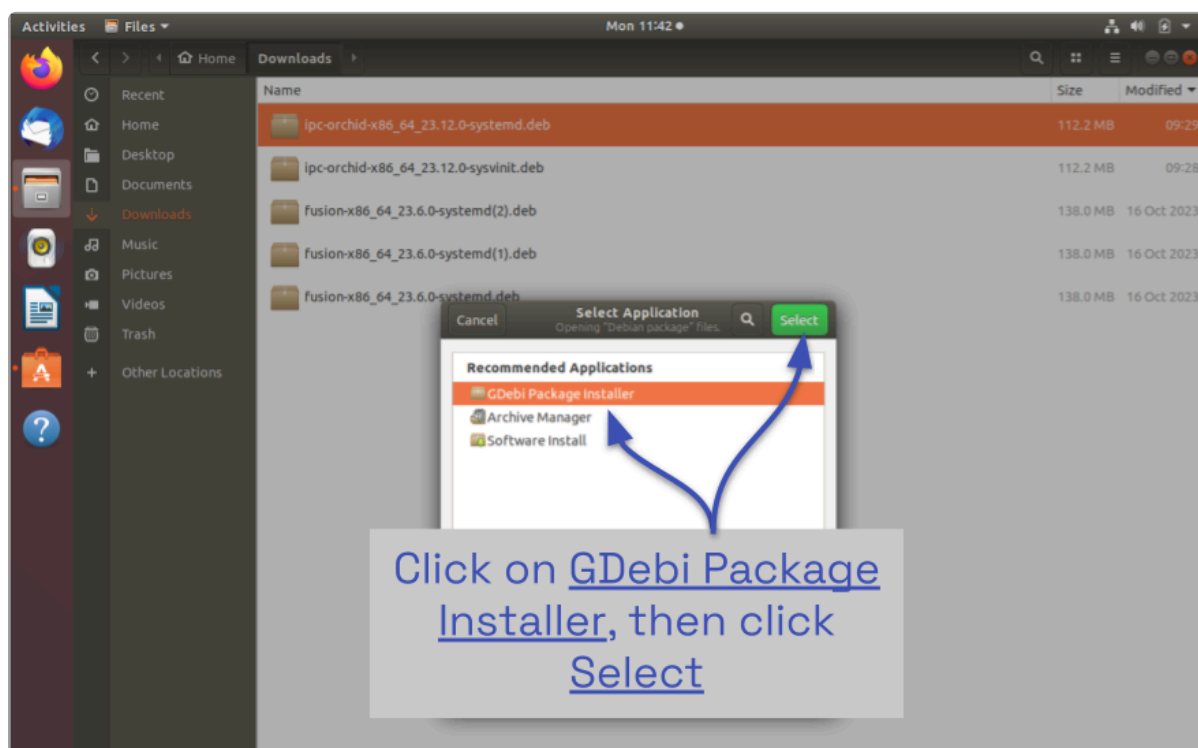
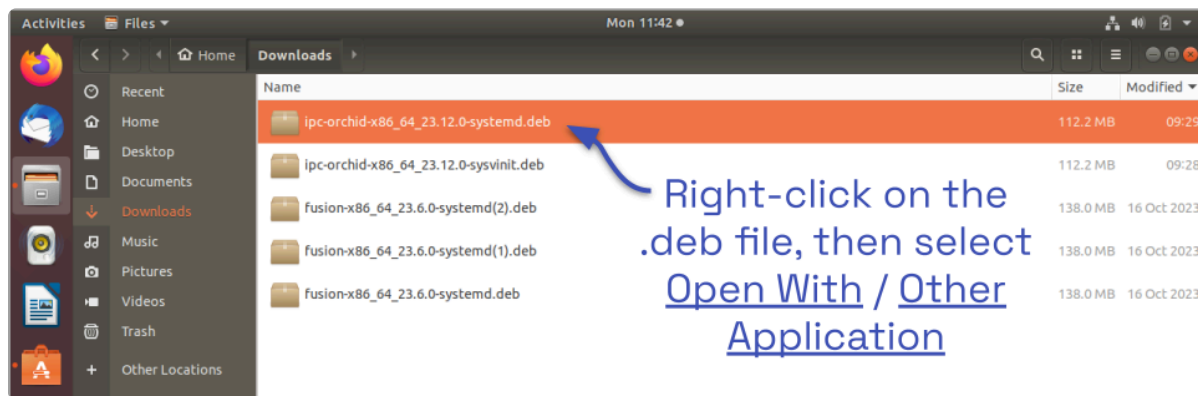
## Installing through the GUI (Ubuntu Desktop)

1. Click on the *Ubuntu Software Center* icon, or use the *Applications* screen to search for it, then open it.
2. In the search bar in the top right-hand corner of the Software Center, type **gdebi**.
3. Select *GDebi Package Installer (gdebi)* (which should be the first result), and then click the *Install* button (if it is not already installed).

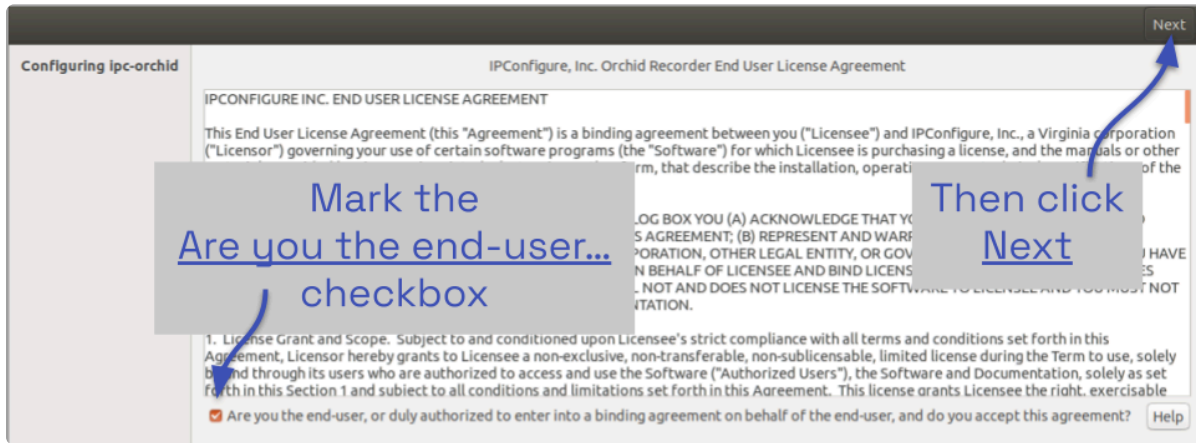


4. After GDebi has finished installing, click the *Files* icon to open the *Files Explorer*, then navigate to the folder storing your Orchid Recorder package (.deb file). (The package is probably stored in the *Downloads* folder.)

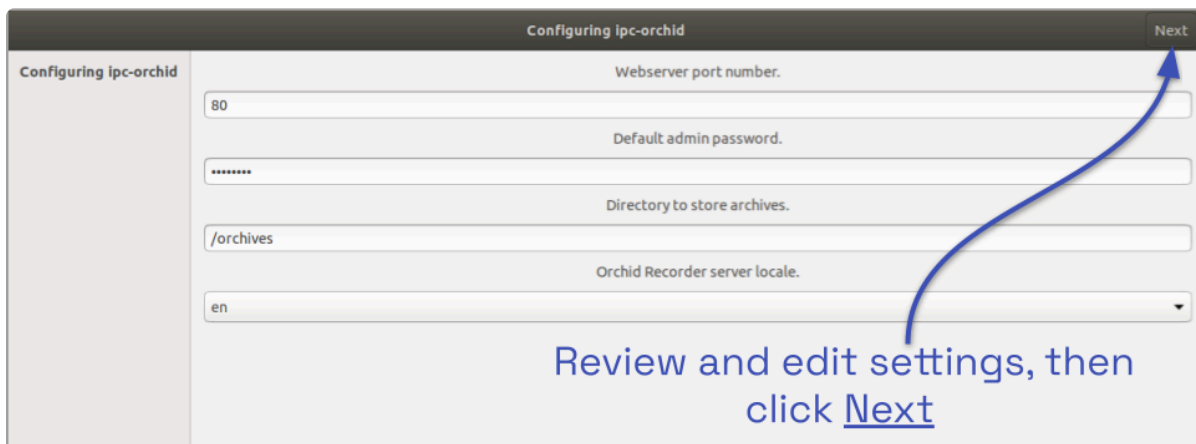
- Right-click on the Orchid Recorder package, and click *Open With Other Application*. Then click on the *GDebi Package Installer* option and click the *Select* button.



- Once the GDebi package installer loads, click the *Install Package* button in the top right-hand corner of the window.
- You may be asked for your system password. Type it in, then click *OK*.
- If this is a new installation, you will be asked to accept the End User License Agreement. After you read the agreement, mark the *Are you the end-user* checkbox and click the *Next* button.



9. Next, the installer will ask you to set the Web Server Port, default Admin Password, and the Archive Directory for storage. You will also have an opportunity to select the language for the user interface.
  - a. By default, the web server port is set to port 80 (which is the recommended port for most installations). Update the port number only if Orchid Recorder needs to use a different port.
  - b. Enter the password you would like to set for the default admin account.
  - c. The default folder for video archives on Linux is `/orchives`. Enter a new archives location, if needed.
  - d. Use the *Orchid Recorder locale* drop-down list to select the language. Available selections include the following: *de* (German), *en* (English), *es* (Spanish), *fr* (French), *it* (Italian), *nl* (Dutch), *pt* (Portuguese), and *ru* (Russian).



10. Click **Next** to continue. 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 Recorder services will start automatically once the package installation is done, after which you can access the Orchid Recorder user interface in your web browser. (Please refer to the *Sign in* topic in the [Orchid Recorder Administrator Guide](#) for more details.)



12. You can automatically launch a browser to Orchid Recorder using the link installed on your server:
- Click on the **Applications** icon in the lower-left corner of the screen.
  - Click the **Orchid Recorder** icon listed under Applications. (If you don't see it, use the **Search** box and type *Orchid*.)



# How to Edit the Configuration Files in Ubuntu 16.04 to 22.04

Some of the configuration settings can be edited from within the Orchid Recorder software. (This is done using the *Advanced Settings* feature which is explained in the [Orchid Recorder Administrator Guide](#).) There are some settings, however, that will still need to be changed by editing the configuration file directly. These settings need to be protected from unauthorized changes because they are critical for program stability and reliability. These critical settings include the following:

• archives.dir	• streampipeline.decode.keyFramesOnly
• database.type	• streampipeline.filesplit.motionMode
• logger.dir	• streampipeline.filesplit.recordState
• orchid.admin.password	• streampipeline.filesplit.timePeriod
• orchid.lock_properties	• streampipeline.mode
• orchid.uuid	• streampipeline.motionReducer
• rtsp.protocol	• tls.certificate
• sqlite.filepath	• tls.key
• streampipeline.bgseg.boxArea	• webrtc.public_ip
• streampipeline.bgseg.dialate	• webserver.archives.rootpath
• streampipeline.bgseg.postErode	• webserver.html.rootpath
• streampipeline.bgseg.preErode	• webserver.protocol
• streampipeline.bgseg.threshold	

If it becomes necessary to change one of these critical settings, you can edit the Orchid Recorder configuration files using standard text editors in Linux. This section will describe two methods for editing the configuration files: using the Command Line and using the Graphical User Interface.



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

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

- **Orchid Server Properties:** */etc/opt/orchid\_server.properties*

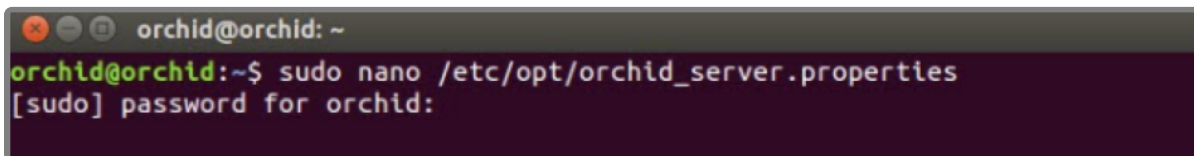
- Stores all of the Orchid Recorder settings and can be used to update things like the port number, manually update the admin password, etc.
- Settings entered in this file will override the default settings in the *Orchid Server Default Properties* file (described below).
- **Orchid Server Default Properties:** `/etc/opt/orchid_server.properties.default`
  - Stores all of the Orchid Recorder default settings and may serve as a good reference. [Any changes made to this file will be ignored.]
- **Orchid ONVIF Auto-Discovery:** `/etc/opt/orchid_onvif_autodiscovery.properties`
  - Used to edit the default settings for the Orchid ONVIF auto-discovery service used by Orchid Recorder.

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

## Editing Configuration Files Through the Command Line

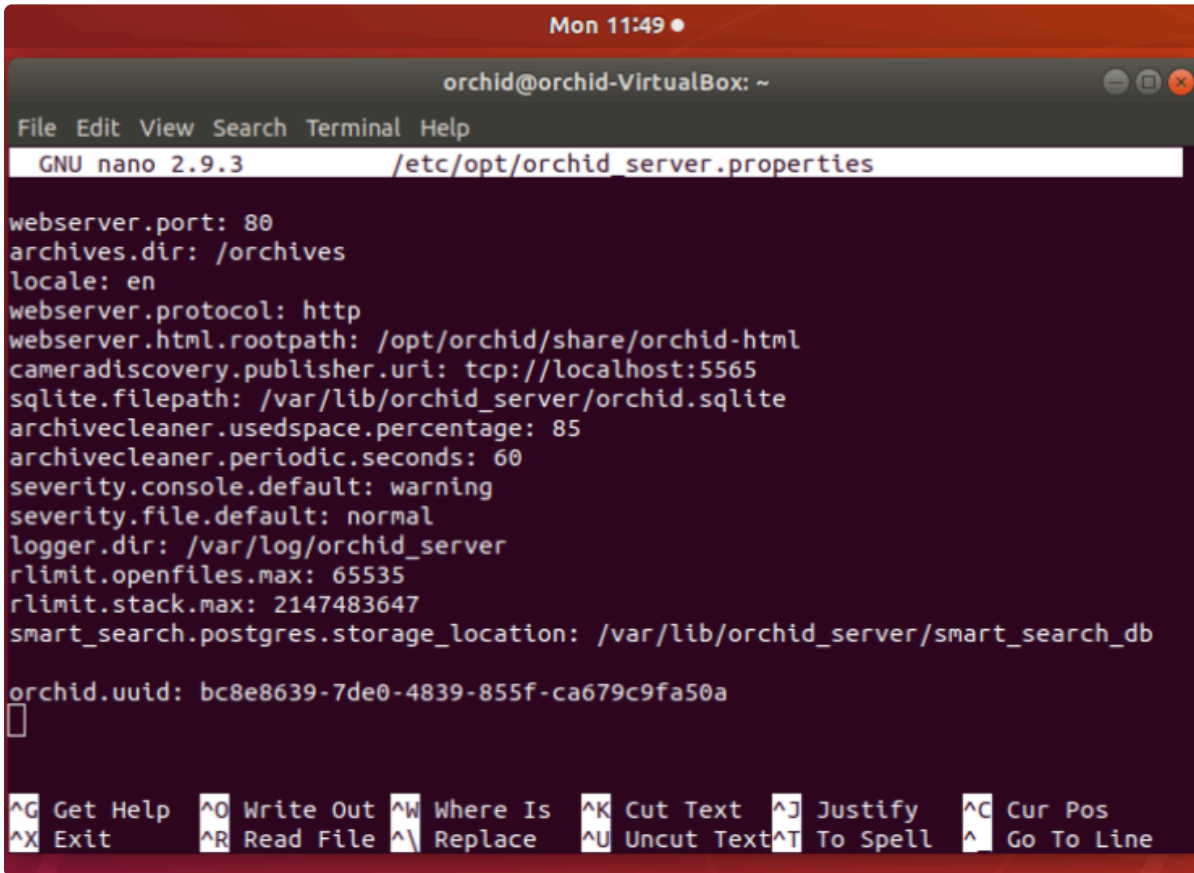
1. Open the *Terminal* program (**CTRL+ALT+T**) and open Orchid Recorder's configuration file in the nano text editor by typing the following command: `sudo nano /etc/opt/orchid_server.properties`. Then press **Enter**.

✿ If a different file needs to be edited, such as the Orchid 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. Type the password used to sign in to your computer, then press **Enter**. The configuration file will open.



```
Mon 11:49 ●
orchid@orchid-VirtualBox: ~
File Edit View Search Terminal Help
GNU nano 2.9.3 /etc/opt/orchid_server.properties

webserver.port: 80
archives.dir: /archives
locale: en
webserver.protocol: http
webserver.html.rootpath: /opt/orchid/share/orchid-html
cameradiscovery.publisher.uri: tcp://localhost:5565
sqlite.filepath: /var/lib/orchid_server/orchid.sqlite
archivecleaner.usedspace.percentage: 85
archivecleaner.periodic.seconds: 60
severity.console.default: warning
severity.file.default: normal
logger.dir: /var/log/orchid_server
rlimit.openfiles.max: 65535
rlimit.stack.max: 2147483647
smart_search.postgres.storage_location: /var/lib/orchid_server/smart_search_db

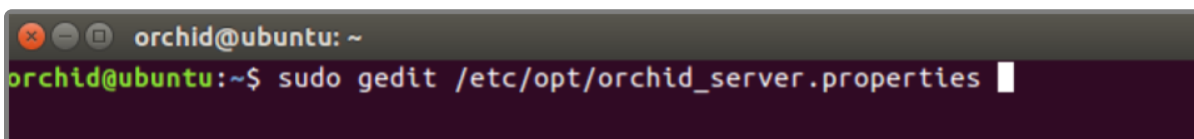
orchid.uuid: bc8e8639-7de0-4839-855f-ca679c9fa50a
^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify ^C Cur Pos
^X Exit ^R Read File ^_ Replace ^U Uncut Text ^T To Spell ^_ Go To Line
```

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** 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 to implement the new settings.

## Editing Configuration Files Through the GUI

1. Open the *Terminal* program (**CTRL+ALT+T**) and open Orchid Recorder's configuration file by typing the following command: `sudo gedit /etc/opt/orchid_server.properties`. Then press **Enter**.

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

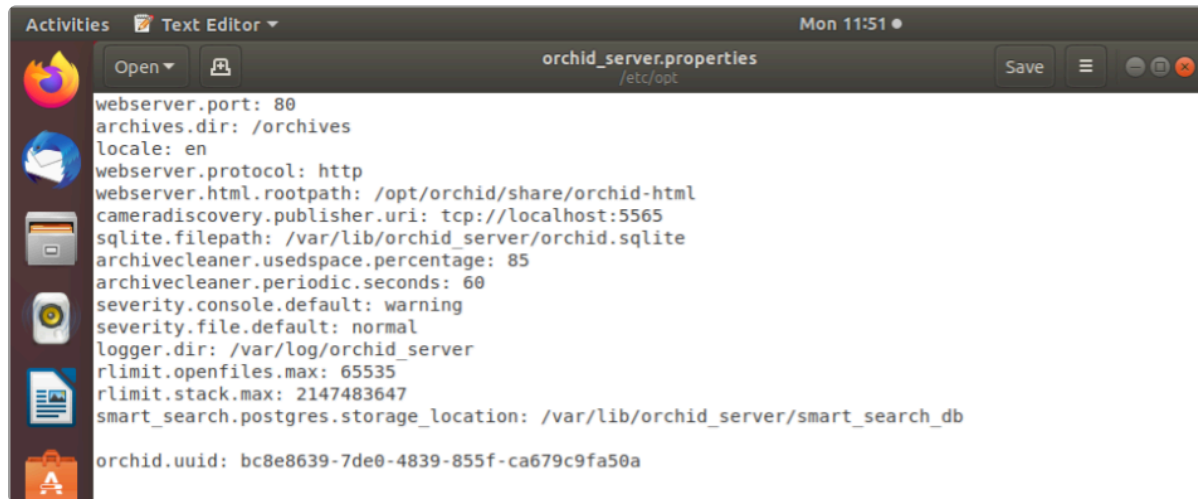


```
orchid@ubuntu: ~
orchid@ubuntu:~$ sudo gedit /etc/opt/orchid_server.properties
```

2. After running that command, you will be prompted to enter your password to perform

administrative tasks. Type the same password you use to sign in to your computer, then press **Enter**.

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.



4. When you are ready to save the file, click **Save** to save the configuration file.
5. You must restart the Orchid Recorder service in Linux to implement the new settings.

# How to Manage the Orchid Recorder Services in Ubuntu 16.04 to 22.04

Orchid Recorder runs on Linux as a service. 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.

There are two main services used by Orchid Recorder on Linux:

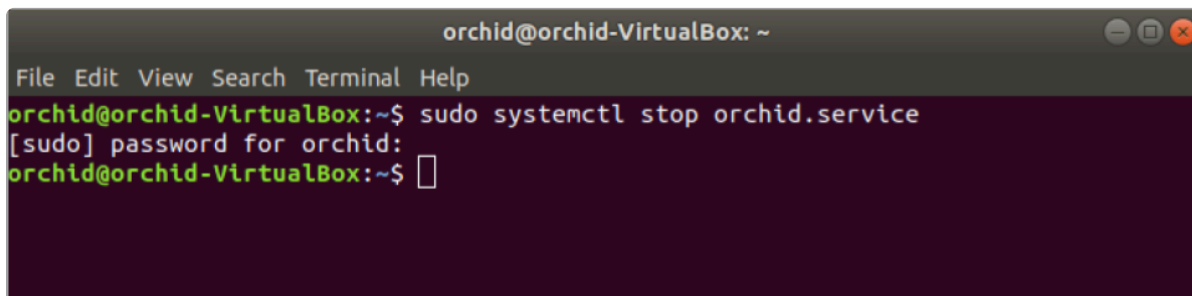
- **Orchid Recorder Service:** The main Orchid Recorder service that records and archives video.
- **Orchid Recorder ONVIF Auto-Discovery Service:** Used by Orchid Recorder to automatically find cameras that support ONVIF.

## Tips

- After you've configured your Orchid Recorder properties and started the services, you should check the status of both services to verify Orchid Recorder is running.
- You will need to restart the services whenever a change has been made to the Orchid Recorder configuration file.

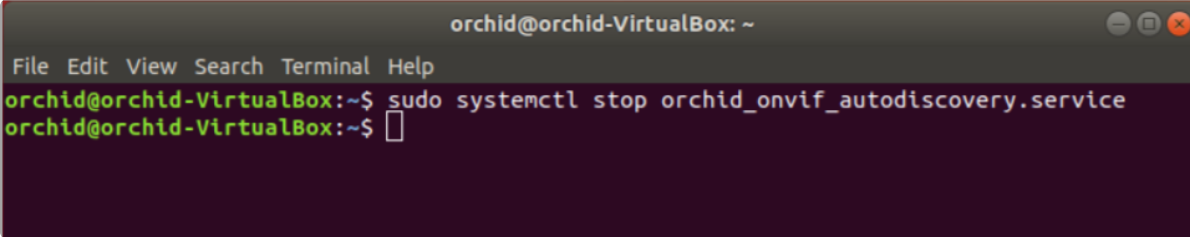
To manage the Orchid Recorder service from the command line:

1. Open the *Terminal* program (**CTRL+ALT+T**).
2. Type the following command: `sudo systemctl (_command_) orchid.service` (where the *command* is *start*, *stop*, *restart*, or *status*). Then press *Enter*.



```
orchid@orchid-VirtualBox: ~  
File Edit View Search Terminal Help  
orchid@orchid-VirtualBox:~$ sudo systemctl stop orchid.service  
[sudo] password for orchid:  
orchid@orchid-VirtualBox:~$
```

\* This set of commands will only manage the Orchid Recorder service. If you need to manage the Orchid ONVIF Auto-Discovery Service, replace `orchid` with `orchid_onvif_autodiscovery` in the command line as in the example below.

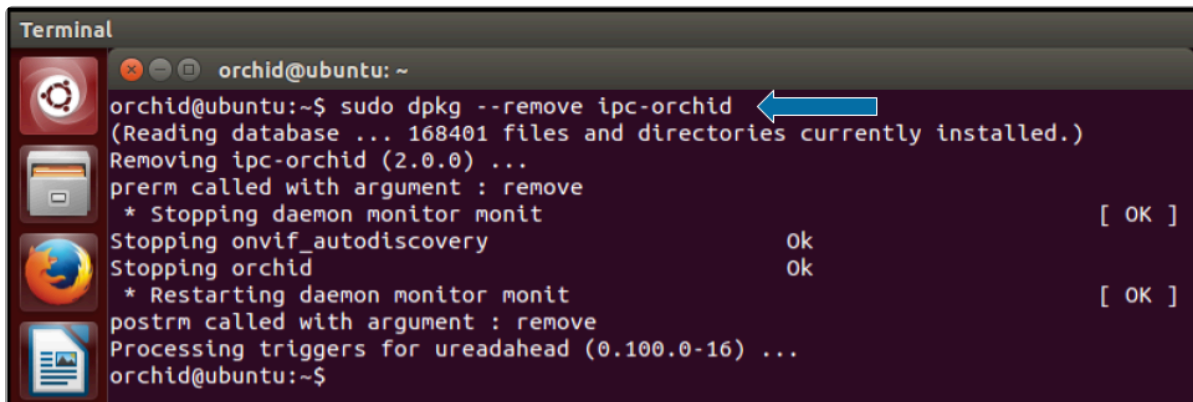


```
orchid@orchid-VirtualBox: ~  
File Edit View Search Terminal Help  
orchid@orchid-VirtualBox:~$ sudo systemctl stop orchid_onvif_autodiscovery.service  
orchid@orchid-VirtualBox:~$
```

# How to Uninstall Orchid Recorder in Ubuntu 16.04 to 22.04

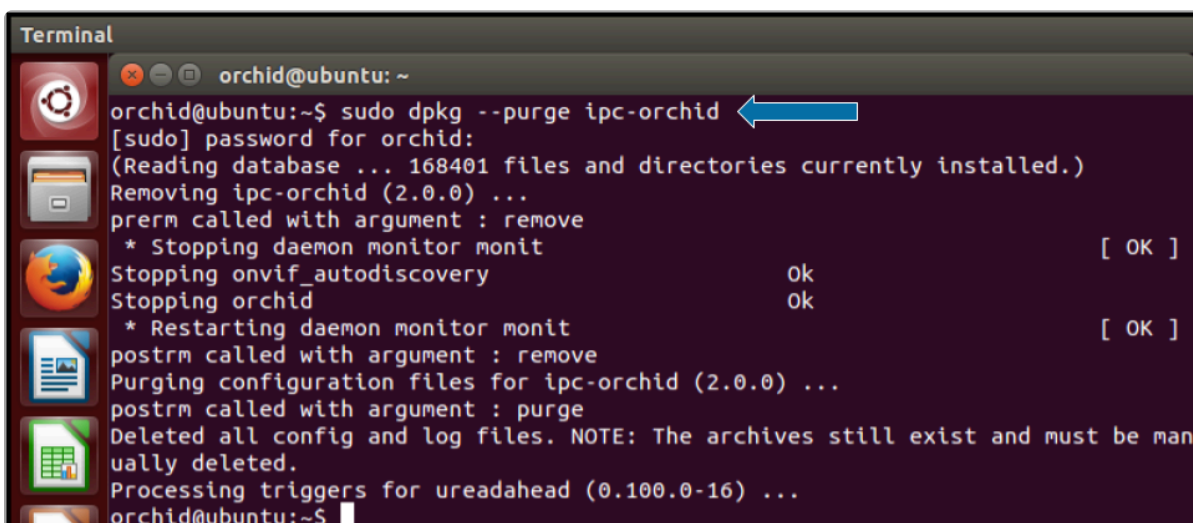
There are a couple of options for removing the Orchid Recorder software. The *Remove* command will uninstall all files installed and created by Orchid Recorder except the configuration files and the */archives* directory. The *Purge* command will uninstall all files installed and created by Orchid Recorder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

1. Open the *Terminal* program (*CTRL+ALT+T*).
2. To uninstall Orchid Recorder, do either of the following:
  - To uninstall Orchid Recorder (while keeping the configuration files and the archives), enter the following command (then 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:~$
```

- To uninstall Orchid Recorder (keeping only the archives), enter the following command (then 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

---

The following topics will describe how to install and maintain Orchid Recorder on the Red Hat Enterprise Linux 7 and 8, and CentOS 7 and 8 operating systems.

# Installing Orchid Recorder on Red Hat Enterprise Linux 7 and 8

---

IPConfigure distributes Orchid Recorder for Red Hat using an .rpm file. Use this file to install Orchid Recorder on systems running Red Hat Enterprise Linux versions 7 and 8, and CentOS versions 7 and 8.

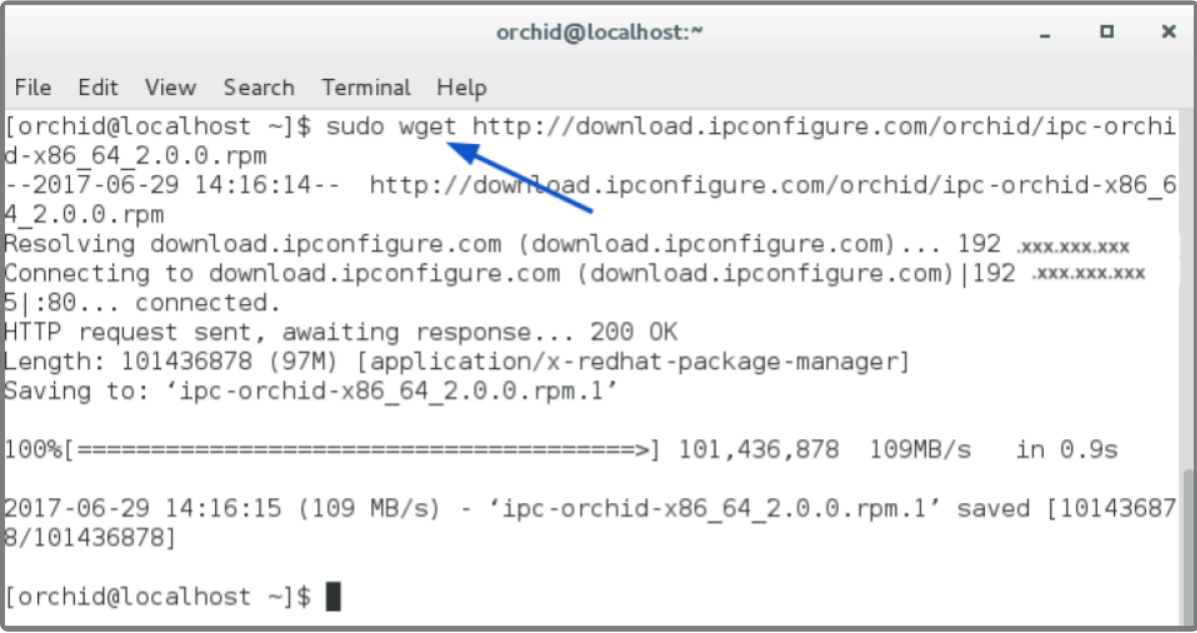
The following installation instructions provided for Red Hat Enterprise Linux 7 and 8 also apply to CentOS 7 and 8.

✿ Orchid Recorder requires Linux kernel 3.17.0 or greater.

✿ You must sign in to the computer as a user with “root” access.

✿ -IMPORTANT INSTRUCTIONS FOR UPGRADES: If you are performing a software upgrade, the installer will optimize the database automatically (by default). Optimization is important because it will improve the overall performance of the system, especially notable in larger systems with video archives greater than 40 TB. The optimization process may take a while to complete (and Orchid Recorder will be unavailable during this time).  
-Administrators have the option to disable the default optimization process by entering a custom command during installation. For important details, please refer to the [Disabling Database Optimization](#) topic.

1. Download the Orchid Recorder installation package (.rpm file) with a web browser, or from the command line by typing the following command: `sudo wget http://download.ipconfigure.com/orchid/ipc-orchid-x86_64_(VERSION).rpm`. Then press **Enter**.



```
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  
5|: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 ~]$
```

2. Install some additional packages for Enterprise Linux by typing the following command: `sudo yum install epel-release`. Then press **Enter**.
3. Install Orchid Recorder by typing the following command: `sudo yum install ipc-orchid-x86_64_(VERSION).rpm`. Then press **Enter**.



```
orchid@localhost:~  
File Edit View Search Terminal Help  
  
[orchid@localhost ~]$ sudo yum install ipc-orchid-x86_64_2.6.0.rpm  
IPCONFIGURE INC. END USER LICENSE AGREEMENT  
  
Terms of Use and Acceptance of Contract Terms. The following are terms of a legal
```

This will install all necessary files for the Orchid Recorder service and Orchid ONVIF\_autodiscovery service. By default, these programs will not be started.

4. Press the **Y** key to accept the EULA, or **N** to decline. After accepting the EULA, the installation will complete automatically without any additional prompts.
5. After the installation is complete:
  - a. **You must set the admin password and the archive directory. (Refer to the next topic for details.)**

# How to Edit Configuration Files in Red Hat

Some of the configuration settings can be edited from within the Orchid Recorder software. (This is done using the *Advanced Settings* feature which is explained in the [Orchid Recorder Administrator Guide](#).) There are some settings, however, that will still need to be changed by editing the configuration file directly. These settings need to be protected from unauthorized changes because they are critical for program stability and reliability. These critical settings include the following:

• archives.dir	• streampipeline.decode.keyFramesOnly
• database.type	• streampipeline.filesplit.motionMode
• logger.dir	• streampipeline.filesplit.recordState
• orchid.admin.password	• streampipeline.filesplit.timePeriod
• orchid.lock_properties	• streampipeline.mode
• orchid.uuid	• streampipeline.motionReducer
• rtsp.protocol	• tls.certificate
• sqlite.filepath	• tls.key
• streampipeline.bgseg.boxArea	• webrtc.public_ip
• streampipeline.bgseg.dialate	• webserver.archives.rootpath
• streampipeline.bgseg.postErode	• webserver.html.rootpath
• streampipeline.bgseg.preErode	• webserver.protocol
• streampipeline.bgseg.threshold	

Immediately after installation, and if it becomes necessary to change one of these critical settings later, you can edit the Orchid Recorder configuration files using your favorite text editor. (If you don't have a favorite, try nano.)

 You must sign in to the computer as a user with “root” access.

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

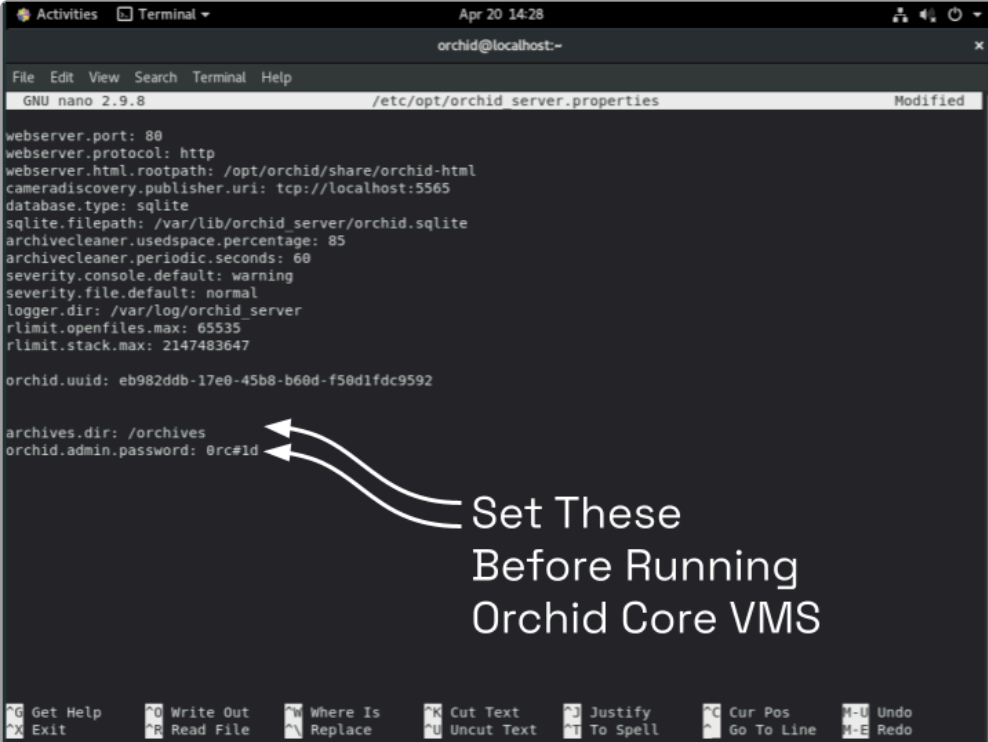
- **Orchid Server Properties:** */etc/opt/orchid\_server.properties*
  - Stores all of the Orchid Recorder settings and can be used to update things like the Orchid Recorder port number, manually update the admin password, etc.
  - Settings entered in this file will override the default settings in the *Orchid Server*

*Default Properties* file (described below).

- **Orchid Server Default Properties:** `/etc/opt/orchid_server.properties.default`
  - Stores all of the Orchid Recorder default settings and may serve as a good reference. [Any changes made to this file will be ignored.]
- **Orchid ONVIF Auto-Discovery:** `/etc/opt/orchid_onvif_autodiscovery.properties`
  - Used to edit the default settings for the Orchid ONVIF auto-discovery service used by Orchid Recorder.

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

1. Open the configuration file in a text editor by typing the following command: `nano /etc/opt/orchid_server.properties`. Then press **Enter**.



```
Activities Terminal Apr 20 14:28
orchid@localhost:~
File Edit View Search Terminal Help
GNU nano 2.9.8 /etc/opt/orchid_server.properties Modified

webserver.port: 80
webserver.protocol: http
webserver.html.rootpath: /opt/orchid/share/orchid-html
cameradiscovery.publisher.uri: tcp://localhost:5565
database.type: sqlite
sqlite.filepath: /var/lib/orchid_server/orchid.sqlite
archivecleaner.usespace.percentage: 85
archivecleaner.periodic.seconds: 60
severity.console.default: warning
severity.file.default: normal
logger.dir: /var/log/orchid_server
rlimit.openfiles.max: 65535
rlimit.stack.max: 2147483647

orchid.uuid: eb982ddb-17e0-45b8-b60d-f50d1fdc9592

archives.dir: /archives
orchid.admin.password: 0rc#1d

Get Help Write Out Where Is Cut Text Justify Cur Pos Undo
Exit Read File Replace Uncut Text To Spell Go To Line Redo
```

2. Set the two parameters below. They take effect only when Orchid Recorder is started for the first time [typically meaning that the Orchid Recorder database (at `/var/lib/orchid_server/orchid.sqlite`) does not exist when Orchid Recorder starts].

#### **orchid.admin.password**

Sets the admin password used upon first signing in. After the first sign in, the admin password can be configured via the user interface.

#### **archives.dir**

Specifies the directory to which video files are saved. After the first sign in, this property can be changed by editing the configuration file.

✿ You must set the administrator password and the archive directory **before** you start running Orchid Recorder.

The following parameters may be changed at any time and take effect upon restarting Orchid Recorder.

#### **webserver.port**

Controls the port on which the Orchid Recorder 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 Recorder will use to store video archives. The default is 85%. Find the video archives on the volume specified in *archives.dir*.

#### **locale**

Sets the language for Orchid Recorder. The default is *en* (English).

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

3. After you edit the configuration file, you must enable and start the Orchid Recorder services. (Refer to the next topic for instructions.)

# How to Manage the Orchid Recorder Services in Red Hat

The two main services used by Orchid Recorder are listed below. If you need to enable, check the status, start, or stop either service, you can do this from the command line.

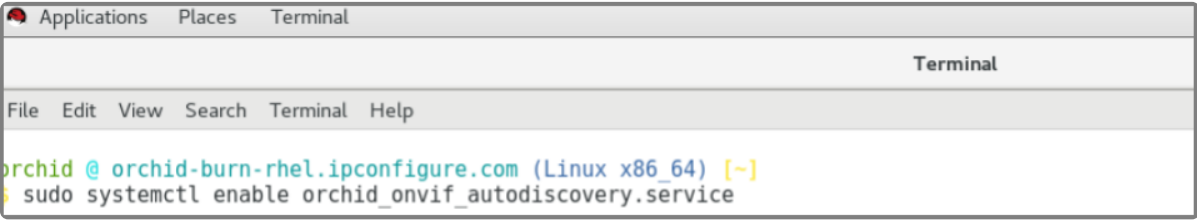
- **Orchid Recorder Service:** The main Orchid Recorder service that records and archives video.
- **Orchid Recorder ONVIF Auto-Discovery Service:** Used by Orchid Recorder to automatically find cameras that support ONVIF.

## Tips

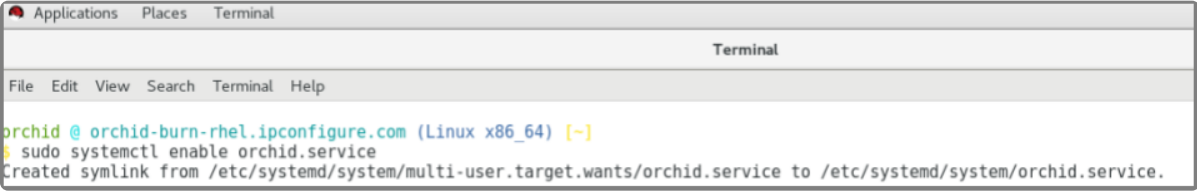
- In Red Hat, you have to enable the Orchid Recorder services. This will allow the services to automatically start on bootup and restart in the case of failure.
- After you start the services, you should configure the firewall.
- After you've configured your Orchid Recorder properties and started the services, you should check the status of both services to verify they are running.
- You will need to restart the services whenever a change has been made to the Orchid Recorder configuration file.

## To enable the Orchid Recorder services:

1. Type each of the following two commands:
  - a. `sudo systemctl enable orchid_onvif_autodiscovery.service`. Press **Enter**.
  - b. `sudo systemctl enable orchid.service`. Press **Enter**.

A terminal window titled 'Terminal' with a menu bar (File, Edit, View, Search, Terminal, Help). The prompt is 'orchid @ orchid-burn-rhel.ipconfigure.com (Linux x86\_64) [~]'. The command 'sudo systemctl enable orchid\_onvif\_autodiscovery.service' is entered and executed.

```
orchid @ orchid-burn-rhel.ipconfigure.com (Linux x86_64) [~]
$ sudo systemctl enable orchid_onvif_autodiscovery.service
```

A terminal window titled 'Terminal' with a menu bar (File, Edit, View, Search, Terminal, Help). The prompt is 'orchid @ orchid-burn-rhel.ipconfigure.com (Linux x86\_64) [~]'. The command 'sudo systemctl enable orchid.service' is entered and executed, showing the output: 'Created symlink from /etc/systemd/system/multi-user.target.wants/orchid.service to /etc/systemd/system/orchid.service.'

```
orchid @ orchid-burn-rhel.ipconfigure.com (Linux x86_64) [~]
$ sudo systemctl enable orchid.service
Created symlink from /etc/systemd/system/multi-user.target.wants/orchid.service to /etc/systemd/system/orchid.service.
```

## To manage the Orchid Recorder service:

1. Type the following command: `sudo systemctl (command) orchid.service` (where the

*command* is start, stop, or status). Press **Enter**.

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

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

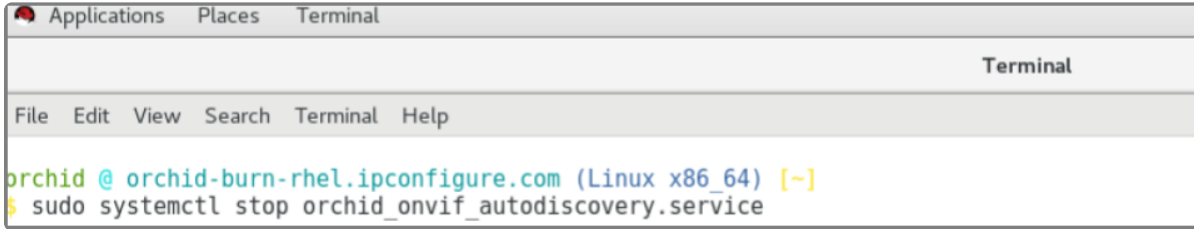
```
orchid@localhost:~  
File Edit View Search Terminal Help  
[orchid@localhost ~]$ sudo systemctl status orchid.service  
● orchid.service - Orchid Video Management System  
   Loaded: loaded (/etc/systemd/system/orchid.service; enabled; vendor preset: disabled)  
   Active: inactive (dead) since Fri 2017-09-08 09:49:07 EDT; 51s ago  
     Process: 773 ExecStart=/opt/orchid/bin/orchid_server -c /etc/opt (code=exited, status=0/SUCCESS)  
    Main PID: 773 (code=exited, status=0/SUCCESS)  
  
Sep 08 09:49:04 localhost.localdomain systemd[1]: Stopping Orchid Video Manag...  
Sep 08 09:49:07 localhost.localdomain systemd[1]: Stopped Orchid Video Manage...  
Warning: Journal has been rotated since unit was started. Log output is incomplete or unavailable.  
Hint: Some lines were ellipsized, use -l to show in full.  
[orchid@localhost ~]$
```

## To manage the Orchid ONVIF Autodiscovery service:

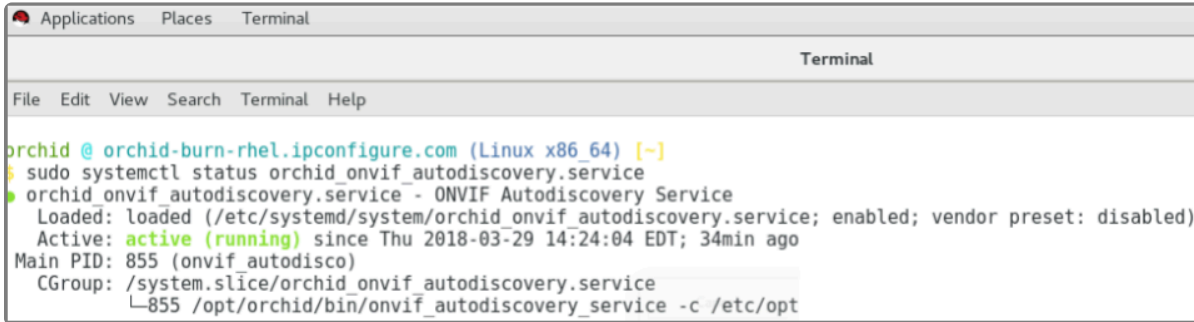
1. Type the following command: `sudo systemctl (command) orchid_onvif_autodiscovery.service` (where the *command* is start, stop, or status). Then press **Enter**.

```
Applications Places Terminal  
Terminal  
File Edit View Search Terminal Help  
orchid @ orchid-burn-rhel.ipconfigure.com (Linux x86_64) [~]  
$ sudo systemctl start orchid_onvif_autodiscovery.service
```





```
Applications Places Terminal
Terminal
File Edit View Search Terminal Help
orchid @ orchid-burn-rhel.ipconfigure.com (Linux x86_64) [~]
$ sudo systemctl stop orchid_onvif_autodiscovery.service
```



```
Applications Places Terminal
Terminal
File Edit View Search Terminal Help
orchid @ orchid-burn-rhel.ipconfigure.com (Linux x86_64) [~]
$ sudo systemctl status orchid_onvif_autodiscovery.service
● orchid_onvif_autodiscovery.service - ONVIF Autodiscovery Service
   Loaded: loaded (/etc/systemd/system/orchid_onvif_autodiscovery.service; enabled; vendor preset: disabled)
   Active: active (running) since Thu 2018-03-29 14:24:04 EDT; 34min ago
     Main PID: 855 (onvif_autodisco)
    CGroup: /system.slice/orchid_onvif_autodiscovery.service
            └─855 /opt/orchid/bin/onvif_autodiscovery_service -c /etc/opt
```

# Post-Installation Steps in Red Hat

---

## Configure the Firewall

By default, the *firewalld* service will block access to Orchid Recorder. Refer to the [Installation Support Topics](#) section for a list of the ports used by Orchid Recorder, and consult your RHEL 7 documentation for configuring *firewalld*. The following example will open default ports used by Orchid Recorder, 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=30000-65535/udp --permanent
sudo firewall-cmd --zone=public --add-port=5565/tcp --permanent
sudo firewall-cmd --reload
```

## How to Sign in to Orchid Recorder in Red Hat

Sign in to Orchid Recorder 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 sign in credentials are *admin* and *password*.

# How to Uninstall Orchid Recorder in Red Hat

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## Uninstalling the Orchid Recorder Package in RedHat

1. To remove the Orchid Recorder package, use the following command: `rpm -e ipc-orchid-(version).x86_64`.

(This will remove all files installed and created by Orchid Recorder except the */archives* directory specified at `archives.dir` in the properties file.)

# Installation Support Topics

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The Orchid Recorder configuration file contains settings that determine how Orchid Recorder will operate. Most of these settings don't need to be changed, but some of them may help you to customize the Orchid Recorder system to better meet your needs. This section will provide an overview of the available configuration settings, instructions on how to change some of the most commonly edited settings, plus additional tips for working with Orchid Recorder.

# Orchid Recorder Configuration Settings

p(#ConfigSettings).Orchid Recorder uses two properties files to configure the system: *orchid\_server.properties* and *orchid\_server.defaults.properties*. These files contain settings that don't change on a regular basis, and are reserved for those with administrator access. Both files can be used to configure all of the Orchid Recorder properties, but the *orchid\_server.properties* file has priority over the other file.

Some of the configuration settings can be edited from within the Orchid Recorder software. (This is done using the *Advanced Settings* feature which is described in the [Orchid Recorder Administrator Guide](#).) There are some settings, however, that will still need to be changed by editing the configuration file directly. These settings need to be protected from unauthorized changes because they are critical for program stability and reliability.

If you need to make a change to any of the protected configuration settings, please refer back to the instructions provided for your operating system.

Orchid Recorder's configuration settings are listed below.

\* The settings displayed in **blue** are protected, and must be changed by editing the configuration file directly.

## Web Server Settings

### **webserver.protocol**

Possible values include *http* and *https*. (The *tls.key* and *tls.certificate* also need to be set. See *TLS Settings* discussed later in this topic.)

### **webserver.port**

Port number of the web server.

### **webserver.html.rootpath**

Root path to the Orchid Recorder HTML files.

### **webserver.maxthreads**

Maximum number of threads used by the web server to handle requests. (Default: 16)

### **webserver.maxqueued**

Maximum number of queued connections. (Default: 100)

### **webserver.sessions.user.max\_age**

Maximum age (seconds) of user session. (Default: 1 year)

**webserver.sessions.remote.max\_age**

Maximum age (seconds) of remote session. (Default: 1 day)

**webserver.ssl.ciphers**

Enable/disable SSL/TLS ciphers (openssl cipher list [format](#))

## Archive Properties

**[archives.dir](#)**

Full path for the desired storage location of media archives. This takes the place of the **webserver.archives.rootpath** setting from previous versions. Unlike the old property, this one can be changed after installation and properly updates the archives to link to the new storage directory. Anytime you change this property, a new *orchid-device.tag* file will be created and saved in the new storage directory.

## WebRTC Properties

**webrtc.stun.host**

IP address of the STUN server. (Note: If the **host** is set, the **port** must also be set. STUN can be disabled by setting **host** to “None” and not specifying a port. If **host** is not set, the STUN server defaults to **stun.ipconfigure.com:3478**.)

**webrtc.stun.port**

Port of the STUN server.

**webrtc.turn.host**

IP address of the TURN server.

**webrtc.turn.password**

Password of the TURN server.

**webrtc.turn.port**

Port of the TURN server.

**webrtc.turn.type**

Relay type of the TURN server.

**webrtc.turn.username**

Username of the TURN server.

**webrtc.process\_mdns**

This setting enables the processing of remote ICE candidates with mDNS hostnames. (Default: False)

**webrtc.rtx**

This setting enables RTP retransmissions in WebRTC streams. (Default: True)

**webrtc.public\_ip**

This is used to set the static, public IP address of the Orchid Recorder. If set, all of the ICE host candidates will be replaced with this address. This option can speed up WebRTC connection times when Orchid Recorder is behind a 1:1 NAT, such as in a cloud environment. (If the address supplied is incorrect, WebRTC will not work.)

## 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 Recorder UI will access the streams via UDP.
- **rtspt**  
Orchid Recorder UI will access the streams via TCP-interleaved.
- **rtspu**  
Orchid Recorder UI will access the streams via UDP SRTP.
- **rtspst**  
Orchid Recorder 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 the service name or 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 number of

sessions.

**rtsp.rtp\_port\_range.min**

Sets the minimum RTP port range.

**rtsp.rtp\_port\_range.max**

Sets the maximum RTP port range.

**capture.latency**

Sets the maximum allowed latency/delay in milliseconds of an RTSP stream coming in to Orchid. A setting of **100 ms** (the default) means that any media frames received by Orchid that are older than **100 ms** will be ignored. (Increasing this setting may be useful when recording from cameras that are not on the same local network as the Orchid Recorder.)

## 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.

## Dynamic Configuration Settings

**dynamic\_configuration.port**

TCP port over which the *Dynamic Configuration Signaler* and *Signal Receiver* will communicate. To disable dynamic configuration, set this port to **none**. (Default: **5566**)

## 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

**sqlite.filepath**

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

**sqlite.wal**

To enable sqlite WAL mode, set to **true**. (Default: **true**.)

**sqlite.busy.timeout**



Set the sqlite PRAGMA busy\_timeout (milliseconds).

#### `sqlite.optimize.interval`

Sets the interval (in minutes) at which the database will be optimized. A value of 0 or less disables periodic optimization. (Default: 60 minutes)

#### `database.timeout.seconds`

Database write lock timeout (seconds).

#### `database.type`

Database type to be configured by ODB.

## Orchid Recorder Settings

#### `orchid.admin.password`

Orchid Recorder default administrator user password.

#### `orchid.uuid`

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

#### `orchid.max_player_count`

Maximum number of allowed Players on the *Stage* per client.

#### `orchid.max_export_hours`

Maximum number of hours allowed for video export. (Default: 1 hour.)

#### `orchid.disable_generic_rtsp_driver`

Disables the Generic RTSP camera driver. When set to `true`, only the ONVIF cameras can be added. If this is set to `true`, and there are Generic RTSP cameras already registered, Orchid Recorder will not start. (Default: `false`.)

#### `orchid.lock_properties`

Prevents one or more specified properties from being modified through the *Advanced Settings* feature. Use a comma-separated list to identify properties to be locked. (Default: `""`) (ie. `orchid.lock_properties: locale, rlimit.openfiles.max`)

#### `capture.audio`

Enables audio recording by registered cameras. When set to `true`, Orchid Recorder will allow cameras to record audio. If audio recording is disabled (by setting this property to `false`), new archives, exports from those archives, and live streaming modes will not have available audio. (Default: `true`)

#### `clockwatcher.skew.threshold.seconds`

The maximum amount of time (in seconds) the clock is allowed to skew before the Orchid Recorder is shut down.

## RLIMIT/ULIMIT/Limits.conf (Linux Only) Settings

### `rlimit.core.max`

Maximum core size. Equivalent to `ulimit -c. -1` for unlimited.

### `rlimit.openfiles.max`

Maximum number of open files. Equivalent to `ulimit -n`.

### `rlimit.stack.max`

Maximum stack size. Equivalent to `ulimit -s`.

## Audit Logging Settings

### [`audit\_logging`](#)

Enables API audit logging. If set to `false`, new audit logs cannot be created, and existing audit logs will not be accessible via API. (Default: `true`)

## Logging Settings

### `severity.file.default`

File logging level. The Orchid Recorder 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**

Maximum 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**

Maximum number of allowed playback pipelines. (Default: 16)

**framepuller.timeout**

Number of seconds to wait before closing playback pipeline if no additional frames are requested. (Default: 10)

**framepuller.threadpool.count**

Number of threads for handling playback pipeline construction. (Default: 12)

**framepuller.threadpool.maxtasks**

Maximum number of playback pipeline construction requests before dropping new requests. (Default: 1024)

**framepuller.websocket.base64simd**

Overrides the default SIMD instructions for encoding JPEG frames to base64. (Note: If the platform does not support the SIMD instruction set specified, low bandwidth mode will not work and may crash the Orchid Recorder.)

## Video Archive Writer Settings

**filewriter.max.finalize.duration**

Sets 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)

## Language Property

**locale**

Sets the language for Orchid Recorder. This can be set during the initial software installation (if installing on Windows or Ubuntu), and may be changed by editing the *Advanced Settings*, or by editing the configuration file directly.

Available settings currently include the following:

- de – German
- en – English (Default)
- es – Spanish
- fr – French

- **it** – Italian
- **nl** – Dutch
- **pt** – Portuguese
- **ru** – Russian

## Forensic Timestamp Settings

### capture.forensic\_timestamps

Sets the primary option for the forensic timestamps feature, which is enabled by default. (Default: **utc**)

- **utc** – The timestamp will display the date and time using coordinated universal time.
- **local** – The timestamp will display the date and time using local time (at the Orchid Recorder).
- **disabled** – Disables the forensic timestamp feature.

✿ In version 22.12.2, this property only allowed values of **true** (which is the same as the current **utc** value), and **false** (which disabled the timestamps feature). These values are still supported internally.

### capture.forensic\_timestamps\_format

If forensic timestamps are enabled, this property allows you to configure the format of the timestamp. The format will be set using the function “strftime,” the elements of which are defined in the table below. The default string will include **%a %m-%d-%Y %H:%M:%S %Z**, but you may customize the format to suit your needs. Note: If the resulting timestamp string is greater than 100 characters, the timestamp will not be added or displayed.

	Specifier	Replaced by	Example
	<b>%a</b>	Abbreviated weekday name *	Thu
	<b>%A</b>	Full weekday name *	Thursday
	<b>%b</b>	Abbreviated month name *	Aug
	<b>%B</b>	Full month name *	August
	<b>%c</b>	Date and time representation *	Thu Aug 23 14:55:02 2001
+	<b>%C</b>	Year divided by 100 and truncated to integer (00-99)	20
	<b>%d</b>	Day of the month, zero-padded (01-31)	23
+	<b>%D</b>	Short MM/DD/YY date, equivalent to <b>%m/%d/%y</b>	08/23/01
+	<b>%e</b>	Day of the month, space-padded ( 1-31)	23

+	%F	Short YYYY-MM-DD date, equivalent to %Y-%m-%d	2001-08-23
+	%g	Week-based year, last two digits (00-99)	01
+	%G	Week-based year	2001
+	%h	Abbreviated month name * (same as %b)	Aug
	%H	Hour in 24h format (00-23)	14
	%I	Hour in 12h format (01-12)	02
	%j	Day of the year (001-366)	235
	%m	Month as a decimal number (01-12)	08
	%M	Minute (00-59)	55
+	%n	New-line character ('\n')	
	%p	AM or PM designation	PM
+	%r	12-hour clock time *	02:55:02 pm
+	%R	24-hour HH:MM time, equivalent to %H:%M	14:55
	%S	Second (00-61)	02
+	%t	Horizontal-tab character ('\t')	
+	%T	ISO 8601 time format (HH:MM:SS), equivalent to %H:%M:%S	14:55:02
+	%u	ISO 8601 weekday as number with Monday as 1 (1-7)	4
	%U	Week number with the first Sunday as the first day of week one (00-53)	33
+	%V	ISO 8601 week number (01-53)	34
	%w	Weekday as a decimal number with Sunday as 0 (0-6)	4
	%W	Week number with the first Monday as the first day of week one (00-53)	34
	%x	Date representation *	08/23/01
	%X	Time representation *	14:55:02
	%y	Year, last two digits (00-99)	01
	%Y	Year	2001
+	%z	ISO 8601 offset from UTC in timezone (1 minute=1, 1 hour=100) If timezone cannot be determined, no characters	+100
	%Z	Timezone name or abbreviation * If timezone cannot be	CDT

		determined, no characters	
	%%	A % sign	%

- The specifiers marked with an asterisk (\*) are locale-dependent.
- Rows marked with a plus sign (+) indicate specifiers and sub-specifiers introduced by C99. Since C99, two locale-specific modifiers (listed below) can also be inserted between the percentage sign and the specifier proper to request an alternative format, where applicable:

	Modifier	Meaning	Applies to
+	E	Uses the locale's alternative representation	%Ec %EC %Ex %EX %Ey %EY
+	O	Uses the local's alternative numeric symbols	%Od %Oe %OH %OI %Om %OM %OS %Ou %OU %OV %Ow %OW %Oy

## Camera Stream Settings

The settings listed below should *never* need to be changed. Changes should only be performed by those with highly advanced knowledge of the software.

### [streampipeline.bgseg.boxArea](#)

Minimum motion region size to report.

### [streampipeline.bgseg.dilate](#)

Size of square structuring element for dilation.

### [streampipeline.bgseg.postErode](#)

Size of square structuring element for second erosion.

### [streampipeline.bgseg.preErode](#)

Size of square structuring element for first erosion.

### [streampipeline.bgseg.threshold](#)

Minimum threshold in difference image to classify motion.

### [streampipeline.decode.keyFramesOnly](#)

For H264 streams, set whether to decode all frames or key frames only. Note this affects motion detection and low-bandwidth live view.

### [streampipeline.filesplit.motionMode](#)

Set the motion mode of the filesplit element.

**streampipeline.filesplit.recordState**

Set the record state of the filesplit element.

**streampipeline.filesplit.timePeriod**

Set the split time of the archived files (in seconds).

**streampipeline.mode**

Default stream pipeline mode.

**streampipeline.motionReducer**

Enable h264reducer. This will only take effect if the stream is H264 and motion detection is enabled. This will install an h264drop element before filesaver and detect motion events (on the gstreamer bus) to enable and disable the dropper. Motion will record at the full framerate, while non-Motion will drop non-keyframes.



# Orchid Recorder Firewall/Ports Configuration

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This topic describes all of the network ports used by Orchid Recorder and which configuration properties allow you to change each port.

## Required External Ports

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

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

## Optional External Ports

Orchid Recorder's RTSP server ports may be configured with the optional parameters below. The RTSP server is not used by the Orchid Recorder or Orchid Fusion/Hybrid VMS user interfaces, but may be used by certain third-party integrations or other applications.

- 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, 30000 – 65535 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 on the Orchid Recorder itself, the following port needs to be open (for localhost) for Orchid to communicate with its Orchid ONVIF Auto-Discovery Service.

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

# Dynamic Configuration

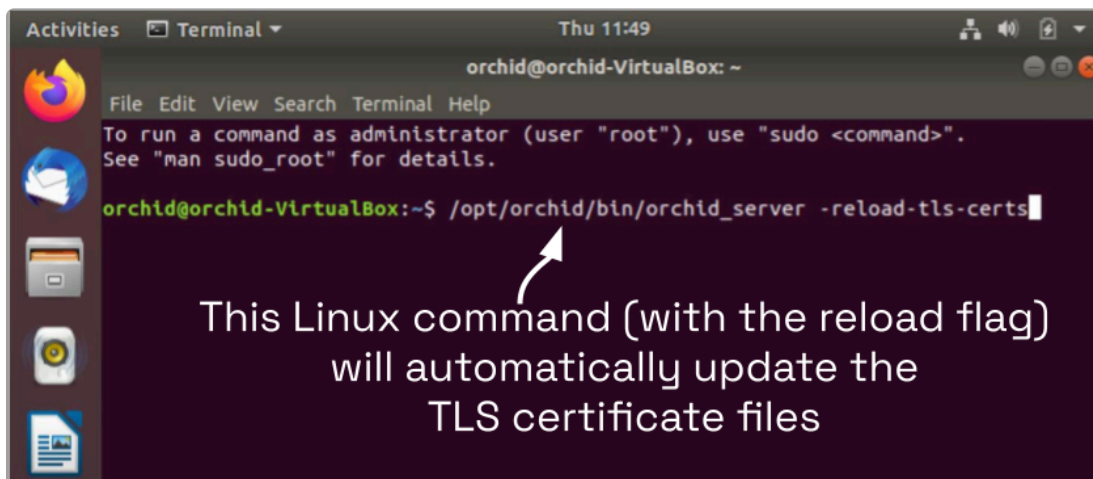
Beginning in version 23.9, Orchid Recorder supports dynamic configuration. This feature currently allows you to update the TLS certificate files without having to restart Orchid.

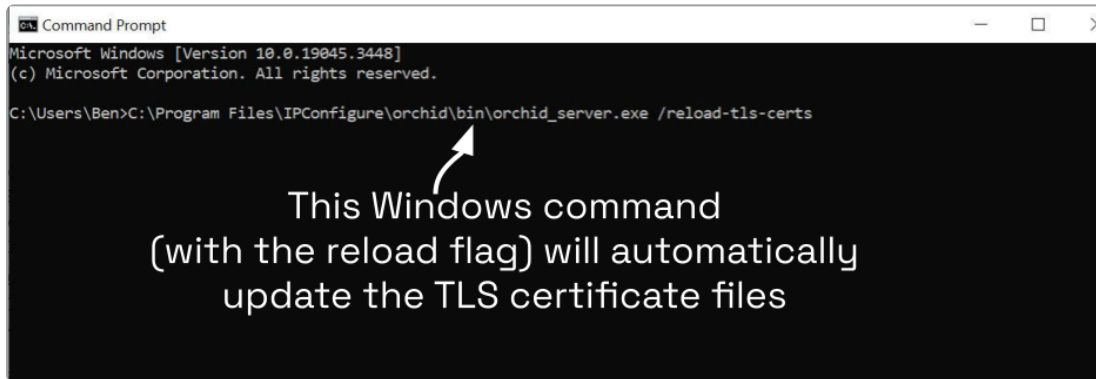
✿ This reloading feature only works if HTTPS, RTSPS or RTSPST is enabled on the Orchid Recorder.

✿ To perform this change, you will need to be signed into the Orchid Recorder as an Administrator.

1. Open the Orchid configuration file to work with the **dynamic\_configuration.port** property which will enable or disable the dynamic configuration feature. (If you need extra help, refer back to the *How to Edit a Configuration File* section that corresponds to the operating system you are using.) Applicable settings include the following:
  - a. **5566**: This is the default setting and will enable dynamic configuration.
  - b. **none**: This will disable the dynamic configuration feature.
2. Save and close the Orchid configuration file.
3. Next, copy the new TLS certificate files into the proper locations. (The Orchid properties file should provide the paths for these files.)
4. Once everything is in place, go to the the command line (in Linux) or the command prompt (in Windows) and run Orchid using one of the following commands:
  - a. `/opt/orchid/bin/orchid_server -reload-tls-certs` (Linux)
  - b. `C:\Program Files\ IPConfigure\orchid\bin\orchid_server.exe /reload-tls-certs` (Windows)

The TLS settings will be updated. No Orchid restart is required.





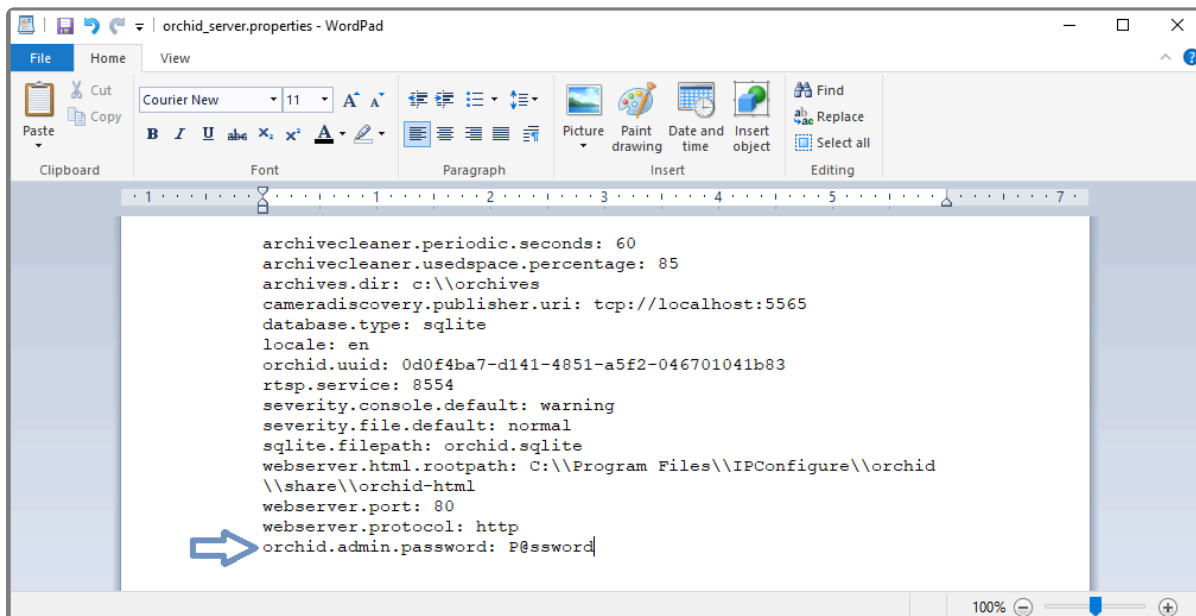
- \* Using this reload feature will only update the TLS files. If you have other changes you need to make to the Orchid configuration settings, you will need to use the *Advanced Settings* feature in the software, or edit the Orchid properties file directly.

# Changing the Orchid Recorder Administrator Password

You may change the password for the default Administrator account any time after installation. You can do this in Orchid Recorder through the *Users* menu (as described in the [Orchid Recorder Administrator Guide](#)), or you can change it by modifying the Orchid Recorder properties file (as described below).

✿ In order to perform this change, you need to be signed in as an Administrator.

1. Open the Orchid Recorder properties file. (If you need extra help, refer back to the *How to Edit a Configuration File* section that corresponds to the operating system you are using.)
2. Change the `orchid.admin.password` property to implement a new setting.



3. Save and close the file.
4. After you update the Orchid Recorder properties file, you must restart the Orchid Recorder services. (If you need extra help, refer back to the *How to Manage the Orchid Recorder Services* section that corresponds to the operating system you are using.)
5. Once the restart is complete, you can sign into Orchid Recorder.

# Changing the Forensic Timestamp Options

Beginning in version 23.3, Orchid Recorder now supports forensic timestamps. This means that each time the server writes video to disk, it is embedding timestamp information as a subtitle or a closed caption track. When you view this video (using a video player such as VLC Media Player), the date and time will appear as a subtitle on the video.

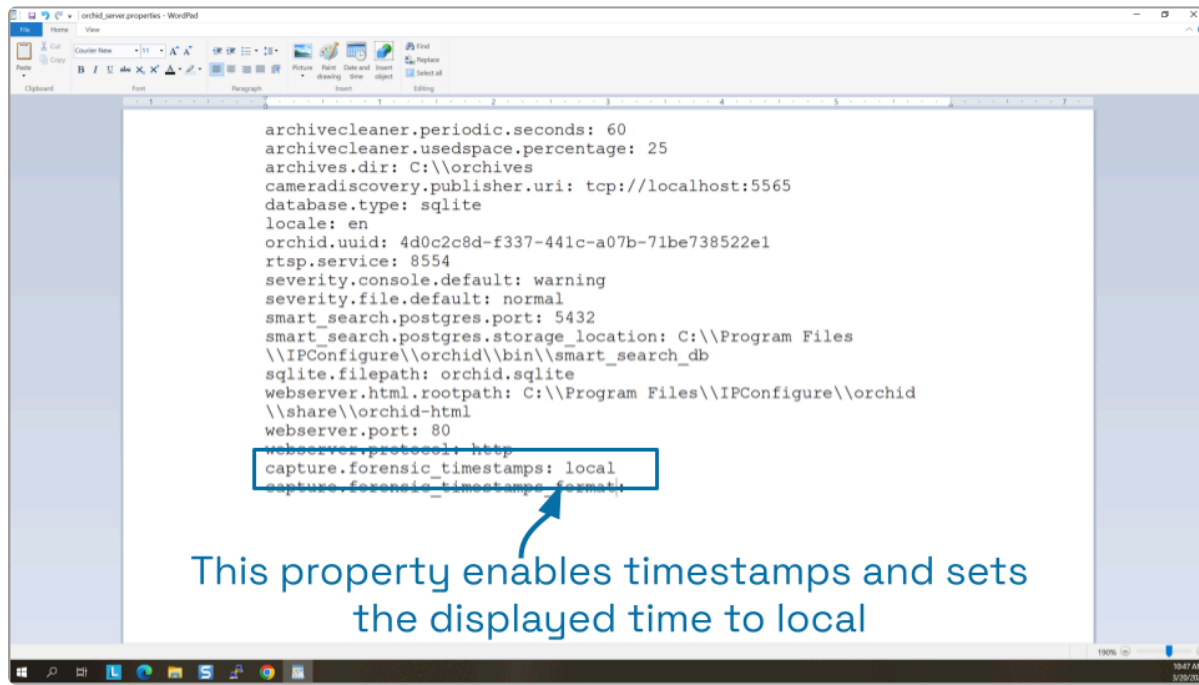
Forensic timestamps can be incredibly helpful when video is being used as evidence. There are some cameras, however, that currently lack the ability to include timestamps. This feature fills a critical gap for customers with these cameras. In cases where this feature is not needed, it can be disabled by Administrators.

There are a couple of different settings available to configure and format the forensic timestamps. To edit these, you may use either of the following methods:

- You can use the *Advanced Settings* feature in the software (which is described in the [Orchid Recorder Administrator Guide](#)).
- You can modify the Orchid Recorder properties file (as described below).

✳ To perform this change, you will need to be signed in as an Administrator.

1. Open the Orchid Recorder properties file. (If you need help, refer back to the *How to Edit a Configuration File* section that corresponds to your operating system.)
2. Work with the `capture.forensic_timestamps` property to enable or disable forensic timestamps. Applicable settings include the following:
  - a. `utc`: Will enable forensic timestamps and display the date and time in coordinated universal time. This is the default setting.
  - b. `local`: Will enable forensic timestamps and display the date and time to match the local time.
  - c. `disabled`: Will disable the forensic timestamps feature.
3. Add the `capture.forensic_timestamps_format` property to change the way the timestamp will appear on the video.
  - a. The default format contains this string: `%a %m-%d-%Y %H:%M:%S %Z`. The resulting timestamp will look similar to this one: Thu 08-23-2022 14:55:02 CDT
  - b. The timestamp format is set using the function “`strftime`”. If you want to change the format of the timestamps, you will need to rearrange or select different specifiers. Please refer to the [Configuration Settings](#) topic for a detailed list of available specifiers.



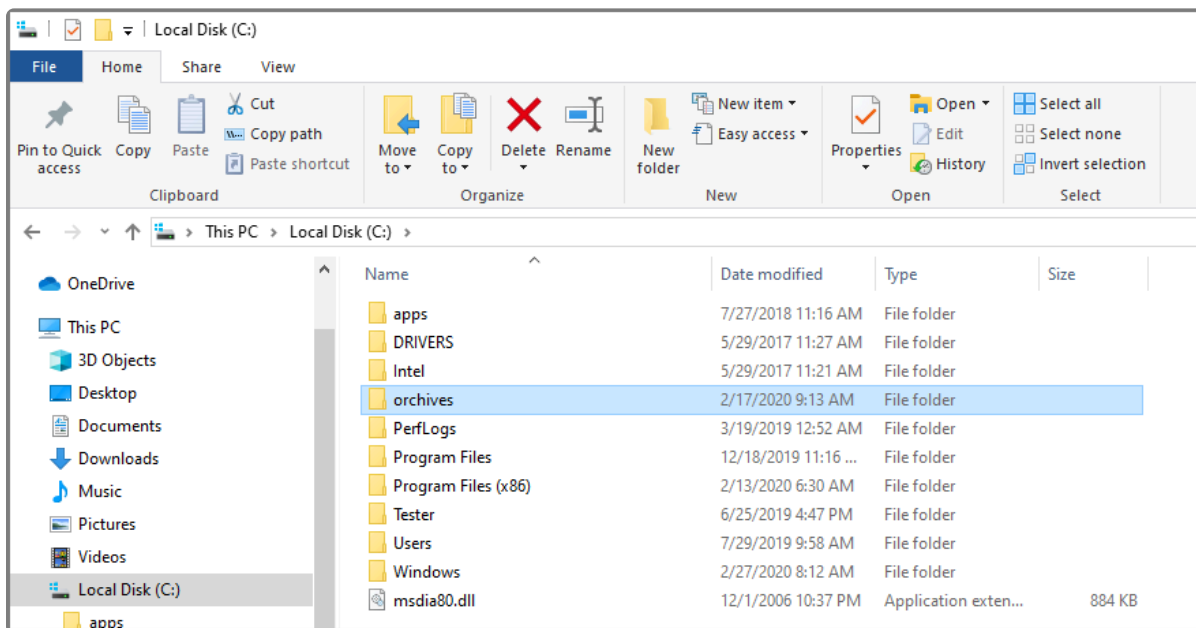
4. Save and close the file.
5. After you update the Orchid Recorder properties file, you must restart the Orchid Recorder services. (If you need extra help, refer back to the *How to Manage the Orchid Recorder Services* section that corresponds to the operating system you are using.)
6. Once the restart is complete, you may return to Orchid Recorder.

# Changing the Orchid Recorder Archives Storage Location

If, some time after installation, you need to move the Orchid Recorder archives to a new location, please follow the procedure below.

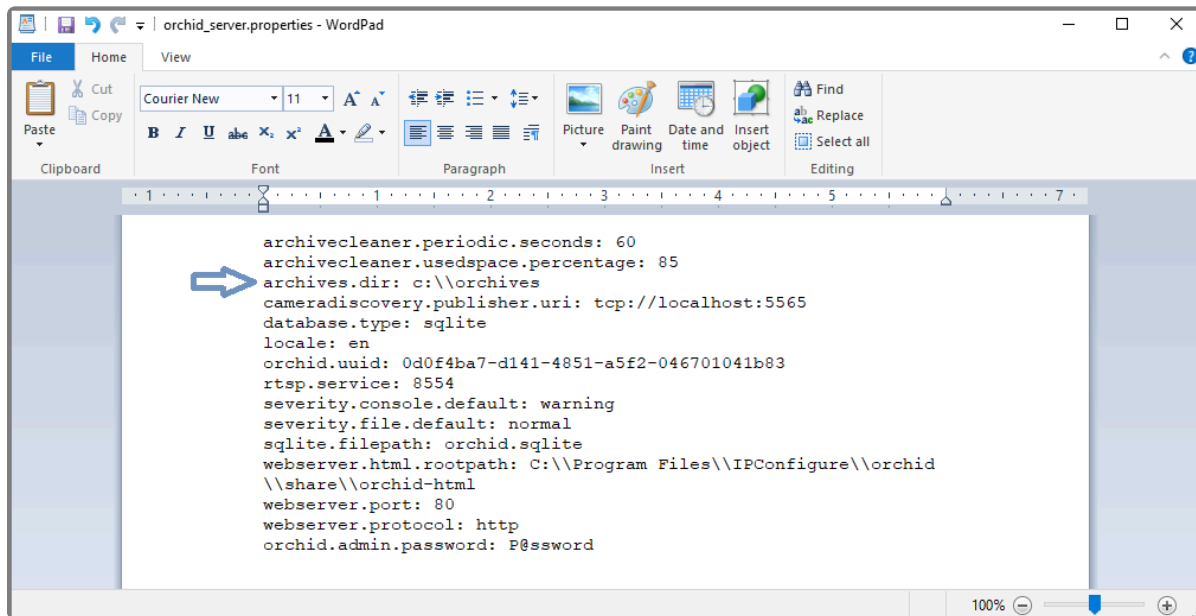
\* In order to perform this change, you will need to be signed in as an Administrator.

1. Sign out of the Orchid Recorder application, and then stop both of the associated services (Orchid Recorder service, and Orchid Recorder ONVIF Autodiscovery service). (If you need extra help, refer back to the *How to Manage the Orchid Recorder Services* section that corresponds to the operating system you are using.)
2. Move all of your archive files (including the parent directory) from the old location to the new location. For example, in the image below, you would move the *archives* folder (and all of its contents) to a new location.



3. After you physically move the files, you'll need to update the Orchid Recorder configuration file. Change the *archives.dir* property (shown in the image below) to reflect the new program storage location. (If you need extra help, refer back to the *How to Edit a Configuration File* section that corresponds to the operating system you are using.)

\* Anytime you change this property, a new *orchid-device.tag* file will be created and saved in the new storage directory.



4. Save and close the file.
5. After you update the Orchid Recorder configuration file, you can restart the Orchid Recorder services. (If you need extra help, refer back to the *How to Manage the Orchid Recorder Services* section that corresponds to the operating system you are using.)
6. Once the restart is complete, you can sign into Orchid Recorder.



# Changing the Orchid Recorder Archives Retention Percentage

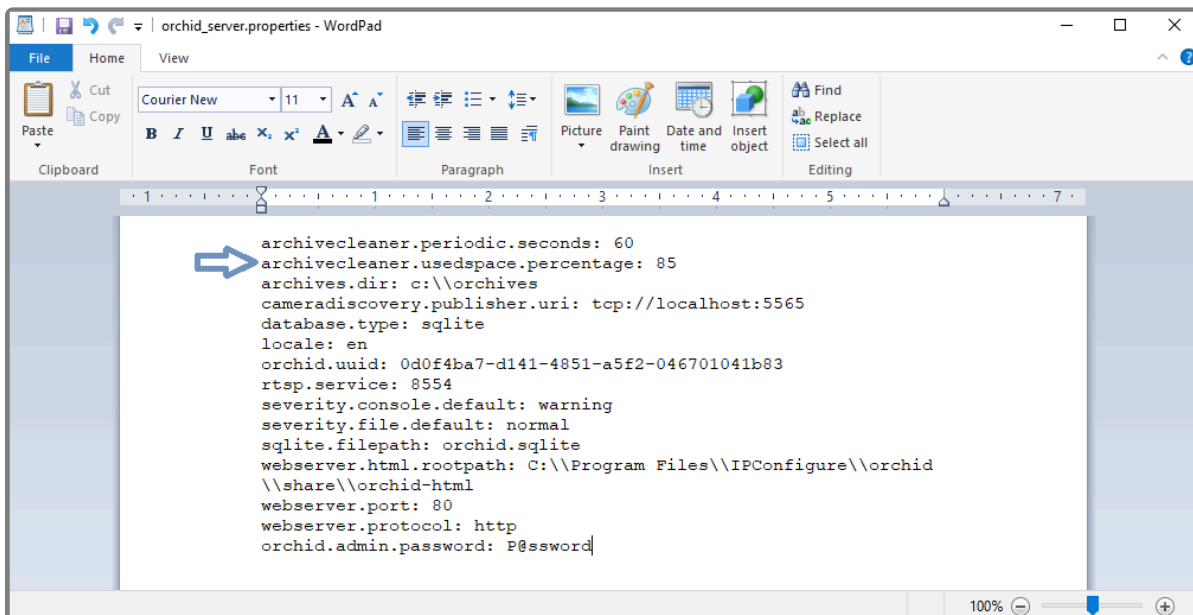
In an effort to maintain a certain amount of free space on the hard disk, Orchid Recorder has a self-imposed limit for saving video archive files. Once this limit is reached, the system will begin to delete the oldest video archive files to make room for new ones.

The default setting for this limit is 85%, but you can change it using either of the following methods:

- You can use the *Advanced Settings* feature in the software (which is described in the [Orchid Recorder Administrator Guide](#)).
- You can modify the Orchid Recorder properties file (as described below).

✿ To perform this change, you will need to be signed in as an Administrator.

1. Open the Orchid Recorder properties file. (If you need extra help, refer back to the *How to Edit a Configuration File* section for the operating system you are using.)
2. Change the `archivecleaner.usedspace.percentage` property to implement a new setting.



3. Save and close the file.
4. After you update the Orchid Recorder properties file, you must restart the Orchid Recorder services. (If you need extra help, refer back to the *How to Manage the Orchid Recorder Services* section that corresponds to the operating system you are using.)
5. Once the restart is complete, you can sign into Orchid Recorder.

# Enabling a STUN Server for WebRTC Mode

If your Orchid Recorder has access to the internet, it will use `stun.ipconfigure.com` as a STUN server by default, and no additional configuration will be required. If your Orchid Recorder is on a private network, or if you prefer to use a different STUN server, see the following instructions.

To set up the STUN server, first identify servers that you can use, then you'll need to set the `webrtc.stun.host` and `webrtc.stun.port` settings. You may use either of the following methods:

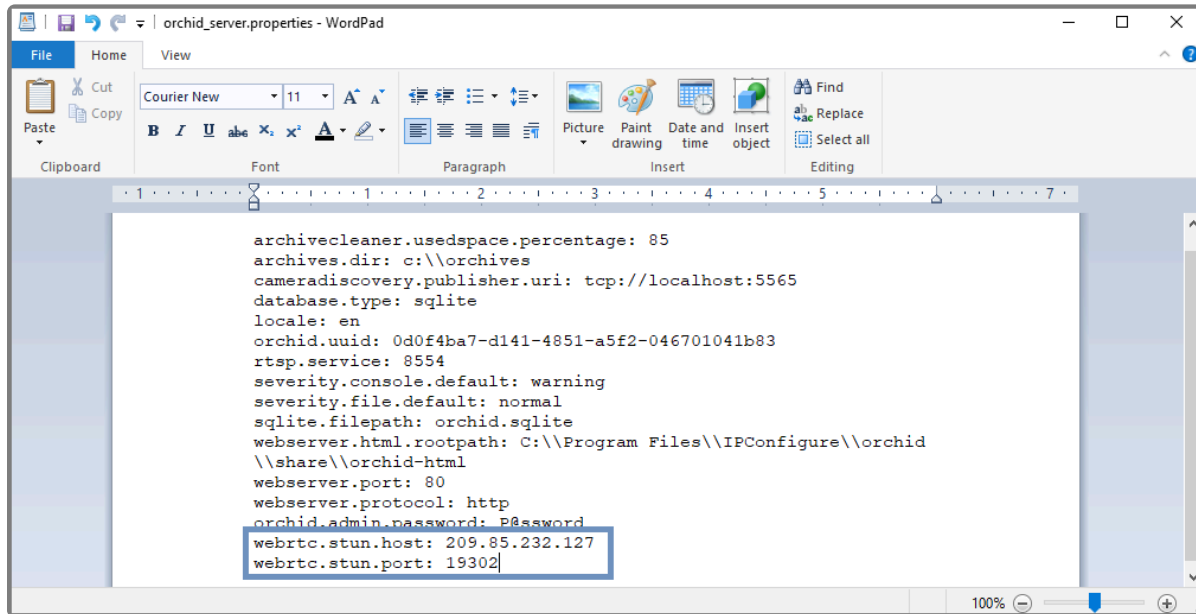
- You can use the *Advanced Settings* feature in the software (which is described in the [Orchid Recorder Administrator Guide](#)).
- You can modify the Orchid Recorder properties file (as described below).

For more details on these properties, please refer back to [Orchid Recorder Configuration Settings](#).

✿ In order to edit the configuration file, sign in as an Administrator.

✿ For more details about Orchid Recorder and WebRTC, please refer to the [Orchid Recorder Administrator Guide](#).

1. Open the Orchid Recorder properties file. (If you need help, refer back to the *How to Edit a Configuration File* section that corresponds to your operating system.)
2. To setup a STUN server, add the following properties to the configuration file:
  - a. `Webrtc.stun.host`
  - b. `Webrtc.stun.port`



3. When all changes are complete, save and close the file.
4. After you update the Orchid Recorder properties file, you must restart the Orchid Recorder services. (If you need extra help, refer back to the *How to Manage the Orchid Recorder Services* section that corresponds to the operating system you are using.)
5. Once the restart is complete, you can sign into Orchid Recorder.

# Disabling Database Optimization

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Beginning in version 22.12, Orchid Recorder now automatically optimizes the database during upgrade installations. This default optimization process may be disabled by an Administrator by including the appropriate command as part of the installation.

## In Windows

If you have decided to disable the optimization process during installation, you will need to run the installation from the command prompt.

1. Click the **Windows Start** icon in the lower-left corner of the screen.
2. Type “cmd” or “command”.
3. The *Command Prompt* app should appear in the list at the top-left corner of the screen.
4. Right-click on that and select *Run as administrator*.
5. If the system asks: *Do you want to allow this app to make changes to your device?*, click **Yes**.
6. Now you will need to enter a modified version of the installation command. It should look something like this:

```
ipc-orchid_22.12.0.exe /OptimizeDB=false
```

(Where *22.12.0.exe* represents the Orchid version you are installing.)

Please refer back to the [Windows](#) installation for additional details.

## In Linux

If you have decided to disable the optimization process during installation, you will need to run the installation from the command line.

1. To disable optimization, enter a modified version of the installation command. It should look something like this:

```
sudo SKIP_DB_OPTIMIZE=1 yum install ./ipc-orchid_22.12.0.rpm
```

(Where *22.12.0.rpm* represents the Orchid version you are installing.)

Please refer back to the appropriate Linux installation section for additional details.

# Linux Tips & Tricks

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If you are using Orchid Recorder with Linux, these tips will help you navigate the system, perform tasks, and find files faster.

## Open 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 (where directory is the name of a directory)
```

Change to a new working directory

```
cd ..
```

Go up one directory

```
mv src dst (where src is the source and dst is the destination)
```

Move a file or directory

```
cp src dst (where src is the source and dst is the destination)
```

Copy a file

```
nano file (where file is the file you want to edit)
```

Edit a text file

```
sudo cmd (where cmd is the command you want to run)
```

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

```
sudo gedit
```

Open a graphical text editor with superuser permission

---

### Additional command line options:

`-c /etc/opt --check-database`

This command checks the Orchid Recorder database for errors. (Before running this command, you should stop the Orchid service. You should also run this command using Administrator privileges.)

For example: `sudo /opt/orchid/bin/orchid_server -c /etc/opt --check-database`

`-v, --version`

This command returns the Orchid Recorder version number.



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

# Windows Tips & Tricks

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If you are using Orchid Recorder with Windows, these tips may help you perform a few simple tasks.

## Open the Command Prompt:

1. To access the Windows command prompt, start by clicking the *Windows Start* icon in the lower-left corner of the screen.
2. Then type “cmd” or “command,” then press *Enter*. The *Command Prompt* window will open.

Some tasks may require the Administrator command prompt which you can access almost the same way.

1. Start by clicking the *Windows Start* icon in the lower-left corner of the screen.
2. Then type “cmd” or “command.”
3. The *Command Prompt* app should appear in the list at the top-left corner of the screen.
4. Right-click on that and select *Run as administrator*.
5. If the system asks: *Do you want to allow this app to make changes to your device?* Click *Yes*.

---

## A Few Helpful Commands:

cd

Use this command to switch to the directory you want to work in.

To return to the C-prompt, use `cd c:\`

dir

This will display the contents of the directory you are working in.

Use the `dir` command at the C-prompt to view the contents of the C-drive.

ipconfig

This will display the current network information for all adapters.

---

## Additional Command Line Options:

Beginning in version 22.6, Orchid Recorder offers a couple of useful command-line options.

`/check-database`

This command checks the Orchid Recorder database for errors. (Before you run this command, you should stop the Orchid service. This command may require that you are using the Administrator command prompt.)

1. First, you'll need to switch to the orchid bin folder: `cd \Program Files\IPConfigure\orchid\bin\`
2. Then enter this command: `orchid_server.exe /check-database`

`/version`

This command returns the Orchid Recorder version number.

1. First, you'll need to switch to the orchid bin folder: `cd \Program Files\IPConfigure\orchid\bin\`
2. Then enter this command: `orchid_server.exe /version`



# Important Directories and Files

## Important Directories and Files

Orchid Recorder stores video, logs, configuration files, and a variety of other data in different directories. The default locations are as follows:

Directory/File	In Windows	In Linux
Installation directory	C:\Program Files\IPConfigure\orchid	/opt/orchid
Executable files	C:\Program Files\ IPConfigure\orchid\bin	/opt/orchid/bin
Library files	C:\Program Files\ IPConfigure\orchid\lib	/opt/orchid/lib
Video archive files	C:\archives	/archives
Log file	C:\Program Files\ IPConfigure\orchid\bin	/var/log/ orchid_server
Database file	C:\Program Files\ IPConfigure\orchid\bin\ orchid.sqlite	/var/lib/ orchid_server/ orchid.sqlite
Configuration file	C:\Program Files\ IPConfigure\orchid\bin\ orchid_server.properties	/etc/opt/ orchid_server. properties
Uninstall file	C:\Program Files\ IPConfigure\orchid\ uninstall.exe	N/A
Downloads (Exported video)	User's Downloads folder	~/Downloads



For additional help with Orchid Recorder, please visit our training site at [training.ipconfigure.com](https://training.ipconfigure.com).