



Host Integration Tools for VMware

Installation Guide

Version 3.1

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1 Installation Quick Start

Follow these steps to perform a new installation and begin using the EqualLogic Host Integration Tools for VMware (HIT/VE). Detailed information about these procedures is available in the other sections of this guide.

To update from Version 3.0 to Version 3.1, follow the update procedure described in [Updating the HIT/VE Appliance on page 19](#).

Step 1: Obtain the OVA Package

The EqualLogic HIT/VE kit includes the following file that is required for installation:

HITVE-3.1.n.ova—the Open Virtualization Archive (OVA) package

See [Deploying the EqualLogic Appliance on page 4](#) for more information.

Step 2: Deploy the EqualLogic Virtual Appliance

1. In vSphere client, select `File`, then select `Deploy OVF Template`.

Browse your computer to locate the HITVE-3.1.n.ova file if you previously saved it locally. Optionally, select the OVA file from a URL.

2. Follow the wizard to complete the installation.

Note: HIT/VE should not be deployed to a SAN datastore that you expect to maintain with HIT/VE, since it is not possible for HIT/VE to copy itself while its underlying virtual machine is paused during Smart Copy snapshot operations.

Step 3: Run the CLI Setup Procedure

After you deploy the HIT/VE virtual appliance, a new VM should be present in the VMs and Templates view. Locate the VM and select `Open Console` from its menu in order to enter additional configuration information using its CLI setup procedure.

1. Log in. User name = `root`. Password = `eql`.

The CLI script is displayed.

```
#####  
                Welcome to EqualLogic Host Integration Tools for VMware  
                Version - 3.1.n.nn 2011.Aug.22  
#####
```

Item	Status
-----	-----
1. Set the time zone (Current: EST)	Unset
2. Configure management network (eth0)	Unset
3. Configure storage management network (eth1).....	Unset
4. Configure VMware vCenter	Unset

5. Configure EqualLogic PS Group Unset
6. Configure VMware View Unset
7. Configure VMware vSphere Storage APIs for Storage Awareness (VASA) . Unset
8. Register Plug-in with VMware vCenter..... Unset
9. Unregister Plug-in from VMware vCenter
10. Show configuration summary

11. Database maintenance
12. Reboot appliance..... Not Required
13. Change root password
14. Diagnostics
15. Update appliance
16. Logout and reboot appliance

Enter selection [1 - 16]:

2. Perform these required steps:

1. Set the time zone
2. Configure management network
4. Configure VMware vCenter
5. Configure the EqualLogic PS Group

3. Optionally, perform these steps:

3. Configure storage management network (eth1)
6. Configure VMware View
7. Configure VMware vSphere Storage APIs for Storage Awareness (VASA)

4. Perform step 8 — Register Plug-in with VMware vCenter — and wait for the reboot to complete.

5. Close the console.
6. Restart the vSphere client.

See [CLI Setup Procedure on page 6](#) for more information.

Step 4: Start the EqualLogic Application from vCenter

1. Click on Home.
2. Choose the desired EqualLogic application from the Solutions and Applications panel:
 - Datastore Manager
 - Virtual Desktop Deployment Utility
 - Auto-Snapshot Manager

2 Installation Procedures

This document contains installation instructions for the EqualLogic Host Integration Tools for VMware (HIT/VE) Version 3.1 release.

Additional Documentation

In addition to this *Installation Guide*, the documentation for the EqualLogic Host Integration Tools for VMware includes the following:

- Release Notes—Provides the latest information about HIT/VE such as required software revisions.
- Online help—Provides context-sensitive help about screen options and tasks when using the graphical user interface (GUI) of the EqualLogic tools.
- User Guide—Describes the HIT/VE features and concepts.

Summary of Installation Procedure

The Auto-Snapshot Manager/VMware Edition (ASM/VE), Virtual Desktop Deployment Utility, and EqualLogic Datastore Manager are all virtual applications that are installed through VMware vCenter.

The basic procedure to install these tools includes these steps:

1. Obtain the HIT/VE installation package, which includes the OVA file. This file contains the plug-in for vCenter's plug-in mechanism.
2. Deploy the OVA file from vCenter. By deploying the OVA file template, you complete a series of wizards to establish networking and other settings for HIT/VE.
3. Log into the console for HIT/VE. This initiates a procedure in the vCenter console to set additional configuration for HIT/VE.

The following sections explain these procedures.

Choosing an Installation Type

It is important to distinguish the type of installation you want to accomplish:

- New installation—If you are doing a new installation of the HIT/VE and are not updating a previous database, install the HIT/VE plug-in as described in this chapter.
- Update—If your appliance is currently running Version 3.0, and you want to update to Version 3.1, follow the update procedure. See [Updating the HIT/VE Appliance on page 19](#).

Requirements for Installation

[Table 1](#) describes the environment requirements for Host Integration Tools for VMware Version 3.1.

Table 1: VMware Integration Tools Installation Requirements

Product	Version
VMware vCenter Server *	4.1 and 5.0
VMware ESX Server	4.1 and 5.0
VMware View	5.0
EqualLogic PS Series firmware	5.0.2 and higher
Java	6.0
Java Runtime Environment 32-bit version	1.6

* The Host Integration Tools for VMware support both the Windows version of vCenter and the vCenter Virtual appliance.

Additional Requirement for vCenter Server

Microsoft SysPrep must be installed on the vCenter server. Without this, the customization specification for the VMs will not function properly.

Obtaining the EqualLogic Installation File

The EqualLogic Host Integration Tools for VMware kit includes the following file that is required for installation:

- `HITVE-3.1.n.ova`—the Open Virtualization Archive package

This file is included in the HIT/VE kit.

Dell recommends that you copy this file to your local system and make it available on a convenient location, such as your computer desktop.

Deploying the EqualLogic Appliance

This section describes the procedure for installing the Host Integration Tools for VMware plugins in vCenter. You do this by choosing the `File > Deploy OVF Template` menu option, and then completing the wizards.

Information Required for Deploying the Appliance

When you deploy the EqualLogic appliance, you will make several choices in response to the wizards. These options are described in [Table 2](#).

Table 2: Required Deployment Information

Option	Description
Inventory Location	Specifies the parent datacenter or VM folder where the appliance VM will be deployed.
Host/Cluster	Specifies either a host or a cluster to be used to run the OVA file.
Resource Pool	Specifies the resource pool within which the OVA file should be deployed.
Datastore	Specifies the datastore where the virtual machine files should be stored.
Disk Format	Specifies the format used for store the virtual machine disks. Choose either: <ul style="list-style-type: none"> Thin provisioned format—Storage is allocated on demand as data is written on virtual disks. Thick provisioned format—All storage is allocated immediately.
Network Mapping	Maps networks used in the OVA file to networks in the inventory.

Procedures for Deploying the EqualLogic Virtual Appliance

1. In vCenter, select **File**, then select **Deploy OVF Template**.

The Source dialog is displayed. From here you can browse your computer to locate the `HITVE-3.1.1.nnn.ova` file if you previously saved it locally. Optionally, select the template file from a URL.

2. After selecting the file, click **Next**.

A verification screen is displayed showing the details of the selected template file.

3. Click **Next**.

The Name and Location dialog is displayed.

4. Optionally, change the name of the appliance to be deployed. The default is “EqualLogic Host Integration Tools for VMware.”

5. In the Inventory Location panel, select from the available datastore folders to specify where you want to store the inventory.

6. Click **Next**.

The Host/Cluster dialog is displayed, showing available hosts and clusters. Select the host or cluster where the appliance is to be deployed.

7. Click **Next**.

The Resource Pool dialog is displayed.

8. Select from the available clusters or resource pools to specify where the EqualLogic appliance is to be deployed.

Note: HIT/VE should not be deployed to a SAN datastore that you expect to maintain with HIT/VE, since it is not possible for HIT/VE to copy itself while its underlying virtual machine is paused during Smart Copy snapshot operations.

9. Click `Next`.

The Datastore dialog is displayed, showing available datastores.

10. Select a datastore where virtual machines are to be stored. Click `Next`.

The Disk Format dialog is displayed.

11. Select either Thin provisioned format or Thick provisioned format.

12. Click `Next`.

If there is more than one network, the Network Mapping dialog is displayed. Use this dialog to specify the networks to be used by the deployed EqualLogic appliance.

13. Specify one network as the management network by selecting the Management Network line and then choosing a network from the available networks in the drop-down menu in the Destination Networks column. The management network is the network on which the vCenter server resides.

14. Optionally, specify a storage management network by selecting the Storage Management Network line and then choosing a network from the available networks in the drop-down menu in the Destination Networks column. You use this option if your PS series group is on a separate network that is not accessible over the default management network.

15. Click `Next`.

A confirmation page shows a summary of the selections you chose.

16. Click `Finish` to accept these selections.

A status bar shows the status of deploying EqualLogic Host Integration Tools for VMware.

If successful, a success message is displayed.

17. Click `Close`.

CLI Setup Procedure

After you deploy the OVA file, you must enter additional configuration information using the CLI setup procedure from the console on the HIT/VE VM that was just installed by the deploy operation.

This procedure performs the following tasks:

- Configures the network management interface for the EqualLogic appliance

- Configures the network interface for storage interface (optional)
- Restarts network so settings take effect
- Configures VMware vCenter
- Configures the EqualLogic PS Group
- Configures VMware View (optional, but must be configured to use Virtual Desktop Deployment Utility)
- Configure VASA (optional, VMware vSphere Storage APIs for Storage Awareness)
- Registers the plug-in with VMware vCenter
- Runs database operations, including backup and restore
- Runs procedure to update the appliance from Version 3.0.1 to Version 3.1.1

Information Required for Setup

[Table 3](#) describes the information that is requested when you run setup.

Table 3: Information Collected by Setup Procedure

Item	Description
Time Zone	Time zone settings to be applied to the virtual appliance.
Appliance Host name	The name of the EqualLogic virtual appliance.
IP address for management network	IP address to be used for the management network interface (eth0).
Network mask	Network mask for the network interface. You are prompted for a separate network mask for the management network and the storage management network.
DNS Server	IP address of the primary and secondary DNS servers for the network interface.
IP address for storage management network	IP address of the storage management network (eth1). Note: You can optionally configure a single static route if the EqualLogic PS Series group is on a routed subnet.
Name/Address of the VMware vCenter Server	Name or IP address of the VMware vCenter server.
Name of user with VMware vCenter Administrator privilege	User name of a user to be identified as the VMware vCenter user with Administrator role. Note: As of HIT/VE Version 3.1, you can only log in as an administrative user. Logins are restricted to vCenter user with Administrator role only.
Password for user with VMware vCenter Administrator privilege	Password for the VMware vCenter administrator.
Administrator email address	Email address for the VMware vCenter administrator.
Name/Network Address of the EqualLogic PS Group array	Name or IP address of the EqualLogic PS Series group.
EqualLogic PS Group Administrator	The account name of the administrator of the EqualLogic PS Series group.
Password for EqualLogicPS Group administrator.	Password of the administrator.
Name/Network Address of the VMware View host	Name or IP address of the VMware View host.

Name of VMware View Administrator	The account name of the VMware View administrator. Note: You must supply a name of a user account that has administrative privileges, but not named “Administrator.”
Password for VMware View administrator.	Password of the VMware View administrator.
Name of VMware View Domain	Name associated with the VMware View domain.
Name of VASA user	Name associated with the VASA (VMware vSphere Storage APIs for Storage Awareness) user; used for registering HIT/VE’s VASA provider with vCenter.
Password for VASA user	Password for use by the VASA user, used for registering HIT/VE’s VASA provider with vCenter.

Note: In some circumstances, changing the password of the HIT/VE appliance causes access to the virtual machine to be broken. To fix this issue, you should boot into single-user mode and change the password. For instructions, see the *Release Notes*.

Running the CLI Setup

After successful deployment of the HIT/VE OVA file, a setup procedure is run from the console to specify additional configuration settings and register the Host Integration Tools for VMware as a plug-in to VMware vCenter.

Follow these steps to run the setup procedure. See [Table 3](#) for a description of the requested information.

1. From the inventory of hosts and clusters in VMware vCenter, select EqualLogic Host Integration Tools for VMware.
2. Right-click the EqualLogic Host Integration Tools for VMware host and select `Open Console`.

The console window opens.

3. Select VM, then Power On.
4. Select Login to log in to the host.
5. Log in using these credentials:
 - user name: root
 - password: eql

After you log in, the setup procedure is automatically started and presents you with the following menu to request configuration settings:

```
#####
Welcome to EqualLogic Host Integration Tools for VMware
Version - 3.1.n.nn 2011.Aug.22
#####

Item                                                    Status
-----
1. Set the time zone (Current: EST) ..... Unset
2. Configure management network (eth0) ..... Unset
3. Configure storage management network (eth1)..... Unset
4. Configure VMware vCenter ..... Unset
5. Configure EqualLogic PS Group ..... Unset
6. Configure VMware View ..... Unset
7. Configure VMware vSphere Storage APIs for Storage Awareness (VASA) . Unset
8. Register Plug-in with VMware vCenter..... Unset
9. Unregister Plug-in from VMware vCenter
10. Show configuration summary

11. Database maintenance
12. Reboot appliance..... Not Required
13. Change root password
14. Diagnostics
15. Update appliance
16. Logout and reboot appliance

Enter selection [1 - 16]:
```

To complete the configuration settings in the menu, type the item number. Follow all responses by pressing the ENTER key.

1. Respond to the time zone prompts.
2. To configure the management network, enter 2.
 - a. Respond to the prompts to supply the requested information for appliance host name, IP address or name for the network, network mask, gateway, and DNS server.
 - b. After supplying all requested information, respond *y* to proceed with the settings.
3. If your SAN network is only accessible through a particular routed subnet, you should configure a storage management network.

To configure an optional storage management network, enter 3.

- a. Respond to the prompts to supply the requested information for IP address or name for the network, network mask and optional static route.

- b. After supplying all requested information, respond *y* to proceed with the settings.
4. To configure VMware vCenter, enter 4.
 - a. Respond to the prompts to supply the requested information for IP address or name for the VMware vCenter server, and the name, password, and email address of the vCenter administrator.
 - b. After supplying all requested information, respond *y* to proceed with the settings.

Note: When configuring vCenter server, Dell recommends that you use the same server IP address that you used in the CLI setup when adding a vCenter server to the VMware View server.

The settings are confirmed.

5. To configure the EqualLogic PS Group, enter 5.
 - a. Respond to the prompts to supply the requested information for IP address or name for the EqualLogic PS Group host, and the name, password of the group administrator.
 - b. After supplying all requested information, respond *y* to proceed with the settings.
6. To configure the VMware View, enter 6.
 - a. Respond to the prompts to supply the requested information for IP address or name for the VMware View host and domain, and the name, password of the VMware View administrator.
 - b. After supplying all requested information, respond *y* to proceed with the settings.
7. To configure vSphere Storage APIs for Storage Awareness (VASA), enter 7. Then supply a user name and password. This operation automatically registers the VASA provider with the configured VMware vCenter.

Note: VASA configuration is only valid in a vCenter 5.*n* environment.

8. To register the HIT/VE plug-in with VMware vCenter, enter 8. This will result in a reboot.

Note: The plug-in must be registered with VMware vCenter in order to access it within the vSphere client.

The procedure then collects the settings you entered. If there are no errors, the plug-in is then registered.

9. To backup or restore your database, enter 11. See [Chapter 3, Database Operations](#).
10. (Recommended) Enter 12 to reboot the appliance. This will restart the appliance with the updated settings.
11. (Recommended) Enter 13 to change the root password.

12. (Optional) Enter 14 to choose diagnostics. When you choose this option, you have these choices:
 - Gather support information—Generates a zip file containing system information such as system state and log is created and saved on your CIFS share. This file can be sent to EqualLogic customer support.
 - Enable debug logging.
 - Import the ASM/VE Version 2.0.5 `vmintegration.properties` file, which contains global settings.
 - Execute ping to a given host name or IP address.
 - View routes to view the appliance IP routing information.
13. (Optional) Enter 15 to check for and install updates. See [Chapter 4, Updating the HIT/VE Appliance](#).

Note: If notified by this procedure that a reboot is required, make sure you reboot before using the EqualLogic HIT/VE plug-in.

Changing Management IP Address or vCenter Host

When the values have been changed for either the management IP or the vCenter host (or both), the vCenter plug-in must be re-registered (unregister followed by a register).

These values could be changed in these situations:

- When changed directly through the command line menu
- When a database restore or upgrade is run

Verifying the Installation

After successful completion of the setup script, EqualLogic Host Integration Tools for VMware is registered in vCenter.

Locating the Virtual Appliance Applications

To locate the virtual appliance applications, click Home in vCenter.

The Solutions and Applications tab will list EqualLogic Datastore Manager, EqualLogic Auto-Snapshot Manager, and EqualLogic Virtual Desktop Deployment Utility. Also, a new tab titled “EqualLogic” is listed in vCenter in the Inventory view.

Managing Plug-ins

To enable or disable the EqualLogic plug-ins, follow these steps:

1. Select `Plug-ins` from the vCenter menu bar, then select `Manage Plug-ins`.

The Plug-in Manager view shows installed plug-ins and their status (either enabled or disabled).

2. To change the status of a plug-in, right-click on its name, then choose an action.

3 Database Operations

The following operations can be performed on Host Integration Tools for VMware databases:

- Backup
- Restore

These operations are available when you select item 11 from the setup procedure.

```
#####
                Welcome to EqualLogic Host Integration Tools for VMware
                Version - 3.1.n.nn 2011.Aug.22
#####

Item                                                    Status
-----
1. Set the time zone (Current: EST) ..... Unset
2. Configure management network (eth0) ..... Unset
3. Configure storage management network (eth1)..... Unset
4. Configure VMware vCenter ..... Unset
5. Configure EqualLogic PS Group ..... Unset
6. Configure VMware View ..... Unset
7. Configure VMware vSphere Storage APIs for Storage Awareness (VASA) . Unset
8. Register Plug-in with VMware vCenter..... Unset
9. Unregister Plug-in from VMware vCenter
10. Show configuration summary

11. Database maintenance
12. Reboot appliance..... Not Required
13. Change root password
14. Diagnostics
15. Update appliance
16. Logout and reboot appliance

Enter selection [1 - 16]:
```

A submenu of database operations is shown next:

```
Note: These operations operate on files in the CIFS share
\\host.example.com\database or
https://host.example.com/davenport/host.example.com/database (root password)

Item
-----
1. Backup
2. Restore
3. Return to main menu

Enter selection [1 - 3]:
```

All files read or written by these operations are in the CIFS share accessible using the root password. The share is mountable on any platform that supports CIFS or from a browser using the https URL.

Requirements for Replication Partners

If a replication partner is configured (that is, there are two EqualLogicHost Integration Tools for VMware appliances) each needs to be restored individually. They should be restored from databases at around the same time to avoid any inconsistencies between them.

Backing Up a Database

The Backup option executes a database backup immediately and shows the name of the database file created.

All backup files are prefixed with `dbbackup` and have an extension of `.sql`.

To run a backup, select 1 from the database operations submenu.

Example:

```
Enter selection [1 - 3]: 1
Backing up database to dbbackup-host.example.com-2011-01-10-15.57.33.sql
Backup successful, details are contained in dbbackup-host.example.com-2011-01-
10-15.57.33.log
press [enter] to continue...
```

Backups are stored locally. For disaster recovery, Dell recommends that you move these files off the CIFS share and store them in another location.

Note: Only scheduled backups are shown in the plug-in user interface. Backups done through the Backup option are not shown in the user interface. Backups are also scheduled once a day within the Host Integration Tools for VMware appliance. Thirty days of backups are retained.

Restoring a Database

The Restore item prompts for a backup file and restores it. This backup file could either be from a previous local backup or from another appliance backup. After completing the restore operation you can restart the service. The backup file must be prefixed with `dbbackup` and have an extension of `.sql`.

Note: This operation clears the contents of the previous database.

To restore a database, select 2 from the database operations submenu.

Example:

```
Enter selection [1 - 3]: 2
Available database backups:
1 dbbackup-host.example.com-2011-01-28-04.00.00.sql
```

```
2 dbbackup-host.example.com-2011-01-29-04.00.00.sql
Please select a file: 2
Restoring database dbbackup-host.example.com-2011-01-29-04.00.00.sql
Restore successful, details are contained in dbbackup-host.example.com-2011-
01-29-04.00.00.log
Waiting 30 seconds for service to start
press [enter] to continue...
```


4 Updating the HIT/VE Appliance

The “Update Appliance” option from the setup procedure allows you to update your Host Integration Tools for VMware appliance from Version 3.0.1 to Version 3.1.1.

Dell provides an ISO image named `HITVE-3.1.1.nnn.iso` that contains the update. You must first obtain the ISO image file and make it available on a convenient location, such as your computer desktop.

Note: Dell recommends that you take a VMware snapshot of the HIT/VE appliance before performing an update. Once you confirm that the appliance is running properly you can delete the snapshot.

Connecting to the ISO Image

The first step in the procedure for updating your appliance is to select and connect to the ISO image. Follow these steps:

1. Log in with vSphere to either the vCenter Server or the ESX host that is hosting the Host Integration Tools for VMware virtual appliance.
2. Click on the CD/DVD Drive 1 icon on the toolbar and select `Connect to ISO image on local disk`.
3. Browse to the location of the `HITVE-3.1.n.iso` file containing the update and open it.

Running the Update Operation

The update option is available when you select 15 from the setup procedure:

```
#####  
                Welcome to EqualLogic Host Integration Tools for VMware  
                Version - 3.1.n.nn 2011.Aug.22  
#####
```

Item	Status
1. Set the time zone (Current: EST)	Unset
2. Configure management network (eth0)	Unset
3. Configure storage management network (eth1).....	Unset
4. Configure VMware vCenter	Unset
5. Configure EqualLogic PS Group	Unset
6. Configure VMware View	Unset
7. Configure VMware vSphere Storage APIs for Storage Awareness (VASA) .	Unset
8. Register Plug-in with VMware vCenter.....	Unset
9. Unregister Plug-in from VMware vCenter	
10. Show configuration summary	

```
11. Database maintenance
12. Reboot appliance..... Not Required
13. Change root password
14. Diagnostics
15. Update appliance
16. Logout and reboot appliance
```

```
Enter selection [1 - 16]:
```

A submenu of update operations is shown next:

```
-----
1. Appliance version
2. Check for updates
3. Install updates
4. Return to main menu
```

```
Enter selection [1 - 4]:
```

Options 1 and 2 let you query the current version of the appliance and check which version is in the update.

To install the update:

1. Enter 3 from the submenu.

The status is shown:

```
Started
.
.
Running
.
.
Finished
press [enter] to continue.
```

2. On the CLI main menu, re-register the Plug-in by selecting 9 (Unregister Plug-in) and then selecting 8 (Register Plug-in).
3. On the CLI main menu, reboot the appliance by entering 12.

A Contacting Dell

Dell provides several online and telephone-based support and service options. Availability varies by country and product, and some services might not be available in your area.

For customers in the United States, call 800-945-3355.

Note: If you do not have access to an Internet connection, contact information is printed on your invoice, packing slip, bill, or Dell product catalog.

Use the following procedure to contact Dell for sales, technical support, or customer service issues:

1. Visit support.dell.com or the Dell support URL specified in information provided with the Dell product.
2. Select your locale. Use the locale menu or click on the link that specifies your country or region.
3. Select the required service. Click the “Contact Us” link, or select the Dell support service from the list of services provided.
4. Choose your preferred method of contacting Dell support, such as e-mail or telephone.

Online Services

You can learn about Dell products and services using the following procedure:

1. Visit www.dell.com (or the URL specified in any Dell product information).
2. Use the locale menu or click on the link that specifies your country or region.

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