

Intel[®] Deployment Manager 3.3

by VERITAS OpForce[™]

Installation Guide for Red Hat Linux

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Preface

Intel® Deployment Manager by VERITAS OpForce™ automates administrative tasks involved with controlling, provisioning, and updating Intel Server Chassis, Intel Server Compute Blades within sophisticated, heterogeneous IT environments. These tasks include discovering and recording hardware and software inventory, tracking software licenses, provisioning blade servers, setting up networks, and setting up administrative and user access.

Typically, each of these IT administration activities is handled by different functional groups within an organization. As each task is completed, there is a hand-off to another group which then starts the next set of activities, and so on, until servers, networking, storage, operating systems, and applications are ready for use. Intel Deployment Manager closes the gaps in the way computers, networks, and storage are managed today and helps you eliminate the manual hand-off between groups within the enterprise by automating and streamlining IT administration activities.

About this Document

This installation guide provides you with the information you need to install Intel Deployment Manager for Red Hat® Linux®.

Audience

This installation guide is intended for use by system engineers, system administrators, network engineers, network administrators, data center operators, and IT engineers.

What's in this Guide?

This installation guide consists of the following topics:

- ◆ [“Introduction to Intel Deployment Manager”](#) provides an overview of Intel Deployment Manager features and the installation process.
- ◆ [“Prerequisites for Installation”](#) describes the system and network requirements that you need to satisfy before installing Intel Deployment Manager.
- ◆ [“OS Configuration and Database Installation”](#) provides information about configuring Red Hat Linux for Intel Deployment Manager, and installing the PostgreSQL database.
- ◆ [“Installing Intel Deployment Manager”](#) provides step-by-step procedures for installing, upgrading, or uninstalling Intel Deployment Manager.
- ◆ [“Getting Started”](#) includes information about logging in to the administration console, using the Setup Wizard, and preparing server assets to be managed.
- ◆ [“SSL Certificates”](#) describes the steps involved in generating and installing an SSL certificate.
- ◆ [“Intel Deployment Manager Port Numbers”](#) lists all the port numbers that are used by Intel Deployment Manager. These ports should not be used by any other services.
- ◆ [“Third Party Software License Agreements”](#) lists all of the third party software license agreements.

Related Documents

The Intel Deployment Manager documentation set includes this guide and the:

- ◆ *Intel Deployment Manager by VERITAS OpForce Release Notes*
- ◆ *Intel Deployment Manager by VERITAS OpForce Installation Guide for Windows*
- ◆ *Intel Deployment Manager by VERITAS OpForce User's Guide*
- ◆ *Online Help*

Conventions

Typeface	Usage	Examples
monospace	Computer output, files, directories, account names, roles, permissions, events, event types, workspaces, software elements such as command options, function names, and parameters	Read tunables from the <code>/etc/vx/tunefstab</code> file. You must have the <code>Full Control</code> permission.
monospace (bold)	User input	<code># mount - vxfs /h/filesys</code>
<i>italic</i>	New terms, book titles, emphasis, variables	See the <i>User's Guide</i> for details. The variable <code>vxfs_ninode</code> determines the value of...
Palatino (Bold)	GUI objects (buttons, labels, categories, field names, selections)	Click OK . Enter the IP address in the IP Address field.
*	Indicates required field	IP Address *
\$	Bourne/Korn/Bash shell prompt	
#	Superuser prompt (all shells)	
[]	In a command synopsis, brackets indicates an optional argument	<code>ls [-a]</code>
	In a command synopsis, a vertical bar separates mutually exclusive arguments	<code>mount [suid nosuid]</code>
blue text	Indicates an active hypertext link. In PDF and HTML files, click links to move to the specified location	http://www.veritas.com

Intel Deployment Manager enables you to optimize utilization of your existing IT infrastructure by implementing on-demand computing services. With Intel Deployment Manager, you can easily perform any of the following operations:

- ◆ Auto-discover your Intel Server Compute Blades in the bare-metal state (no OS available), as well as in the deployed state.
- ◆ Create server pools that can be shared among multiple network segments.
- ◆ Rapidly deploy and provision servers in a multi-network environment.
- ◆ Create system snapshots that contain a complete software environment (OS, applications, data, network settings and personalization information) for your servers.
- ◆ Manage your server snapshots with built-in powerful cataloging and profiling capabilities.
- ◆ Remotely access and manage your Intel Server Chassis, Intel Server Compute Blades.
- ◆ Deploy applications, OS patches, and quickly upgrade BIOS, Firmware, and Hardware RAID configurations on multiple systems.
- ◆ Standardize on an integrated provisioning tool for your Linux and Microsoft Windows environments.

In addition, Intel Deployment Manager provides you with a hardware inventory for blades, along with reports and detailed event logs. Moreover, its role-based administration capabilities enable you to divide and compartmentalize server management tasks among your system administrators.

The Intel Deployment Manager server can run on Linux or Windows platforms, and supports deployment, provisioning and configuration of Intel Server Chassis and Intel Server Compute Blades.

Setting Up Intel Deployment Manager

Setting up Intel Deployment Manager can be viewed as a multi-part process that involves preparing a machine, installing and configuring an OS, installing a database, and finally, installing Intel Deployment Manager. You might also need to create or update an ActiveOS.

▼ To set up an Intel Deployment Manager server

1. Review the prerequisites and restrictions in “[Prerequisites for Installation](#)” on page 3.
2. Install and configure an operating system (OS) on your server. For information about OS configuration, refer to “[Configuring Red Hat Linux](#)” on page 10
3. Install a database PostgreSQL is required for Red Hat Linux For information about database installation, refer to “[Installing PostgreSQL](#)” on page 12. You *must* install a database before running the Intel Deployment Manager installation program, Jinstall.
4. Install Intel Deployment Manager. Jinstall is the installation tool for Intel Deployment Manager on Red Hat Linux server platforms. It enables you to install, upgrade, or uninstall Intel Deployment Manager on one or more server platforms. Jinstall uses a custom curses-based terminal user interface.

Before you install Intel Deployment Manager, verify that you can meet or exceed the system requirements. You should also gather the information required for network configuration, and be aware of any restrictions that might affect your installation.

This chapter includes the following topics:

- ◆ “[System Requirements](#)” on page 4
 - ◆ “[Intel Deployment Manager Server](#)” on page 4
 - ◆ “[Required Network Information](#)” on page 6
 - ◆ “[System Storage Servers](#)” on page 5
 - ◆ “[Managed Computing Devices](#)” on page 5
 - ◆ “[Required Network Information](#)” on page 6
 - ◆ “[Administration Console](#)” on page 6
- ◆ “[Restrictions](#)” on page 7

System Requirements

Requirements are provided in the following sections for the Intel Deployment Manager server, database, system storage servers, managed computing devices, required network information, and the administration console.

Intel Deployment Manager Server

The Intel Deployment Manager server is the machine that runs Intel Deployment Manager. The Intel Deployment Manager server *must* use a fixed IP address.

Intel Deployment Manager installation requires approximately 4 GB of disk space. You will need additional disk space for storing snapshots, software, server log files, and a database. Depending on the original system size, a typical snapshot can be 1 GB or larger.

System requirements for the Intel Deployment Manager server are:

Intel Deployment Manager Server Requirements

	Red Hat Linux
Hardware	Intel Server Compute Blades
Operating System	<ul style="list-style-type: none">♦ Red Hat[®] Linux[®] Advanced Server 2.1♦ Red Hat Enterprise Linux 3.0 AS
RAM	512 MB (Higher Preferred)
CPU Speed	1 GHz
Network Card	At least one 10/100 Ethernet Interface
Local Disk Space	36 GB

Note For Red Hat Linux, disable firewall options (for example, `ipchains` and `iptables`), or set specific firewall rules to enable the client to connect to the Intel Deployment Manager server.

Database Requirement

The database can be installed on the Intel Deployment Manager server, or on a different server. For installation of Intel Deployment Manager on Red Hat Linux, PostgreSQL Database 7.2.1 is required.

System Storage Servers

One or more system storage servers can be used to store snapshots and software managed by Intel Deployment Manager. The storage server must be an Intel Xeon processor family machine.

If your Intel Deployment Manager server is running on a Linux system, your storage server can run Linux with NFS, Samba, or Windows with CIFS.

Managed Computing Devices

The hardware and software requirements for Intel Server Compute Blades are as follows:

Note For an updated list of computing devices supported by Intel Deployment Manager, contact support-Intel Deployment Manager@veritas.com.

System Requirements

	Intel Server Compute Blades
Supported Operating Systems (For specific versions, see “ Supported Operating Systems ” on page 5)	<ul style="list-style-type: none"> ◆ Red Hat® Linux ◆ SuSE® Linux ◆ Microsoft® Windows®
RAM (Minimum)	128 MB
Network Card	At least one PXE 2.0 Build 072 (or higher) with Intel Boot Agent.
BIOS Boot Order	Network (PXE NIC) before Hard Drive

Supported Operating Systems

Intel® Xeon™ Processor Family

- ◆ Microsoft Windows 2000 Advanced Server with Service Pack 3
- ◆ Microsoft Windows Server 2003 Enterprise Edition
- ◆ Red Hat Enterprise Linux 3.0 AS Update 3
- ◆ SuSE® Linux Enterprise Server 9.0

Intel® Xeon™ Processor Family with Intel® Extended Memory 64 Technology

- ◆ Microsoft Windows Server 2003 Enterprise Edition
- ◆ Red Hat Enterprise Linux 3.0 AS Update 3
- ◆ SuSE Linux Enterprise Server 9.0

Supported File Systems

The following File Systems are supported:

- ◆ Red Hat Linux - EXT2, EXT3, SWAP, LVM
- ◆ Microsoft Windows - NTFS, FAT16, FAT32
- ◆ SuSE Linux - LVM, ReiserFS

Required Network Information

You need to know the IP addresses for:

- ◆ the Intel Deployment Manager server
- ◆ computing devices to be managed by Intel Deployment Manager (network address, subnet mask, and IP ranges available for use by Intel Deployment Manager computing device management)
- ◆ the external router/gateway to the internet, if needed
- ◆ the LDAP (Lightweight Directory Access Protocol) server, if you want to use LDAP authentication (you'll also need the LDAP user name and password)

Administration Console

To access the administration console, you need:

- ◆ a Web URL for Intel Deployment Manager
- ◆ a user ID and password.

You can use the following web browsers:

- ◆ Internet Explorer 6.0 (or higher)
- ◆ Netscape 6.2.3 (or higher)
- ◆ Mozilla 1.0 (or higher)

Upgrade Requirements

You can only upgrade to Intel Deployment Manager 3.3 from an English version of Intel Deployment Manager 3.2 or 3.2 Update 3. Upgrading from a localized version of Intel Deployment Manager is not supported.

Restrictions

It is important to observe the following restrictions when installing Intel Deployment Manager:

- ◆ Generally, avoid running applications or services that use ports required by Intel Deployment Manager. See “[Intel Deployment Manager Port Numbers](#)” on page 57 for a list of ports used by Intel Deployment Manager.
- ◆ The Intel Deployment Manager Web server uses standard port assignments, port 80 for HTTP and port 443 for HTTPS. We recommend that you accept these defaults and not run other web servers on the Intel Deployment Manager server. If you must run other web servers on the Intel Deployment Manager server, reassign the ports used by the other web servers, or reassign the ports used by Intel Deployment Manager.
- ◆ Intel Deployment Manager runs its own TFTP and DHCP servers. You should not run other TFTP or DHCP servers on the Intel Deployment Manager server because of potential port conflicts. If you are currently running a TFTP server you should stop it before you begin the Intel Deployment Manager installation.
- ◆ Do not install PostgreSQL in the Intel Deployment Manager folder. Do not install multiple instances of PostgreSQL on the Intel Deployment Manager server.
- ◆ You can access the Intel Deployment Manager administration console from beyond a firewall, but the Intel Deployment Manager server, its system storage server(s), and the machines Intel Deployment Manager manages must all be on the same side of the firewall. Placing a firewall between your Intel Deployment Manager server and the system storage server(s) causes severe performance degradation! (This configuration is not supported.)
- ◆ If you have a host-based firewall enabled on a managed server or server asset neither the Intel Deployment Manager server nor an ITAP agent will be able to contact the managed resource unless you configure the firewall to let traffic from Intel Deployment Manager ports through. See “[Intel Deployment Manager Port Numbers](#)” on page 57 for a list of ports used by Intel Deployment Manager.
- ◆ If you are performing an upgrade to Intel Deployment Manager 3.3 from a previous version of Intel Deployment Manager, note that you cannot upgrade to or from a beta or a localized version. You can only upgrade from an English version of Intel Deployment Manager 3.2 or 3.2 Update 3.

Before installing Intel Deployment Manager, configure a Red Hat Linux server, and install a database.

The following topics are included in this chapter:

- ◆ “[Configuring Red Hat Linux](#)” on page 10
 - ◆ “[Verifying System Files](#)” on page 11
 - ◆ “[Configuring the Network Share](#)” on page 11
- ◆ “[Installing PostgreSQL](#)” on page 12
- ◆ “[Uninstalling PostgreSQL](#)” on page 19

Configuring Red Hat Linux

We recommend the following configurations when installing Red Hat Linux for use with Intel Deployment Manager. Whatever method you use to install Red Hat Linux, make sure the following requirements are met before installing Intel Deployment Manager:

- ◆ **Disk Space**—4 GB of available disk space is required to install Intel Deployment Manager.

Make sure you also have enough space to store snapshots. If the Intel Deployment Manager server is also used for storage, you may start with a minimum of 10 GB.

- ◆ **Network Configuration**—When setting up the parameters for the network configuration:
 - ◆ Select the appropriate network interface: `eth0`, `eth1`, or others depending on your network connection.
 - ◆ Configure the Intel Deployment Manager server to use a static IP address.
 - ◆ Verify that you have accurate data for netmask, network address, broadcast address, default gateway, and DNS server addresses.
 - ◆ Do not activate `IPChain` or `IPTable`.

If you choose to activate `IPChain` or `IPTable`, you must also open access to certain network ports. For further information about ports, see “[Intel Deployment Manager Port Numbers](#)” on page 57.

Note Intel Deployment Manager installs its own DHCP server and TFTP boot server. Do not install or run additional instances of DHCPD or TFTPd.

- ◆ **Packages**—The following packages must be installed:

- ◆ **NFS File Server**

NFS server must be running on the Intel Deployment Manager server if it is also used as an NFS storage server. NFS is also used when managing Solaris or AIX server assets.

NFS client is needed for the Intel Deployment Manager server to communicate with the NFS system storage server(s).

- ◆ **Windows File Server** (if you want to use Intel Deployment Manager as a CIFS storage server)

Samba server (CIFS) must be running on the Intel Deployment Manager server to be used as a CIFS storage server.

Samba client (CIFS) is needed for the Intel Deployment Manager server to communicate with the CIFS storage servers.

- ◆ Unzip
- ◆ Zip
- ◆ Gzip
- ◆ Samba-client (Samba-client is selected by default if you selected Windows File Server. You have to select Samba-client manually if you did not select Windows File Server.)
- ◆ OpenSSL
- ◆ Perl 5.6 or higher
- ◆ Gettext

We recommend that the Intel Deployment Manager be installed on a stand-alone machine. Do not use the Intel Deployment Manager server as an NIS server, NIS client, or use any other directory services.

Verifying System Files

Verify that the server hostname and IP address are entered correctly in `/etc/hosts`. The following is an example of `/etc/hosts` content:

```
# Do not remove the following line, or various programs
# that require network functionality will fail.
127.0.0.1 localhost.localdomain localhost
192.168.8.99 RH73OPF3.yourdomain.com RH73OPF3
10.3.3.3 RH73OPF3eth1.yourdomain.com RH73OPF3eth1
```

Configuring the Network Share

To configure a network share for use as a repository server, you may use the following example to export the directory to your network.

Add the pathname of the NFS export path to `/etc/exports` so that it is exported with read/write permissions. For example:

```
/data *(rw,no_root_squash,insecure,anonuid=0,anongid=0)
```

where `/data` is the partition or directory for the repository.

Then run the following command to export the directory:

```
# exportfs -a
```

See your OS documentation for further information.

Installing PostgreSQL

Intel Deployment Manager for Red Hat Linux uses a PostgreSQL database. Before you install Intel Deployment Manager you must install the database.

Note Although PostgreSQL database and `dbsetup.sh` in the `dist-postgres.tgz` file are included with Intel Deployment Manager, note that PostgreSQL is not a VERITAS or Intel product.

▼ To install the PostgreSQL database on your Red Hat Linux server

1. Copy `dist-postgres.tgz` to your `/tmp` directory.

2. Under `/tmp`, unzip `dist-postgres.tgz` using `gzip`:

```
# gzip -cd dist-postgres.tgz | tar xf -
```

This might take a few minutes. The `dist-postgres` directory contains the required files for installation.

3. Run the setup program for PostgreSQL:

```
# cd /tmp/dist-postgres/jinstall
# ./dbsetup.sh
```

Do not interrupt or kill the setup process.

If you are running `dbsetup.sh` for the first time, you see the following messages:

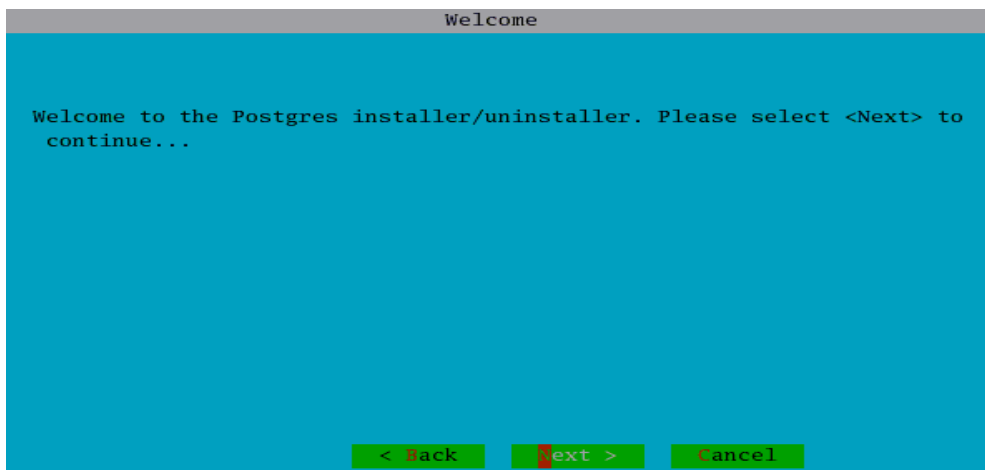
```
./dbsetup.sh: About to execute 'ln -s /usr/bin/unzip
/usr/local/bin/unzip'. Proceed? (Y/N) Y
./dbsetup.sh: About to execute 'ln -s /usr/bin/perl
/usr/local/bin/perl'. Proceed? (Y/N) Y
```

Answer **Y** (Yes) to the prompts.

4. The **License Agreement** is displayed.
Review the End-User License agreement before proceeding. To scroll through the text, use the Up/Down arrow keys on your keyboard. If you accept the License Agreement, press Tab to navigate to <OK>, or you can select <Cancel>. Press Enter.

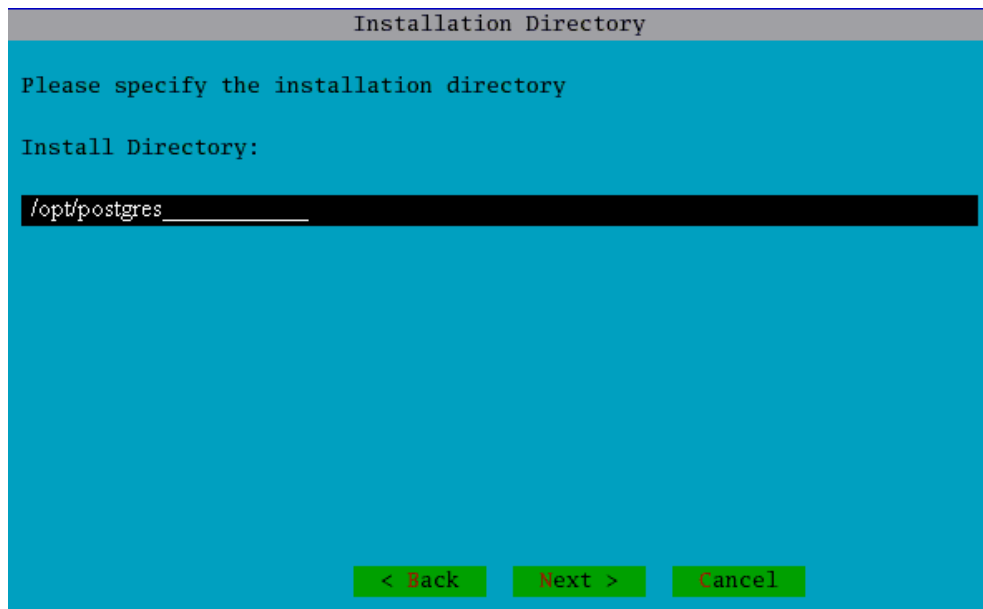


5. The **Welcome** dialog is displayed.



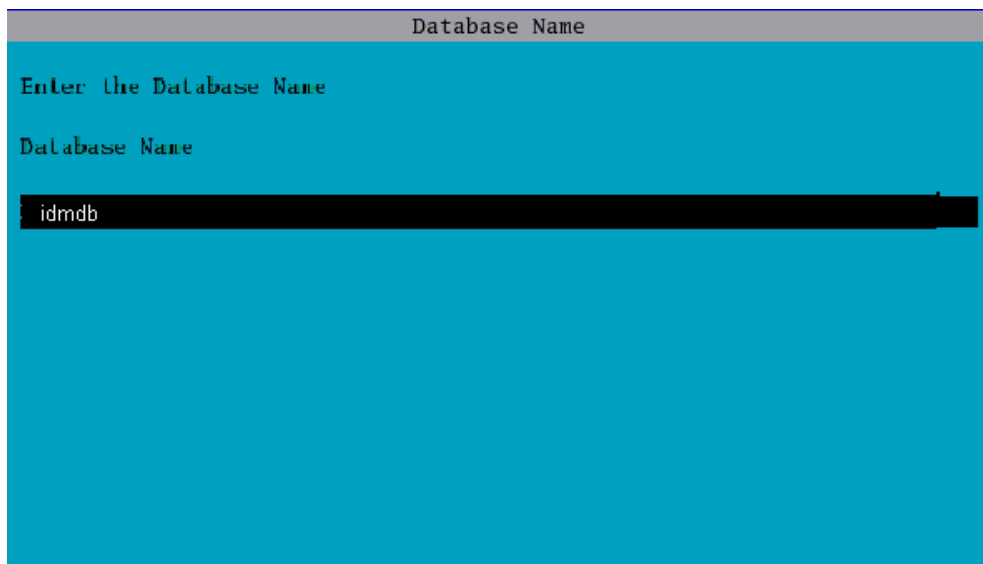
Press Tab to navigate to <Next>. Press Enter.

6. The **Installation Directory** dialog is displayed.



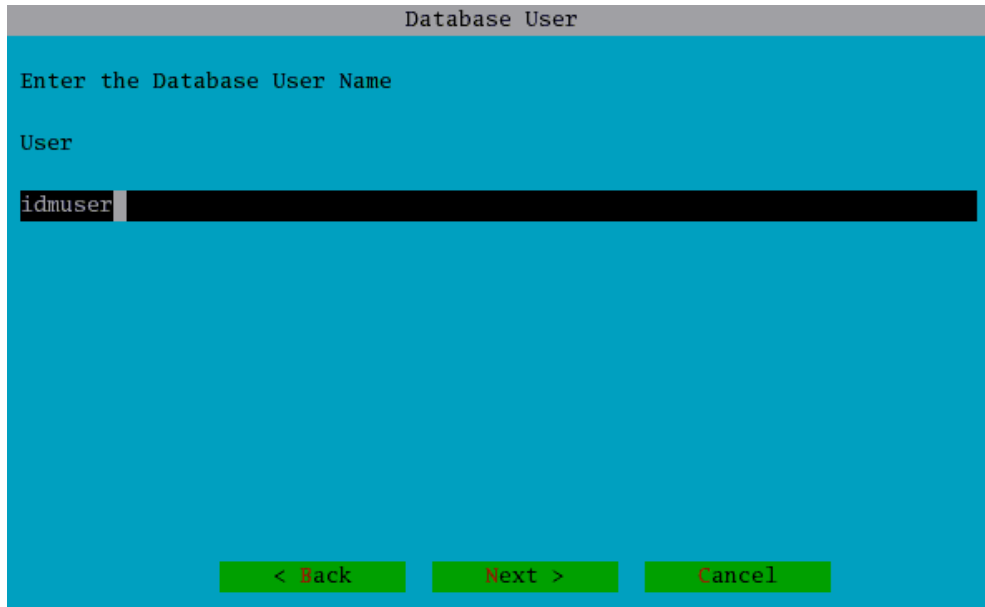
The default installation directory is `/opt/postgres`. You can specify a different installation directory if needed. Press Tab to navigate to `<Next>`. Press Enter.

7. Enter a name for the PostgreSQL database. The default database name is `proddb`.



Press Tab to navigate to `<Next>`. Press Enter.

8. Enter a user name for the database user. The default database user is `dbuser`.



Database User

Enter the Database User Name

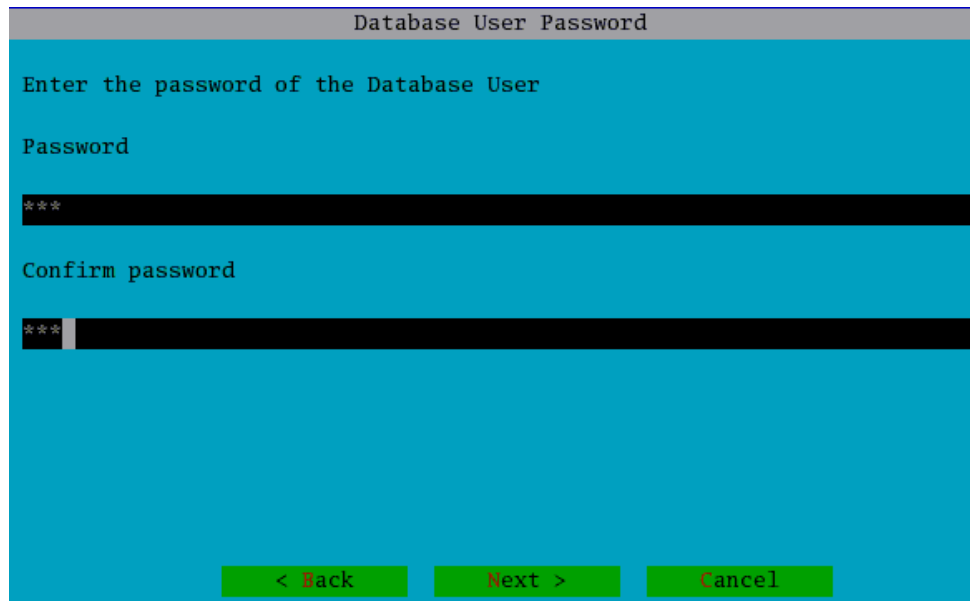
User

idmuser

< Back Next > Cancel

Press Tab to navigate to **<Next>**. Press Enter.

9. Enter a password for the user name. Be sure to document username and password.



Database User Password

Enter the password of the Database User

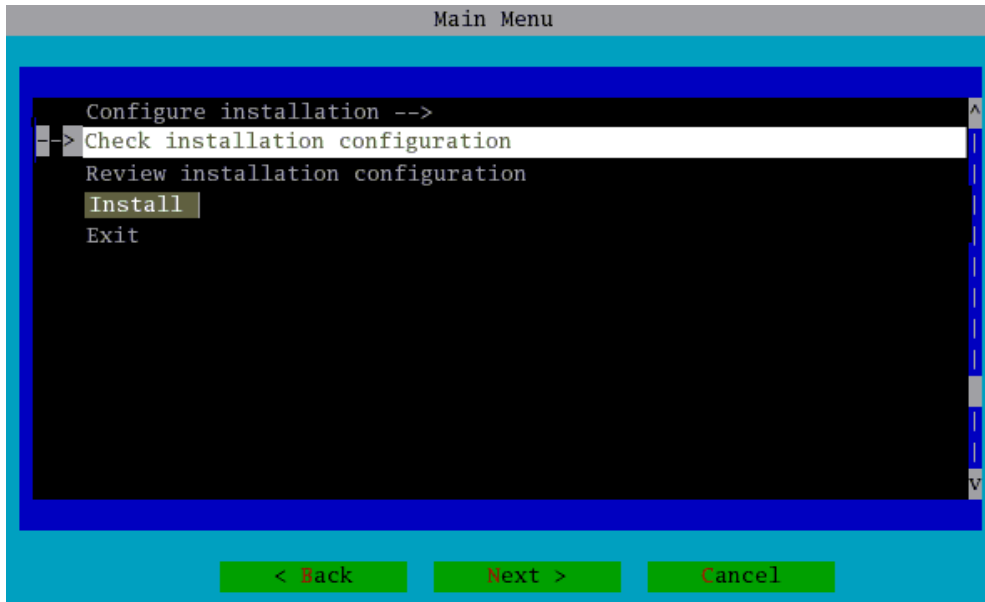
Password

Confirm password

< Back Next > Cancel

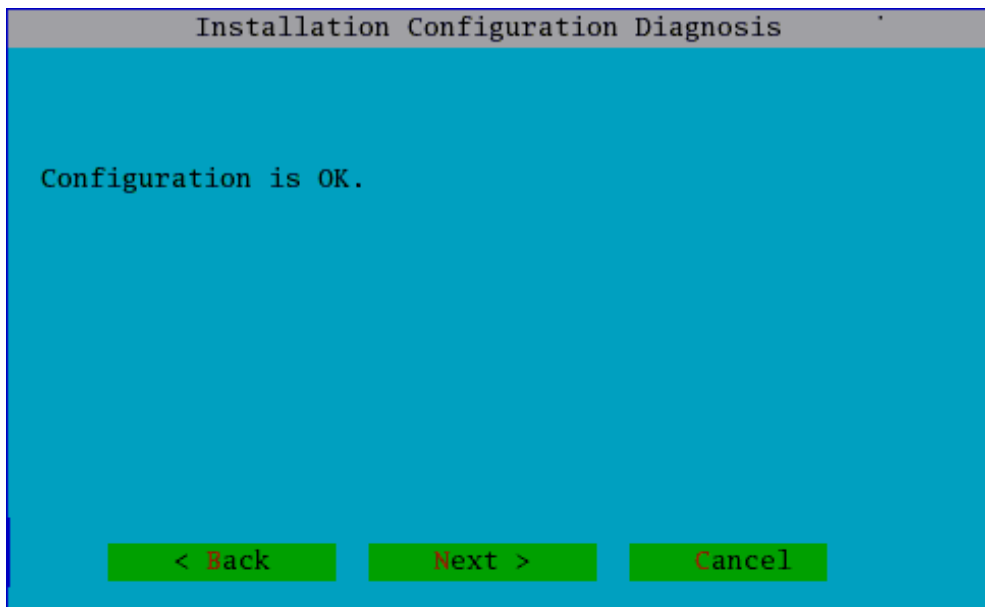
Press Tab to navigate to **<Next>**. Press Enter.

10. The **Main Menu** is displayed.

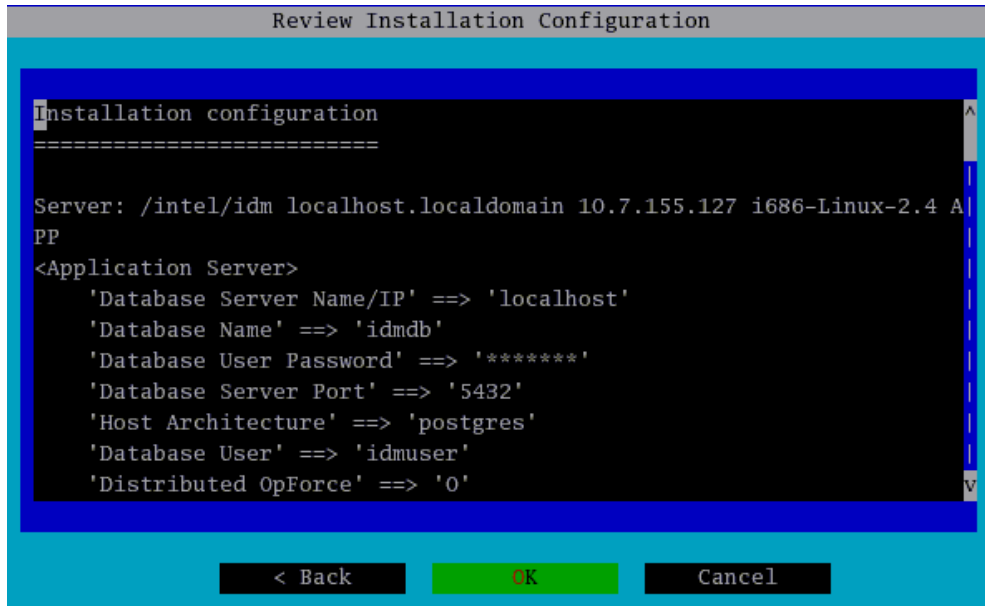


Choose **Check Configuration**. Press Enter when done.

Note: Configure installation restarts the install dialog. See [step 6](#).

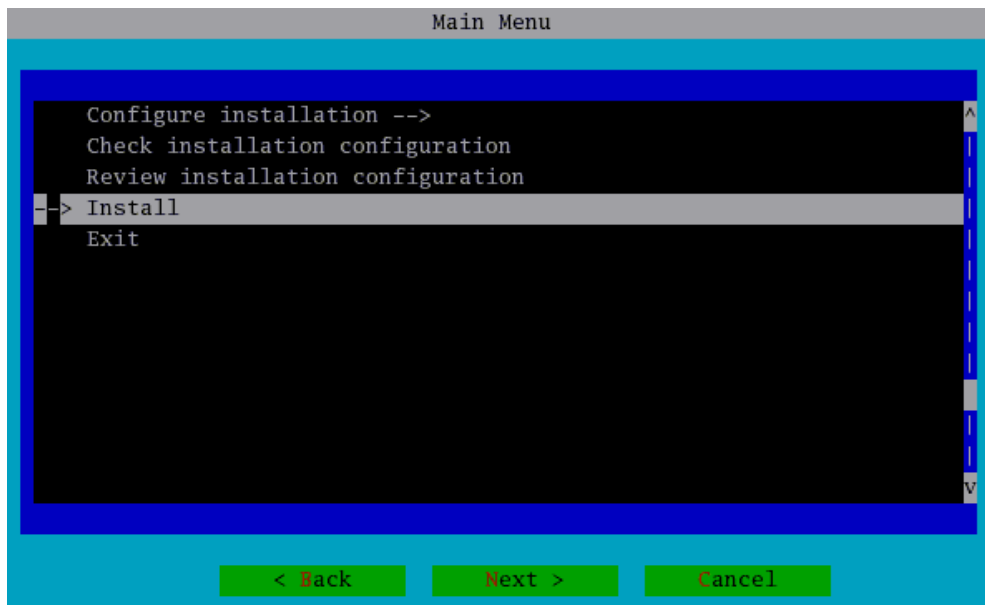


11. If you select **Review Installation Configuration** the following dialog is displayed.



After selecting an option, press Tab to navigate to <OK>. Press Enter.

12. The **Main Menu** is displayed. Select the **Install** option. Press Tab to navigate to



<Next>. Press Enter.

13. The installation files are now staged. This process takes a few minutes. A series of messages are displayed:

```
Staging PostgreSQL Database Server filesets for installation ...
Creating User/Group for postgres...
Syncing filesets .
Installing onto system (this may take a few minutes) ...
su -l postgres -s /bin/sh -c
"LD_LIBRARY_PATH=/opt/postgres/pgsql/server/lib:$LD_LIBRARY_PATH
/opt/postgres/pgsql/server/bin/initdb --pgdata=/opt/postgres/pgsql/data -L
/opt/postgres/pgsql/server/share --username=dbuser"
The files belonging to this database system will be owned by user "postgres".
This user must also own the server process.
```

```
Fixing permissions on existing directory /opt/postgres/pgsql/data... ok
creating directory /opt/postgres/pgsql/data/base... ok
creating directory /opt/postgres/pgsql/data/global... ok
creating directory /opt/postgres/pgsql/data/pg_xlog... ok
creating directory /opt/postgres/pgsql/data/pg_clog... ok
creating template1 database in /opt/postgres/pgsql/data/base/1... ok
creating configuration files... ok
initializing pg_shadow... ok
enabling unlimited row size for system tables... ok
creating system views... ok
loading pg_description... ok
vacuuming database template1... ok
copying template1 to template0... ok
```

Success. You can now start the database server using:

```
    /opt/postgres/pgsql/server/bin/postmaster -D /opt/postgres/pgsql/data
or
    /opt/postgres/pgsql/server/bin/pg_ctl -D /opt/postgres/pgsql/data -l
logfile start
```

```
Calling start action: /etc/rc.d/init.d/postgresql start
LD_LIBRARY_PATH=/opt/postgres/pgsql/server/lib:$LD_LIBRARY_PATH
/opt/postgres/pgsql/server/bin/psql -U dbuser -d template1 -c 'CREATE DATABASE
"provd" '
CREATE DATABASE
Enabling Password Authentication
LD_LIBRARY_PATH=/opt/postgres/pgsql/server/lib:$LD_LIBRARY_PATH
/opt/postgres/pgsql/server/bin/pg_passwd /opt/postgres/pgsql/data/passwd <
/tmp/.pg_passwd_input
File "/opt/postgres/pgsql/data/passwd" does not exist. Create? (y/n):
Username: New password:
Re-enter new password:
Calling start action: /etc/rc.d/init.d/postgresql start
Installation completed successfully
```

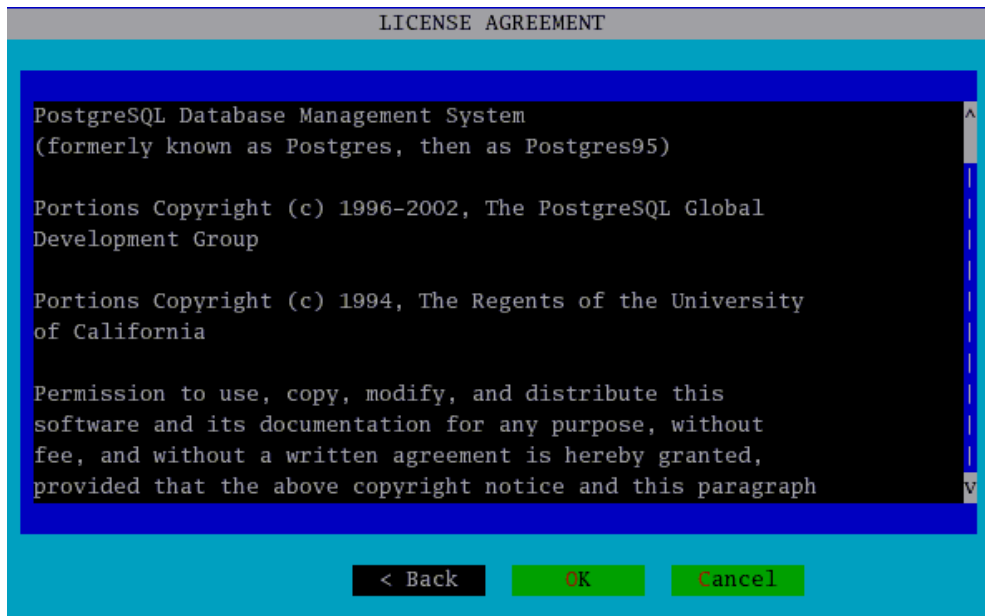
Uninstalling PostgreSQL

1. From the System Console, change into the `setup` directory and run `dbsetup . sh`.

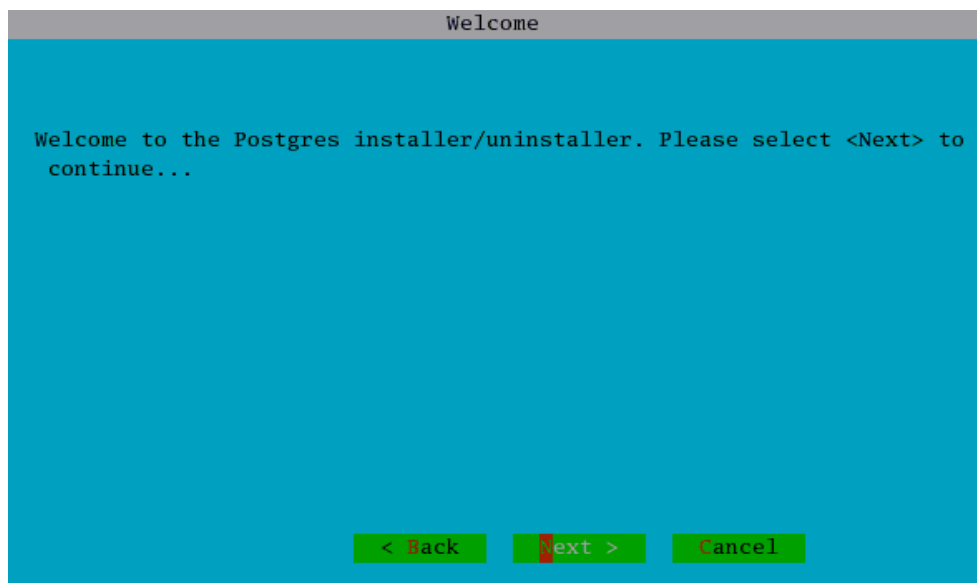
```
# cd /opt/postgres/setup
# ./dbsetup.sh
```

where `/opt/postgres` is the name of the directory where PostgreSQL is installed
`/opt/postgres` is used here since it is the default.

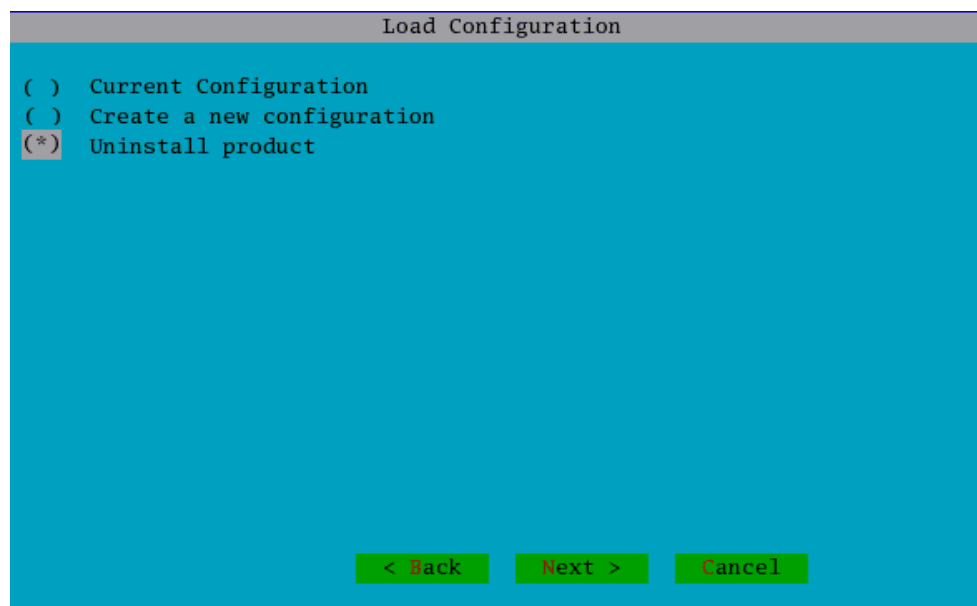
2. The **License Agreement** is displayed. Press Tab to navigate to `<OK>`. Press Enter.



3. The **Welcome** dialog is displayed.

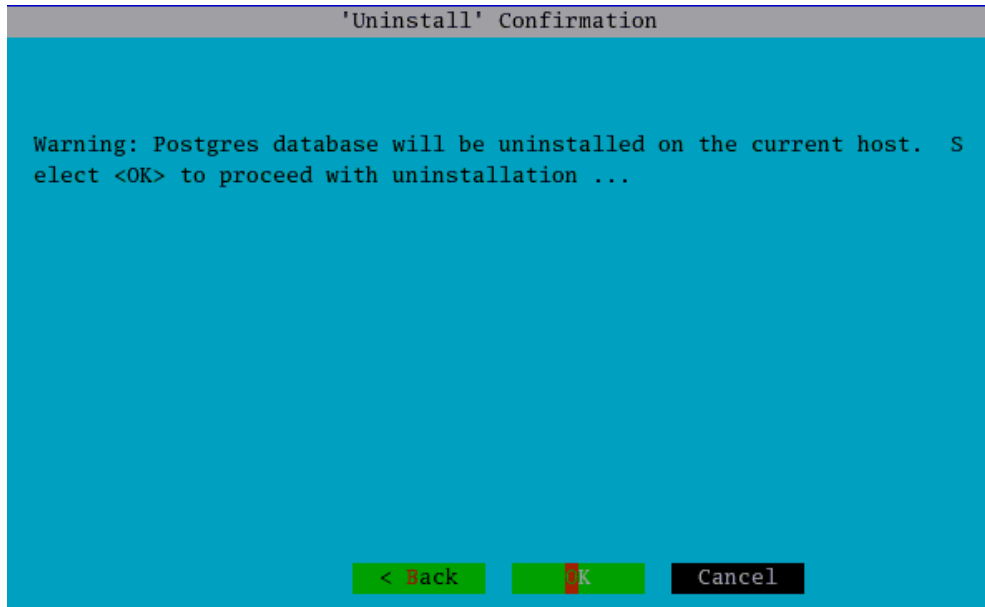


4. The **Load Configuration** dialog is displayed. Select **Uninstall product**. Press Tab to



navigate to <Next>. Press Enter.

5. The **Uninstall Confirmation** dialog is displayed. Press Tab to reach **<OK>**. Press Enter.



6. The database uninstallation starts. The following messages are displayed.

```
Starting product uninstallation ...
Calling stop action: /etc/rc.d/init.d/postgresql stop
Uninstalling from system (this may take a few minutes) ...
Uninstallation completed
PostgreSQL database is successfully uninstalled.
```


Installing Intel Deployment Manager

4

You can use the Jinstall program to install, upgrade, or uninstall Intel Deployment Manager.

The following topics are included in this chapter:

- ◆ [“Installing Intel Deployment Manager”](#) on page 24
 - ◆ [“Using the JInstall Terminal User Interface”](#) on page 24
 - ◆ [“Installation Procedure”](#) on page 24
- ◆ [“Starting, Stopping, or Restarting Intel Deployment Manager”](#) on page 42
- ◆ [“Uninstalling Intel Deployment Manager”](#) on page 43
- ◆ [“Upgrading Intel Deployment Manager”](#) on page 46

Installing Intel Deployment Manager

Use the Jinstall program to install, upgrade, or uninstall Intel Deployment Manager. You *must* install a database before running Jinstall.

Using the JInstall Terminal User Interface

JInstall uses a curses-based terminal user interface. Basic keyboard navigation is as follows:

- ◆ Square brackets [] represent check boxes, and parentheses () represent radio buttons. You can select multiple checkboxes. You can select only one radio button.

Use the Up and Down arrow keys to move within a list of options. Press the Spacebar to select or deselect a checkbox.

- ◆ Actions within angle brackets < > represent command buttons: <Back>, <Next>, <OK>, <Accept>, <Do Not Accept> or <Cancel>.

Use the Tab key to navigate to a command button. Press Enter to execute (“click”) a command button.

Alternatively, you can select a button directly using the keyboard. Type **B** for Back, **N** for Next, **O** for Ok, **A** for Accept, **D** for Do not Accept, or **C** for Cancel.

- ◆ Data entry fields are underlined and usually display a default value (the entry overwrites the underline). If you do not want to accept a default value, you can backspace over it, and type in a new value.

Installation Procedure

Installation should always be performed from the C locale.

▼ To install Intel Deployment Manager

1. Copy dist-opforce.tgz, the Intel Deployment Manager installation package, to your system. Use /tmp or any directory with at least 1GB of available disk space. The copy will take several minutes.

2. From /tmp, use gzip to unzip dist-opforce.tgz:

```
# gzip -cd dist-opforce.tgz | tar xf -
```

The install files are now located in the dist-opforce directory.

3. Run the Intel Deployment Manager JInstall “setup” program

```
# cd /dist-opforce/jinstall
```

```
# /tmp/dist-opforce/jinstall/setup.sh
```

Do not interrupt or kill the JInstall setup process. Do not use the opforce-setup.sh

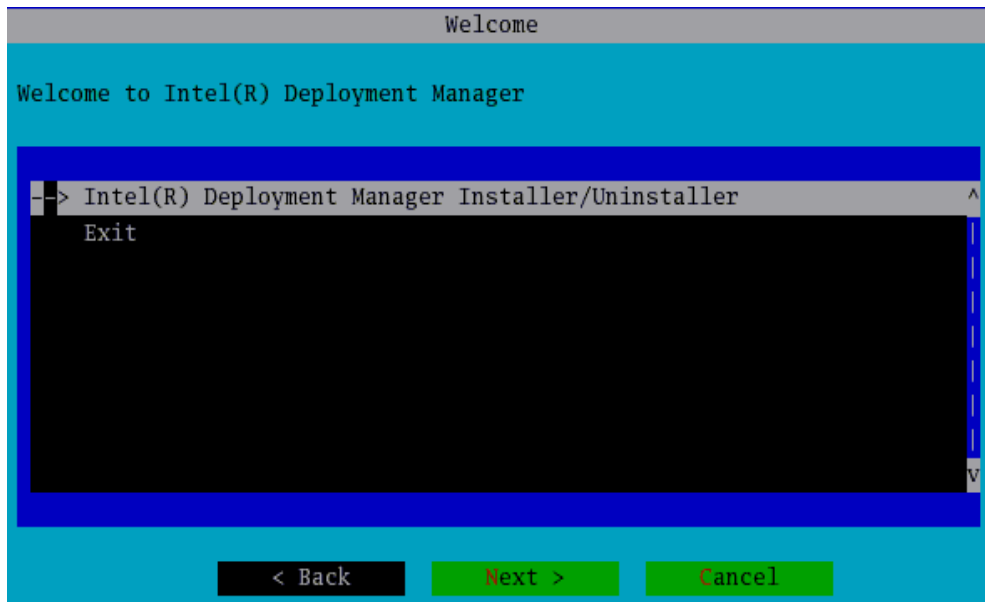
Note Do NOT interrupt or kill the JInstall setup process. Do not use the opforce-setup.sh

If you are installing Intel Deployment Manager on a system for the first time, some of the following prompts might be displayed when `setup.sh` is run:

```
./setup.sh: About to execute 'ln -s /usr/bin/unzip
/usr/local/bin/unzip'. Proceed? (Y/N) Y
./setup.sh: About to execute 'ln -s /usr/bin/perl
/usr/local/bin/perl'. Proceed? (Y/N) Y
```

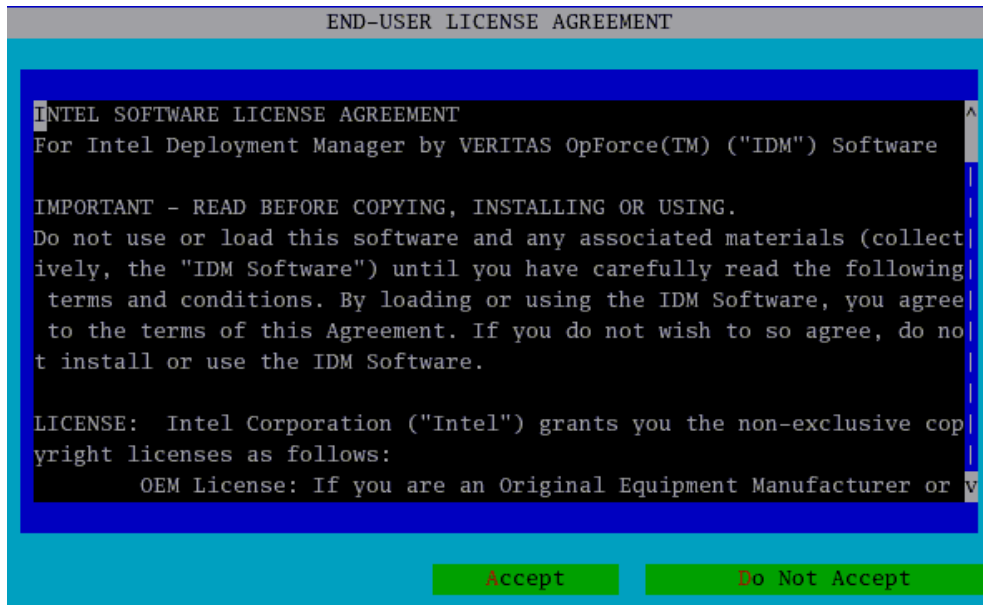
Enter **Y** (Yes) for each of these prompts.

4. The **Welcome** dialog is displayed.

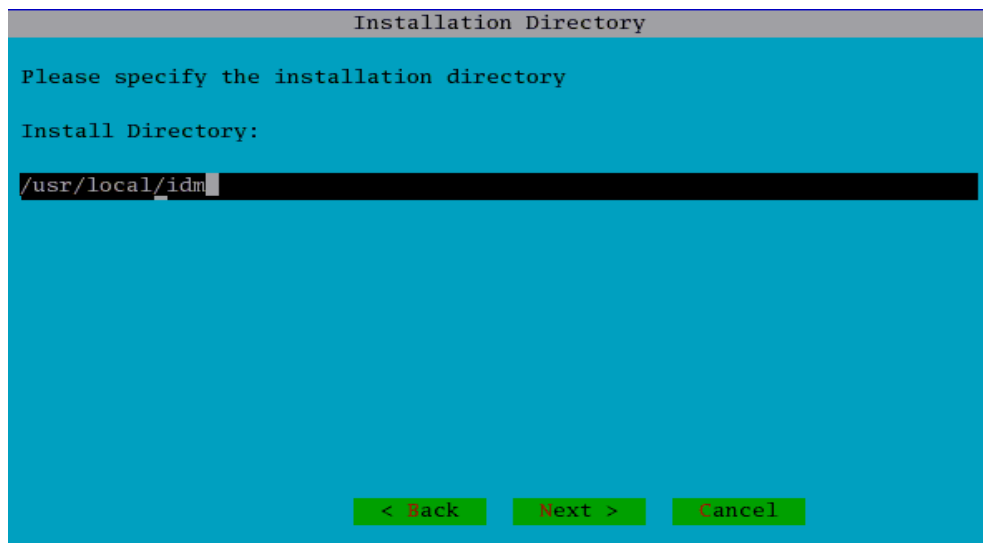


Choose the Intel Deployment Manager Installer Tab to navigate to **<Next>**. Press Enter.

5. The Software **End-user License Agreement** is displayed. Use the Up/Down arrow keys to scroll through the Readme. Intel Deployment Manager can only be installed if you accept the agreement. Press Tab to navigate to **<Accept>**. Press Enter.

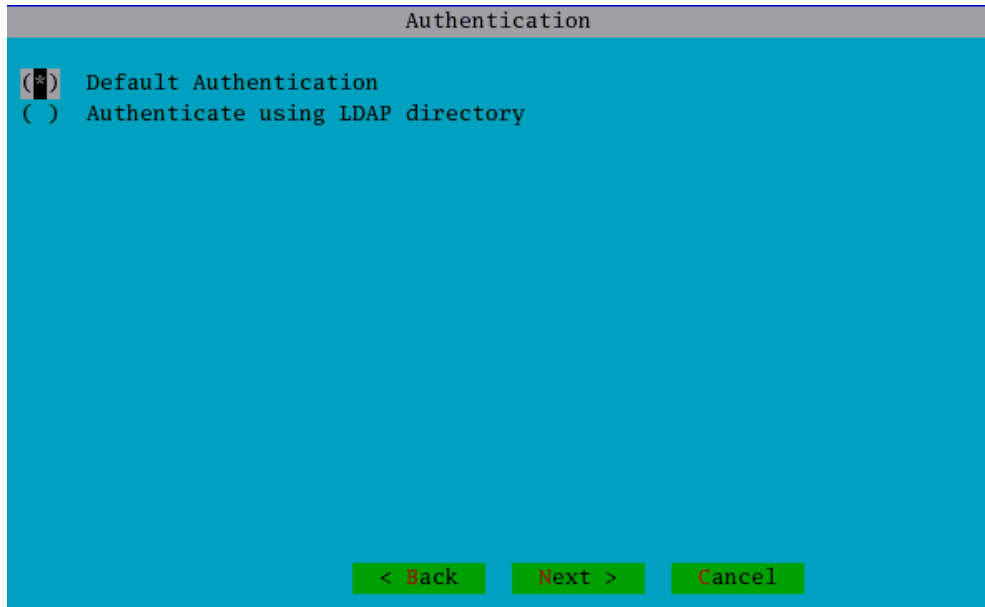


6. The **Installation Directory** dialog is displayed. The directory must have at least 500



MB available. Default is /usr/local/idm. Press Tab to reach **<Next>**. Press Enter.

7. The **Authentication** dialog appears. Read through the LDAP section before choosing.



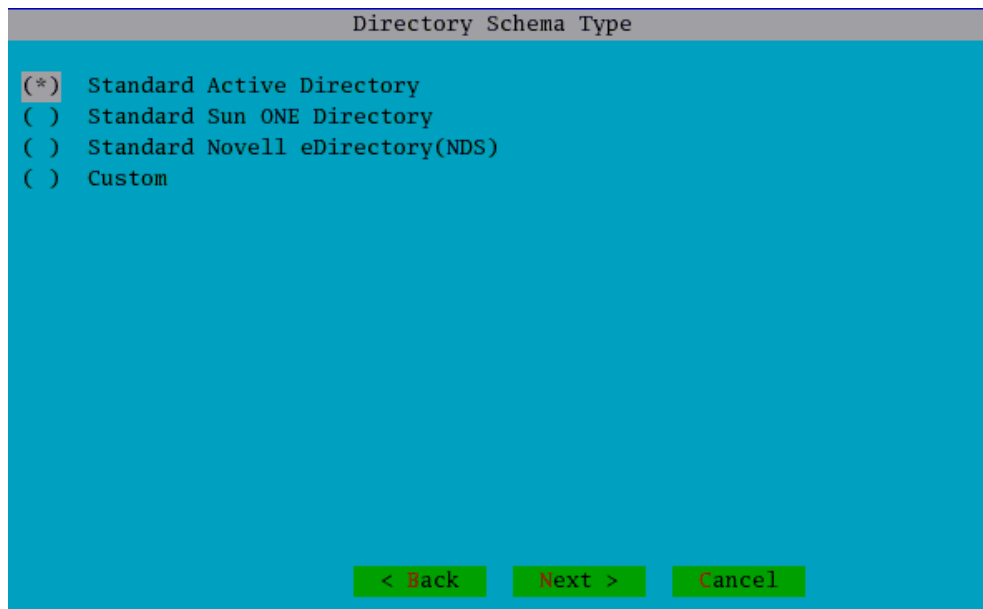
LDAP (Lightweight Directory Access Protocol) defines a protocol for updating and searching directories running over TCP/IP. An LDAP directory entry is a set of attributes including a distinguished name (DN). Each of the attributes has a type and one or more values. Types are strings like “cn” for common name. The values depend on the type. LDAP directory entries are arranged in a hierarchy. For further information on LDAP, search the Internet.

>Select **Default Authentication** to use the built-in Intel Deployment Manager user database for authentication. If you select **Default Authentication**, the **Database Type** dialog is displayed. See [step 14](#).

>Select **Authenticate using LDAP directory** if you wish to authenticate using an LDAP directory server on the network. If you select **Authenticate using LDAP directory**, the **Directory Schema Type** dialog is displayed. See [step 8](#).

Select the appropriate authentication type. Press Tab to navigate to <Next>. Press Enter.

8. The **Directory Schema Type** dialog is displayed.



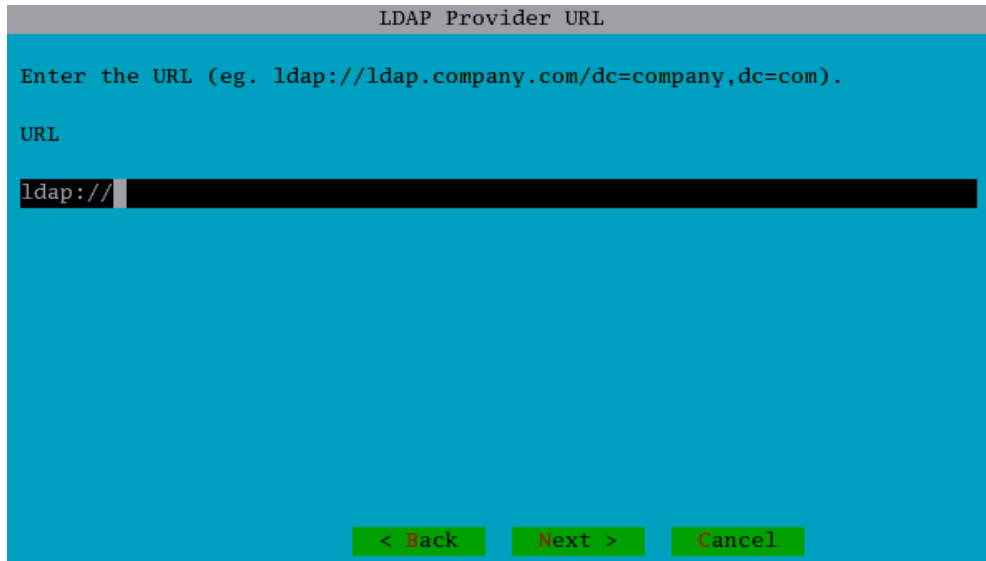
Select one of the following options to match your network directory schema:

- ◆ **Standard Active Directory**
- ◆ **Standard Sun ONE Directory**
- ◆ **Standard Novell eDirectory**
- ◆ **Custom**

If you select **Custom** it indicates that you have made changes to your directory schema, or you are using a directory server other than the ones listed. Install process will create the file `<opforce_home>/conf/customLDAP.properties` which must be updated with information about your directory schema.

Choose the appropriate schema. Press Tab to navigate to **<Next>**. Press Enter.

9. The **LDAP Provider URL** dialog is displayed.

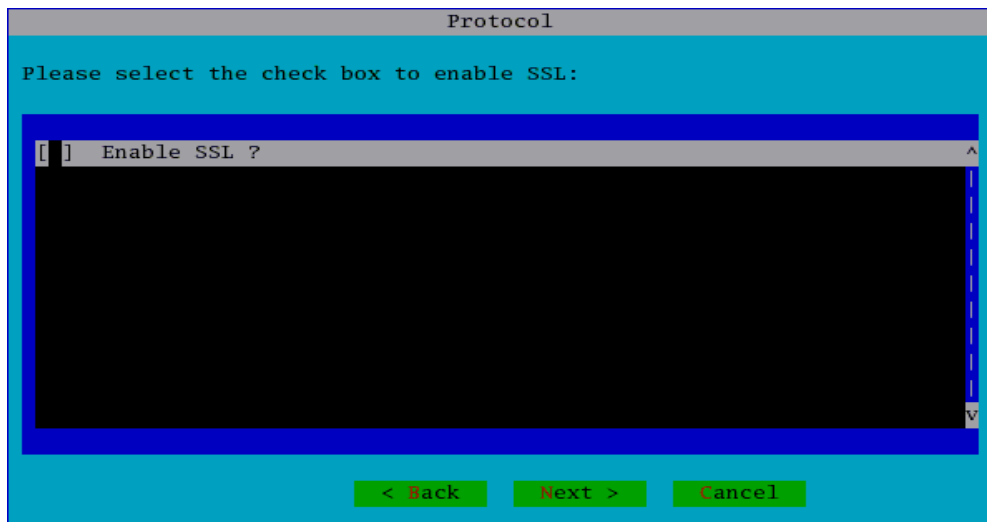


Enter the URL of the LDAP server using either the IP address or the FQDN (Fully Qualified Domain Name) in the format shown. If LDAP uses a port other than 389, the LDAP port number must be included in the URL. Example:

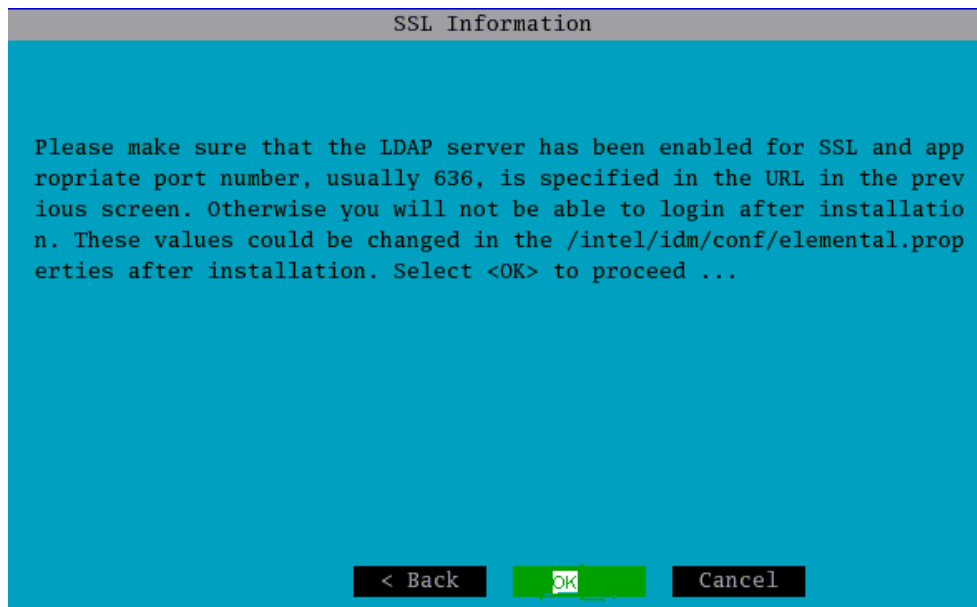
```
ldap://10.182.144.107:636/o=yourcompany,c=us
```

Press Tab to navigate to <Next>. Press Enter.

10. In the **Protocol** dialog, you can press the Spacebar to enable SSL Verify that the secure LDAP port (default = 636) was specified in the URL in [step 9](#)

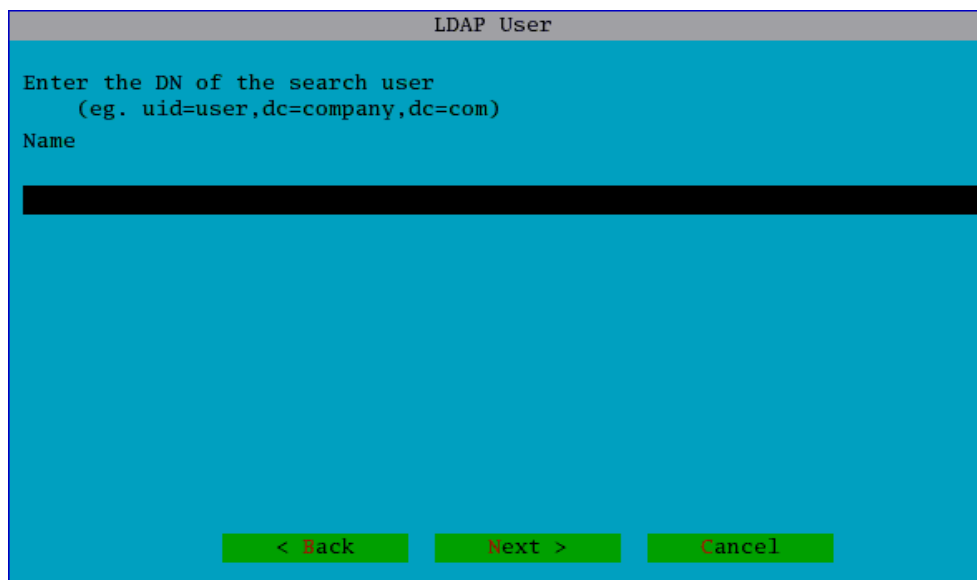


11. The SSL Information screen is displayed.



Press Tab to navigate to <OK>. Press Enter.

12. The LDAP User dialog is displayed.

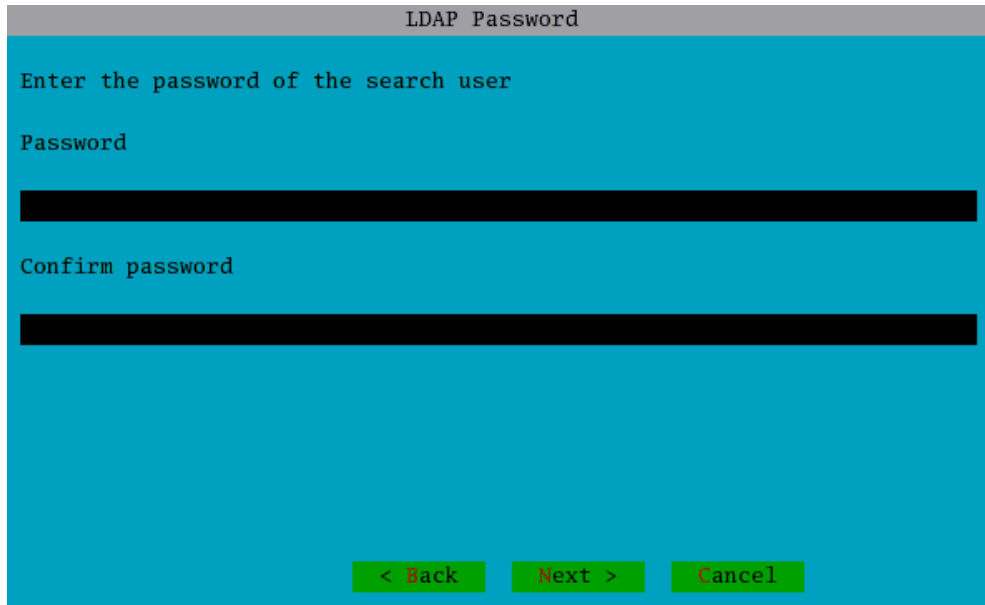


Enter the Distinguished Name (DN) of the user. This is the account through which Intel Deployment Manager will bind with your LDAP server.

- ◆ For Microsoft Active Directory, enter the user name in the following format:
`user@company.com`.
- ◆ For other LDAP servers, enter the DN of the user.

Press Tab to navigate to <Next>. Press Enter.

13. The LDAP Password dialog is displayed.



LDAP Password

Enter the password of the search user

Password

Confirm password

< Back Next > Cancel

Enter the password for the LDAP user. Press Tab to navigate to <Next>. Press Enter.

Note Before attempting to use LDAP for the first time, contact your LDAP administrator to create users on the LDAP server for Intel Deployment Manager and assign them to groups.

Make sure the LDAP administrator,

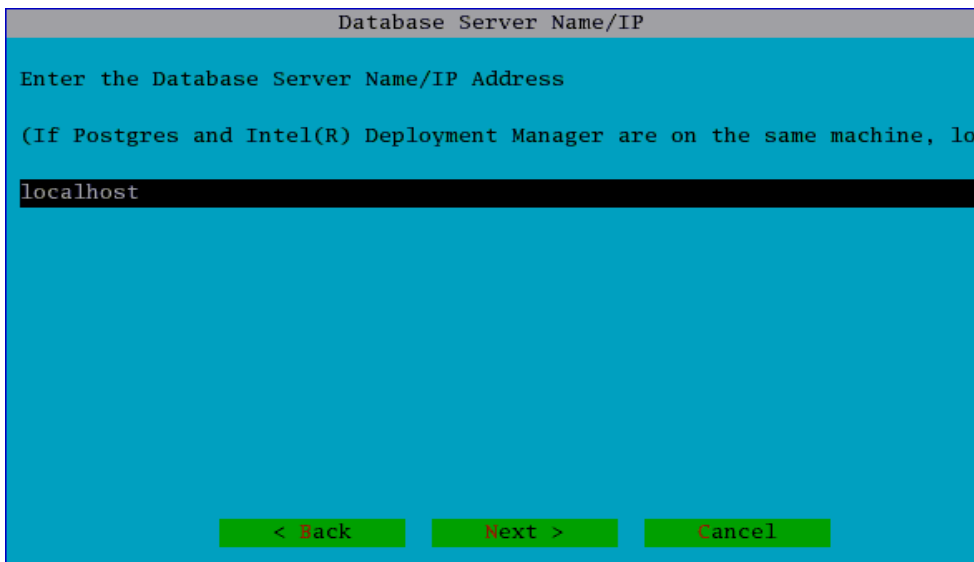
- ◆ creates a group named Intel Deployment Manager Admins on the LDAP server.
- ◆ assigns users to the Intel Deployment Manager Admins group. Any LDAP user that belongs to this group can log in as an Intel Deployment Manager administrator (using the correct user ID and password).
- ◆ when creating non-administrative users for Intel Deployment Manager, creates a group on the LDAP server, assign users to this group. Map the group to a role in the Intel Deployment Manager server.

14. The **Database Type** dialog is displayed. On Red Hat Linux, use PostgreSQL



Press Tab to navigate to <Next>. Press Enter.

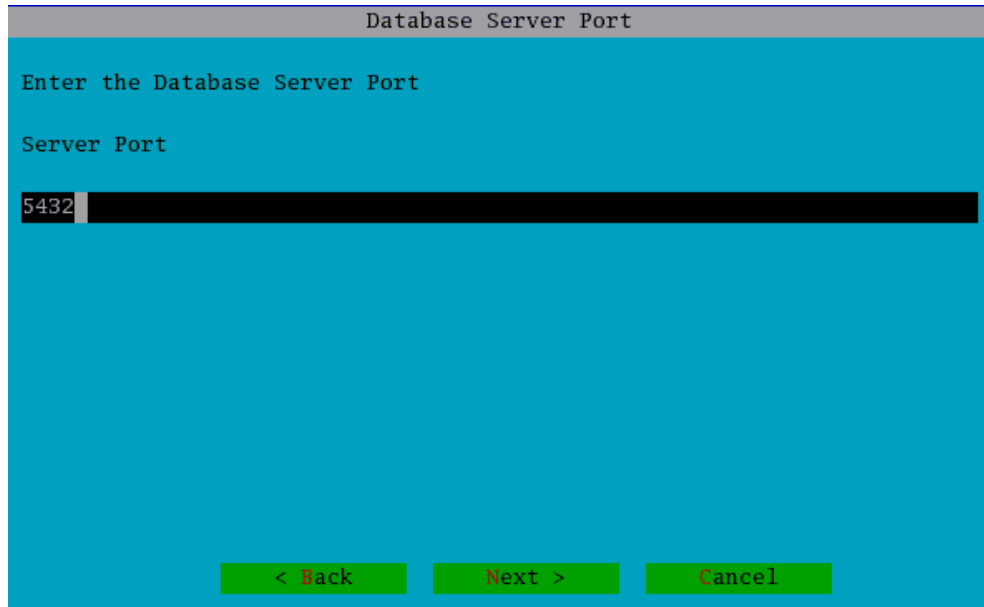
15. The **Database Server Name / IP** dialog is displayed.



Enter the FQDN server name or the IP address of the database server . The default value is localhost and must be used if the database server is on the same machine as the Intel Deployment Manager server.

Press Tab to navigate to <Next>. Press Enter.

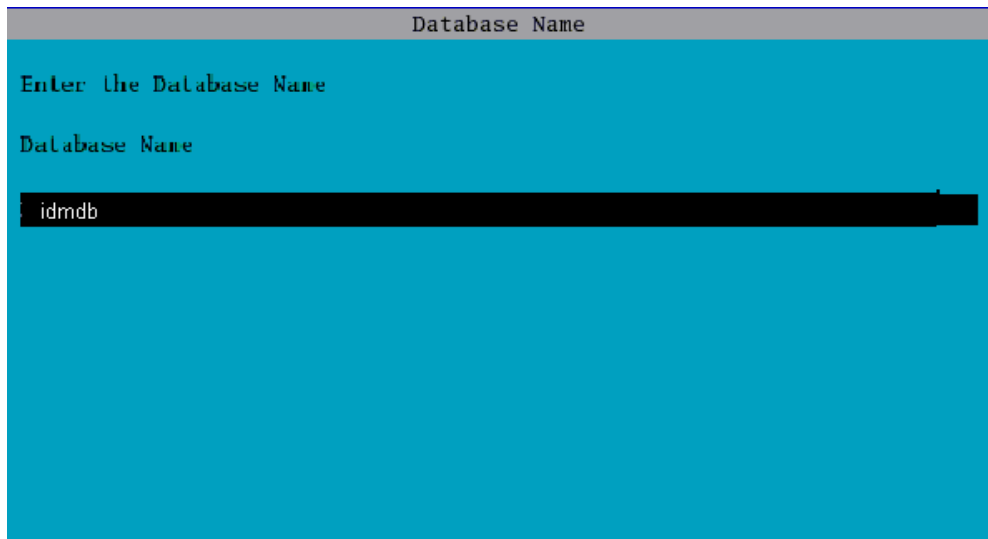
16. The **Database Server Port** dialog is displayed.



The screenshot shows a dialog box titled "Database Server Port" with a blue background. The text "Enter the Database Server Port" is displayed at the top. Below it, the label "Server Port" is followed by a text input field containing the number "5432". At the bottom of the dialog, there are three green buttons: "< Back", "Next >", and "Cancel".

Enter the port number from which the database is served. The default is 5432 for PostgreSQL. Press Tab to navigate to <Next>. Press Enter.

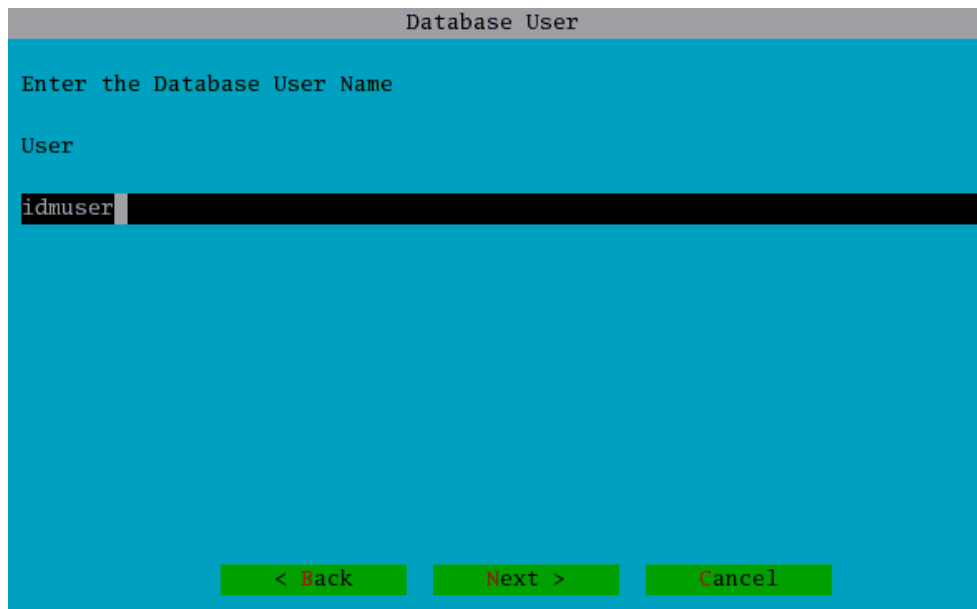
17. The **Database Name** dialog is displayed. Enter the same name as when the Database



The screenshot shows a dialog box titled "Database Name" with a blue background. The text "Enter the Database Name" is displayed at the top. Below it, the label "Database Name" is followed by a text input field containing the name "idmdb".

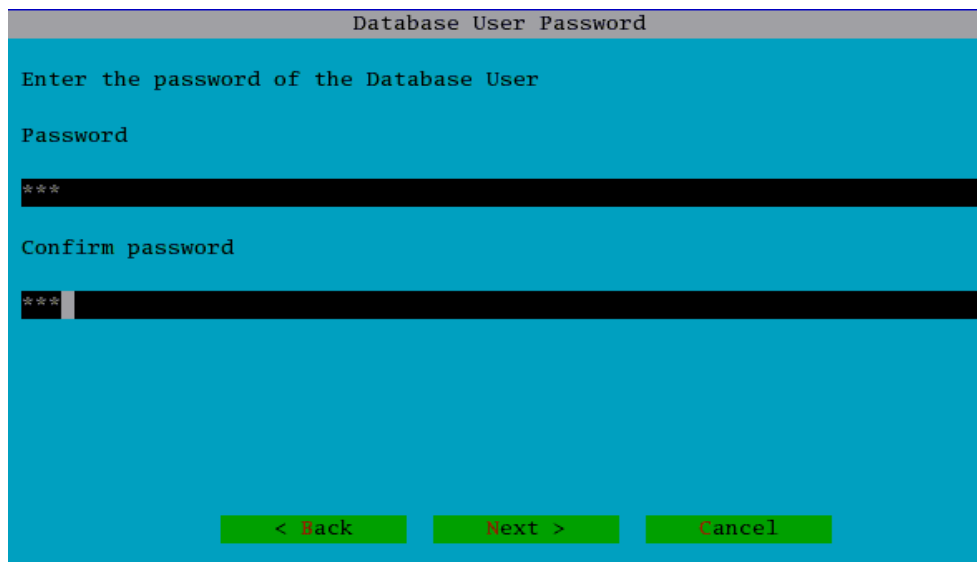
was installed. (Default is provdb). Press Tab to navigate to <Next>. Press Enter.

18. The **Database User** dialog is displayed. Enter the name assigned when database was



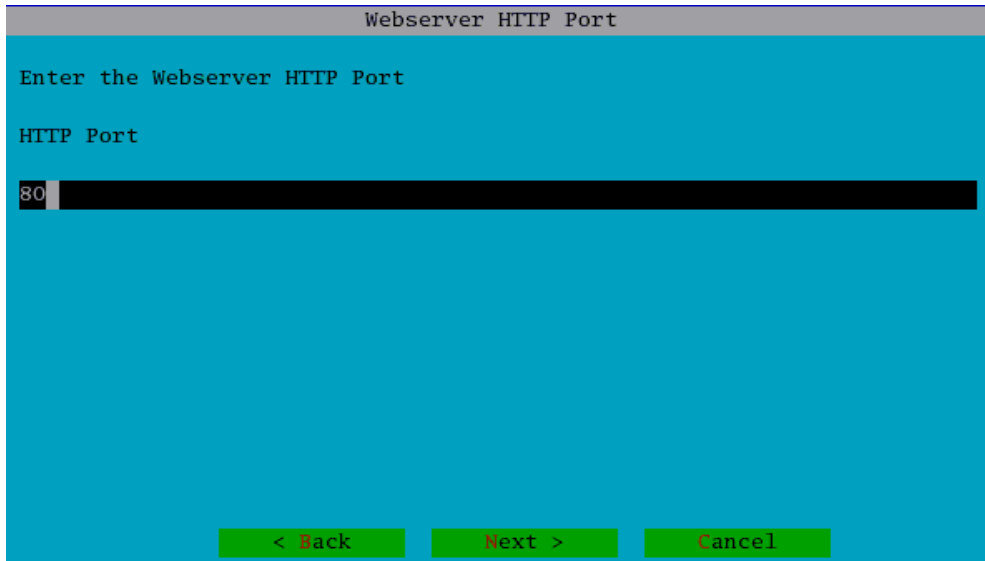
installed. Default is dbuser. Press Tab to navigate to <Next>. Press Enter.

19. The **Database User Password** dialog is displayed. Enter the password assigned to the



user when the database was installed. Press Tab to navigate to <Next>. Press Enter.

20. The **Webserver HTTP Port** dialog is displayed. Set the desired port for the built in



Webserver HTTP Port

Enter the Webserver HTTP Port

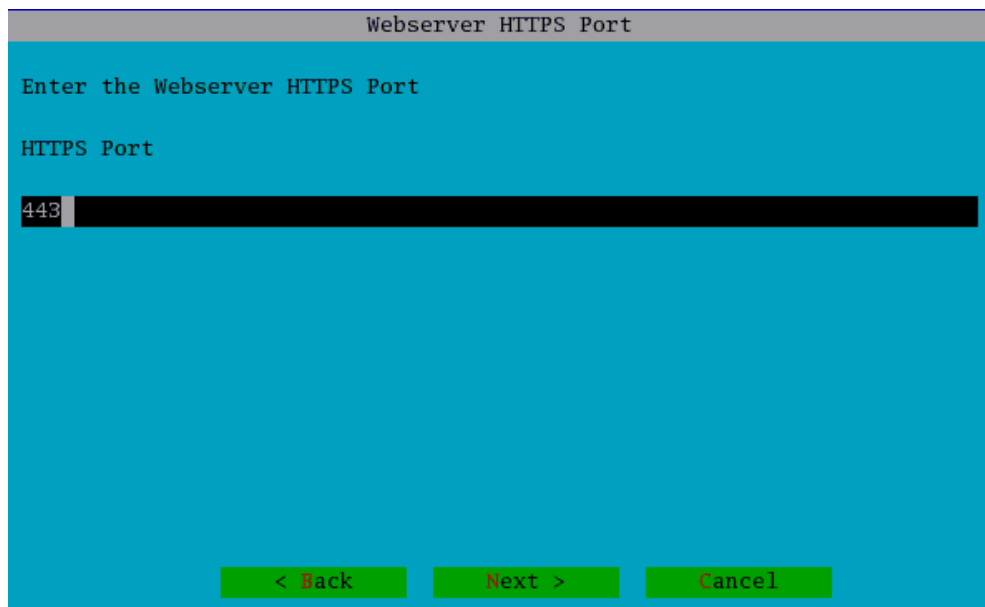
HTTP Port

80

< Back Next > Cancel

Web-server. Default HTTP port is 80. Press Tab to navigate to <Next>. Press Enter.

21. The **Webserver HTTPS Port** dialog is displayed. Default HTTPS port is 443.



Webserver HTTPS Port

Enter the Webserver HTTPS Port

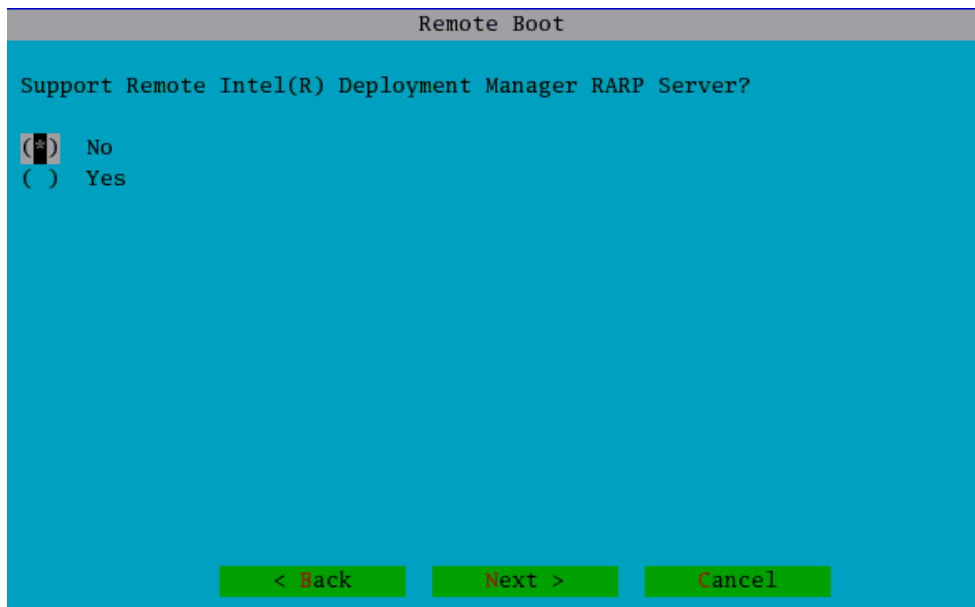
HTTPS Port

443

< Back Next > Cancel

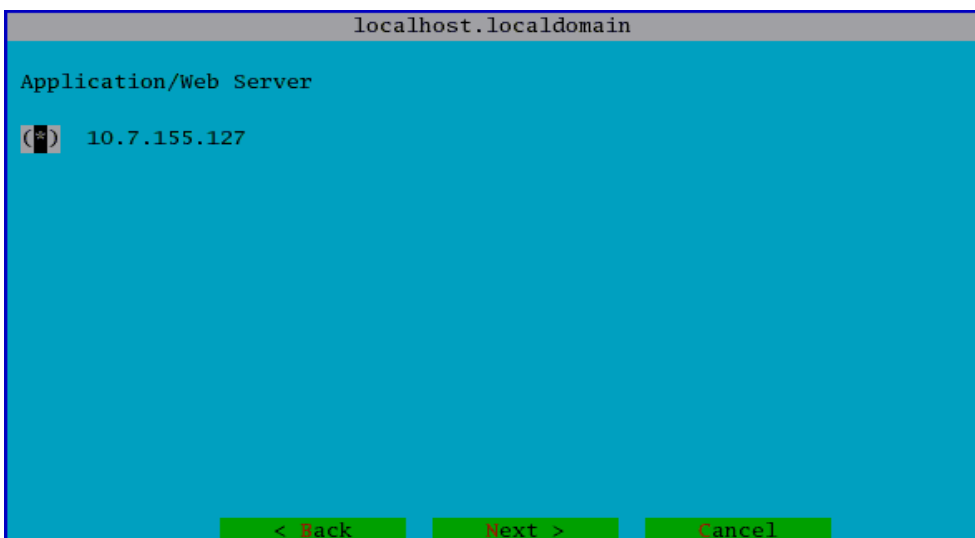
Press Tab to navigate to <Next>. Press Enter.

22. The **Remote Boot** dialog is displayed. Press spacebar to select. Down arrow to



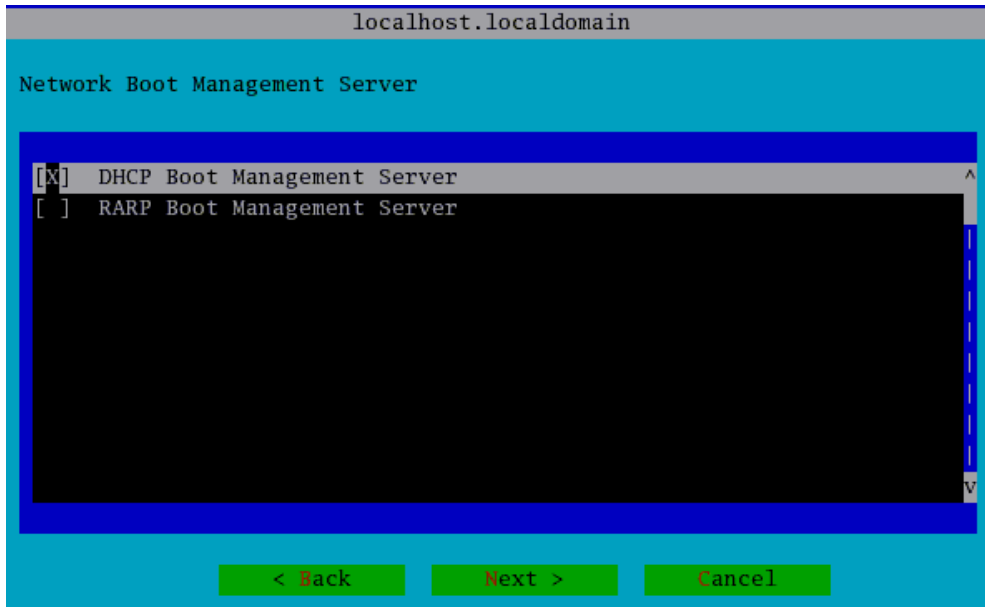
navigate. Press Tab to navigate to <Next>. Press Enter.

23. The **Application Server** dialog is displayed. Select the IP address of the Application Server. .



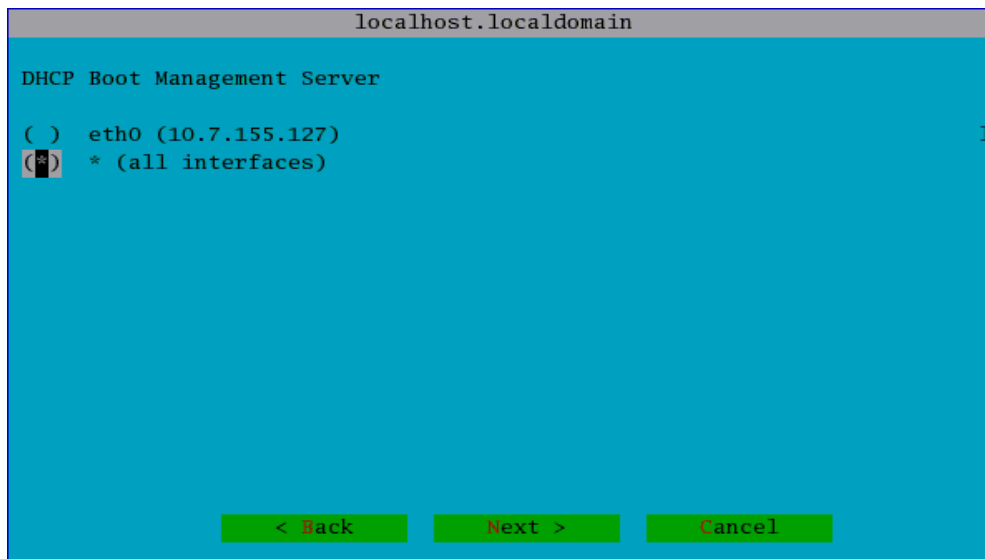
Press Tab to navigate to <Next>. Press Enter.

24. The **Network Boot Management Server** dialog is displayed. The DHCP server is



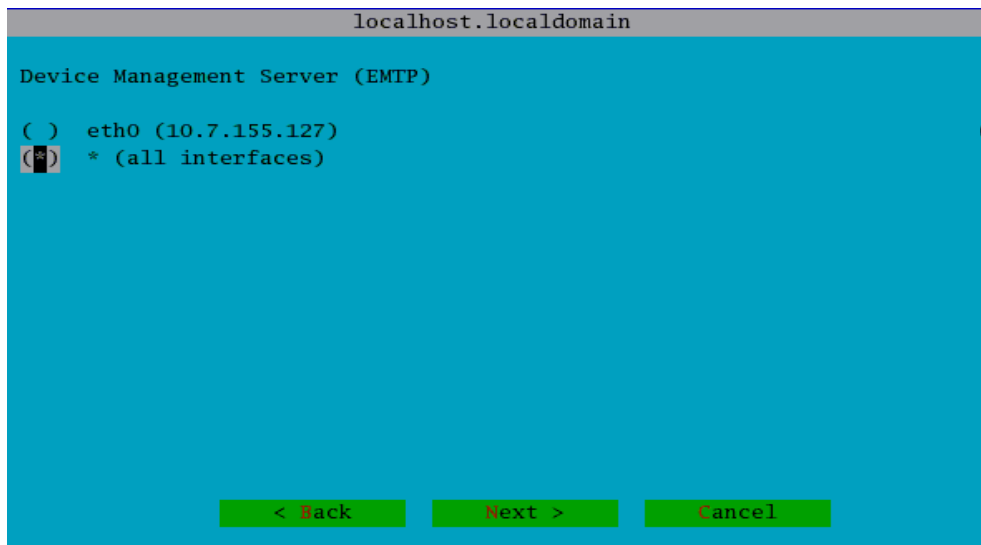
optional and will be installed on the Intel Deployment Manager system if selected.

25. The **DHCP Boot Management Server** dialog is displayed only if you selected DHCP in [step 24](#). Select the desired network connection(s) for answering DHCP boot



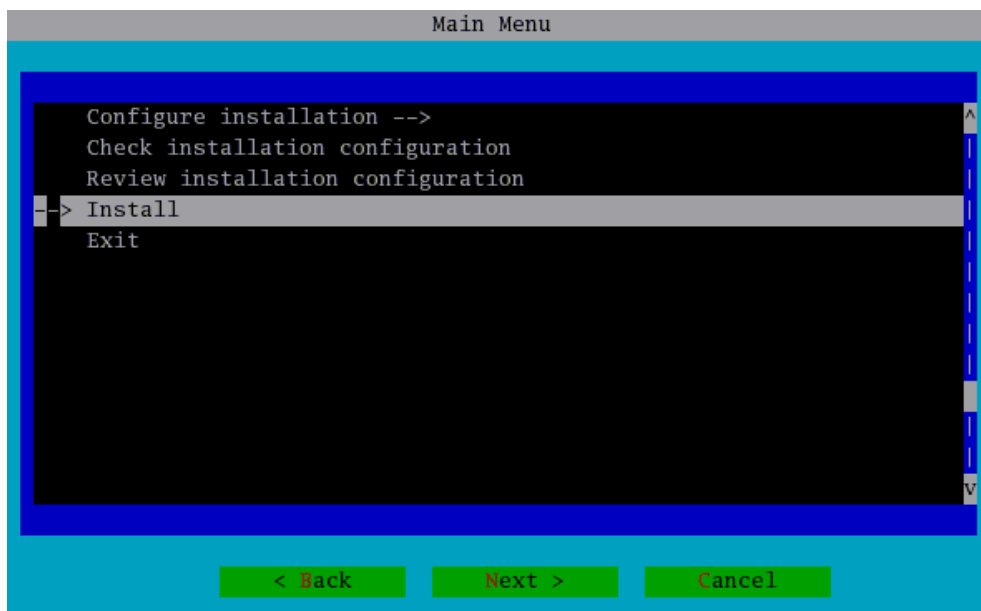
requests and that will be used when booting up Server assets into the ActiveOS (ADMIN state). Press Tab to navigate to <Next>. Press Enter.

26. The **Device Management Server** dialog is displayed. The EMTP server is required for discovery and management of live target Servers.



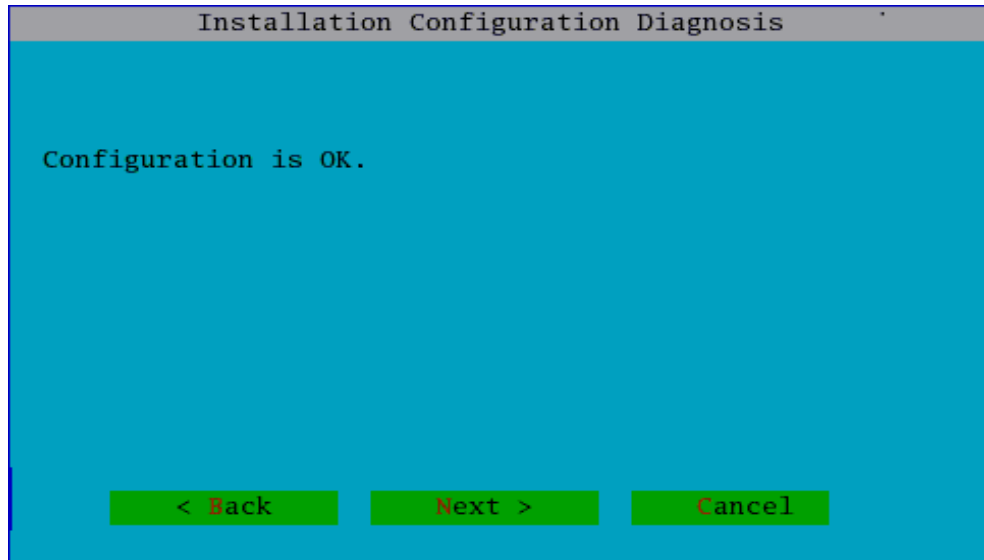
Press Tab to navigate to <Next>. Press Enter.

27. The **Main Menu** is displayed.

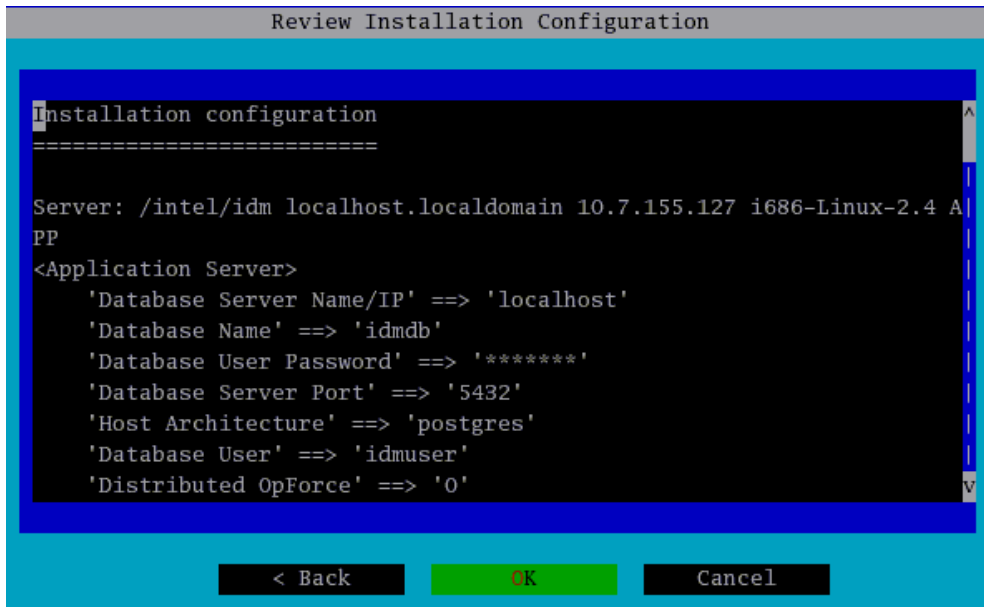


- ◆ If you select **Configure Installation**, the configuration procedure starts again

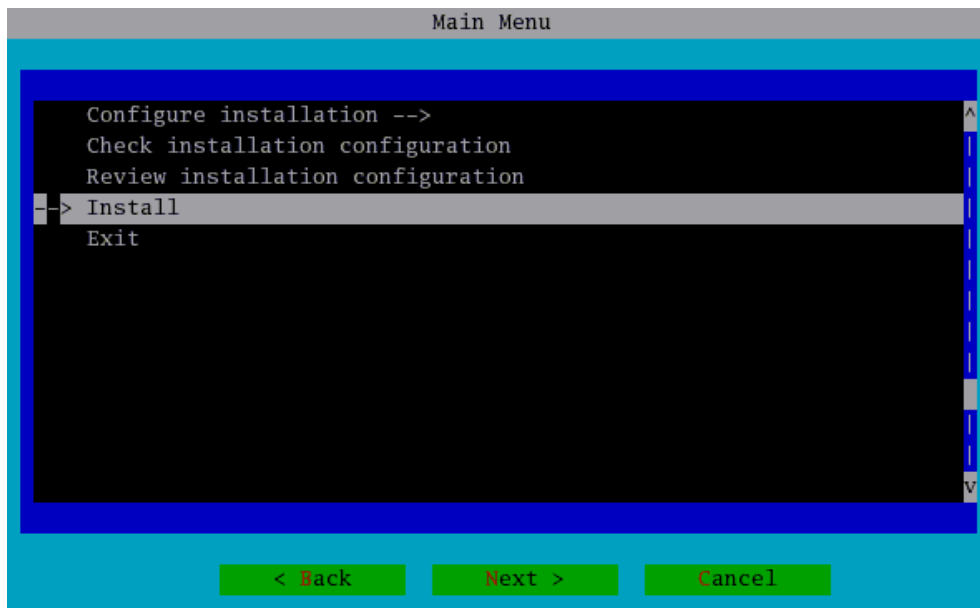
- ◆ Select **Check Installation Configuration** to see the **Installation Configuration Diagnosis** screen



- ◆ If you select **Review Installation Configuration**, the **Review Installation Configuration** dialog is displayed.



- ◆ When you are satisfied that your installation configuration is correct, select the **Install** option.



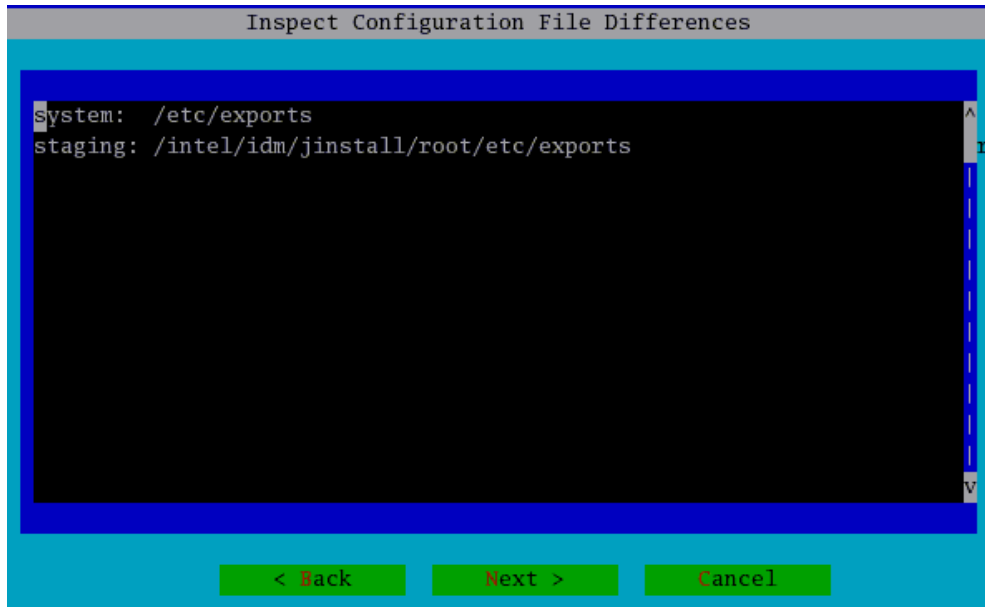
After selecting an option, press Tab to navigate to <Next>. Press Enter.

28. Install stages the installation files. This process takes a few minutes.

```
Staging Application Server filesets for installation ...
Staging Network Configuration Management Server filesets for installation ...
Staging Network Storage Management Server filesets for installation ...
Staging Network Boot Management Server filesets for installation ...
Staging Device Management Server filesets for installation ...
Staging Remote Power Management Server filesets for installation ...
Installing/Updating VERITAS licensing libraries

Syncing filesets .
Checking for software configuration file updates .....
```

29. The **Inspect Configuration File Differences** screen is displayed. All configuration files that will be changed during the installation are displayed.



Press Tab to navigate to <Next>. Press Enter.

30. The installation starts. You'll see the following messages:

```
Installing onto system (this may take a few minutes) ...displayed.  
Calling start action: /usr/sbin/exportfs -r  
Calling start action: /etc/rc.d/init.d/elemental start  
Starting the Elemental Server:  
Installation completed successfully  
Hit <Enter> to continue..
```

Installation is now complete.

Press Enter to return to the JInstall **Welcome** dialog. Select Exit and close the program.

Starting, Stopping, or Restarting Intel Deployment Manager

To stop, start, or restart Intel Deployment Manager, you can use the following command from the command lines:

Commands for the Intel Deployment Manager server

Action	Command
Stop	<code>/etc/init.d/elemental stop</code>
Start	<code>/etc/init.d/elemental start</code>
Restart	<code>/etc/init.d/elemental restart</code>

Uninstalling Intel Deployment Manager

▼ To uninstall the Intel Deployment Manager server

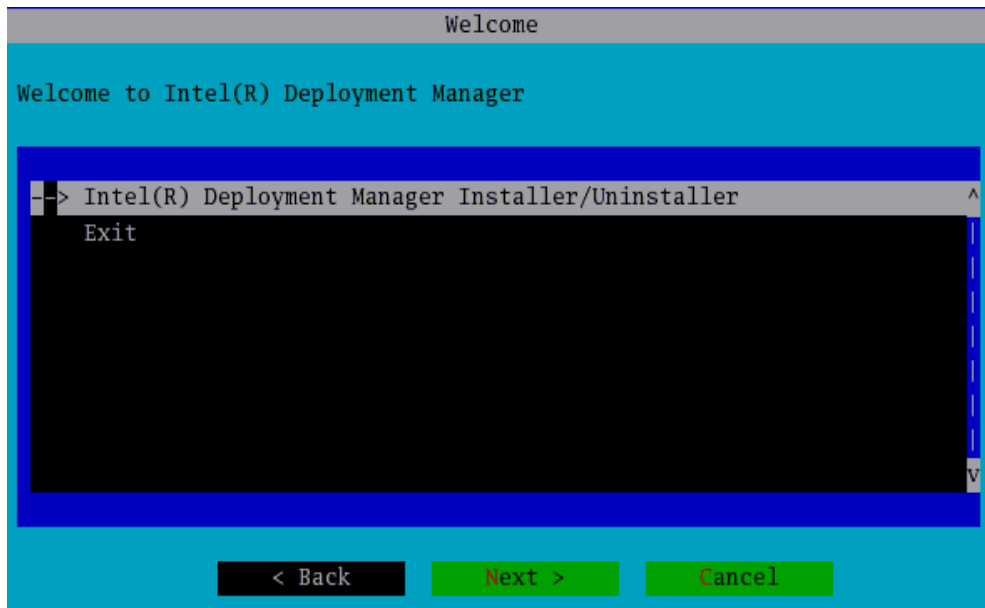
1. Run the Intel Deployment Manager JInstall setup program:
The install files are required to run setup.sh. If these files are not still available, either in /tmp or in your chosen directory; copy the `dist-opforce.tgz` off the CD and untar again. See “[Installing Intel Deployment Manager](#)”

Assuming files were unpacked in /tmp; type:

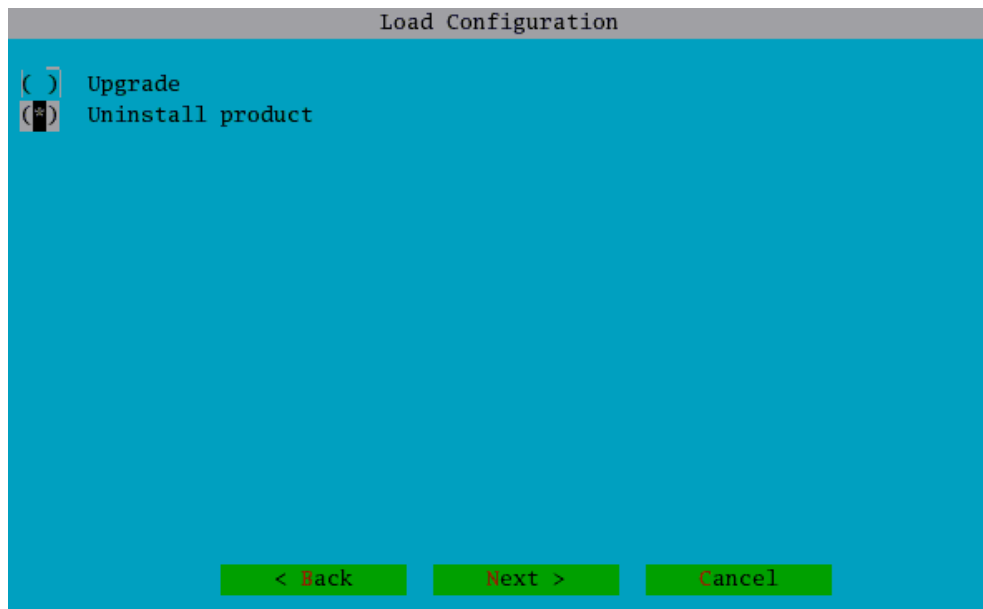
```
# /tmp/dist-opforce/jinstall/setup/setup.sh
```

The directory `/usr/local/idm` is the default Intel Deployment Manager installation directory. The location of your installation directory may be different.

2. When the **Welcome** dialog appears select Intel Deployment Manager **Installer/Uninstaller**. Tab to **<Next>** and press Enter.



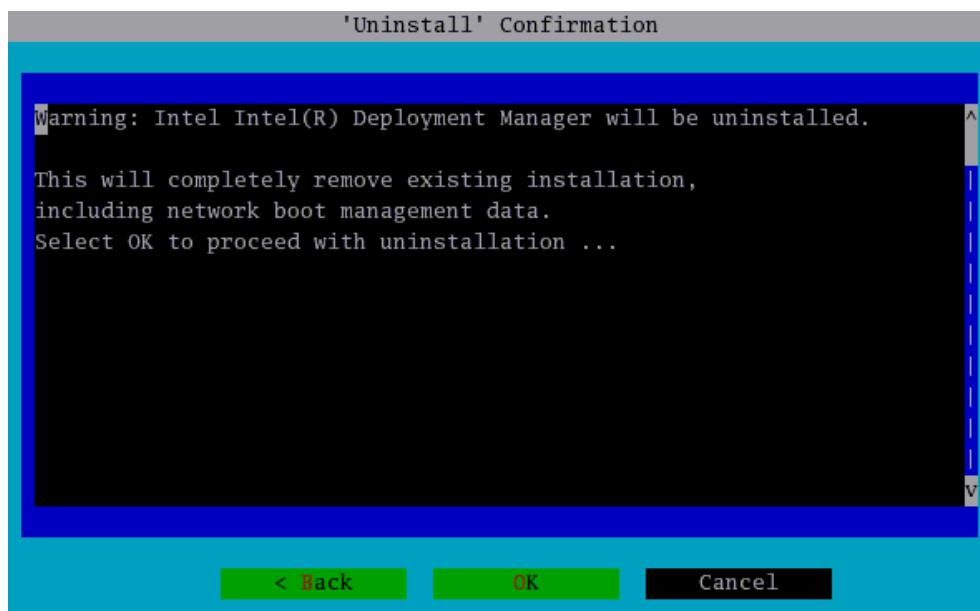
3. The **Load Configuration** dialog is displayed.



Select **Uninstall product**.

Press Tab to navigate to <Next>. Press Enter.

4. The **Uninstall Confirmation** dialog appears. Press Tab to reach <OK>. Press Enter.

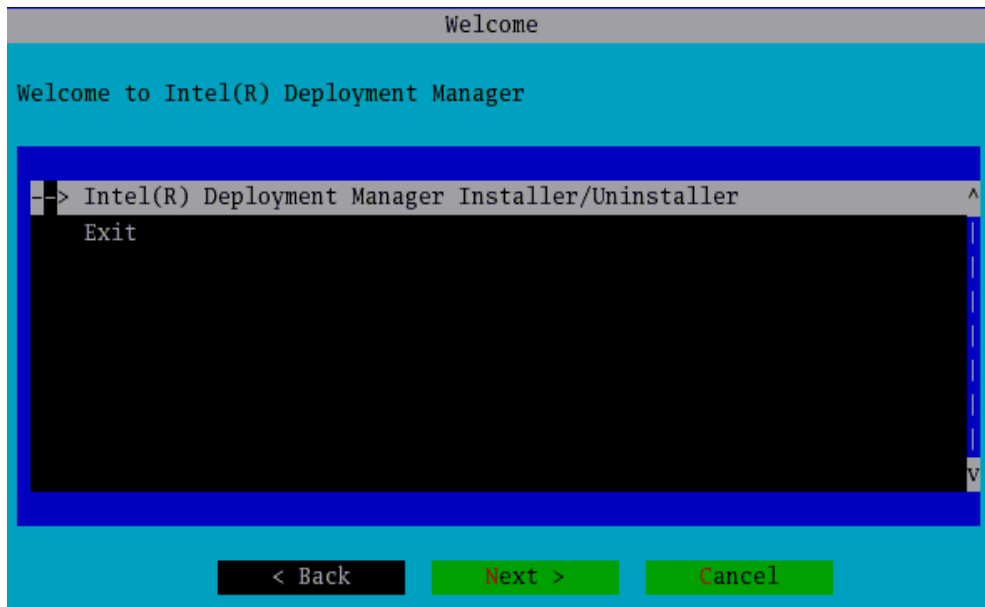


5. The following messages are displayed on your system console. Processing might take several minutes.

```
Starting product uninstallation ...
Calling stop action: /etc/rc.d/init.d/elemental stop
Uninstalling from system (this may take a few minutes) ...
Removing Licenses...
Uninstallation completed successfully
Hit <Enter> to continue...
```

The message `Uninstallation completed successfully` confirms that Intel Deployment Manager is uninstalled.

Press Enter to return to the **JInstall Welcome** dialog.



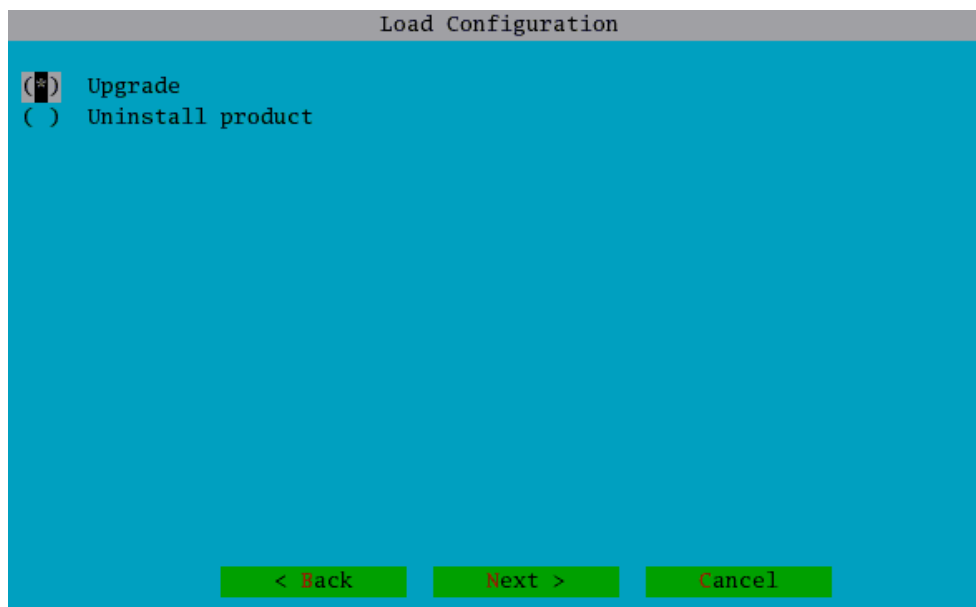
Select `Exit` to end the JInstall application.

Upgrading Intel Deployment Manager

An upgrade installation installs the latest version of Intel Deployment Manager, but retains your existing configuration and data.

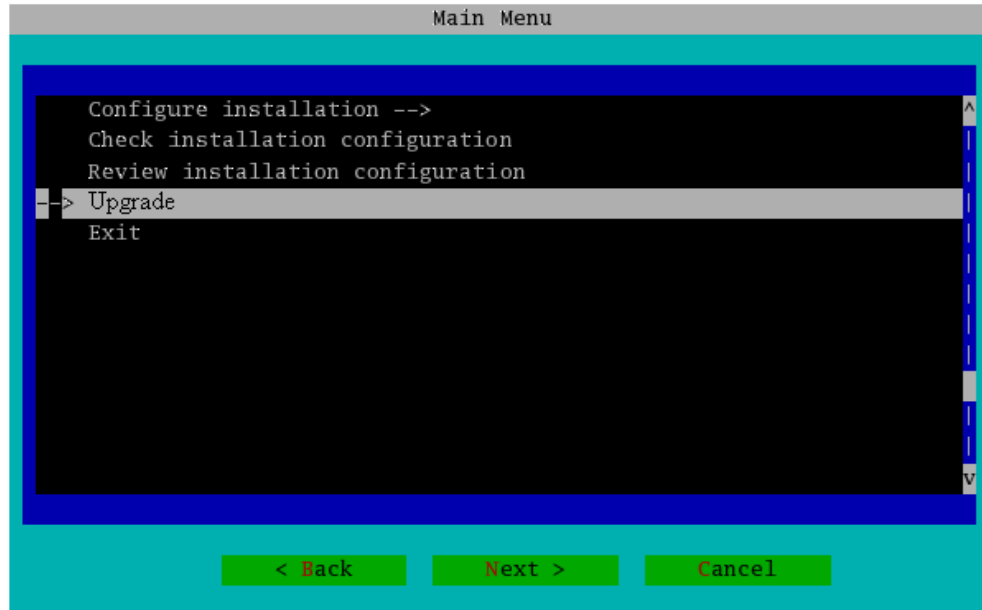
The procedure for upgrading from a previous English 3.2 or 3.2 Update 3 version is almost the same as the installation procedure given in “[Installing Intel Deployment Manager](#)” on page 24 except for the following differences:

If a previous installation of Intel Deployment Manager exists, a **Load Configuration** dialog is displayed.



Select **Upgrade**, press Tab for <Next>, and press Enter.

The **Main Menu** is displayed after the License Agreement dialog.



To make changes to your existing configuration, choose **Configure Installation**.

Otherwise, select **Upgrade**, press Tab to navigate to <Next>, and press Enter.

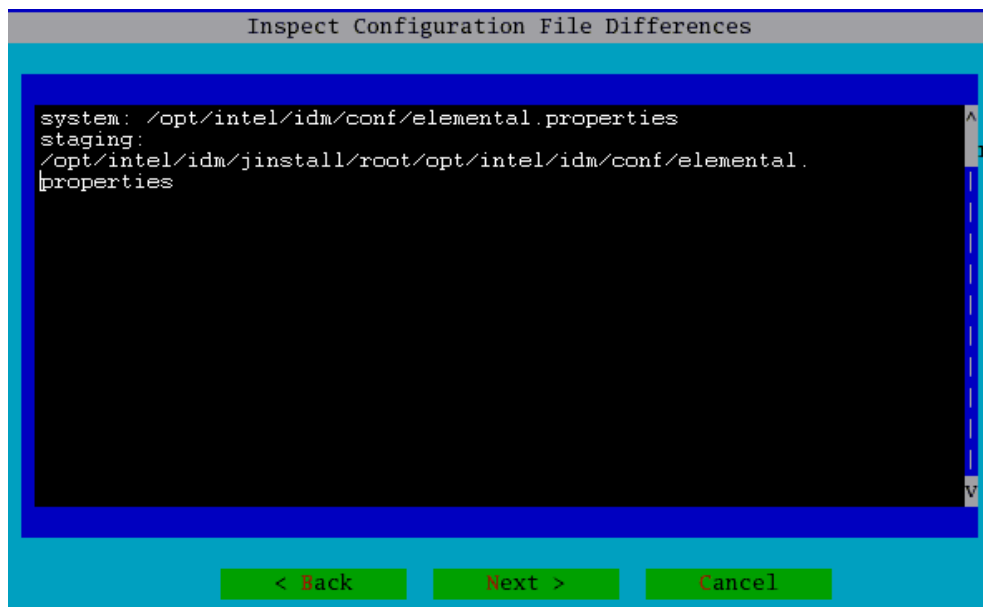
- ◆ After selecting Upgrade from the Main Menu, you may see messages like the following:

```

Staging Application Server filesets for installation ...
Staging Network Configuration Management Server filesets for installation ...
Staging Network Storage Management Server filesets for installation ...
Staging Network Boot Management Server filesets for installation ...
Staging Device Management Server filesets for installation ...
Staging Remote Power Management Server filesets for installation ...
Calling stop action: /etc/rc.d/init.d/elemental stop
Installing/Updating VERITAS licensing libraries
VRTSvlic version 300007 already installed

Syncing filesets
.....
.....
.....
Checking for software configuration file updates .....
  
```

- ◆ The **Inspect Configuration File Differences** screen is displayed just as it is during a fresh installation, but the files that will be changed during the upgrade installation are different.



This chapter describes how to get started using Intel Deployment Manager. It points to installation resources, shows you how to obtain a product key, and talks about how to log in to the administration console (user interface). The administration console is described in detail.

This chapter includes the following topics:

- ◆ [“Installation Resources”](#) on page 50
- ◆ [“Getting a Product Key for Intel Deployment Manager”](#) on page 50
- ◆ [“Setting Up Intel Deployment Manager”](#) on page 54

Installation Resources

Select an appropriate system on which to install the Intel Deployment Manager server. In a simple setup the Intel Deployment Manager server should be on the same LAN as the Intel Server Chassis and Intel Server Compute Blades.

- ◆ If you want to install Intel Deployment Manager on a Windows system see the *Intel Deployment Manager by VERITAS OpForce Installation Guide for Windows* for system requirements and the installation procedure.
- ◆ If you want to install Intel Deployment Manager on a Red Hat Linux system see the *Intel Deployment Manager by VERITAS OpForce Installation Guide for Red Hat Linux* (this guide) for system requirements and the installation procedure.

Getting a Product Key for Intel Deployment Manager

An Intel Deployment Manager product key is required for each platform Intel Deployment Manager runs on: Windows or Red Hat Linux. This product key is required to log in to Intel Deployment Manager for the first time.

To get a product key to manage chassis and any number of blades, go to <http://www.veritas.com/opforcelicense> and provide your contact information. A product key will be e-mailed to you within a few minutes.

Logging into Intel Deployment Manager

You can use any one of the following web browsers to display the administration console:

- ◆ Internet Explorer 6.0 (or higher)
- ◆ Netscape 6.2.3 (or higher)
- ◆ Mozilla 1.0 (or higher)

▼ To log in to the administration console

1. Bring up your browser and enter the URL for the Intel Deployment Manager server. Use the fully qualified domain name or IP address. For example:
`http://yourserver.yourcompany.com`

Note If you reassigned the web server port numbers when you installed Intel Deployment Manager, you need to specify the port number in the URL. For example: `http://yourserver.yourcompany.com:8080`

2. If you have not yet licensed Intel Deployment Manager, the **Product Key** page is displayed.

You can enter a product key and click **Add and Done**. Then, the Intel Deployment Manager login screen is displayed.

Tip When adding product keys, you can avoid typos by copying and pasting the provided key string.

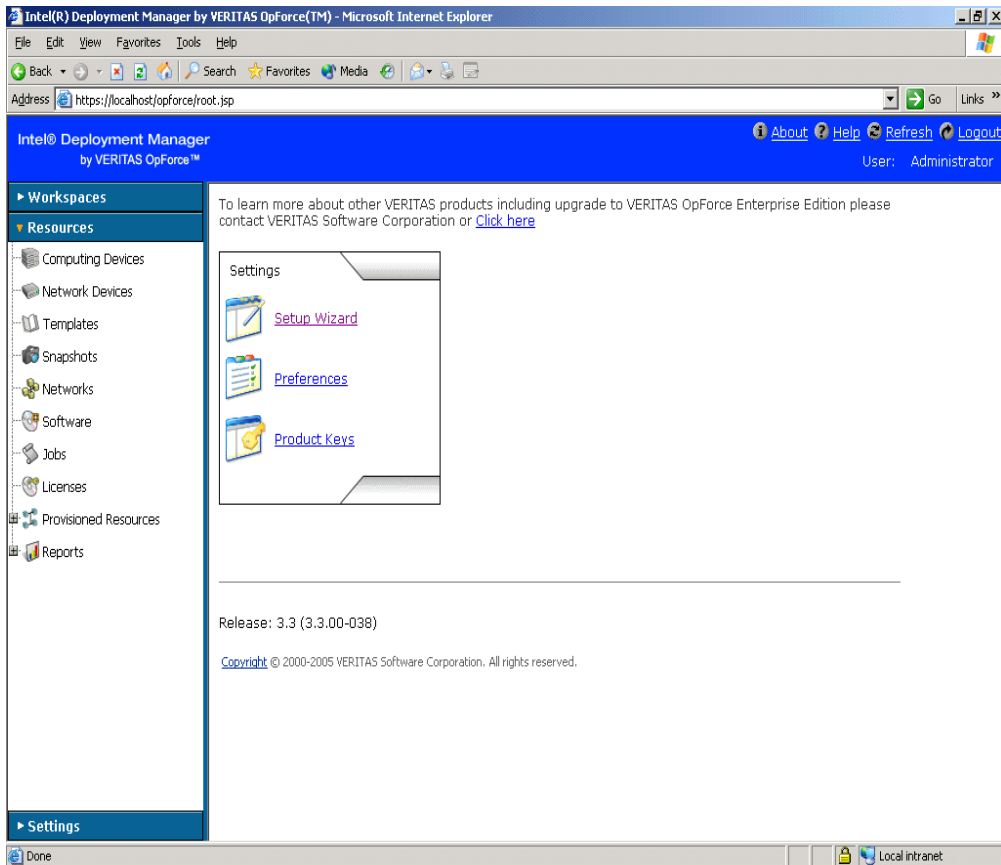
3. If a security certificate is presented, accept the certificate for an HTTPS secure session.
4. Log in with a valid user ID and password. The user ID and password are case-sensitive.
 - ◆ If you are using default authentication you can log in as Administrator. The default password is `sysadmin`. You should change the Administrator password right away to maintain security.
 - ◆ If you are using LDAP (Lightweight Directory Access Protocol) server for authentication, enter your LDAP user ID and password. Contact your LDAP administrator if you do not have an LDAP user ID and password.
5. The administration console appears upon successful login.

Note The session timeout value is one hour by default.

Understanding the Administration Console

The administration console is divided into the following areas: Header, Navigation Area, and Display Area. In the following figure, the administration console is shown with the **Resources** section open.

Intel Deployment Manager Administration Console



Header

The Header portion of the administration console displays the Intel Deployment Manager logo and the **About**, **Help**, **Refresh**, and **Logout** buttons. Click the Intel Deployment Manager logo to go to the main page. The user name that you used when logging in is displayed in the header.

Navigation Area

The Navigation Area displays three sections: **Workspaces**, **Resources**, and **Settings**. All Intel Deployment Manager containers and their respective pages are divided among these categories.

Workspaces defines the various work areas that can be used by different users. Every workspace contains all of the resources assigned to it.

Resources consists of all the resources that are administered and managed by Intel Deployment Manager. These resources are also accessible by users, depending on their permissions. You can also assign or unassign resources to various workspaces using the **Actions** menu within **Resources**.

Settings enables you to customize Intel Deployment Manager according to your requirements. You can:

- ◆ add or delete users and storage
- ◆ define user roles and access controls
- ◆ load and unload drivers
- ◆ set preferences
- ◆ view the custom log, task manager, and the Intel Deployment Manager product keys

Display Area

The Display Area displays tabs across the top of the area, such as **Discovered**, **Accepted**, **Server Assets**, **Blade Server Assets**, and so on. The tabs shown depend on the page you are on.

The menu bar, positioned immediately below the primary category tabs, displays various menus like **Actions**, **Table**, and others depending on the category you are working with. Selecting an option from one of these menus displays a dialog that enables you to perform an operation, like adding or updating settings.

Tables appear in the Display Area after you click a container in the Navigation Area. You can sort tables by clicking on the column headers. See the chapter, *Using Table and Icon Views in the User's Guide* for information about manipulating tables.

Setting Up Intel Deployment Manager

The following are tasks you should perform when initially setting up Intel Deployment Manager.

1. Add a Network.
2. Add storage for snapshots, software, and OpScripts.
3. Prepare the Intel Server Chassis and Server Compute Blades for discovery by Intel Deployment Manager.
4. Define ranges of IP addresses for use by Intel Deployment Manager during provisioning of blades.
5. Accept the blades, and power-cycle them so that Intel Deployment Manager can start managing them. When you refresh the page, you'll see the server status change to UPDATE DONE.
6. Take full snapshots of your blades or import existing snapshots.
7. Provision servers using your snapshots.

Optionally, you can:

- ◆ Set up workspaces.
- ◆ Set up users, user roles and access controls.
- ◆ Set up OpScripts and jobs.
- ◆ Set up server templates for use in provisioning.
- ◆ Set up pre-provisioning policies.

For specific information about any of these setup tasks, or about working with Intel Server Chassis and Intel Server Compute Blades, see the *Intel Deployment Manager by VERITAS OpForce User's Guide*.

Intel Deployment Manager Port Numbers

B

This appendix lists the port numbers used by Intel Deployment Manager. All outgoing packets are allowed.

Topics in this appendix include:

- ◆ “[Intel Deployment Manager Server Ports](#)” on page 58
- ◆ “[Database Ports](#)” on page 58
- ◆ “[Managed Server Ports](#)” on page 59
- ◆ “[ActiveOS Ports](#)” on page 59
- ◆ “[Boot Daemon Ports](#)” on page 60

Intel Deployment Manager Server Ports

The following table lists all of the port numbers and services used by Intel Deployment Manager:

Port Numbers and Services required on the Intel Deployment Manager Server

Port Number	Services
67/udp	dhcp
69/udp	tftp
80/tcp	http
80/tcp	JXML HTTP server
443 /tcp	https
1099/ tcp	JNDI (not used on Windows systems)
1099/tcp	RMI registry (This runs on Intel Deployment Manager servers and Intel Deployment Manager daemons. The Intel Deployment Manager daemons can be installed on other machines via the multi-host installation process.). This port is not used on Windows systems.
8005/tcp	Tomcat administration port
10001/tcp	Intel Deployment Manager ITAP service. Used by the Intel Deployment Manager device management server to discover live target servers

Database Ports

Port Numbers for the Database

Port Number	Services
5432/tcp	PostgreSQL (for Red Hat Linux)

Managed Server Ports

The following port numbers are used for remote access using the **Open Terminal** option, under **Workspaces**:

Port Numbers and Services on Intel Deployment Manager Managed Server Assets

Port Numbers	Services
5900/tcp	VNC RFB port
6080/tcp	VNC HTTPD port
6090/tcp	Intel Deployment Manager VNC RFB routing port (for inner-nodes in multi-tier setup)
10001/tcp	Intel Deployment Manager ITAP agent (installed on an Intel Deployment Manager managed asset.)

ActiveOS Ports

The following port numbers and services may be used by an ActiveOS:

Port Numbers and Services for ActiveOS

Port Numbers	Services
10000/tcp	BCTPS
11000/tcp	Remote telnet daemon

Boot Daemon Ports

The following port numbers are used for the Intel Deployment Manager DHCP boot daemons:

Port Numbers and Services used for Intel Deployment Manager Boot Daemon

Port Numbers	Services
10000/tcp 10000/udp	First instance of Intel Deployment Manager boot daemon.
[9999/tcp 9999/udp]	Second instance of Intel Deployment Manager boot daemon.
[(10000 - n)/tcp (10000 - n)/udp]	<i>n</i> is the instance of the Intel Deployment Manager boot daemon. <i>n</i> = 0,1,2,3...

▼ Use the following procedure to generate and install an SSL certificate signed by a known Certificate Authority (CA)

1. Set up the Intel Deployment Manager environment—Issue the following commands on a Red Hat Intel Deployment Manager server:

```
# OPFORCE_HOME=opforce_home
# export OPFORCE_HOME
# PATH=$OPFORCE_HOME/jdk/bin:$PATH
# export PATH
```

where, for example, the *opforce_home* directory is `/opt/veritas/opforce`.

2. Generate Keys. The syntax for the `keytool` command is:

```
# keytool -genkey -alias tomcat -keyalg RSA \
  -keystore keystore -keypass <key_password> -storepass \
  <store_password> -dname "CN=<Common_Name>, \
  OU=<Organizational Unit>, O=<Organization>, L=<Locality>, \
  S=<State>, C=<Country Code>"
```

For example:

```
# keytool -genkey -alias tomcat -keyalg RSA \
  -keystore keystore -keypass changeit -storepass changeit \
  -dname "CN=www.veritas.com, OU=VERITAS Intel Deployment Manager, \
  O=VERITAS, \
  L=Mountain View, S=CA, C=US"
```

The `keytool` command generates a file called `keystore` containing a self-signed certificate.

If Intel Deployment Manager is deployed on the intranet, or if users trust you as a CA, you can copy the generated `keystore` file to `$OPFORCE_HOME/conf`.

Intel Deployment Manager uses the default key and store password, which is `changeit`. If you changed the key and store password while generating the keys, you must change the following section in `opforce_home/tomcat/conf/server.xml` from:

```
<Factory
  className="org.apache.coyote.tomcat4.CoyoteServerSocketFactory"
  keystoreFile="../conf/keystore"
  clientAuth="false" protocol="TLS" />
```

to

```
<Factory
  className="org.apache.coyote.tomcat4.CoyoteServerSocketFactory"
  keystoreFile="../conf/keystore"
  keystorePass="<new_password>"
  clientAuth="false" protocol="TLS" />21
```

The key and store password must be the same.

3. Generate a certificate request for the CA. The syntax for the `keytool` command is:

```
# keytool -certreq -alias tomcat -keystore keystore \
  -storepass <store_password> -file cert.req
```

For example,

```
# keytool -certreq -alias tomcat -keystore keystore \
  -storepass changeit -file cert.req
```

This generates a file called `cert.req` which you should send to the CA. After you get a response from the CA (for example, in a file called `cert.cer`) import the certificate file.

4. Import a certificate from the CA. The syntax for the `keytool` command is:

```
# keytool -import -alias tomcat -keystore keystore -file cert.cer \
  -keypass <key_password> -storepass <store_password>
```

For example,

```
# keytool -import -alias tomcat -keystore keystore -file cert.cer \
  -keypass changeit -storepass changeit
```

This imports the certificate received from the CA into the keystore. Copy the keystore file to `$OPFORCE_HOME/conf`.

Third Party Software License Agreements

C

Note Source code for third party components is located on the product CD in the directory: `/thirdParty/sources`.

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JAVA API FOR XML PROCESSING (JAXP), VERSION 1.1

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