Zixi Installation Guide

Software Version 13
Document Version DOC18-540-0008
Copyright © Zixi 2020
All Rights Reserved

Copyright © Zixi 2020 Waltham, MA U.S.A. | www.zixi.com | support@zixi.com

Legal Notice

This document contains proprietary and confidential material of Zixi LLC. Any unauthorized reproduction, use, or disclosure of this material, or any part thereof, is strictly prohibited. This document is solely for the use of Zixi employees and authorized Zixi customers.
The material furnished in this document is believed to be accurate and reliable. However, no responsibility is assumed by Zixi LLC. for the use of this document or any material included herein. Zixi LLC. reserves the right to make changes to this document or any material included herein at any time and without notice.

For more information visit: www.Zixi.com.
Copyright © Zixi 2020 Waltham, MA U.S.A.
All Rights Reserved.

** See back for additional licensing information*

Table of Contents

Legal Notice 2
Table of Contents 3
Introduction 5
Network Settings 5
Zixi Feeder Network Settings 5
Zixi Broadcaster Network Settings 5
Zixi Receiver Network Settings 6
ZEN Master Network Settings 6
Zixi Feeder – ZEN Master Network Settings 6
Zixi Broadcaster – ZEN Master Network Settings 6
Zixi Receiver – ZEN Master Network Settings 7
Installing Zixi Products 8
Installing Zixi Products on Linux 8
System Requirements - Linux 8
Downloading and Extracting the Installation File - Linux 9
Installing Zixi Products on Windows 10
System Requirements - Windows 10
Downloading and Running the Installation 11
Activating the License 13
Zixi Feeder 13
Logging in to Zixi Feeder 13
Online Activation (License Key) 13
Offline Activation (License File) 14
Zixi Broadcaster 14
Logging in to Zixi Broadcaster 14
Online Activation (License Key) 15
Offline Activation (License File) 15
Zixi Receiver 16
Logging in to Zixi Receiver 16

Online Activation (License Key).....16
Offline Activation (License File) 17
Installing CentOS 7 18

Introduction

This Installation Guide includes installation procedures for the following Zixi products on Linux and Windows environments:

- Zixi Feeder
- Zixi Broadcaster
- Zixi Receiver

Network Settings

The following ports must be opened on your Firewall(s) for inbound and outbound traffic as described below:

Zixi Feeder Network Settings

Port	Type	Direction	Description
2088	UDP	Outbound	Feeder push to Broadcaster, Zixi protocol
7088	UDP	Outbound	Feeder push to Broadcaster, Zixi protocol with DTLS
1935	TCP	Inbound	Encoder push to Feeder, RTMP protocol
4200	TCP	Inbound	Web management UI, HTTP protocol

Zixi Broadcaster Network Settings

Port	Type	Direction	Description
2088	UDP	Inbound	Feeder push to Broadcaster, Zixi protocol
7088	UDP	Inbound	Feeder push to Broadcaster, Zixi protocol with DTLS
2077	UDP	Inbound	Receiver pull from Broadcaster, Zixi protocol
7077	UDP	Inbound	Receiver pull from Broadcaster, Zixi protocol with DTLS
1935	TCP	Inbound	Encoder push to Broadcaster, RTMP protocol
1935	TCP	Outbound	Broadcaster push to CDN or RTMP server, RTMP protocol

Port	Type	Direction	Description
7777	TCP	Inbound	HTML5 video player or CDN pull from Broadcaster, HTTP streaming protocol - HLS or DASH
4444	TCP	Inbound	Web management UI, HTTP protocol

Zixi Receiver Network Settings

Port	Type	Direction	Description
2077	UDP	Outbound	Receiver pull from Broadcaster, Zixi protocol
7077	UDP	Outbound	Receiver pull from Broadcaster, Zixi protocol with DTLS
4300	TCP	Inbound	Web management UI, HTTP protocol

ZEN Master Network Settings

The following network settings are required to connect the various Zixi products to ZEN Master.

Zixi Feeder – ZEN Master Network Settings

Type	Port	Direction	Description
TCP	80/443	Outbound + Return	
SSH	22	Outbound + Return	ZEN Master to <customer>.io.zixi.com
UDP	2077 / 2088	Outbound + Return	Stream authentication to <customer>.io.zixi.com
UDP	7077 / 7088	Outbound + Return	DTLS communication to customer.io.zixi.com

Zixi Broadcaster – ZEN Master Network Settings

Type	Port	Direction	Description
TCP	80/443	Outbound + Return	ZEN Master Authentication Servers: - 18.210.103.157

Type	Port	Direction	Description
			- 23.20.44.73 - 34.200.88.233 - 34.238.1.65 - 35.170.111.151 - 52.4.9.203 Or <customer>.zen.zixi.com
SSH	22	Outbound + Return	ZEN Master to <customer>.io.zixi.com Or <customer>.zen.zixi.com
UDP	2077 / 2088	Outbound + Return	Stream authentication to <customer>.io.zixi.com Or <customer>.zen.zixi.com
UDP	7077 / 7088	Outbound + Return	DTLS communication to customer.io.zixi.com Or <customer>.zen.zixi.com

Zixi Receiver – ZEN Master Network Settings

Type	Port	Direction	Description
TCP	80/443	Outbound + Return	
SSH	22	Outbound + Return	ZEN Master to <customer>.io.zixi.com
UDP	2077 / 2088	Outbound + Return	Stream authentication to <customer>.io.zixi.com
UDP	7077 / 7088	Outbound + Return	DTLS communication to customer.io.zixi.com

Installing Zixi Products

All Zixi Products (Feeder, Broadcaster and Receiver) can be installed and run on either Linux or Windows environments. The following sections describe the system requirements and installation procedures for each type of OS.

For instructions on how to install CentOS 7.x, see - **Installing CentOS 7**

Installing Zixi Products on Linux

For instructions on how to install CentOS 7.x, see - **Installing CentOS 7**

➡ **To install Zixi products on a Linux environment:**

1. Check that you have a link and credentials to the Zixi download site and the license activation keys. If you don't have them, please contact *Zixi Support* at support@zixi.com.
1. Check that your system meets the system requirements, see SYSTEM REQUIREMENTS - LINUX.
2. Download and extract the installation file(s) using the procedures described in DOWNLOADING AND EXTRACTING THE INSTALLATION FILE.
3. Activate the license through the web-based management UI using the procedures described in ACTIVATING THE LICENSE.

System Requirements - Linux

Hardware

- CPU: Intel i3 dual core CPU or above
- RAM: 2 GB RAM (minimum)
- Networking: 2 x 1GB network card

Operating System

- Zixi Broadcaster - 64-bit CentOS 7.x or an equivalent Linux distribution with glibc 2.14+
- Zixi Feeder and Receiver - Linux CentOS 6/7, must be a 64-bit distribution
- Linux Ubuntu 12 or later, 64-bit
- Linux Debian 7 or later, 64-bit
- Non-GUI server distribution recommended due to conflicts with NetworkManager GUI application.

Network Management

- Feeder GUI: TCP 4200
- Broadcaster GUI: TCP 4444

- Receiver GUI: TCP 4300
- SSH Remote Tunnel: If enabled, the device reaches out on port 22 to the remote access server.

Network Streaming

- **Network Settings**
- **ZEN Master Network Settings**

Downloading and Extracting the Installation File - Linux

After receiving the email with the download link and the license activation keys, follow the instructions below. The procedures for downloading and extracting all Zixi products (Feeder, Broadcaster and Receiver) are identical. For the <zixi_product> parameter, enter the relevant product name (e.g. 'Feeder').

Make sure you are logged in as a Root user. If you are not logged in as a Root user, use the "su" command.

➡ **To download and extract the file:**

1. Create a Zixi folder by typing the following commands in the Linux console:
```
# mkdir /zixi
# cd /zixi
```
2. Type the # wget command followed by the download link that you have received via email, while excluding the "http://" part of the link. For example:
```
# wget --user=<customer_Name>--ask-password
downloads.zixi.com/<customerName>/<zixi_product>-<version_number>.tar.gz
```
3. You will be requested to enter a password, type the password that you have received from Zixi support.
4. Extract the installation file by typing the following command:
```
# tar xvfz <zixi_product>-<version_number>.tar.gz
# cd <zixi_product>
```
5. Run the installation script file by typing the following command:
```
#./installMe.sh
```
6. Run prerequisites script file by typing the following command:
```
#./prerequisites.sh
```

Following the completion of the installation, proceed to **ACTIVATING THE LICENSE**.

Installing Zixi Products on Windows

➡ **To install Zixi products on a Windows environment:**

1. Check that you have a link and credentials to the Zixi download site and the license activation keys. If you don't have them, please contact *Zixi Support* at support@zixi.com.
2. Check that your system meets the system requirements, see **SYSTEM REQUIREMENTS - WINDOWS**.
3. Download and extract the installation file(s) using the procedures described in **DOWNLOADING AND RUNNING THE INSTALLATION**.
4. Activate the license through the web-based management UI using the procedures described in **ACTIVATING THE LICENSE**.

System Requirements - Windows

Hardware

- Recommended processor: Intel® Core™ i3 dual-core or quad-core
- Memory requirements: 2GB (minimum)
- Network interface cards: Minimum of two gigabit Ethernet adapters are required

Operating System

- Windows® Server 2012/2016/2019, 32-bit or 64-bit
- Windows 8/10, 32-bit or 64-bit

Windows releases are supported per the Microsoft support schedule. Server OS is preferred for 24/7. Desktop OS, if used, should be configured to disable auto updates and prefer background service priority.

Network Management

- Feeder GUI: TCP 4200
- Broadcaster GUI: TCP 4444
- Receiver GUI: TCP 4300
- SSH Remote Tunnel: If enabled, the device reaches out on port 22 to the remote access server.

Network Streaming

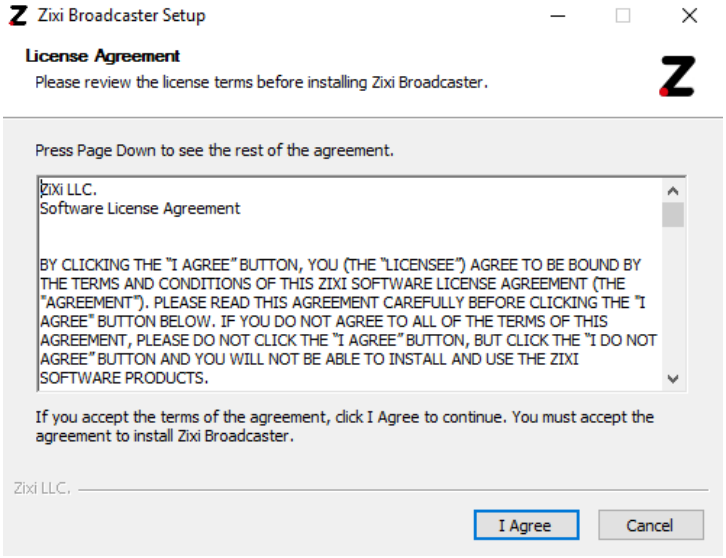
- **Network Settings**
- **ZEN Master Network Settings**

Downloading and Running the Installation

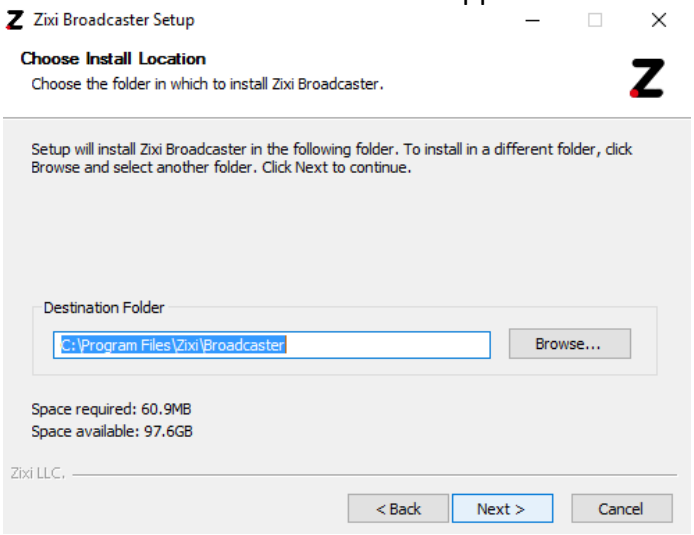
After receiving the email with the download link, follow the instructions below. The downloading and the extraction of all Zixi Products (e.g. Zixi Feeder, Zixi Broadcaster, etc.) is similar. In this procedure we will use Zixi Broadcaster as an example.

➡ **To download and run the installation:**

1. Download the **Zixi Broadcaster** installation file.
2. Double-click on the Zixi Broadcaster installation file.
   The **License Agreement** window appears.

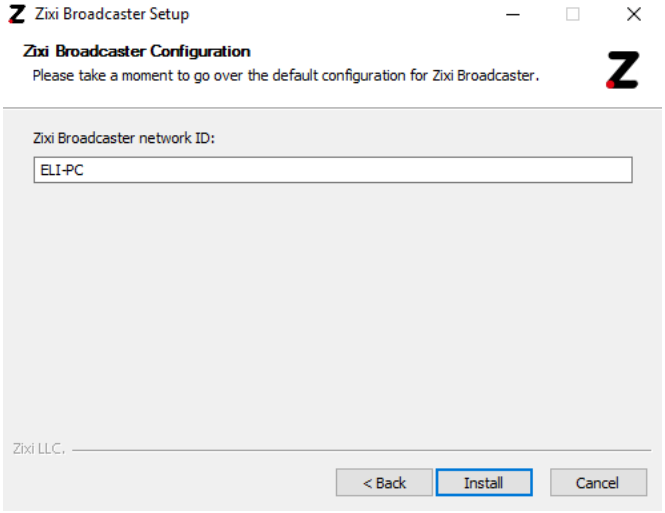


3. After reading the license agreement, click **I Agree**.
   The **Installation Location** window appears.

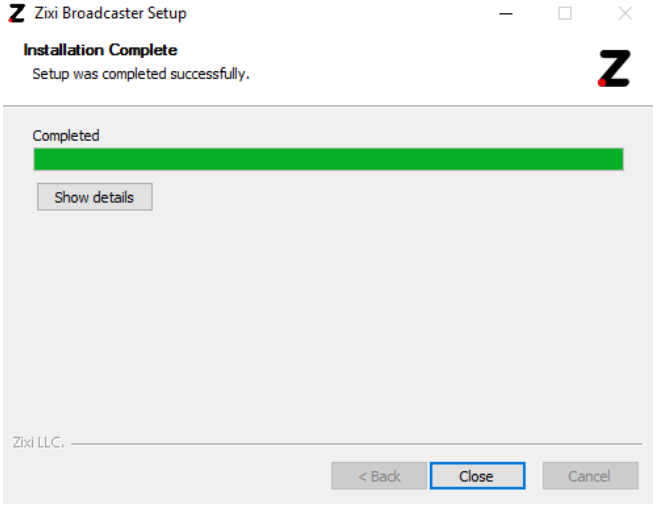


4. Select the folder in which the Broadcaster files will be installed. The default location is in the Zixi folder which is in the Program Files folder.

5. Click **Next**.
   The **Broadcaster ID** window appears.



6. Enter a name for the **Broadcaster ID**. The default name is the local host.
7. Click **Install**.
   The installation progress window appears.



8. When the installation is complete, click **Close**.
   The Broadcaster Login page opens in your browser.

Following the completion of the installation, proceed to ACTIVATING THE LICENSE.

Activating the License

Activation of the licenses is performed in the relevant web-based management UI. For all Zixi products (Feeder, Broadcaster and Receiver), the installation can be done online using a *License Key* or offline using a *License File*.

To activate Zixi license online, ensure connection to URL: license.zixi.com via TCP port 80. If you cannot open this connection, you can activate your license through a "License File". To obtain a license file, please contact *Zixi Support* at support@zixi.com.

Zixi Feeder

When logging in to a Zixi Feeder for the first time, you must activate the Zixi license.

Logging in to Zixi Feeder

➡ **To log in to Zixi Feeder:**

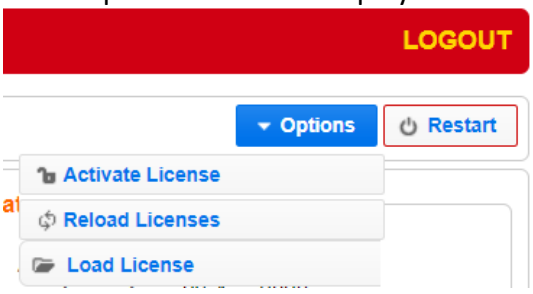
1. In your web browser, navigate to http://localhost:4200.
   A user authentication window opens.
2. In the **User Name** field, enter '**admin**'.
3. In the **Password** field, enter '**1234**'.
4. Click **OK**.
   The Feeder UI opens on the **Status** page.

Online Activation (License Key)

The following procedure requires connectivity to the Internet. If you are not able to connect, you can activate the Feeder using the procedure described in OFFLINE ACTIVATION (LICENSE FILE).

➡ **To Activate the License online using a License Key:**

1. In the **Status** page of the Zixi Feeder UI, click **Options** in the menu bar.
   The drop-down menu is displayed.



2. Click **Activate License.**
   The **Activate License** window appears.

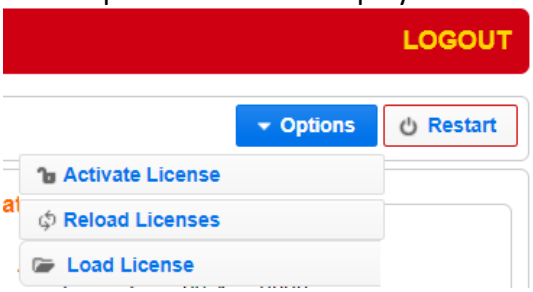
3. In the **Key** field, enter your Activation Key.
4. Click **Activate**.
   The Zixi Feeder is enabled.

Offline Activation (License File)

If you want to activate your license without an internet connection, you can upload a *License File*. To obtain a License File, please contact *Zixi Support* at support@zixi.com.

➡ **To Load the License File:**

1. In the **Status** page of the Zixi Feeder UI, click **Options** in the menu bar.
   The drop-down menu is displayed.



2. Click **Load License.**
   The directory of the local drive opens.
3. Navigate to the License File and click **Open**.
   A prompt window instructs you to Reload the license to activate the license.
4. Click again on **Options** and select **Reload Licenses** from the dropdown menu.
   The Zixi Feeder is enabled.

Zixi Broadcaster

When logging in to a Zixi Broadcaster for the first time, you must activate the Zixi license.

Logging in to Zixi Broadcaster

➡ **To log in to Zixi Broadcaster:**

1. In your web browser, navigate to http://localhost:4444.
   A user authentication window opens.

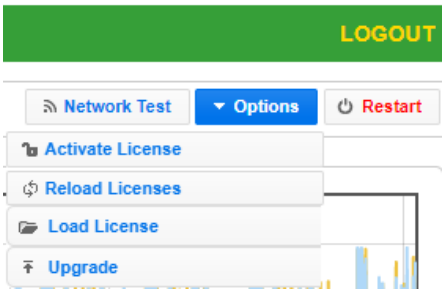
2. In the **User Name** field, enter '**admin**'.
3. In the **Password** field, enter '**1234**'.
4. Click **OK**.
   The Broadcaster UI opens on the **Status** page.

Online Activation (License Key)

The following procedure requires connectivity to the Internet. If you are not able to connect, you can activate the Broadcaster using the procedure described in **OFFLINE ACTIVATION (LICENSE FILE)**.

➡ **To Activate the License online using a License Key:**

1. In the **Status** page of the Zixi Broadcaster UI, click **Options** in the menu bar.
   The drop-down menu is displayed.



2. Click **Activate License.**
   The **Activate License** window appears.

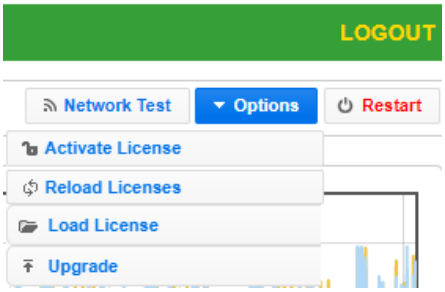
3. In the **Key** field, enter your Activation Key.
4. Click **Activate**.
   The Zixi Broadcaster is enabled.

Offline Activation (License File)

If you want to activate your license without an internet connection, you can upload a License File. To obtain a license file, please contact *Zixi Support* at support@zixi.com.

➡ **To Load the License File:**

1. In the **Status** page of the Zixi Broadcaster UI, click **Options** in the menu bar.
   The drop-down menu is displayed.



2. Click **Load License.**
   The directory of the local drive opens.
3. Navigate to the License File and click **Open**.
   A prompt window instructs you to Reload the license to activate the license.
4. Click again on **Options** and select **Reload Licenses** from the dropdown menu.
   The Zixi Broadcaster is enabled.

Zixi Receiver

When logging in to a Zixi Receiver for the first time, you must activate the Zixi license.

Logging in to Zixi Receiver

➡ **To log in to Zixi Receiver:**

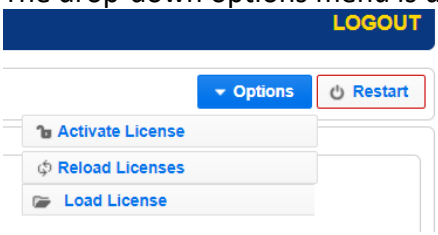
1. In your web browser, navigate to http://localhost:4300.
   A user authentication window opens.
2. In the **User Name** field, enter '**admin**'.
3. In the **Password** field, enter '**1234**'.
4. Click **OK**.
   The Receiver UI opens on the **Status** page.

Online Activation (License Key)

The following procedure requires connectivity to the Internet. If you are not able to connect, you can activate the Receiver using the procedure described in OFFLINE ACTIVATION (LICENSE FILE).

➡ **To Activate the License online using a License Key:**

1. In the **Status** page of the Zixi Receiver UI, click **Options** in the menu bar.
   The drop-down options menu is displayed.



2. Click **Activate License.**
   The **Activate License** window appears.

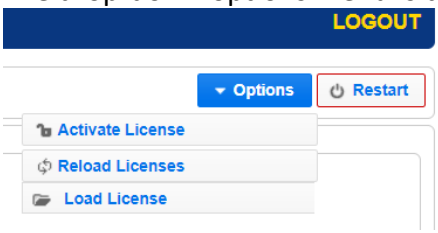
3. In the **Key** field, enter your Activation Key.
4. Click **Activate**.
   The Zixi Receiver is enabled.

Offline Activation (License File)

If you want to activate your license without an internet connection, you can upload a license file. To obtain a license file, please contact *Zixi Support* at support@zixi.com.

➡ **To Load the License File:**

1. In the **Status** page of the Zixi Receiver UI, click **Options** in the menu bar.
   The drop-down options menu is displayed.



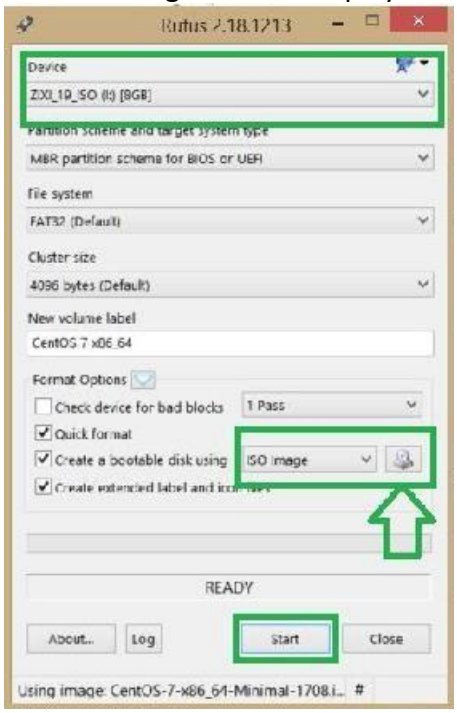
2. Click **Load License.**
   The directory of the local drive opens.
3. Navigate to the License File and click **Open**.
   A prompt window instructs you to Reload the license to activate the license.
4. Click again on **Options** and select **Reload Licenses** from the dropdown menu.
   The Zixi Receiver is enabled.

Installing CentOS 7

The following instructions are designed to help you install CentOS 7.x. After installing the operating system, follow the instructions in the **Installing Zixi Products on Linux** section to complete the installation.

➡ **To install CentOS 7 on your computer:**

1. Download the "**CentOS-7x86_64-Minimal-1908.iso"** file from the following link:
   http://mirrors.seas.harvard.edu/centos/7.7.1908/isos/x86_64/
   A list of additional mirrors can be found at
   http://isoredirect.centos.org/centos/7/isos/x86_64/
2. Copy the downloaded file to a FAT 32 formatted USB thumb drive of good quality with at least 8 GB of space.
3. To create a bootable USB drive, download **Rufus** to your computer from the following link - https://rufus.akeo.ie/
4. Right-click on the **Rufus** icon and choose **Run as Administrator**.
   The following screen is displayed:



5. In the **Device** field, select the name of your USB thumb drive.
6. In the **Create bootable disk using** field, select the format of the downloaded image (e.g. ISO image).
7. Click on the disk icon to browse to the CentOS 7 ISO to install.
8. Click **Start**.
   The process will take a couple minutes and the lower window will display "READY!" when done.

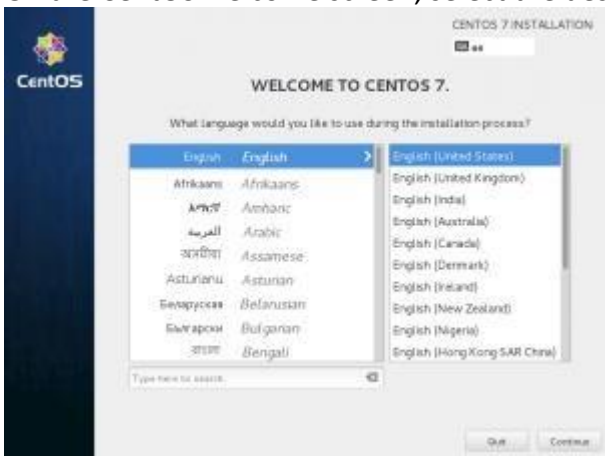
9. Remove the USB and install it on the machine you will be installing CentOS on.
10. Boot your computer by restarting it and then waiting for that first screen to be displayed.
11. Press the boot option key as instructed on the first screen (e.g. often, it'll say something like **"Press F12 to Choose Boot Device"**).
12. Wait a moment to continue booting until see a menu pop up with a list of choices on it. Highlight your USB drive and press **Enter**.
13. Exit out of your BIOS, while saving your changes. Usually, this option is under "Exit" on the main menu, or available via a keyboard shortcut listed (e.g. F4) somewhere on your screen.
    Your computer should reboot. If you're prompted to **"Press any key to boot from CD/DVD"** do so. Your computer should boot into the USB drive instead of your normal operating system.

Make sure ALL network adapters are connected and ON in order for the Linux installation protocol to be able to SEE them. Otherwise, they will not be set to start up on boot.

14. On the following CentOS 7 prompt screen, select **Install CentOS 7** and then press **Enter**.

➡ **To setup CentOS 7:**

1. On the CentOS welcome screen, select the desired language and click **Continue**.

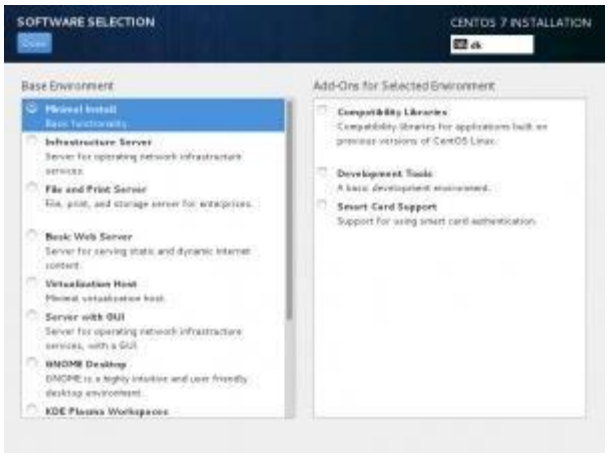


2. On the main screen, click **Date & Time** and then set the time zone, date, and time and then click **Done** (located in the upper left corner).

3. On the main screen, click **Keyboard** and then click the big "+" button in the lower left corner and find your keyboards language (you can search), click **Add** to add it and then click **Done** (located in the upper left corner). When finished, click **Done** (located in the upper left corner).
4. On the main screen, click **Language Support** and select the language of your choice, (default is English) and then click **Done** (located in the upper left corner).

5. On the main screen, click **Installation Source** and select the installation USB as the installation source. When finished, click **Done** (located in the upper left corner).

6. On the main screen, click **Software Selection** and select Minimal Installation (you may select another type of installation, but this is the minimal default requirement for installing Zixi. When finished, click **Done** (located in the upper left corner).



7.

- License for OpenSSL

This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit

(http://www.openssl.org/)

THIS SOFTWARE IS PROVIDED BY THE OpenSSL PROJECT ``AS IS'' AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE OpenSSL PROJECT OR ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

This product includes cryptographic software written by Eric Young (eay@cryptsoft.com). This product includes software written by Tim

Hudson (tjh@cryptsoft.com).

Copyright (c) 1998-2017 The OpenSSL Project. All rights reserved.

- License for Libssh2

Copyright (c) 2004-2007 Sara Golemon <sarag@libssh2.org>

Copyright (c) 2005,2006 Mikhail Gusarov <dottedmag@dottedmag.net>

Copyright (c) 2006-2007 The Written Word, Inc.

Copyright (c) 2007 Eli Fant <elifantu@mail.ru>

Copyright (c) 2009-2014 Daniel Stenberg

Copyright (C) 2008, 2009 Simon Josefsson

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met: Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

Neither the name of the copyright holder nor the names of any other contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

- License for DekTec's Linux SDK. Version 1, August 2012

Copyright (C) 2000-2015 DekTec Digital Video B.V.
Redistribution and use in source and binary forms, with or without modification, are
permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, this list
of conditions and the following disclaimer.
2. Redistributions in binary format must reproduce the above copyright notice, this
list of conditions and the following disclaimer in the documentation.
THIS SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED,
INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR
PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL DEKTEC DIGITAL VIDEO BV, ITS AGENTS OR ITS EMPLOYEES BE LIABLE FOR ANY DIRECT, INDIRECT, CONSEQUENTIAL, INCIDENTAL, OR OTHER DAMAGES (INCLUDING DAMAGES FOR THE LOSS OF USE, INFORMATION, GOODWILL, PROFIT, WORK STOPPAGE, DATA, BUSINESS OR REVENUE) UNDER ANY CIRCUMSTANCES, OR UNDER ANY LEGAL THEORY, WHETHER IN CONTRACT, IN TORT, IN NEGLIGENCE, OR OTHERWISE, ARISING FROM THE USE OF, OR INABILITY TO USE THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Copyright © Zixi 2019 Waltham, MA U.S.A.
All Rights Reserved