



BaseManager & BACnet Manager VM Server Configuration Guide

For Self-Hosted
BaseManager & BACnet Manager
Servers Deployed
as Virtual Machines

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Introduction

This document covers the deployment and configuration procedures for Baseline's BaseManager and/or BACnet Manager self-hosted server as a virtual machine image.

The BaseManager/BACnet Manager software is distributed as a virtual machine image ready for deployment on VMware EXSi servers, revision 4.0 or later. By default, the virtual machine is pre-configured to use 4GB of memory and 120GB of disk space and requires access to at least one core CPU.

To configure the server, you need the following items:

- VMware vSphere or equivalent virtual machine management software
- EXSi host with at least 4GB of available memory and 44GB of provisionable storage
- Static IP address (recommended) and hostname/domain name for the target network

BaseManager

If you are deploying Baseline's BaseManager only, follow the instructions below to download and unzip the VM image file and to deploy the virtual machine. In the Configuring the BaseManager and BACnet Manager Server section, perform Steps 1 – 5, and then skip to Step 7 – Set Up BaseManager.

BACnet Manager

If you are deploying Baseline's BACnet Manager, a connection to BaseManager is also required. All communication between the Building Management system and the irrigation controller is routed through BaseManager. You can configure BACnet Manager to access Baseline's cloud-based BaseManager or a self-hosted BaseManager server.

IMPORTANT! If you are using the BaseManager cloud service with your BACnet Manager implementation, you will skip the BaseManager server setup instructions in Step 7 of this Configuration Guide. However, you still need to set up the BaseManager account and add the BACnet user in BaseManager as described in this Configuration Guide.

Downloading and Unzipping the VM Image File

1. Go to the download link provided by Baseline and download the VM image file. The filename is `basemanager3_standalonex.xx.zip`, where `xx` represents the current version.
2. Copy the zip file to a location where you can unzip it.
3. Unzip the file. The following files are extracted:
`basemanager3_standalonex.xx.iso`
`basemanager3_standalonex.xx.vmdk`
`basemanager3_standalonex.xx.ovf`
`basemanager3_standalonex.xx.mf`
4. Copy or move these files to a location that is accessible from your vSphere client.

Deploying the Virtual Machine

1. Log in to the target host server using vSphere.
2. In the top menu bar of the vSphere interface, click **File**, and then click **Deploy OVF Template**.
3. Browse to and select the OVF file that was extracted during the unzipping process.
4. Choose an appropriate name for the virtual machine and indicate which datastore the disk image(s) will be deployed to.
5. Power on the virtual machine.
6. Click the **Console** tab in the vSphere client frame to access the console of the virtual machine and follow the configuration instructions in the next section.

Note: You can adjust the virtual machine memory, disk, and CPU resource allocation based on total observed load. The default settings should be sufficient for a 50 controller configuration, after which, we recommend an increase of 4GB for each additional 50 controllers.

Configuring the BaseManager and BACnet Manager Server

After the server hardware has been powered up, the **Login as** prompt displays.

Step 1 – Log into Config

1. At the **Login as** prompt, type **config**, and then press **ENTER**.
2. At the **Password** prompt, type **B@s3l1n3**, and then press **ENTER**. The Baseline Server Setup starts.
3. Press **ENTER** to select the **Continue** button. The End User License Agreement screen displays.

Step 2 – Accept the End User License Agreement

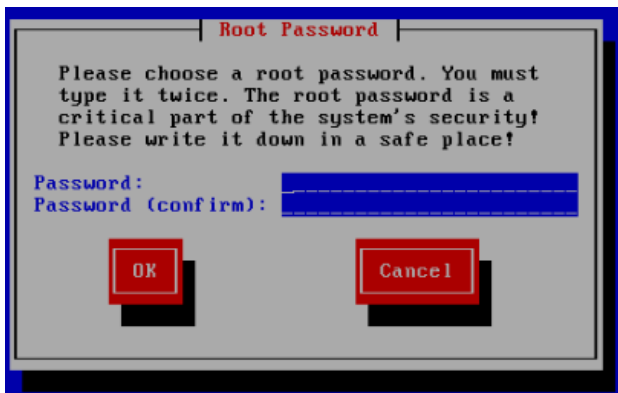
1. Press the **↓** key to read through the complete agreement.

Note: The End User License Agreement is also available on the Baseline website:

http://www.baselinesystems.com/support.php/standalone_eula

2. Perform one of the following:
 - a. To accept the agreement and continue, press the **TAB** key to move to the **Accept** button, and then press **ENTER**. The Root Password screen displays. Continue to Step 3 – Set Up the Password for the Root (Admin) User.
 - b. To decline the agreement and cancel the deployment, press the **TAB** key to move to the **Cancel** button, and then press **ENTER**. The program closes.

Step 3 – Set Up the Password for the Root (Admin) User



1. In the **Password** field, type a secure password.

Note: The password must be at least 6 characters.

2. Press the **TAB** key to move to the **Password (confirm)** field. Retype the password exactly as you typed it before.
3. Press the **TAB** key to move to the **OK** button, and then press **ENTER**. The server displays the following message:

Congratulations. Your password has been set.

Note: Use this password for the following logins:

linux root user (uid=0)

linux config user (this login)

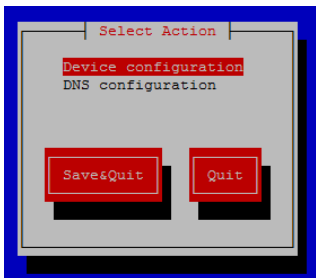
webmin root user

Additional Note: This password update does not apply to the password you use to log into BaseManager. For more information, refer to Setting Up the BaseManager Account on page 8.

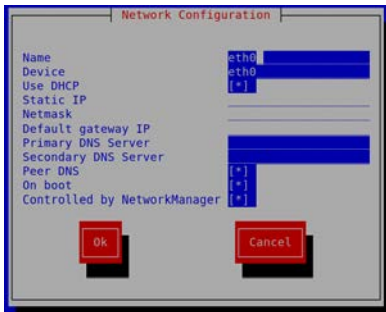
4. Write down your password and keep it in a secure place.
5. Press **ENTER** to select the **Continue** button. A message informs you that IP configuration is next. Press **ENTER** to select the **Continue** button again. The Network screen displays.

Step 4 – Configure the Device

1. When **Device configuration** is highlighted as shown in the illustration below, press **ENTER**. The Select A Device screen displays.



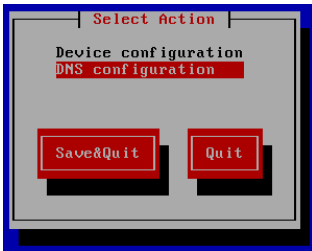
2. Press **ENTER** to configure the highlighted device. The Network Configuration screen displays with the cursor in the **Name** field.



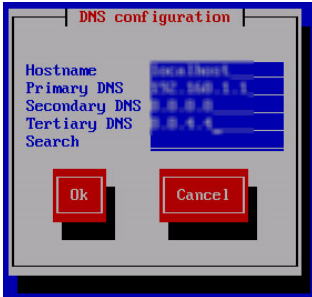
3. Leave the default entries in the **Name** and **Device** fields.
4. Perform one of the following in the **Use DHCP** field:
 - a. If your network has a DHCP server that assigns IP addresses to connected devices, leave the default entry [*] in the field. Press **TAB** to select the **Ok** button, and then press **ENTER**. Continue to step 5.
 - b. If you want to assign a static IP address, press **TAB** to move to the **Use DHCP** field, and then press **SPACEBAR** to remove the * from the field. Press **TAB** to move to the additional fields, and complete those fields as you go. Leave the default entry [*] in the Peer DNS, On boot, and Controlled by NetworkManager fields. Press **TAB** to select the **Ok** button, and then press **ENTER**. Continue to step 5.
5. When the Select a Device screen displays again, press **TAB** to select the **Save** button, and then press **ENTER**.
6. When the Select Action screen displays again, continue to Step 5 – Set Up the DNS Information.

Step 5 – Set Up the DNS Information

1. Press the **↓** key to select the **DNS configuration** option.



2. Press **ENTER**. The DNS configuration screen displays with the cursor in the Hostname field.



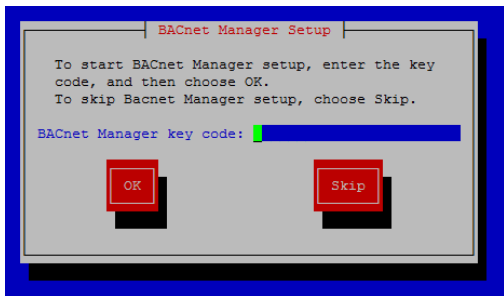
3. In the **Hostname** field, press the **←** key to move to the beginning of the line.
4. Type the domain name of the BACnet/BaseManager server.
Examples: bacnet.mydomain.com or basemanager.mydomain.com
5. Press **TAB** to move to the **Primary DNS** field. Type the DNS number for this server in the field.
6. Complete the **Secondary DNS**, **Tertiary DNS**, and **Search** fields as needed.
7. Press **TAB** to select the **Ok** button, and then press **ENTER**. The Select Action screen redisplay.
8. Press **TAB** to select the **Save & Quit** button, and then press **ENTER**. The server displays the following message:

Please wait while networking is restarted so the new settings take effect.
9. When the "Networking configuration is complete" message displays, press **ENTER** to select the **Continue** button.

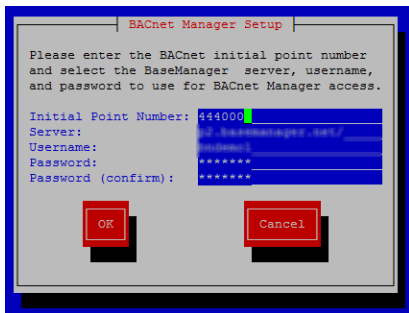
Step 6 – Set Up BACnet Manager

1. On the BACnet Manager Setup screen, press **ENTER** to select the **Continue** button. The BACnet Manager key code screen displays.

IMPORTANT! If you are setting up BaseManager only, you will skip the BACnet Manager Setup. On the BACnet Manager Setup screen, press **TAB** to select the Skip button, and then press **ENTER**. Continue to the instructions in Step 7 – Set Up BaseManager on page 8 of this Configuration Guide.



2. In the **BACnet Manager key code** field, type the key code that is printed on the BACnet Manager card that came from Baseline.
3. Press **TAB** to select the **Ok** button, and then press **ENTER**. The next BACnet Manager screen displays as illustrated below:

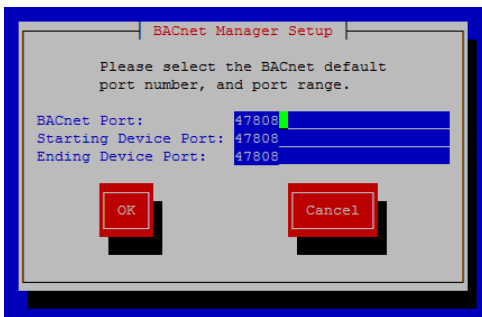


4. Leave the default entry in the **Initial Point Number** field.
5. Press the **↓** key to move to the **Server** field, and then perform one of the following:
 - a. If you have the self-hosted BaseManager server, the name in the **Server** field must match the Hostname that you assigned in the DNS Configuration step. If necessary, press the **Backspace** key to delete any default entry, and then type the server name in the field.
 - b. If you will be using BaseManager cloud service, leave the **Server** field set to **p1.basemanager.net**

6. Press the **↓** key to move to the **Username** field. This username and the following password are for a "virtual user" that will connect to BaseManager. Type a username in the field. Be sure to write down the username so you can create the user in BaseManager. Refer to Adding the BACnet User in BaseManager on page 10.

Note: If necessary, press the Backspace key to delete the default entries in the Username and Password fields.

7. Press the **↓** key to move to the **Password** field. Type a password in the field. Be sure to write down the password so you can create the user in BaseManager.
8. Press the **↓** key to move to the **Password** confirmation field. Retype the password in the field.
9. Press **TAB** to select the **Ok** button, and then press **ENTER**. The BACnet port screen displays as illustrated below.



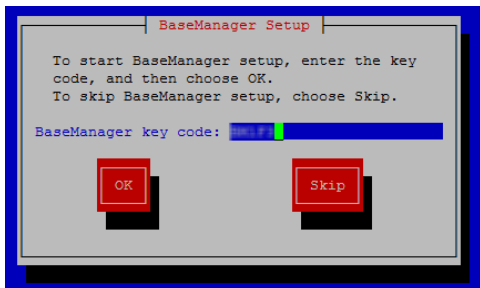
10. Complete the **Port** fields based on your BACnet configuration.
11. Press **TAB** to select the **Ok** button, and then press **ENTER**. Your BACnet Manager setup is complete.
12. Press **ENTER** to continue to the BaseManager Setup.

Step 7 – Set Up BaseManager

The system will use the settings from Baseline Server to configure BaseManager.

1. On the BaseManager Setup screen, press **ENTER** to select the **Continue** button. The BaseManager key code screen displays.

IMPORTANT! If you are using the BaseManager cloud service with BACnet Manager, you will skip the BaseManager server setup. On the BaseManager key code screen, press **TAB** to select the Skip button, and then press **ENTER**. Continue to Setting up the BaseManager Account on page 8 of this Configuration Guide.



2. In the **BaseManager key code** field, type the key code that is printed on the BaseManager card that came from Baseline.
3. Press **TAB** to select the **Ok** button, and then press **ENTER**. The BaseManager configuration message displays, and then the system notifies you that the BaseManager Server Setup is complete.
4. Press **ENTER** to select the **Continue** button. The server configuration is complete.

Setting Up the BaseManager Account

A BaseManager account allows some users to be assigned company administrator privileges and any number of other users to be given general user privileges. When you log into BaseManager with the credentials given below, you will have company administrator privileges.

All data for your BaseManager account falls under your company record. Baseline has assigned a default company name as a temporary placeholder. When you log into the BaseManager Company Admin interface, you can update this default name to your actual company name, and then create sites, and add controllers to those sites. The company admin must create users before giving those users access to specific controllers.

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1. Open a web browser from within the configuration interface (refer to the instructions on page X) or start a web browser from another desktop.

Note: The following web browsers are supported (make sure you have the most current version of the browser):

- Google Chrome
- Mozilla Firefox
- Safari

IMPORTANT! BaseManager is not compatible with Microsoft Internet Explorer or Microsoft Edge.

1. In the address bar of the browser, type the domain name of the BaseManager server:
 - If you are hosting your own BaseManager server, use the hostname that you set up in Step 5 of this Configuration Guide.
 - If you are using the cloud service, type **www.basemanager.net**

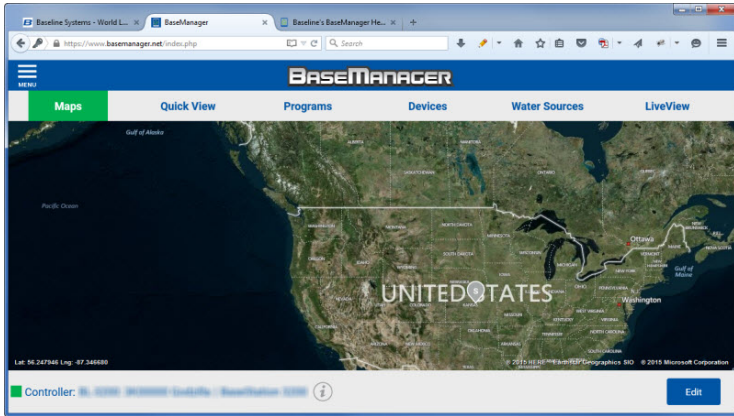



IMPORTANT! If you are using the BaseManager cloud service, Baseline Support will assign the company admin username and password. You will enter these credentials in steps 3 and 4 below. If you have not set up your BaseManager account for the cloud service, call Baseline Support at 866-294-5847.

2. In the **Username** field, type **admin**.

Note: Use all lowercase letters when you type the username.
3. In the **Password** field, type **B@s3l1n3**.

4. Click the **Login** button. The BaseManager home page displays.




5. To see the list of topics in the BaseManager Help, click the **Menu** icon  in the upper-left corner of the page, and then click **Help**. The BaseManager Help Table of Contents displays in a new tab.
6. To access the Company Admin interface, click the **Menu** icon in the upper-left corner of the page, and then click **Administration**.
7. In the BaseManager Help, refer to the topics under Setting Up Your BaseManager Account to learn how to perform the following tasks:
 - Update your company detail information
 - Add sites
 - Add controllers
 - Update your user information
 - Add new users

IMPORTANT! If you deployed BACnet Manager, be sure to complete the following procedure to add the virtual BACnet user in BaseManager.

Adding the BACnet User in BaseManager

If you deployed BACnet Manager, perform the following procedure in BaseManager to create a "virtual user" with the username and password that you set up in BACnet Manager. This virtual user enables the two systems to share data.

Note: Skip this procedure if you deployed BaseManager only.

1. Log into BaseManager as described in Setting Up the BaseManager Account on page 8.
2. Go into the Company Admin interface by clicking the **Menu** icon  in the upper-left corner of the BaseManager page, and then click **Administration**.

3. In the My Company Admin menu on the left side of the page, position the cursor on **My Users**. In the expanded menu, click **Create a Single User**.
Note: The fields marked with an * are required. You do not need to fill in the Real Name, Phone, or TXT Number fields for this virtual user.
4. In the **Username** field, type the username that you created during the BACnet Manager setup.
5. In the **Password** field, type the password that you created during the BACnet Manager setup.
6. In the **User Access** field, click the arrow at the end of field, and in the drop-down list, click **Company Admin**.
7. In the **Email Address** field, type the administrator's valid email address.
8. In the **Disable All Alerts** field, choose either setting.
9. Click the arrow to display the drop-down list in the **Time Zone** field. In the list that displays, click the time zone where the BACnet Manager and BaseManager systems are operating.
10. In the remaining fields, it doesn't matter which option you choose for this virtual user, but make sure that one of the radio buttons is selected in each field.
11. Click **Add**. The All Users list displays and shows the new user.
12. If the irrigation controller(s) that the BACnet virtual user needs to have access to has already been added to BaseManager, perform steps a. – d. below. Otherwise, skip those steps, and then follow the instructions in the BaseManager Help for Adding Controllers. When controllers are added later, they will be automatically assigned to all existing Company Admin level users in your account.
 - a. In the My Company Admin menu on the left side of the page, position the cursor on **My Users**. In the expanded menu, click **Edit My Users**. The list displays the users in your BaseManager account.
 - b. In the row for the BACnet user that you just created, click **EDIT**. The BACnet user record displays.
 - c. Scroll down to the bottom of the page so you can see the **Configure User's Controllers** pane. The controllers that have been added to the BaseManager account display in the pane. Click the **Allow All** button in the top corner of the pane, or select the checkbox for the controller that you want the BACnet user to have access to.
 - d. Click **Save Users Controller Assignments**.
13. When you have finished the BaseManager admin tasks, log out of the Admin interface by clicking the **Logout** link in the upper-right corner of the Admin page. You can also log out of BaseManager by clicking **Sign Out** on the main Menu.

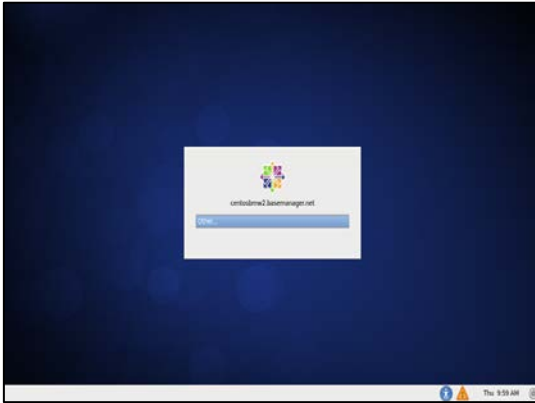
Opening a Web Browser during the Configuration Process

As a convenience, the BACnet/BaseManager server comes pre-configured with a desktop environment that enables you to access the user interface of BaseManager with Mozilla Firefox. You only need to perform the following steps when you want to access BaseManager during the configuration process.

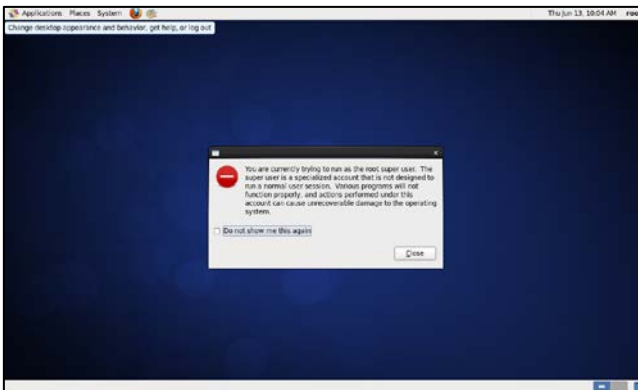
- At the “hostname” login prompt, type **root**, and then press **ENTER**.

Note: In the following steps, the example hostname is `centosbmnw2`. When you perform these steps, you will see the hostname that you set up in Step 5 of this Configuration Guide.

- At the **password** prompt, type the password that you set up in Step 3 of this Configuration Guide.
- At the `[root@hostname ~]#` prompt, type **init 5**, and then press **ENTER**. The graphical environment opens.

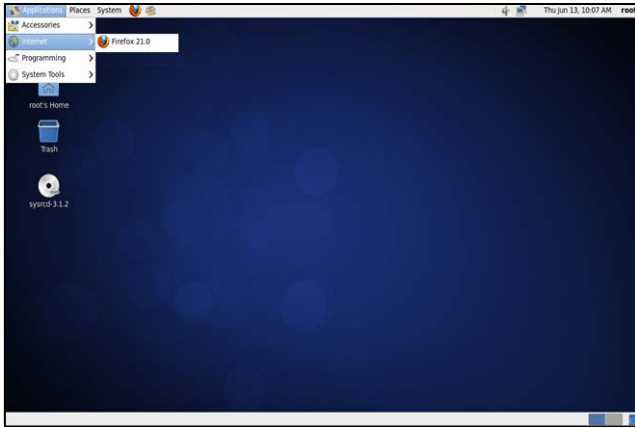


- Use the mouse to position the pointer on **Other**, and then click the left mouse button. The Username field displays.
- In the **Username** field, type **root** (or another configured username), and then click **Log In**. A message warns you about logging in as the “root super user.” You can ignore this message.



- Click **Close** to dismiss the warning message.

- To open the web browser, click **Applications** in the top menu bar, click **Internet**, and then click **Firefox**.



- In the address bar of the browser, type the domain name of your BaseManager server that you set up in Step 5 of this Configuration Guide, and then press **ENTER**. The login screen for the BaseManager interface displays. Refer to Setting Up the BaseManager Account on page 8.
- To exit the graphical environment, either press the **Ctrl, Alt,** and **Backspace** keys simultaneously, or reboot the server by pressing and holding the power button until the server turns off and then turning the server back on.

Accessing the System Setup Utility

You can use the System Setup Utility if you need to adjust any settings on your BACnet Manager and/or BaseManager server.

In a web browser on a computer within the same network, type the following URL in the address bar, and then press **ENTER**.

<https://hostname.domainname:10001> – replace “hostname.domainname” with the domain name that you set up in Step 2 of this Configuration Guide.

The System Setup Utility allows you to perform the following tasks:

- Adjust firewall settings
- Set customized network/routing rules
- Set the system's time zone