



*OpenServer 10*

# Getting Started Guide

January 2016 Release



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XINUOS OpenServer 10 – Getting Started Guide

Revision	Date	Description
01	1/2016	Initial release.

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# About This Guide

This guide is intended for administrators responsible for servers and storage systems.

## Typographical Conventions

This document follows these conventions:

Convention	Usage	Examples
Note:	Important additional information or further explanation of a topic.	<b>Note:</b> A weekly backup is recommended.
Warning!	The task or operation might have serious consequences if conducted incorrectly or without appropriate safeguards.	<b>Warning!</b> Do not change configuration parameters.
<b>Bold</b>	A command or system input that you type, or text or a button you select on a screen.	Click <b>HELP</b> for details on disaster recovery.
<i>Italic</i>	Italic font indicates any of the following: <ul style="list-style-type: none"> <li>A term with a specific meaning in the context of this document.</li> <li>Emphasis on specific information.</li> <li>Reference to another document.</li> <li>Variables in a syntax statement for which values are substituted.</li> </ul>	Detailed information on <i>disaster recovery</i> methods is available in the <i>Administrator Guide</i> .  <b>tar [zxf]file.tgz</b>
Courier	System output, file names or path names. Bold Courier for commands typed by user.	> Recovery in progress <b>tar cvf tarfile *.cc</b>
Angle <> Brackets	A required entry or parameter	installer-<version#>.run
Square [] Brackets	An optional entry or parameter.	<b>tar [zxf]file.tgz</b>
Curly {} Brackets	A list of choices separated by a vertical bar   from which one must be selected.	Click { <b>OK</b>   <b>Cancel</b> }.

## 1. Installation

Xinuos OpenServer 10 installation media are downloadable as a `.iso` file or as a memory stick image from the Xinuos website. For Amazon Machine Images (AMI) on AWS, contact Xinuos Sales.

OpenServer 10 provides two methods for system installation:

1. A user-friendly graphical installer
2. A command-line installer suitable for more advanced users

Insert the OpenServer 10 installation media and the initial screen is displayed:

The boot menu presented when booting from the OpenServer 10 DVD is different from the boot menu displayed on an installed system. The boot menu has an autoboot timeout of ten seconds. Press the "space" bar to pause that count down if desired.

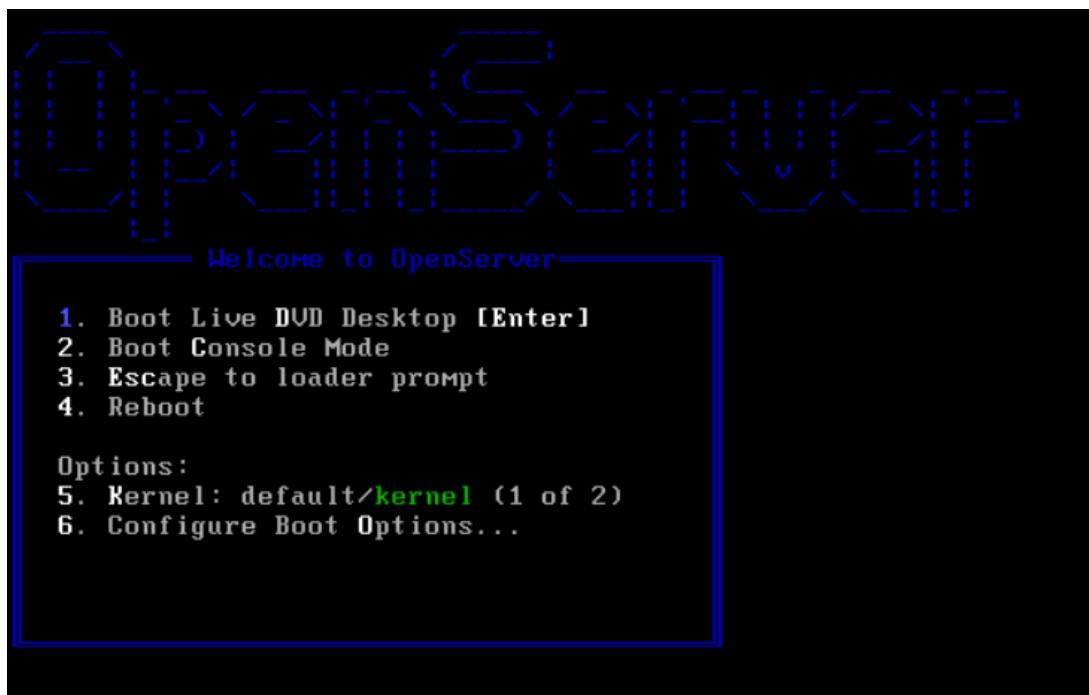


Figure 1: Boot Menu

### Options Menu:

1. *Boot Live DVD Desktop [Enter]* – Boots directly to multi-user mode and opens a desktop session. The Live DVD session can be used to explore some of features of OpenServer 10 or to install OpenServer 10 using a graphical installation tool.
2. *Boot Console Mode* – Boots to a modified (FreeBSD style) console mode installation process (`bsdinstall`). This option should be used when a working graphics display is unavailable.
  - Bhyve hypervisor currently does not support VGA virtual devices.

- Nvidia Optimus/Intel Haswell video configurations where one of the GPUs cannot be disabled in the BIOS.
  - A graphics card currently not handled by the current supported Xorg release.
  - Press 2 or the upper or lower case C to enter this mode.
3. *Escape to loader prompt* - Boots the system into a repair prompt that contains a limited number of low-level commands. Press 3 or Esc to boot into this prompt.
  4. *Reboot* - Reboots the system.
  5. *Kernel* - Allows choice of 1 of 2 kernels on the system. This option is not functional during a DVD boot.
  6. *Configure boot options ...* - Opens the boot options menu:

### Boot Options Menu:

Options can be toggled On or Off by pressing the option's highlighted number or character

- *ACPI Support* - If the system hangs during boot, try toggling this option to **Off**.
- *Safe Mode* - If the system still hangs during boot even with ACPI Support set to **Off**, try setting this option to **On**.
- *Single User* - Toggle this option to **On** to fix an existing installation. Once the problem is fixed, reset it to **Off**.
- *Verbose* - Toggle this option to **On** to see more detailed messages during the boot process. This can be useful when troubleshooting hardware.

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**NOTE:** 8 GB of RAM is recommended for OpenServer 10 to function properly.

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A minimum of 8 GB of RAM is recommended for optimal system performance. While it is possible to install or explore OpenServer 10 in a live DVD session with less than 8 GB, memory requirements of features and services enabled may impact overall system usability.

If less than 2 GB of RAM is detected, installation will halt. It is not possible to install OpenServer 10 in less than 2 GB of RAM.

### Live Session Desktop

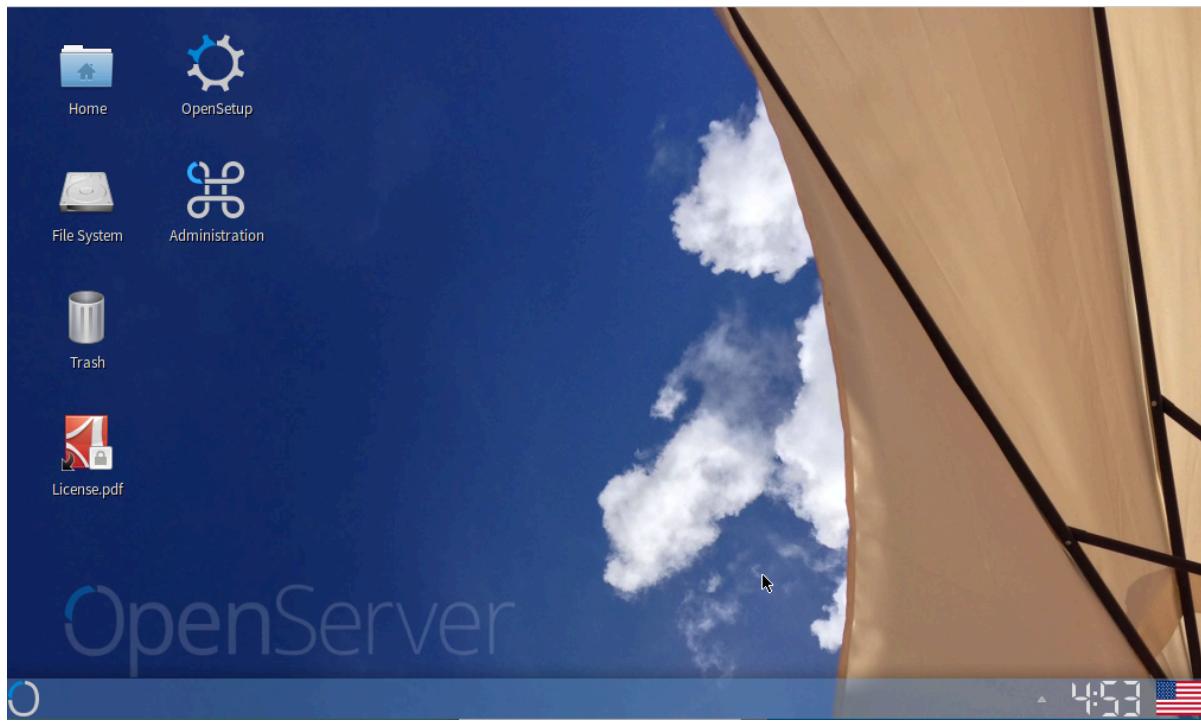
If you have selected or defaulted to the "Live DVD Desktop" (boot option #1) or entered "Live DVD" session from a screen in the Console Mode (boot option #2), the OpenServer 10 desktop will be displayed.

Use this desktop to explore some of the features available on OpenServer 10.

Test drive the desktop features:

- Use the keyboard icon (flag icon at the lower right corner of the desktop) to immediately change the desktop keyboard from the default English (U.S.) setting to Dutch, French or German.

- The desktop menu located at the lower left corner of the desktop can be used to alter desktop display size, appearance and backgrounds.



**Figure 2: Live Session Desktop**

Double-click the **OpenSetup** desktop icon to launch the OpenSetup installer.

## 1.1. OpenSetup Installer

The screens of the OpenSetup Installer share the following characteristics:

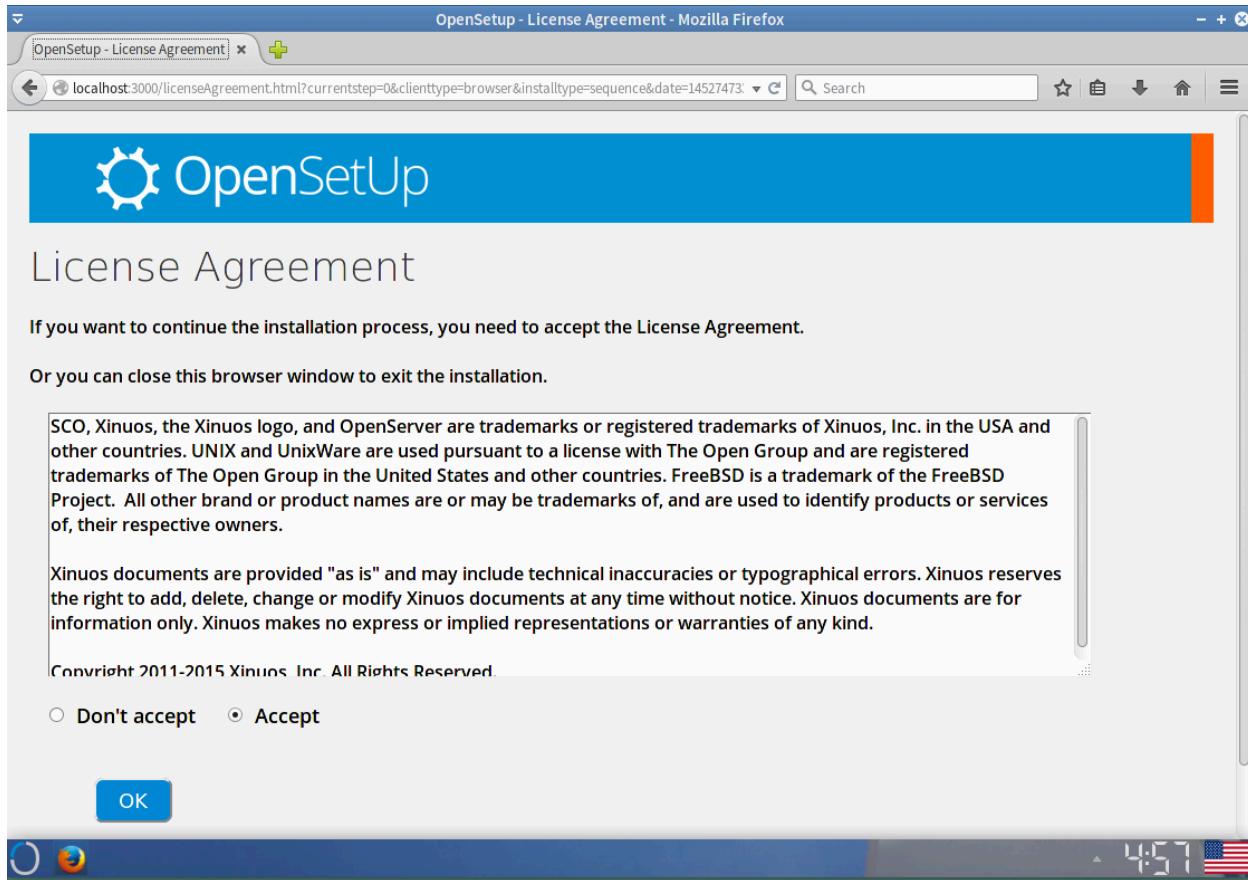
- Tooltips are available for all but the most obvious buttons.
- Buttons and selectable items can be selected/activated by mouse click, or if the button label contains an underlined letter, enter Alt <letter>.
- Scrolling through lists can be accomplished by either the mouse or the up / down arrows.
- Double clicking a list item is supported where only a single item is selectable. In an alphabetical list where only a single item is selectable, entering a letter will position the cursor at the first item beginning with that letter.
- When entering an Ipv4 address or netmask, use a period ( . ) to indicate the end of an address segment and the beginning of the next address segment.
- The **Cancel** button aborts the installation, and offers a choice of restarting the installation, exiting the installation and returning to the desktop, rebooting the system, or powering the system off.
- If a screen appears too large to fit on the screen, pull down the window menu (upper left corner) and select the **Resize** menu item. Resize the window to fit completely on your desktop screen.
- Currently, the **Help** screens are place holders for content in development.

To begin an installation, click on the **OpenSetup** icon on the desktop. There may be slight delay as additional needed runtimes are loaded from the installation media. OpenSetup launches the default web browser, Mozilla Firefox.

Work your way through the OpenSetup screens to install the software. Use the **Back** button when available on the panel to move back to a previous step. Move forward with the **OK** or **Next** button. Before OpenSetup reboots to the configured system, you will have an opportunity to review and edit all configuration settings.

The first screen will be the License panel. Read the license, click the **Accept** radio button, and click **OK** to proceed.

## Accept License



After accepting the license, OpenSetup proceeds to the Keymap Selection panel.

## Keymap Selection

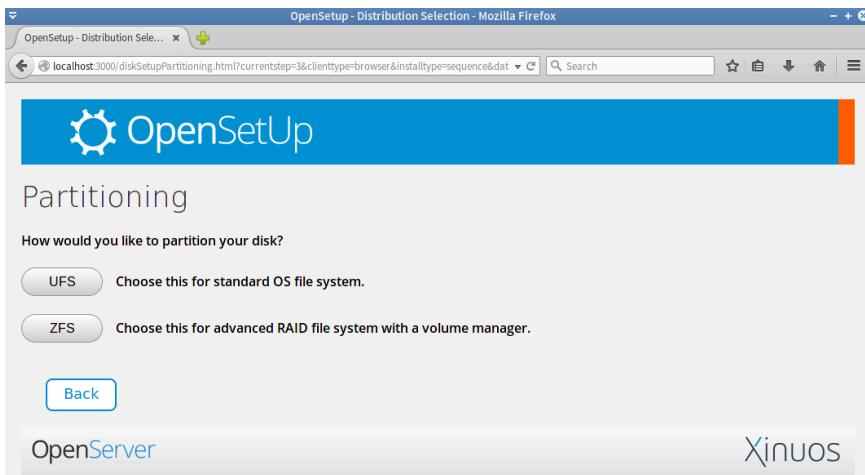
Set the console keymap for the installed system. Select the keymap from the pulldown menu that most closely represents the mapping of the keyboard attached to the system. The US keymap is the default.

Highlight another keymap if a different keymap is desired/needed. Click **OK** to save the selection and proceed to the next panel, Set Hostname.

## Set Hostname

Enter a fully-qualified hostname that is unique to the network. Click **OK** to save the selection and proceed to the next panel, Disk Partitioning

## Disk Partitioning



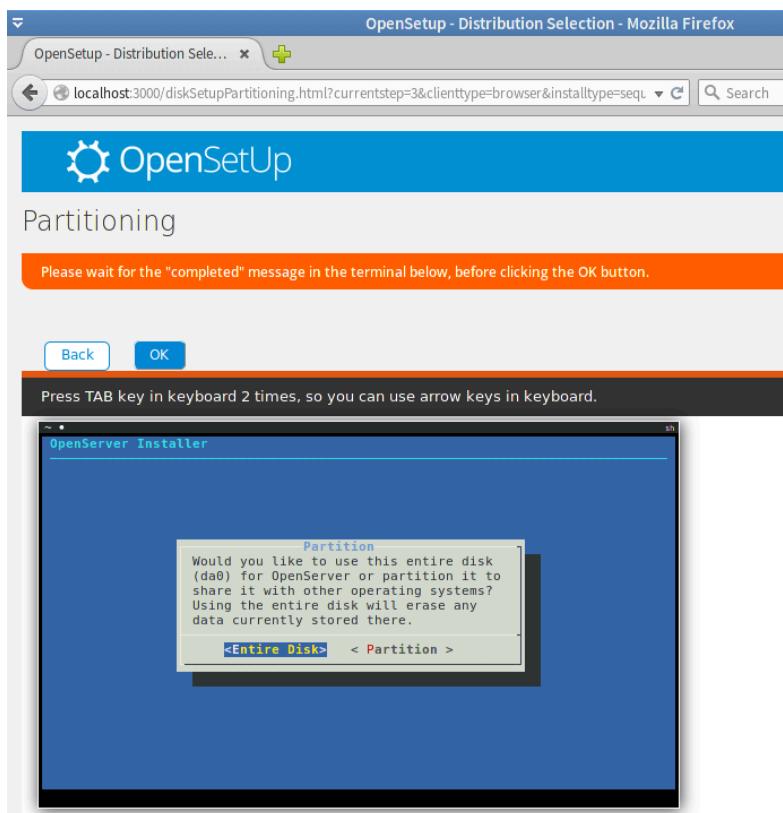
Select the type of partitioning to be used to configure the disks on the system:

- *UFS* partitioning should be used for creating a standard OS file system.
- *ZFS* partitioning creates an optionally encrypted root-on-ZFS system with support for boot environments.

## Disk Setup for UFS

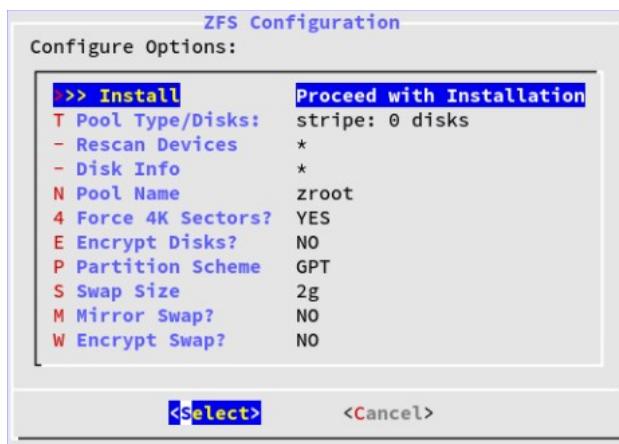
The partitioning panel presents an embedded Xterm sub-panel. To activate the Xterm, first press two **TAB** characters on your keyboard. Now the arrow and **Enter** keys on your keyboard will be active. Follow the pop-ups in the Xterm sub-panel to either assign the whole disk to OpenServer 10, or to custom partition the disk.

Wait for the “Completed” message in the sub-panel before clicking the **OK** button to proceed to the next step.

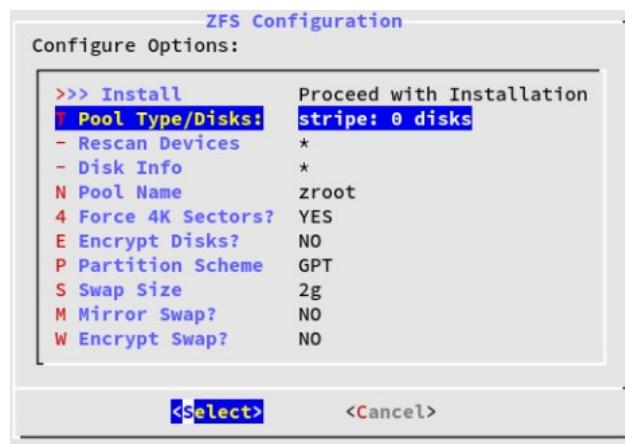


## Disk Setup for ZFS

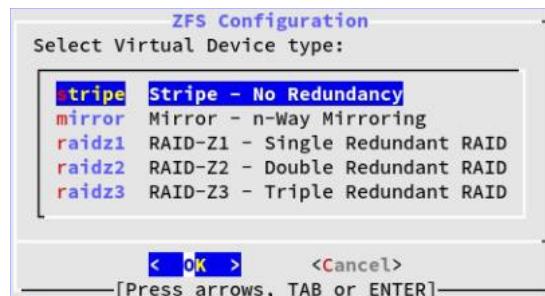
Similarly, to setup the disk for ZFS, follow the pop-ups in the Xterm sub-panel. The main ZFS configuration menu offers a number of options to control the creation of the ZFS pool. Here is an example of a typical configuration.



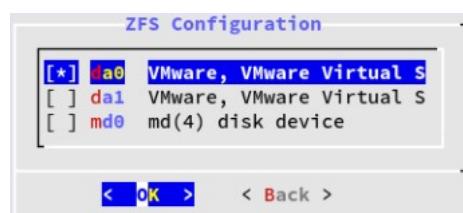
Select **Pool Type/Disks** for the ZFS root. Press **enter** or type **T**.



Five pool types are available:

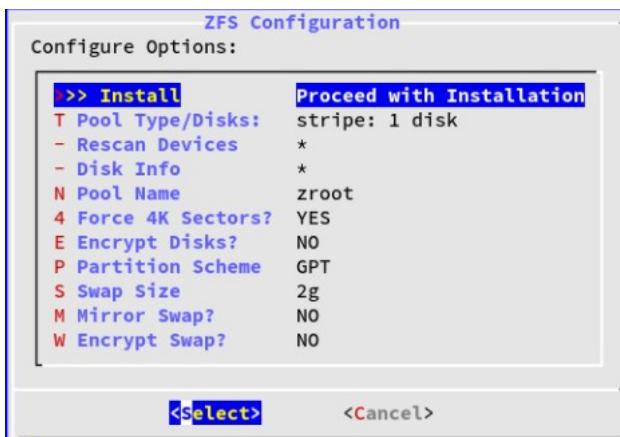


Once a Pool Type has been selected, a list of available disks is displayed, and the user is prompted to select one or more disks to make up the pool. In this example, three disks are displayed: two virtual SCSI disks (**da0** and **da1**) and the memory disk device (**md0**), which is the container of the mounted */usr* filesystem.



Select the disks to be used. Press **ENTER**.

Next, choose the type of ZFS virtual device and disks to use:



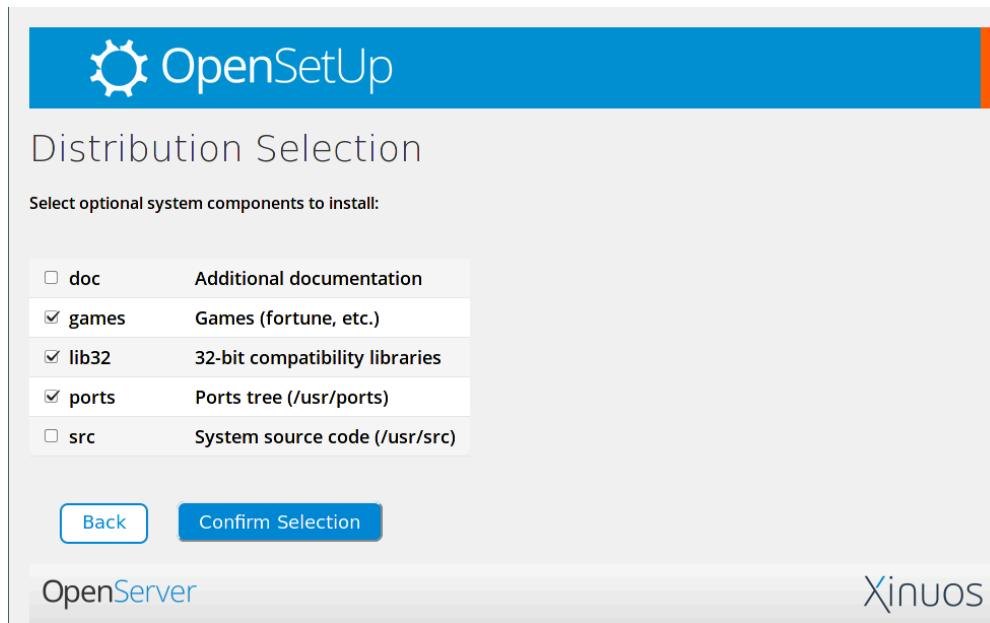
Position the cursor at **Install** and click **Enter**. The installer then offers a last chance to cancel before the contents of the selected drives are destroyed to create the ZFS pool.

Select **YES** and click **Enter** to confirm the selected disks.

After the root filesystem partitions have been defined, the two mandatory components, base and kernel, and the selected optional components are installed on the new root filesystem.

The checksums of the distribution files are verified, and the verified distribution files are extracted to the disk.

## Select Optional Components



The base and kernel bundles are mandatory and are installed by default. Select the optional components to be installed.

The following optional components are available:

- *doc* - Additional documentation, mostly of historical interest, to install into /usr/share/doc. The documentation provided by the FreeBSD Documentation Project may be installed later.
- *games* - Several traditional BSD games, including fortune, rot13, and others.
- *lib32* - Compatibility libraries for running 32-bit applications on a 64-bit version of FreeBSD.
- *ports* - The FreeBSD Ports Collection is a collection of files which automates the downloading, compiling and installation of third-party software packages.
- *src* - The complete FreeBSD source code for both the kernel and the userland. Although not required for the majority of applications, it may be required to build device drivers, kernel modules, or some applications from the Ports Collection. It is also used for developing FreeBSD itself. The full source tree requires 1 GB of disk space and recompiling the entire FreeBSD system requires an additional 5 GB of space.

Click **Confirm Selection** to finalize the selection and proceed to the next step, Setting the Root Password.

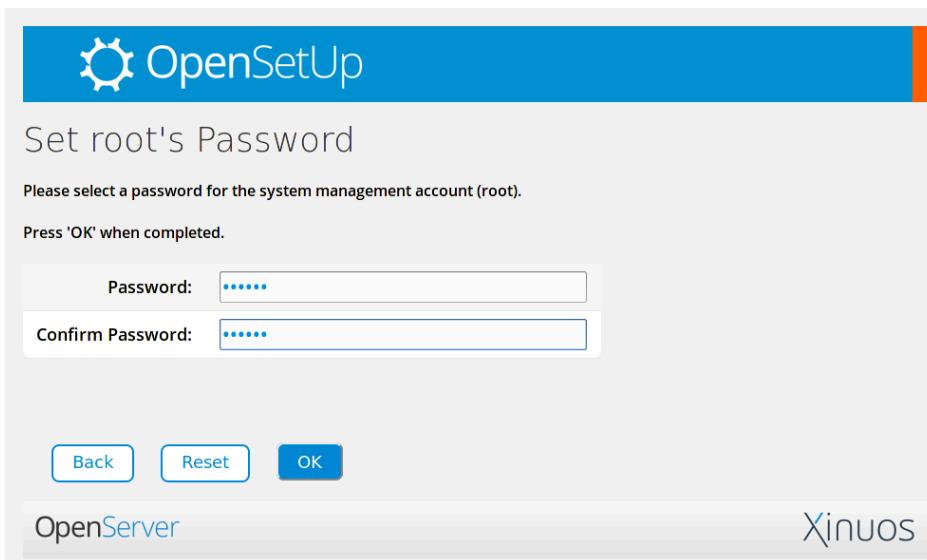
## Setting the Root Password

While entering the password, the characters being typed are not displayed on the screen. After the password has been entered, it must be entered again. This helps prevent typing errors.

---

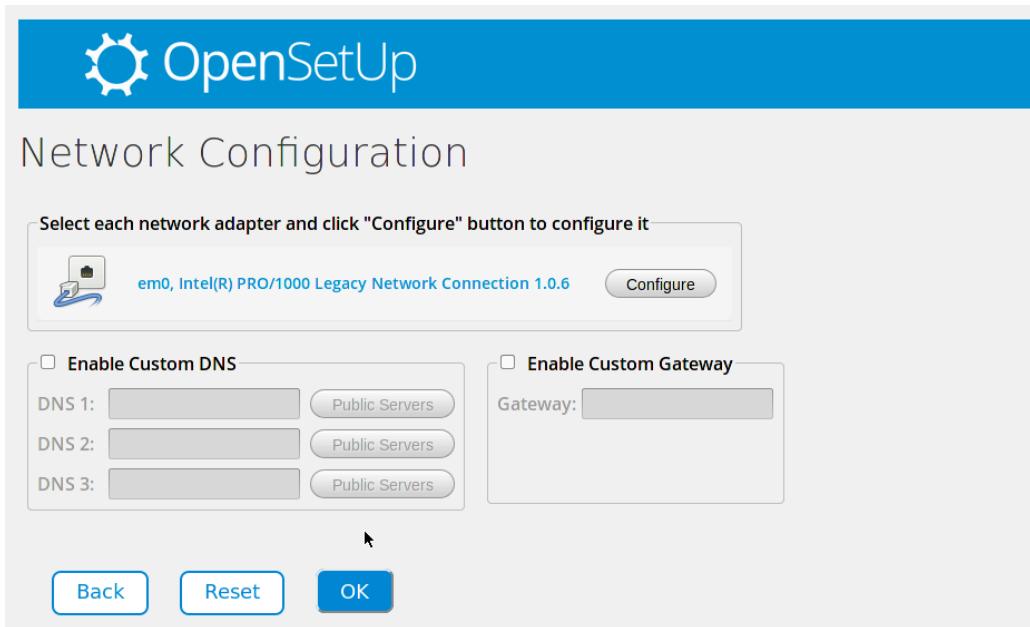
**Note:** use **Reset** to erase both password fields to start again.

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## Network Configuration

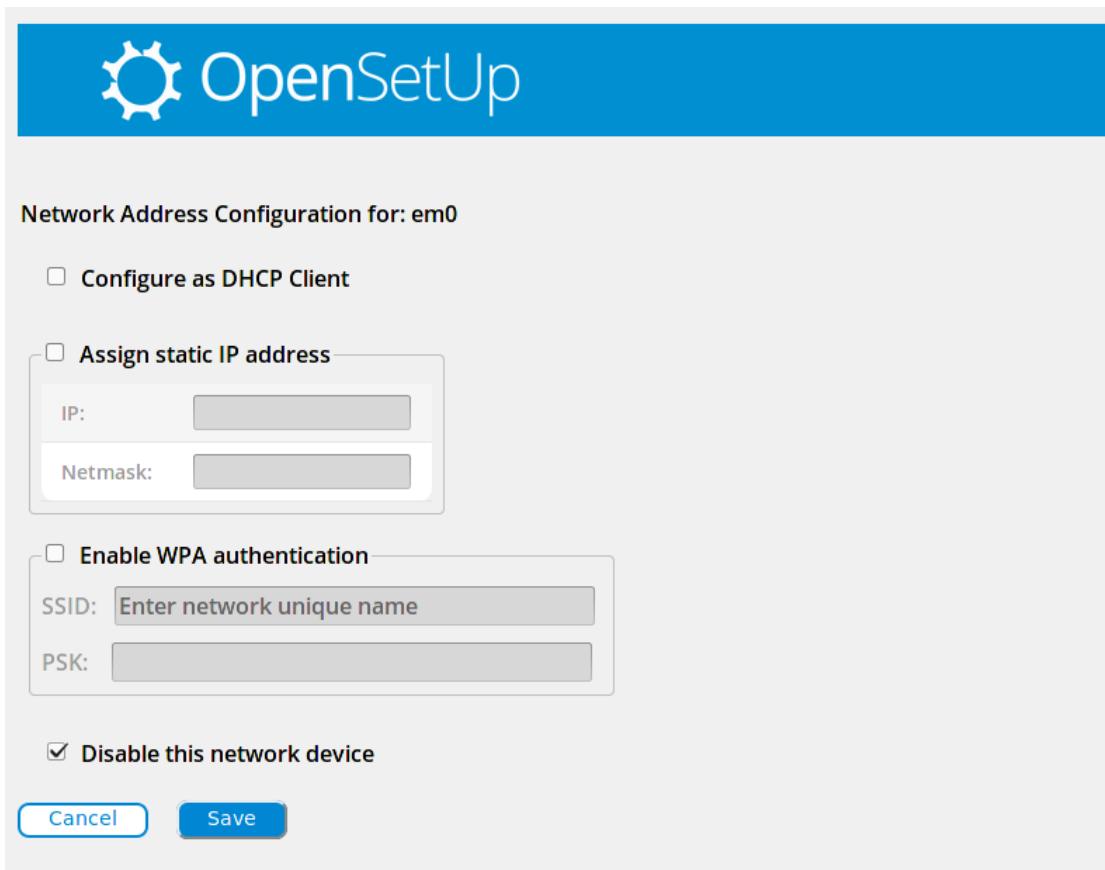
The available hard-wired network devices are listed in the top section of the screen. Multiple devices can be configured at this time.




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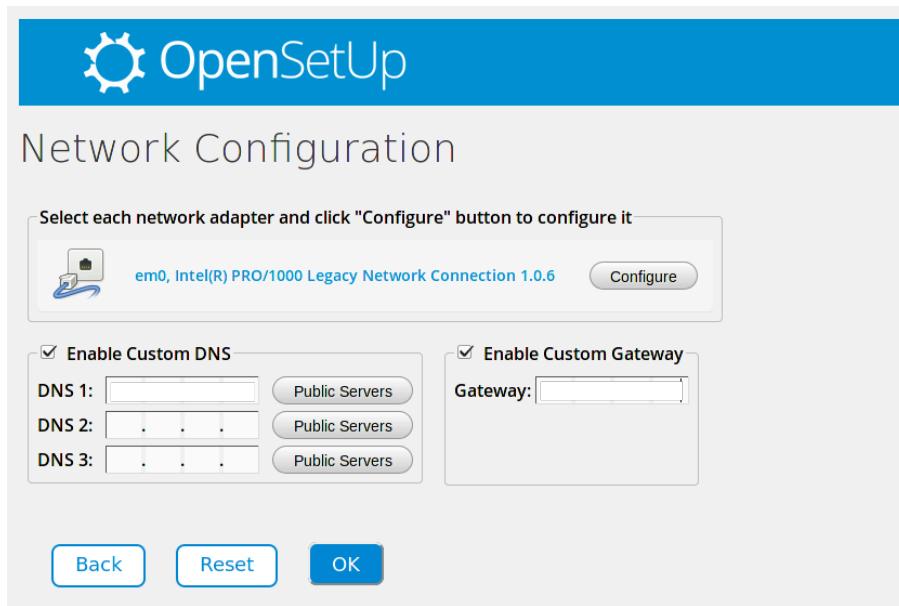
**Note:** If you booted with option 2 (Console Mode) then chose to start a Live DVD session, you were offered a chance to configure a network device before the desktop was displayed. That pre-configured device is shown with a "connected - plugged in" icon. Unconfigured devices are displayed with a question mark icon. Pre-configured network devices that have been disabled are displayed with an "unplugged" icon.

To configure or reconfigure a NIC, select the device and click the **Configure** button to open a configuration screen for that device:



- Select one of the 3 configuration options - DHCP, static IP or disable the device. Disabling a device essentially clears any previous configuration for this device
- If selecting "Static IP", enter a valid IP address and netmask.
- Click **Save** to save the device configuration and exit the NIC device configuration screen

If you are configuring the system with only a static IP, configure a "Custom Gateway" and a "Custom DNS". Selecting the "Enable" checkbox will allow you to configure information in that section.



#### Custom (default) Gateway:

- Enter the IP address of the default gateway to be used.

#### Custom DNS:

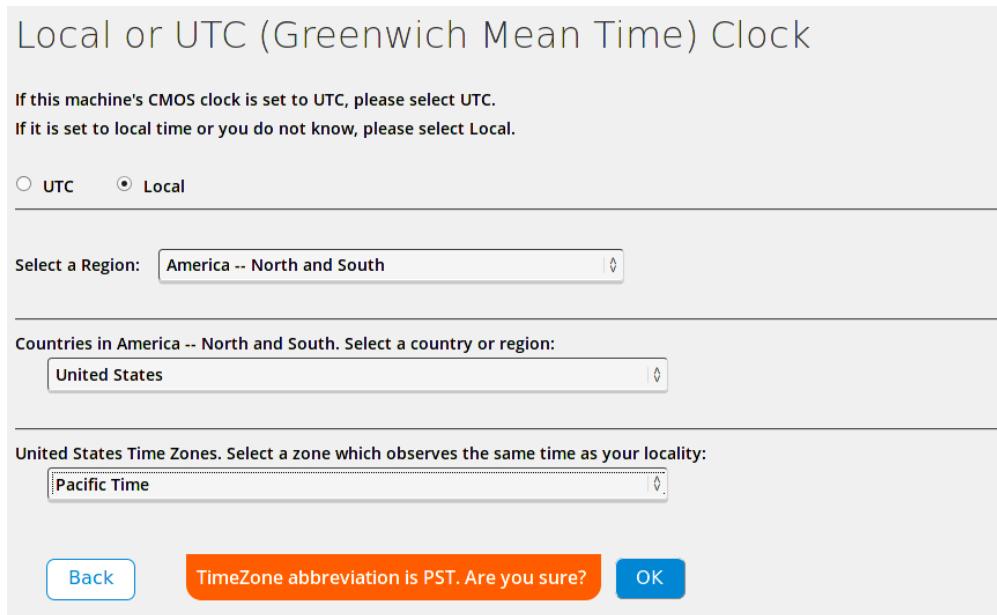
- Enter up to three DNS IP addresses. Use the **Public Server** pull down menu button to select one of several available public Domain Servers, if desired.
- Enter a list of search domains as needed.

Click **OK** to save the configuration settings.

## Local or UTC CMOS Clock

The next panel asks if the system clock uses UTC or local time. When in doubt, select **Local** to choose local time.

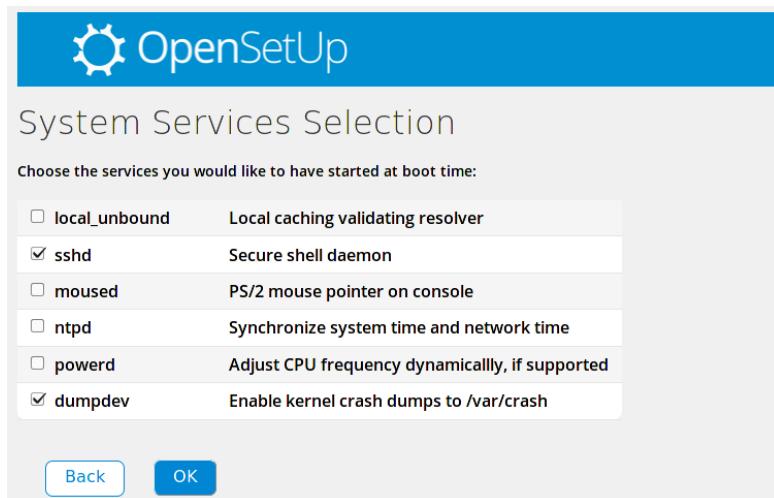
Then select the Region, Country, and Time Zone from the pull-down menus. If the abbreviation for the time zone is correct, click **OK** to move to the next step.



## System Services

Configure system services to be started whenever the system boots. All of these services are optional. Only start the services that are needed for the system to function.

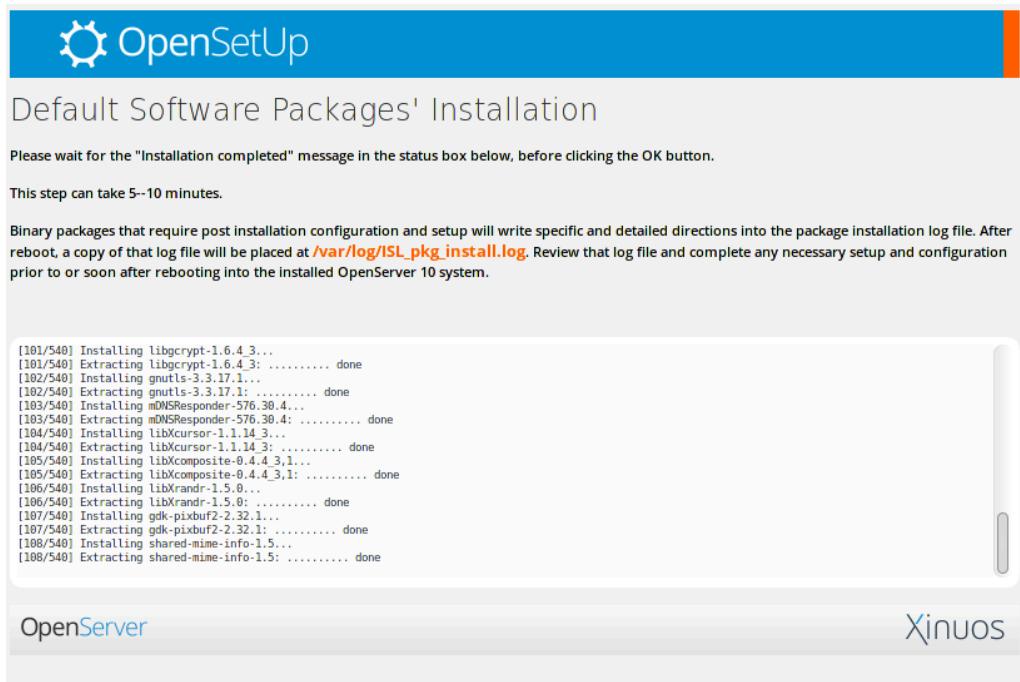
**Note:** *local\_unbound* is the unbound startup script for the local caching resolvers. *unbound(8)*, which is maintained by NLnet Labs, has been imported to support local DNS resolution functionality with DNSSEC. Note that it is not a replacement of BIND and the latest versions of BIND is still available in the Ports Collection. Note that selecting *local\_unbound* may invalidate any DNS configuration specified on the network screens.



Click **OK** to proceed to the next step.

## Software Install

Click **OK** to start installing the default software packages. Progress messages appear in the terminal display sub-panel. This step can take some time.



## Add User Accounts

Next you are offered the opportunity to create user accounts on the installed system. Create at least one account, which may have its own unique login group but is also a member of the "wheel" group. The "wheel" group is the primary/login group of the administrator (root) account and a user must be a member of the "wheel" group to use the **su** or **sudo** command to become the root user for administrative tasks.



You may also install other users at this time or use the administration tools to add users after rebooting the system.

This step will use an Xterm sub-panel to run the **adduser** command. Enter content directly into the sub-panel at the prompts.

A screenshot of an Xterm window titled "Adding User Accounts". The window contains the following text, which is the output of the "adduser" command:

```
Uid (Leave empty for default):  
Login group [admuser]:  
Login group is admuser. Invite admuser into other groups? []: wheel  
Login class [default]:  
Shell (sh csh tcsh bash rbash nologin) [sh]:  
Home directory [/home/admuser]:  
Home directory permissions (Leave empty for default):  
Use password-based authentication? [yes]:  
Use an empty password? (yes/no) [no]:  
Use a random password? (yes/no) [no]:  
Enter password:  
Enter password again:  
Lock out the account after creation? [no]:  
Username : admuser  
Password : *****  
Full Name : Admin #1  
Uid : 1001  
Class :  
Groups : admuser wheel  
Home : /home/admuser  
Home Mode :  
Shell : /bin/sh  
Locked : no  
OK? (yes/no): █
```

The window has standard Xterm window controls (minimize, maximize, close) at the top right.

Enter the following information:

- *Username* - The name the user will enter to log in. The username is case sensitive and should not contain any spaces.

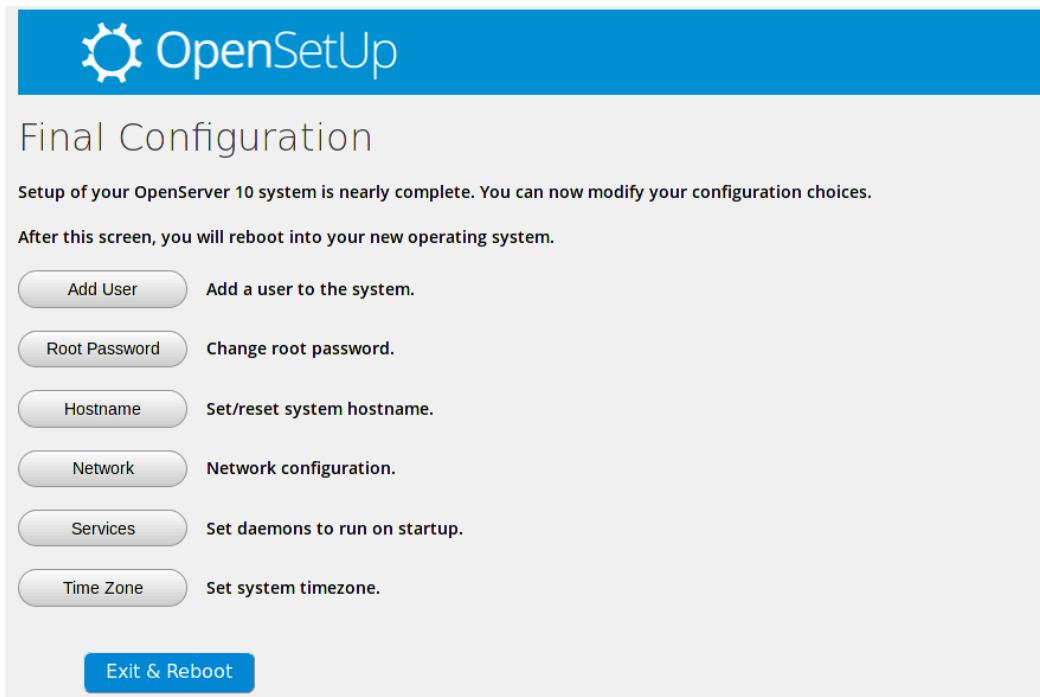
- *Full name* - The user's full name. This can contain spaces and is used as a description for the user account.
- *Uid* - User ID. Typically, this is left blank so the system will assign a value.
- *Login group* - The user's group. Typically this is left blank to accept the default.
- *Invite user into other groups?* - Additional groups to which the user will be added as a member. If the user needs administrative access, type **wheel** here.
- *Login class* - Typically left blank for the default.
- *Home directory* - The user's home directory. The default is usually correct.
- *Home directory permissions* - Permissions on the user's home directory. The default is usually correct.
- *Use password-based authentication?* - Typically **yes** so that the user is prompted to input their password at login.
- *Use an empty password?* - Typically **no** as it is insecure to have a blank password.
- *Use a random password?* - Typically **no** so that the administrator can set the password in the next prompt.
- *Enter password* - The password for this user. Characters typed will not show on the screen.
- *Enter password again* - The password must be typed again for verification.
- *Lock out the account after creation?* - Typically **no** so that the user can log in.

After everything is entered, a summary is shown for review. If a mistake was made, enter **no** and try again.

If everything is correct, enter **yes** to create the new user.

## Final Configuration

After everything has been installed and configured, you have a final opportunity to review and modify settings.

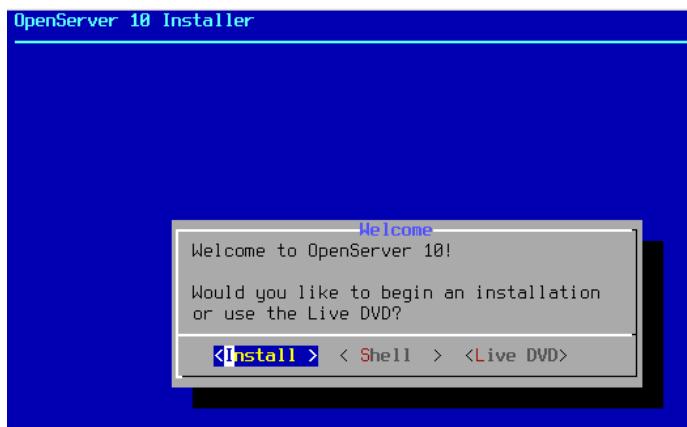


Use this menu to make any changes or do any additional configuration before completing the installation. Click **Exit & Reboot** to reboot into the installed system.

**Do not forget to remove the OpenServer 10 install media or the system may boot from it again.**

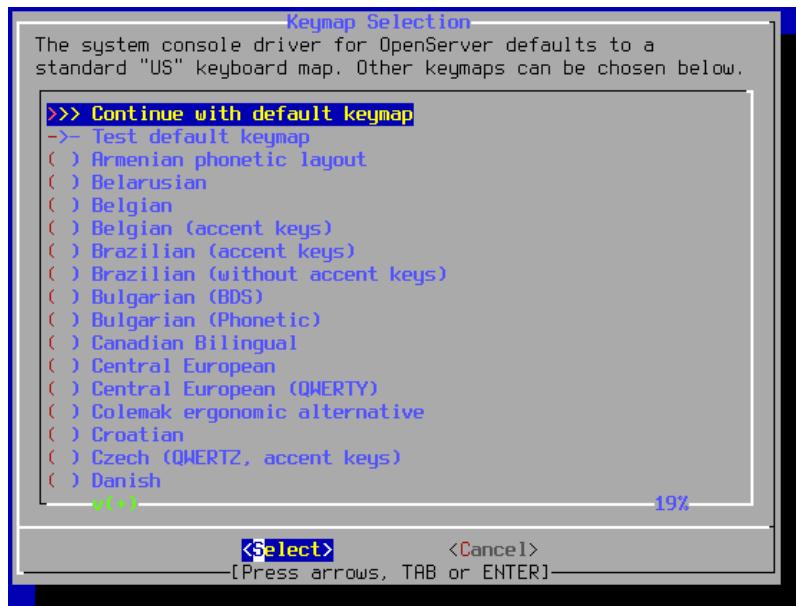
## 1.2. Console Mode (Command Line) Installation

If option 2, *Console Mode*, was selected at boot, the system will reboot from the installation media and display the welcome screen:



Press **Enter** to begin system installation. Use the right or left arrow keys or type the highlighted letter to select another option. **Shell** runs a FreeBSD shell, **Live DVD** proceeds to Network Configuration, then to a graphical desktop.

## Selecting a Keyboard Map



When configuring the keyboard layout, use the up and down arrows to select the keymap that most closely represents the mapping of the keyboard attached to the system. Press **Enter** to save the selection. The default is preselected. When selecting a different keymap, a dialog is displayed that allows the user to try the keymap and ensure it is correct before proceeding.

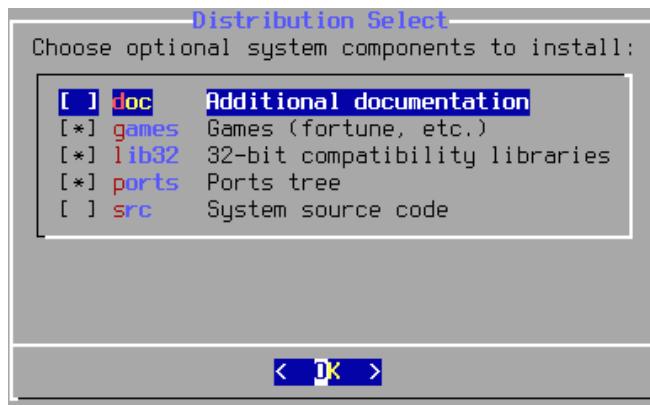
## Setting the Hostname



Type in a fully-qualified hostname that is unique for the network.

## Distribution Selection

Choice of components to install depends on the intended use of the system and the amount of disk space available. The FreeBSD kernel and “userland” collectively known as the *base system*, are always installed.



**doc** - Additional documentation, mostly of historical interest, to install into `/usr/share/doc`. The documentation provided by the FreeBSD Documentation Project may be installed later.

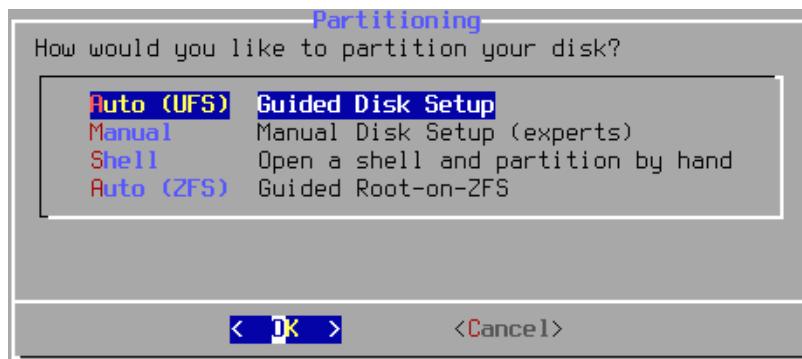
**games** - Several traditional BSD games, including fortune, rot13, and others.

**lib32** - Compatibility libraries for running 32-bit applications on a 64-bit version of FreeBSD.

**ports** - The FreeBSD Ports Collection is a collection of files which automates the downloading, compiling and installation of third-party software packages.

**src** - The complete FreeBSD source code for both the kernel and the userland. Although not required for the majority of applications, it may be required to build device drivers, kernel modules, or some applications from the Ports Collection. It is also used for developing FreeBSD itself. The full source tree requires 1 GB of disk space and recompiling the entire FreeBSD system requires an additional 5 GB.

## Disk Setup



**Guided** partitioning automatically sets up the disk partitions, **Manual** partitioning allows advanced users to create customized partitions from menu options, and **Shell** opens a shell prompt where advanced users can create customized partitions using command-line utilities like *gpart(8)*, *fdisk(8)*, and *bslabel(8)*.

ZFS partitioning, only available in FreeBSD 10 and later, creates an optionally encrypted root-on-ZFS system with support for boot environments.

Select the desired partitioning scheme to proceed.

## Guided Partitioning

If this method is selected, a menu displays the available disks. If multiple disks are connected, select the one where OpenServer 10 is to be installed.

Select whether to install to the entire disk, or to create a partition using free space:

Select **Entire Disk** to create a general partition layout using the entire selected disk.

Select **Partition** to create a partition layout from unused space on the disk.

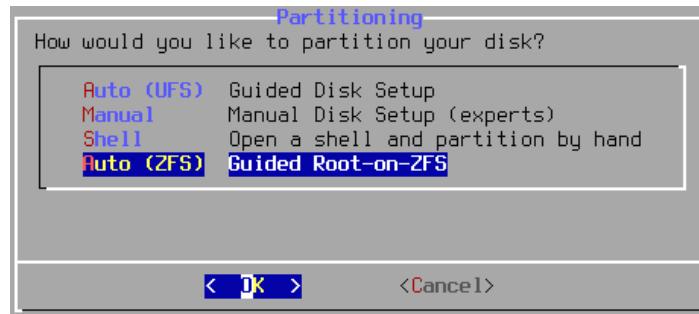
ATA devices are named `ada*` and SCSI devices are named `da*`. In this case we have a SATA disk (`ada0`) and a memory disk device (`md0`), which is actually the container of the mounted `/usr` filesystem.

Review the partition layout to ensure that it meets the needs of the installation.

If correct, select **Finish**.

Select **Commit** to confirm the changes.

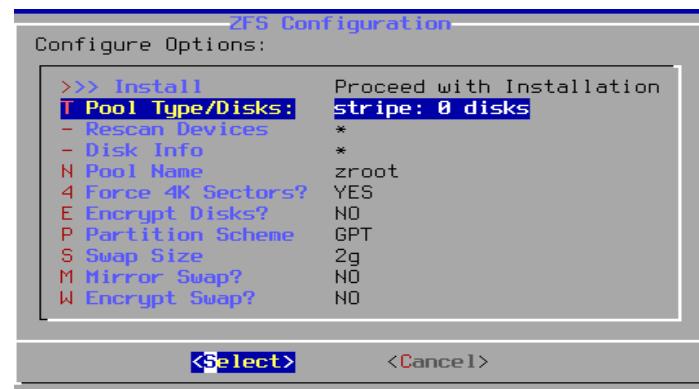
## Disk Setup Using ZFS



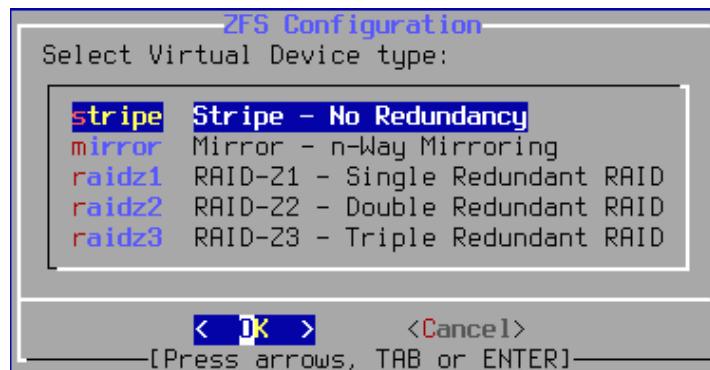
The main ZFS configuration menu offers a number of options to control the creation of the ZFS pool.



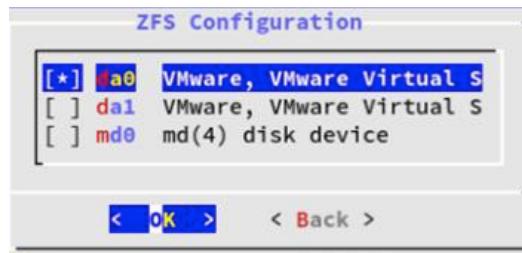
Select Pool Type/Disks for the ZFS root. Press **Enter** or type T.



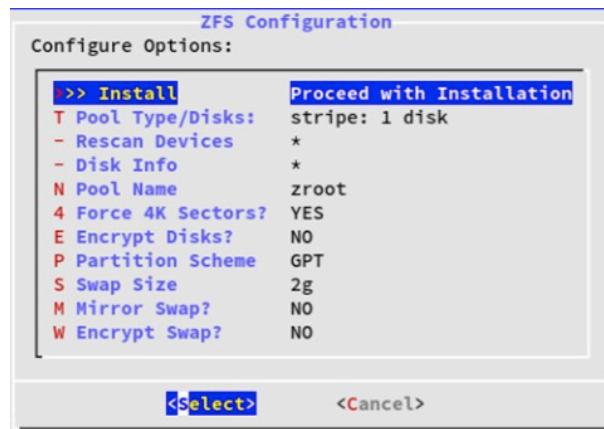
5 pool types are available:



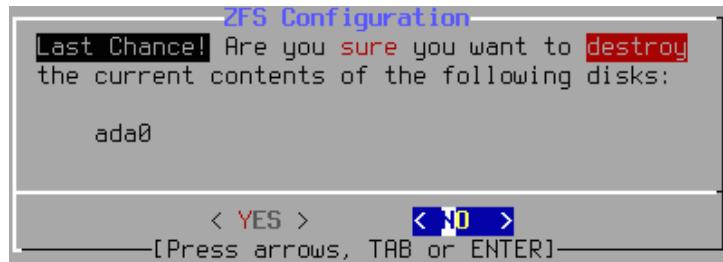
Once a Pool Type has been selected, a list of available disks is displayed, and the user is prompted to select one or more disks to make up the pool. In this example, three disks are displayed: two virtual SCSI disks (**da0** and **da1**) and the memory disk device (**md0**), which is the container of the mounted */usr* filesystem.



Select the disks to be used. Press **ENTER**.



Position the cursor at **Install** and press **Enter**. The installer then offers a last chance to cancel before the contents of the selected drives are destroyed to create the ZFS pool.



Select **YES** and press **Enter** to confirm the selected disks.

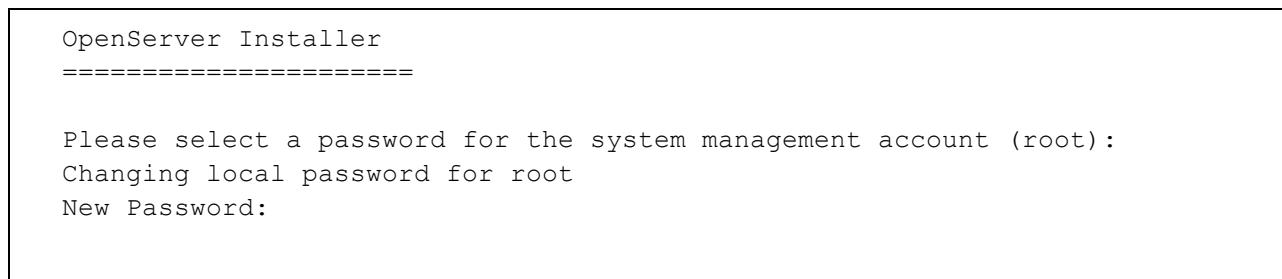
After the root filesystem partitions have been defined, the two mandatory components, base and kernel, and the selected optional components are installed on the new root filesystem.

## After Partitioning

The checksums of the distribution files are verified and the verified distribution files are extracted to the disk.

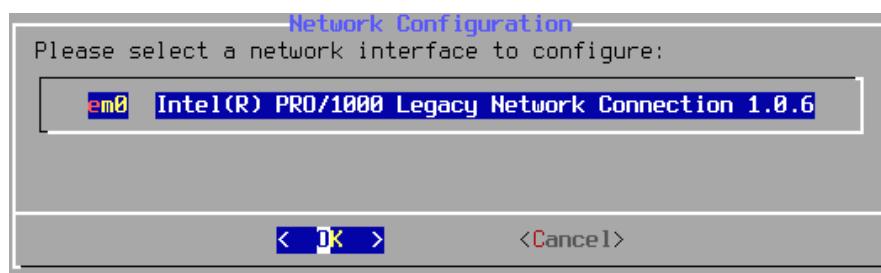
## Setting the root Password

While entering the password, the characters being typed are not displayed on the screen. After the password has been entered, it must be entered for verification.



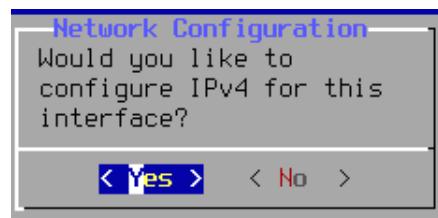
## Configuring the Network Interface

Next, a list of network interfaces detected on the system is displayed:



If multiple interfaces are listed, select one to be configured.

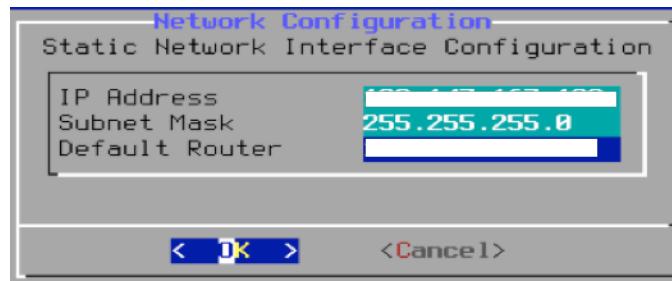
Choose whether or not an IPv4 address should be configured for this interface:



There are two methods of IPv4 configuration. DHCP will automatically configure the network interface correctly and should be used if the network provides a DHCP server. Otherwise, the addressing information needs to be input manually as a static configuration.

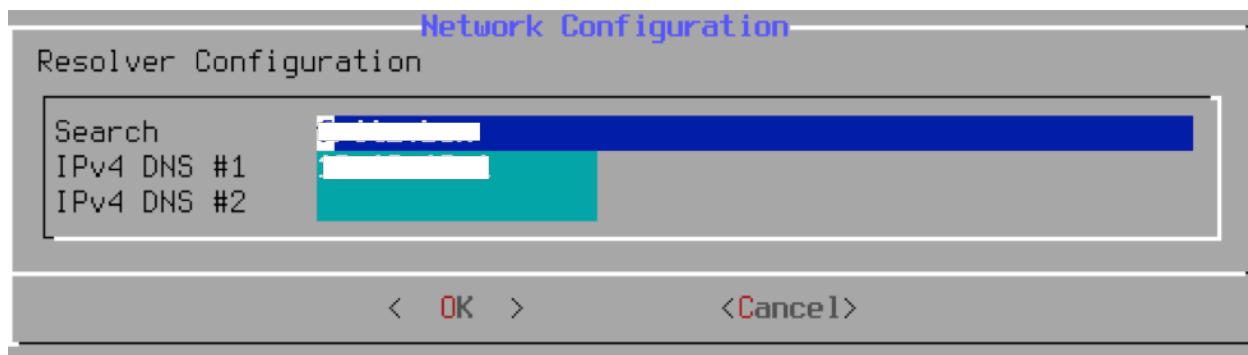
If a DHCP server is available, select **Yes** in the next menu to automatically configure the network interface. The installer will appear to pause while it finds the DHCP server and obtains the addressing information for the system.

If you wish to use a static IP address, enter that address along with the netmask and default router address:



The next screen will ask if the interface should be configured for IPv6. If IPv6 is available and desired, choose **YES** to select it.

The last network configuration menu configures the Domain Name System (DNS) resolver, which converts hostnames to and from network addresses. If DHCP was used to autoconfigure the network interface, the Resolver Configuration values may already be filled in. Otherwise, enter the local network's domain name in the **Search** field. DNS #1 and DNS #2 are the IPv4 and/or IPv6 addresses of the DNS servers. At least one DNS server is required



## Setting the Time Zone

The next menu asks if the system clock uses UTC or local time. When in doubt, select **No** to choose the more commonly-used local time.

The next series of menus are determine the correct local time by selecting the geographic region, country, and time zone. Setting the time zone allows the system to automatically correct for regional time changes, such as daylight savings time, and perform other time zone related functions properly.

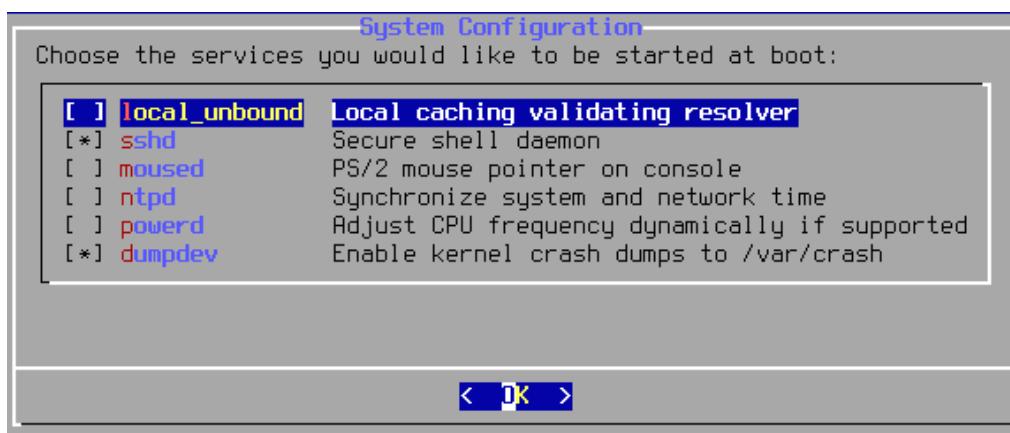
Selections will vary according to the geographical location.

You will be asked to confirm that the timezone abbreviation is correct. If it is, press **Enter** to continue with the post-installation configuration.

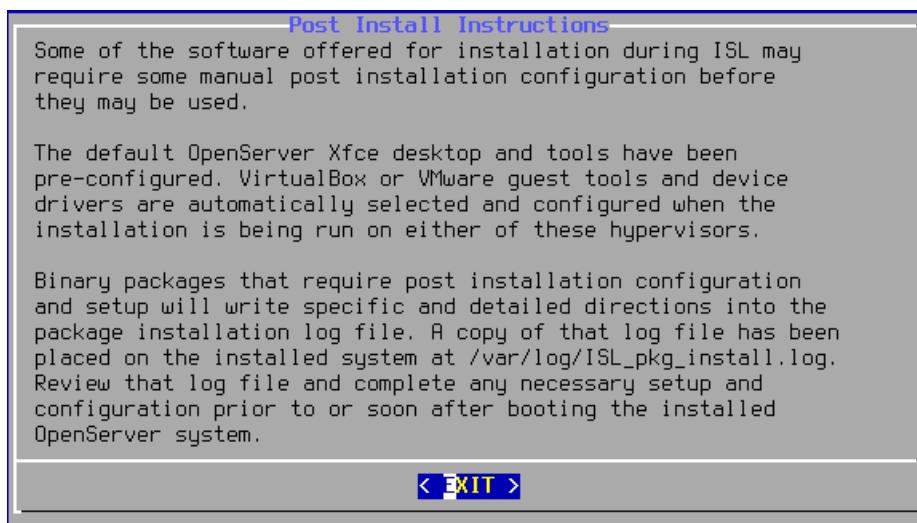
## Enabling Services

Configure system services to be started when the system boots. All of these services are optional. Specify only the services that are needed for the system to function.

**Note:** *local\_unbound* is the unbound startup script for the local caching resolvers. *unbound(8)*, which is maintained by NLnet Labs, has been imported to support local DNS resolution functionality with DNSSEC. Note that it is not a replacement of BIND and the latest versions of BIND are still available in the Ports Collection. Note that selecting *local\_unbound* may invalidate any DNS configuration specified on the network screens.



Press "OK" to complete the system configuration and begin package installation. The package installation log will be displayed in a separate *xterm* window. The list of software selected for installation as well as the package installation log (displayed in the *xterm* window) will become a part of the */var/log/bsdinstall\_log* and the */var/log/ISL\_pkg\_install.log* files placed on the installed system root disk.



## Add User Accounts

Next you are offered the opportunity to create user accounts on the installed system.

Create at least one account that may have its own unique login group but is also a member of the "wheel" group. The "wheel" group is the primary/login group of the administrator (root) account and a user must be a member of the "wheel" group to use the **su** or **sudo** commands to become the root user for administrative tasks.

Follow the prompts and input the requested information for the user account.

```
OpenServer Installer
=====
Add Users

Username: user1
Full name: A User
Uid (Leave empty for default):
Login group [user1]: wheel
Login group is wheel. Invite user1 into other groups? []:
Login class [default]:
Shell (sh csh tcsh nologin) [sh]: tcsh
Home directory [/home/user1]:
Home directory permissions (Leave empty for default):
Use password-based authentication? [yes]:
Use an empty password? (yes/no) [no]:
Use a random password? (yes/no) [no]:
Enter password:
Enter password again:
Lock out the account after creation? [no]:
Username : user1
Password : *****
Full Name : A User
Uid : 1001
Class :
Groups : wheel
Home : /home/user1
Home Mode :
Shell : /bin/tcsh
Locked : no
OK? (yes/no): █
```

Enter the following information:

**Username** - The name the user will enter to log in. The username is case sensitive and should not contain any spaces.

**Full name** - The user's full name. This can contain spaces and is used as a description for the user account.

**Uid** - User ID. Typically, this is left blank. The system will assign a value.

**Login group** - The user's group. Typically this is left blank to accept the default.

**Invite user into other groups?** - Additional groups to which the user will be added as a member. If the user needs administrative access, type `wheel` here.

**Login class** - Typically left blank for the default.

**Home directory** - The user's home directory. The default is usually correct.

**Home directory permissions** - Permissions for the user's home directory. The default is usually correct.

**Use password-based authentication?** - Typically **yes** so that the user is prompted to input their password at login.

Use an empty password? - Typically **no** as it is not secure to have a blank password.

Use a random password? - Typically **no** so the administrator can set the password at the next prompt.

Enter password - The password for this user. Characters typed will not show on the screen.

Enter password again - The password must be typed again for verification.

Lock out the account after creation? - Typically **no** so that the user can login.

After entering everything, a summary is shown for review. If a mistake was made, enter **no** and try again. If everything is correct, enter **yes** to create the new user.

## Final Configuration

After everything has been installed and configured, you have a final chance to modify settings.



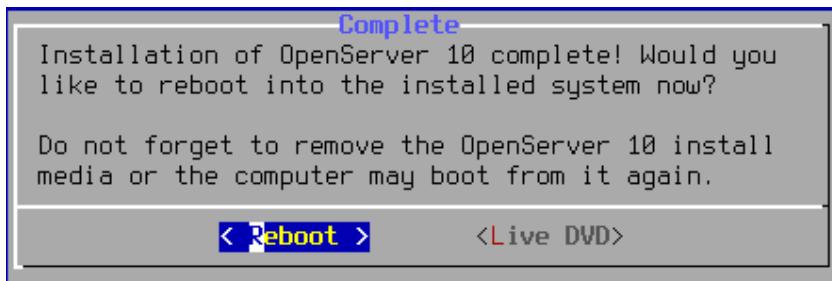
Use this menu to make any changes or do any additional configuration before completing the installation.

After any final configuration is complete, select **OK**.

## Manual Configuration

The installer will prompt if there are any additional configuration steps that needs to be done before rebooting into the new system. Select [Yes] to exit to a shell within the new system or [No] to proceed to the last step of the installation.

## Complete the Installation



If further configuration or special setup is needed, select **Live DVD** to boot the install media into Live DVD mode.

If the installation is complete, select **Reboot** to reboot and start the new OpenServer 10 system.

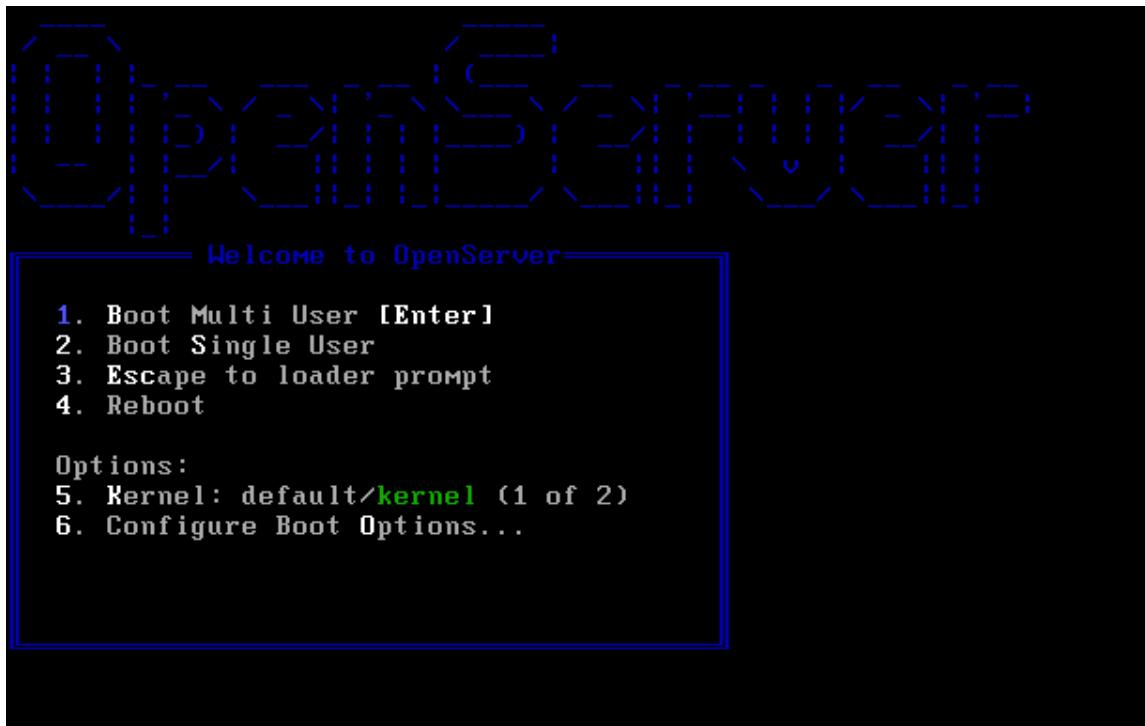
---

*Do not forget to remove the OpenServer 10 install media or the system may boot from it again.*

## 2. Administration of the Installed System

Boot the installed system in Multi User mode (default).

The boot menu has an autoboot timeout of 10 seconds. The timeout value can be changed via the “**autoboot <n sec>**” command in */boot/loader.conf*.



To select an option, press its highlighted number, character, or key. The following options are available:

1. Boot Multi User: Continues the boot process. If the boot timer has been paused, press **1**, upper- or lower-case **B**, or **Enter**.
2. Boot Single User: To fix an existing installation. Press **2** or the upper- or lower-case **S** to enter this mode.
3. Escape to loader prompt: Boots the system into a repair prompt that contains a limited number of low-level commands. Press **3** or **Esc** to boot into this prompt.
4. Reboot: Reboots the system.
5. Kernel: If there is more than one kernel, allows toggling through the available kernels.
6. Configure boot Options...: Opens the boot options menu

The **Boot Options Menu** allows toggling of several options to On or Off by pressing the option's highlighted number or character. The system will always boot using the settings for these options until they are modified.

**ACPI Support:** If the system hangs during boot, try toggling this option to Off.

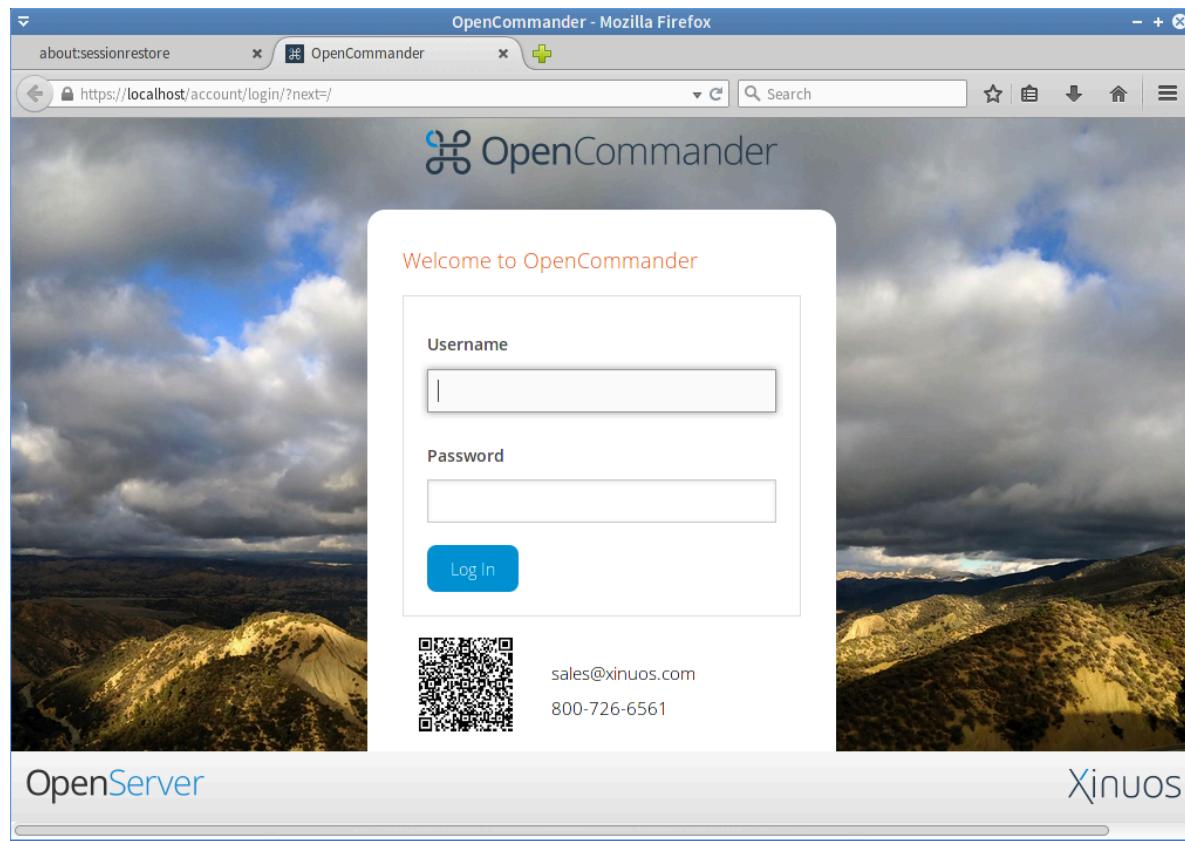
**Safe Mode:** If the system still hangs during boot even with ACPI Support set to Off, try setting this option to On.

**Single User:** Toggle this option to On to fix an existing installation. Once the problem is fixed, set it back to Off.

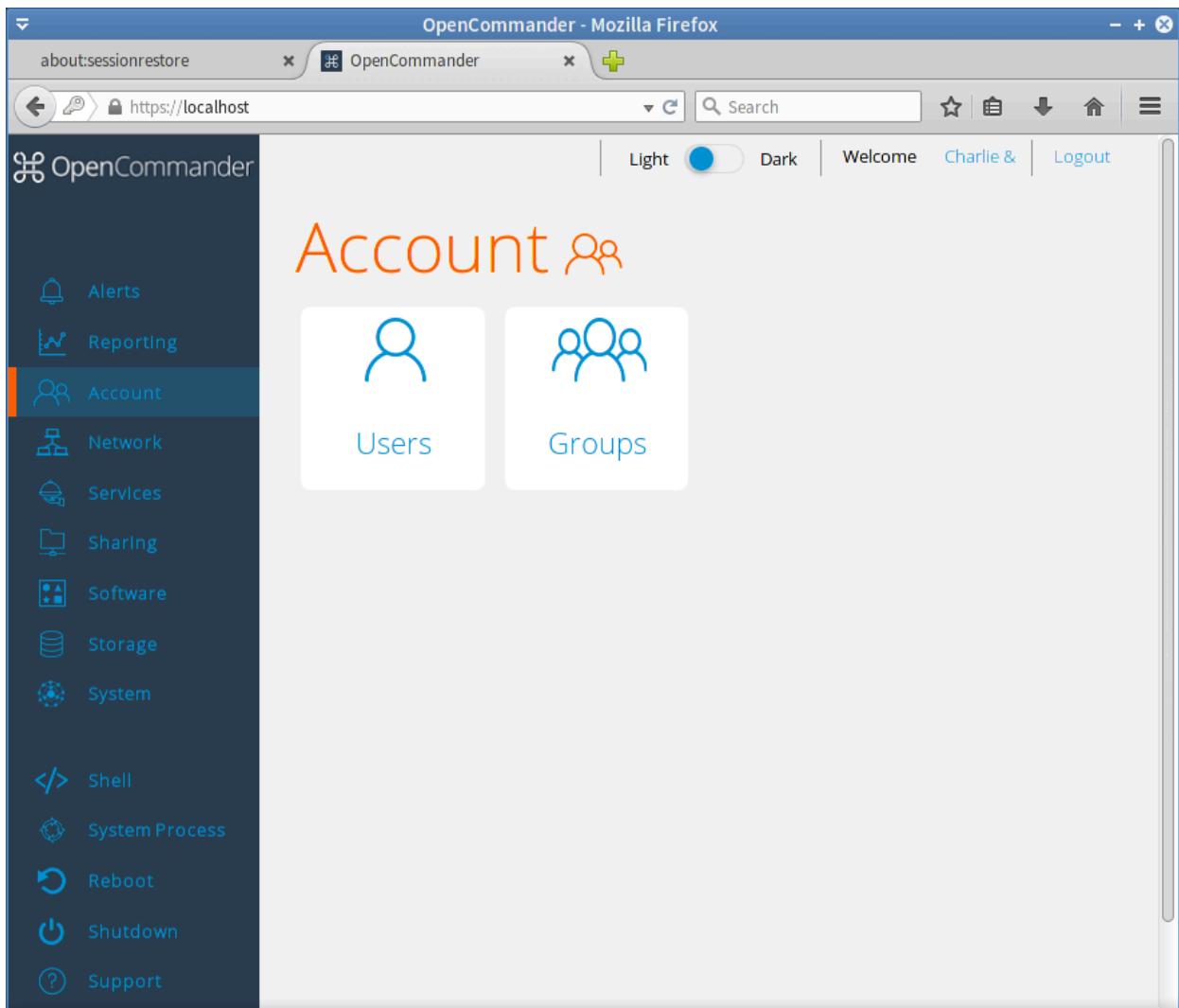
**Verbose:** Toggle this option to On to see more detailed messages during the boot process. This can be useful when troubleshooting hardware.

## 2.1. Using the OpenCommander Administration Interface

Double-click the Administration desktop icon to start the OpenCommander system administrator console.



Log into OpenCommander with system administrator credentials.

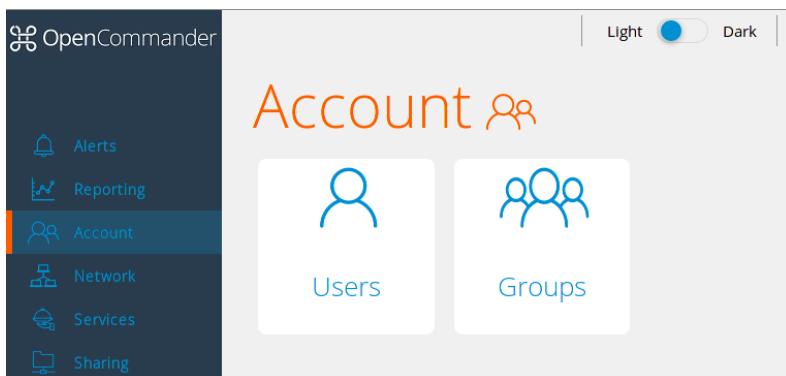


Note that clicking on the module name in the left menu expands the list of sub-modules. In order to display the settings of the sub-module, click on its name in the left menu.

Click on the module name in the top navigation bar to display the current settings in the right panel without clicking through the sub-modules.

## 2.2. Account Configuration

This section describes how to manually create and manage users and groups.



### Groups Interface

The Groups interface allows you to create and manage groups on the OpenServer 10 system.

Click **Groups**. The Groups View is displayed.

The screenshot shows the Groups view in OpenCommander. The sidebar on the left is identical to the previous screenshot. The main area is titled "Groups" and contains a success message: "✓ Group successfully updated." Below the message is a table of groups. The table has columns: GROUP ID, GROUP NAME, BUILT-IN GROUP, and PERMIT SUDO. The data is as follows:

GROUP ID	GROUP NAME	BUILT-IN GROUP	PERMIT SUDO
1001	rchrdr	false	true
0	wheel	true	false
1	daemon	true	false
2	kmem	true	false
3	sys	true	false
4	tty	true	false
5	operator	true	false
6	mail	true	false
7	bin	true	false

All groups are listed. Each group has an entry indicating the group ID, group name, whether or not it is a built-in group that was installed with OpenServer 10, and whether or not the

group's members are allowed to use **sudo**. If you click a group entry, a **Members** button will appear. Click this button to view and modify that group's membership.

Click the **Add Groups** button to display the Add Group screen:

The screenshot shows a modal dialog box titled "Add Group". At the top right, there is a breadcrumb navigation: "Account/Groups/Add Group". The main title "Add Group" is at the top left of the dialog. Inside the dialog, there are four input fields: "Group ID" with the value "1002", "Group Name" (empty), "Permit Sudo" (unchecked), and "Allow repeated GIDs" (unchecked). At the bottom are two buttons: "OK" (blue) and "Cancel".

The following options are available:

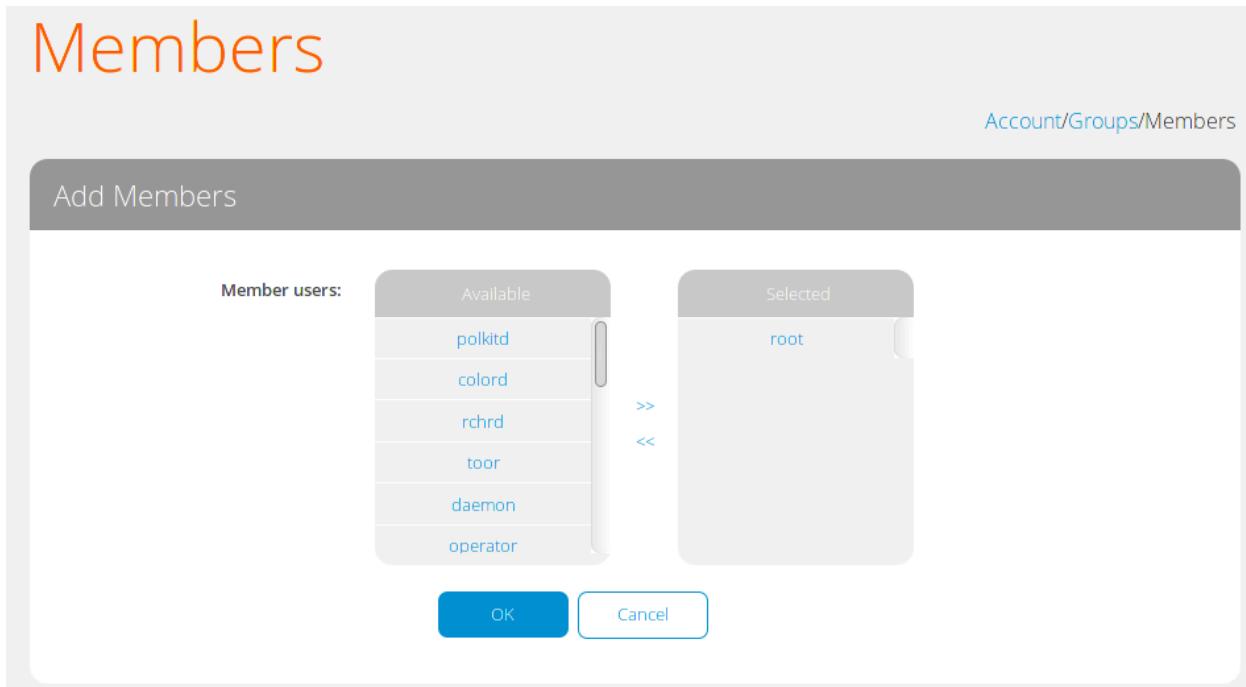
*Group ID* - the next available group ID will be suggested. By convention, UNIX groups containing user accounts have an ID greater than 1000 and groups required by a service have an ID equal to the default port number used by the service (e.g., the `sshd` group has an ID of 22)

*Group Name* – mandatory

*Permit sudo* - if checked, members of the group have permission to use **sudo**

*Allow repeated GIDs* - multiple groups can share the same group id, useful when a GID is already associated with existing UNIX data

Once the group and users are created, you can assign users as members of a group. Click **View Groups** then the **Members** button for the group to which you wish to assign users.



Highlight the user in the Member users list (which shows all the current user accounts) and click **>>** to move that user to the right frame. User accounts appearing in the right frame are added as members of that group. Remove members from a group by highlighting the member user in the right column and clicking **<<**.

## Add User Accounts

Click on **Add User** in the **Account/Users** panel to create a new user account and make the following settings:

**User ID:** When creating an account, the next numeric ID will be suggested; by convention, user accounts have an ID greater than 1000 and system accounts have an ID equal to the default port number used by the service. If the user has already been created, this field is grayed out.

**Username:** Maximum of 8 characters is recommended but 32 characters allowed. Can include numerals but no spaces.

**Create new primary group:** By default, a primary group with the same name as the user will be created. Uncheck this box to select a different primary group name.

**Primary Group:** Uncheck *Create new primary group* to access this option. For security reasons, **su** permissions are not granted if the user's primary group is *wheel*. You can add them to the *wheel* group in the Auxiliary groups section to give the users access to **su**.

**Home Directory:** For system accounts leave as *nonexistent*. Browse to an existing volume or dataset the user can access.

**Home Directory Mode:** Sets default permissions of user's home directory. Only available in Advanced mode, and read-only for built-in users,

*Shell:* Choose *nologin* for system accounts. Select shell for user accounts.

*Full Name:* May contain spaces. Required,

*Password:* Password associated with account.

*Password Confirmation:* Must match password.

*Disable password login:* When checked, the user cannot log into the system or authenticate to a CIFS share; to undo this setting, set a password for the user with the **Change Password** button for the user in **View Users**; checking this box will grey out **Lock user**, which is mutually exclusive.

*Lock user:* Prevents user from logging in until the account is unlocked. Checking this box will grey out *Disable password login*, which is mutually exclusive.

*Permit Sudo:* Permit members of the group to use **sudo**.

*SSH Public Key:* Paste the user's public key to be used for SSHkey authentication (do not paste the private key)

*Auxiliary groups:* Highlight the group(s) you wish to add the user to and use the **>>** button to add the user to the highlighted groups. Add users to the *wheel* group to allow them to use **sudo**.

To modify a user's account, click **View Users**, then on the user's name, then **Modify User**.

## 2.3. Software Management

The **Software** module allows management of software on the system, and identification of software that can be installed from a repository.

To search for a package on the system, enter a search. The search can be restricted by Repository and Status.

In the example shown, the filter is searching for the **vim** package, by *Repository=All* and *Status = All*.

The screenshot shows the 'Software' management interface. At the top, there are four dropdown filters: 'Repository' set to 'All', 'Status' set to 'All', 'Search' containing 'vim', and 'Category'. Below these are several buttons: 'Mark All Upgrades' (blue), 'UnMark All' (grey), 'Apply' (grey), 'Refresh' (blue), and 'Update Repository' (blue). A search input field also contains 'vim'. Underneath, a section titled 'Mark For:' has three buttons: 'Remove' (grey), 'Re-Install' (grey), and 'Properties' (blue). The main area is a table listing packages:

STATUS	PACKAGE NAME	INSTALLED VERSION	LATEST VERSION	COMMENT
<input type="checkbox"/>	neovim	0.0.0.20150706...		Next generation Vim
<input type="checkbox"/>	p5-Shell-EnvImporter	1.07_1		Inherit different shell environments and restore previous
<input type="checkbox"/>	p5-Text-VimColor	0.25		Syntax color text in HTML or XML using Vim
<input type="checkbox"/>	p5-Vimana	2010.09303_3		Vim script manager
<input type="checkbox"/>	vim	7.4.979		Improved version of the vi editor
<input checked="" type="checkbox"/>	vim-lite	7.4.979		Improved version of the vi editor (lite package)
<input type="checkbox"/>	vimb-gtk2	2.10		Vim like browser

The green box in the Status column indicates that the package is installed. Highlight a package name and click on **Properties**. The example shows the options for **vim**, which is installed.

Clicking on an uninstalled package and choosing *Mark for Installation* causes the system to display dependencies for the package to be installed.

Click **Mark** to add these packages to the *To be installed* list. Click **Apply** to install the packages.

Packages can be sorted into categories. *All* displays all packages in the repository. As this is usually a very long list, the packages can also be viewed by category. These are divided alphabetically.

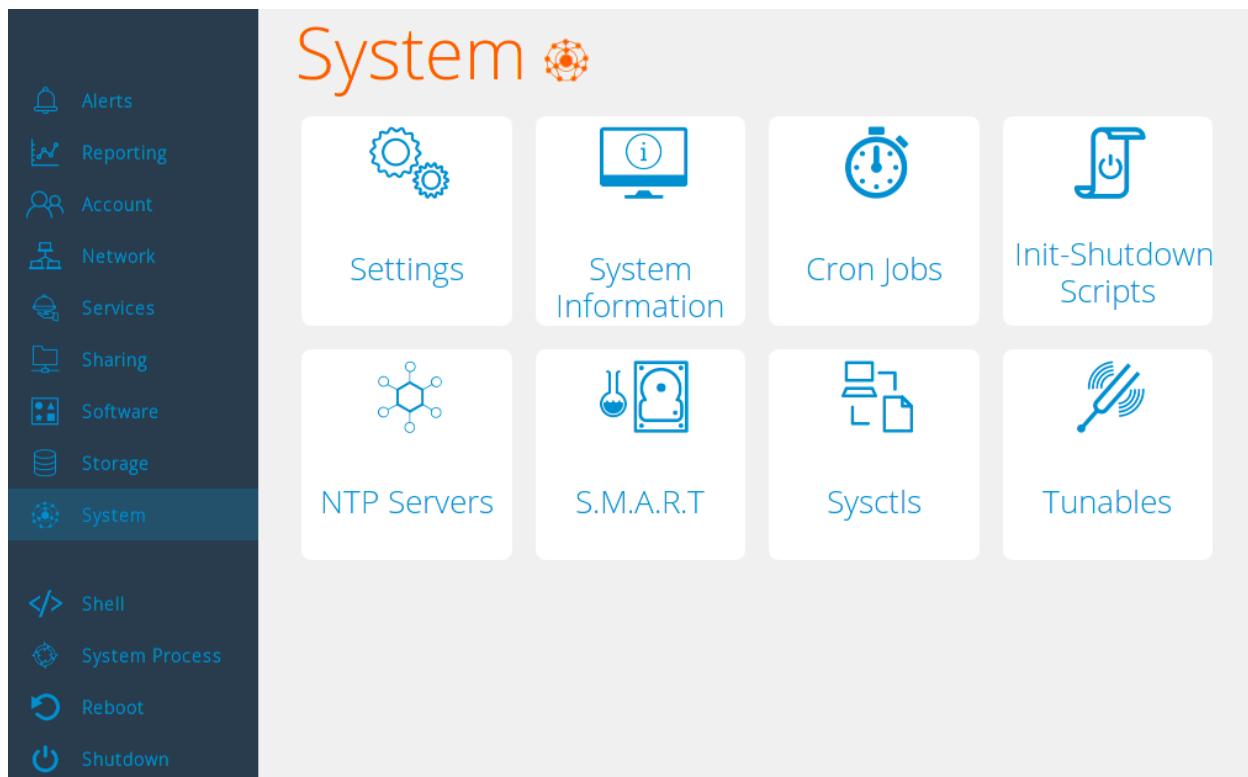
Packages can also be searched by Status.

Options include:

- *All*
- *Installed*
- *Installed (Manual)*
- *Installed Upgradeable*
- *Not Installed*

## 2.4. System Configuration

A number of system administration tasks are available from the **System** menu item in the left column.



**System Settings:** Set general and advanced global preferences for the OS, including Email and SSL certificates.

**System Information:** View basic information about the running system, including hostname, memory capacity, platform specifics, system uptime and load.

**Cron Jobs:** Create and view cron jobs currently running on the system.

**Init-Shutdown Scripts:** Create, edit, and view system startup and shutdown scripts.

**NTP Servers:** Add, view, edit, and delete network time servers used by the system.

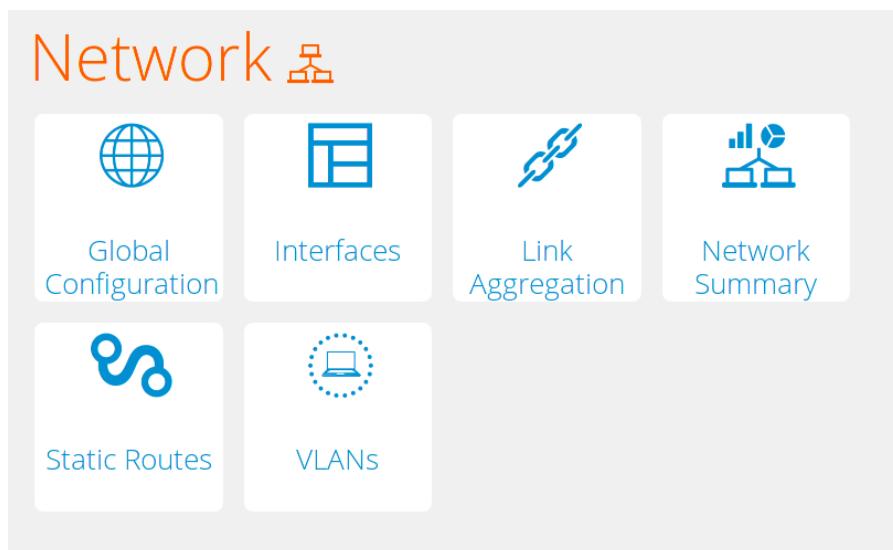
**S.M.A.R.T.:** Add, view, edit, and delete current S.M.A.R.T. device tests running on the system.

**Sysctls:** Define, edit, remove control parameters for the running system.

**Tunables:** Define, edit, remove tunable parameters for the running system.

## 2.5. Network Configuration

Configure system networking using the **Network** module.



**Global Network Configuration:** Set and view global networking parameters including server name, domain name, gateway and nameserver addresses.

**Interfaces:** Add, edit, and remove network interfaces.

**Link Aggregation:** Combine multiple network connections and bind to network interfaces.

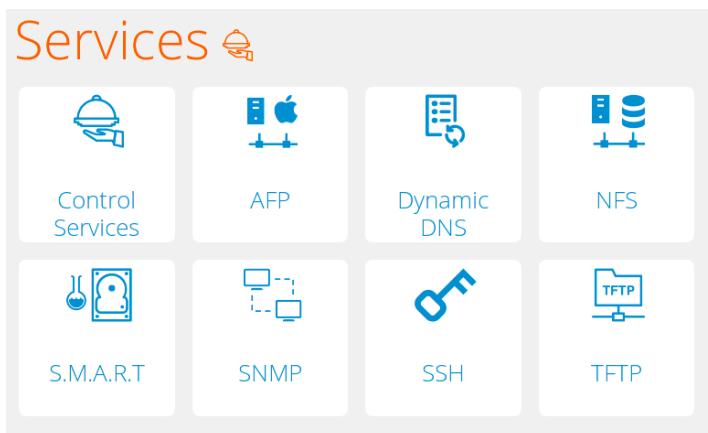
**Network Summary:** View summary of current system networking parameters, including server, nameserver, and default IP addresses.

**Static Routes:** Add, edit, and delete static routing addresses to current network.

**VLANs:** Add, edit, and delete virtual interfaces to the current network.

## 2.6. Configure System Services

Enable/disable system services.



**Control Services:** Toggle on/off individual services and view running services.

**AFP:** Set or edit Apple File Protocol parameters.

**Dynamic DNS:** Set or edit Dynamic DNS parameters, including DDNS provider.

**NFS:** Set or edit NFS parameters, including number of servers and bind IP addresses.

**S.M.A.R.T.:** Set or edit S.M.A.R.T device test parameters, including test interval time, email address for reports, and power policy.

**SNMP:** Set or edit Simple Network Management Protocol parameters.

**SSH:** Set or edit SSH parameters, including port number and host private key.

**TFTP:** Set or edit Trivial FTP parameters, including directory, port, and username.

## 2.7. Sharing

Setup Apple and/or Unix sharing protocols.



**Apple Shares:** Setup volume name, path, and access permissions for Apple (AFP) sharing.

**Unix Shares:** Setup networking parameters for Unix NFS sharing.

## 2.8. Configuring Storage

Configure storage features using the **Storage** module.



**Snapshot Tasks:** Add, edit, and delete periodic storage snapshots.

**Replication Tasks:** Add, edit, and delete periodic storage replication tasks.

**Volumes:** Manage and import UFS and ZFS volumes.

**ZFS Scrubs:** Add, edit, and delete periodic scrubs of ZFS volumes.

## Appendix 1 : Known Problems

The following are known problems at the time of this Alpha release.

- OpenSetup: Network Settings: problem setting up static IP on second NIC (ID: OSR10-9)
- OpenSetup: Network Settings: in the DNS settings area, there is no way to enter Search Domain. (ID: OSR10-9)
- OpenSetup: Network Settings: WPA fails to configure with more than one NIC. (ID: OSR10-14)
- OpenCommander: ZFS users should not use the GUI admin tool for administration. (ID: OSR10-16)