

Integrating HP iLO with Microsoft Active Directory and Certificate Services

Update Firmware

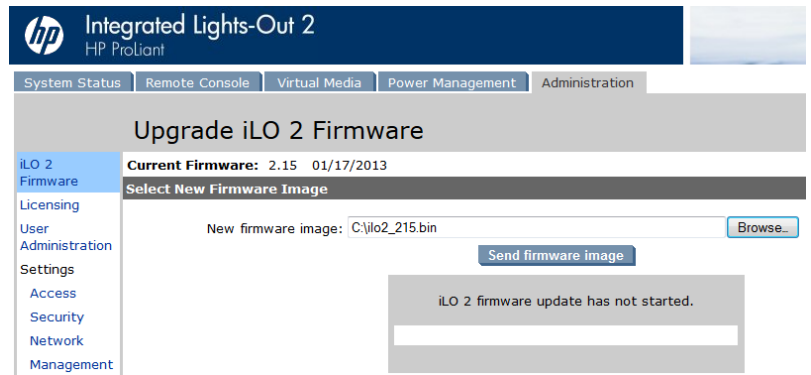
- 1) Make sure your server and iLO firmware are up to date. Visit <http://www8.hp.com/us/en/support-drivers.html> and enter your product model (Proliant DL380, BL460c, etc), pick your OS and select the Firmware CD/DVD. Burn the ISO to a bootable DVD and boot your server. It will run in automated mode, probe your hardware and upgrade everything for you. It takes about 30 minutes.
 - a. If you just want to go direct to the Smart Update Firmware DVD without searching, download it from here:
<http://h20000.www2.hp.com/bizsupport/TechSupport/SoftwareDescription.jsp?lang=en&cc=us&prodT ypeld=18964&prodSeriesId=1844067&prodNameId=1844068&taskId=135&swItem=MTX-9ed665a89aba447d925937f38b&mode=3>
- 2) When done with the Firmware DVD update, check your iLO version in the POST messages when the server boots or just login to iLO and check the version on the System Status > Summary page.
- 3) As of this writing, iLO 2 is on v2.15, iLO3 at v1.55 and iLO4 at v1.20. Download the latest release for your version of iLO and unzip it to a folder. You only need the .bin file.

- a. Note that there is always a Revision History tab on HP firmware pages. You want to click this tab to check for a newer version. If there is a newer release, you will see the new Version's link on the left. Click it and download the newer version.

Type:	Firmware - Lights-Out Management
Version:	2.12 (4 Sep 2012)
Operating System(s):	Microsoft Windows Server 2003, Microsoft Windows Server 2003 for 64-bit Extended Systems, Microsoft Windows Server 2008 R2, Microsoft Windows Server 2008 W32, Microsoft Windows Server 2008 x64, Microsoft Windows Storage Server 2003, Microsoft Windows Unified Data Storage Server 2003 x64 Edition
File name:	cp017738.exe (3.2 MB) Download »
» Description » Enhancements » Installation Instructions » Release Notes » Fixes Revision History	
» Version: 2.15 (19 Feb 2013)	
Fixes	

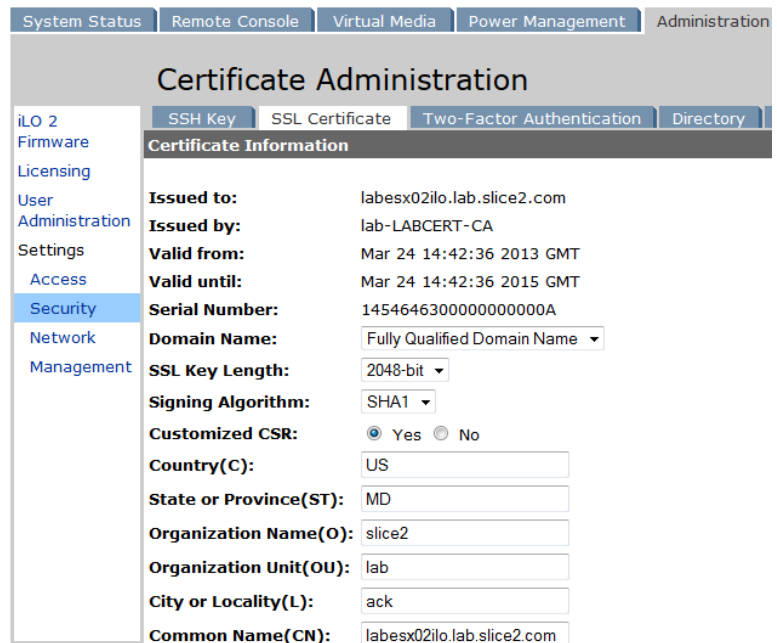
- b. iLO2 Firmware:
<http://h20000.www2.hp.com/bizsupport/TechSupport/SoftwareDescription.jsp?lang=en&cc=us&prodT ypeld=18964&prodSeriesId=1146658&swItem=MTX-4fab2243e3d04d7ca741ce3027&prodNameId=1135772&swEnvOID=1005&swLang=8&taskId=135&mode=5>
- c. iLO3 Firmware:
<http://h20000.www2.hp.com/bizsupport/TechSupport/SoftwareDescription.jsp?lang=en&cc=us&prodT ypeld=18964&prodSeriesId=4154735&swItem=MTX-ca2b71bbc5224f08939774c6c8&prodNameId=4154847&swEnvOID=4040&swLang=8&taskId=135&mode=5>
- d. iLO4 Firmware:
<http://h20000.www2.hp.com/bizsupport/TechSupport/SoftwareDescription.jsp?lang=en&cc=us&prodT ypeld=329290&prodSeriesId=5219994&swItem=MTX-f0b5c4f087cd4383829ba359ed&prodNameId=5228286&swEnvOID=4024&swLang=8&taskId=135&mode=5>
- e. For more information on iLO, the HP iLO product page is here:
<http://h18013.www1.hp.com/products/servers/management/remotemgmt.html?jumpid=servers/lights-out>

- 4) Each version of iLO has its own interface. This document covers iLO2. The same process will apply to iLO3/iLO4. Login to iLO (see your HP product tag for the username/password). On the Administration tab, select iLO Firmware. Click Browse, select the *.bin file in the folder where you unzipped your iLO firmware and click Send firmware Image. It will upload and flash the iLO firmware and reboot iLO only, not the server. This can be done on a running server with no interruption. You will be logged off and a countdown will be visible in your browser. Let it run to zero and your browser will reload. Login and you will have an updated iLO.

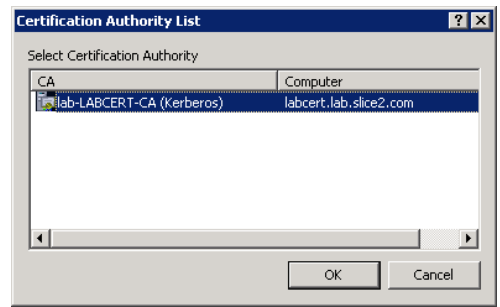


Configure Certificates

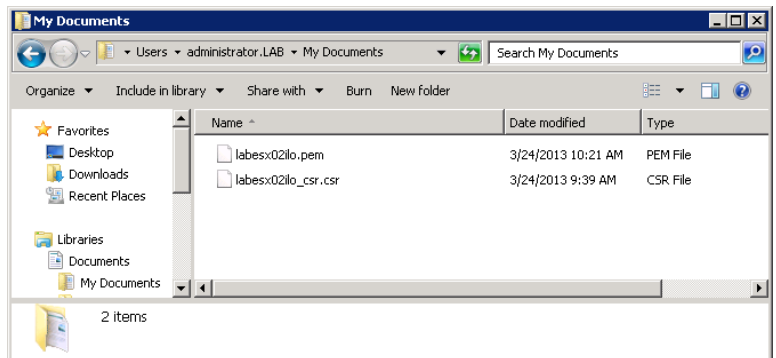
- 1) iLO supports certificates and enforcing strong encryption. Login to iLO and select the Administration tab. On the left under Settings, select Security.
- 2) Select the SSL Certificate tab.
 - a. Domain Name: select Fully Qualified Domain Name.
 - b. SSL Key Length: 2048
 - c. Signing Algorithm: SHA1
 - d. Customized CSR: Yes
 - e. County: enter your 2 digit country code
 - f. State or province: enter your 2 digit code
 - g. Org Name: usually your company name
 - h. Org Unit: usually your domain name
 - i. City or Locality: your location
 - j. Common Name: the iLO hostname
 - k. Click Apply when done.
 - l. Scroll down and click Create Certificate Request. This may take up to 15 seconds to create.



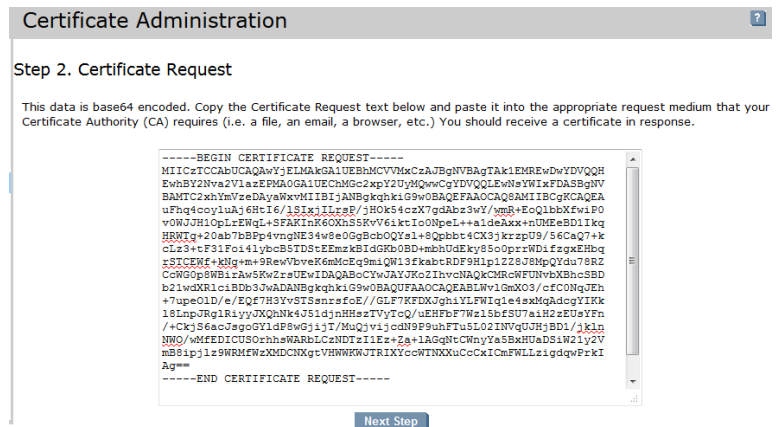
6) You will be prompted to select the CA. Select your CA and click OK.



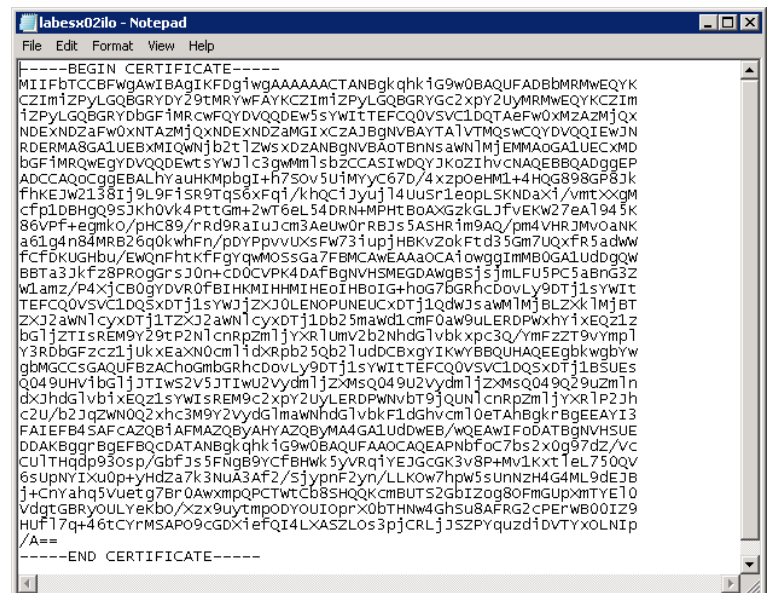
7) You should now have the .csr and .pem files.



8) Back in iLO, click Next Step.



9) Using notepad.exe, open the .pem file. Select all text (Edit | Select All) making sure to get the BEGIN and END lines.



- Paste the text into the window and click Import Certificate.

- Click restart to seat your changes. This will only restart iLO, not the server.

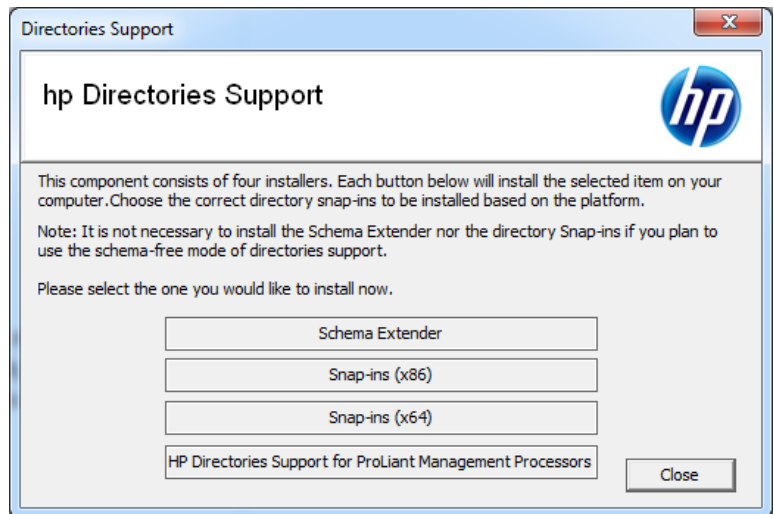
Create a Group and User Account in AD

- Create a Security Group and service account in AD using your sites guidelines. A few caveats:
 - iLO2 has restrictions on usernames. No special characters or spaces in the username or display name.
 - Keep your LDAP/LDIF path as short as possible. Don't go over 56 characters.

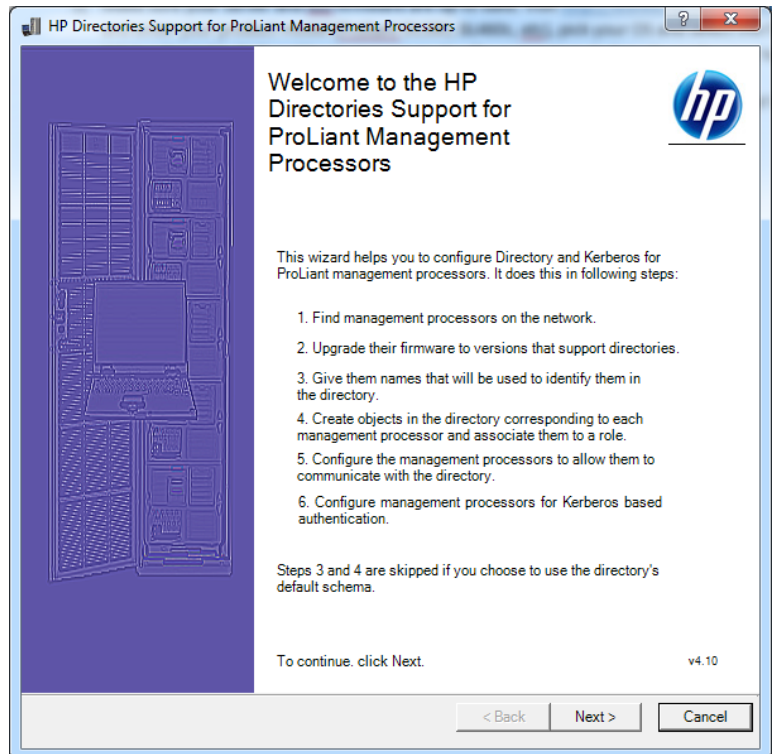
Download the HP Directories Support for ProLiant Management Processors

- This utility makes it very easy to configure iLO for AD integration. Download is from here: <http://h20000.www2.hp.com/bizsupport/TechSupport/SoftwareDescription.jsp?lang=en&cc=us&prodTypeId=329290&prodSeriesId=5219994&swItem=MTX-13aa310d9f23432a8d02d5ad56&prodNameId=5228286&swEnvOID=4095&swLang=8&taskId=135&mode=5>
- Double-click the SP60857.exe package and click Next > accept the license and click Next.

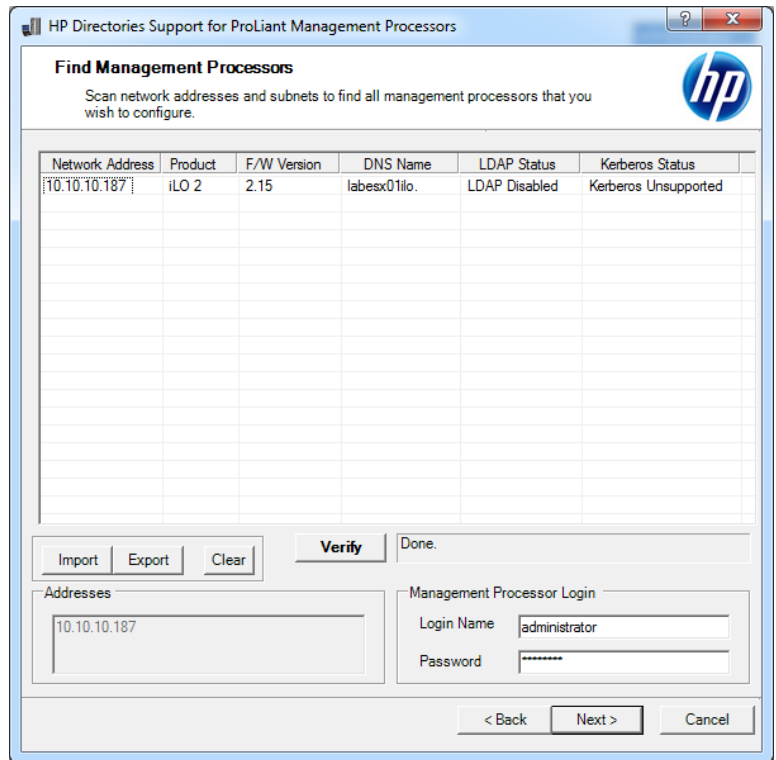
- 3) On the HP Directories Support page, click HP Directories Support for ProLiant Processors.
- Note that you can extend your AD schema for total integration. This doc does not cover that process.



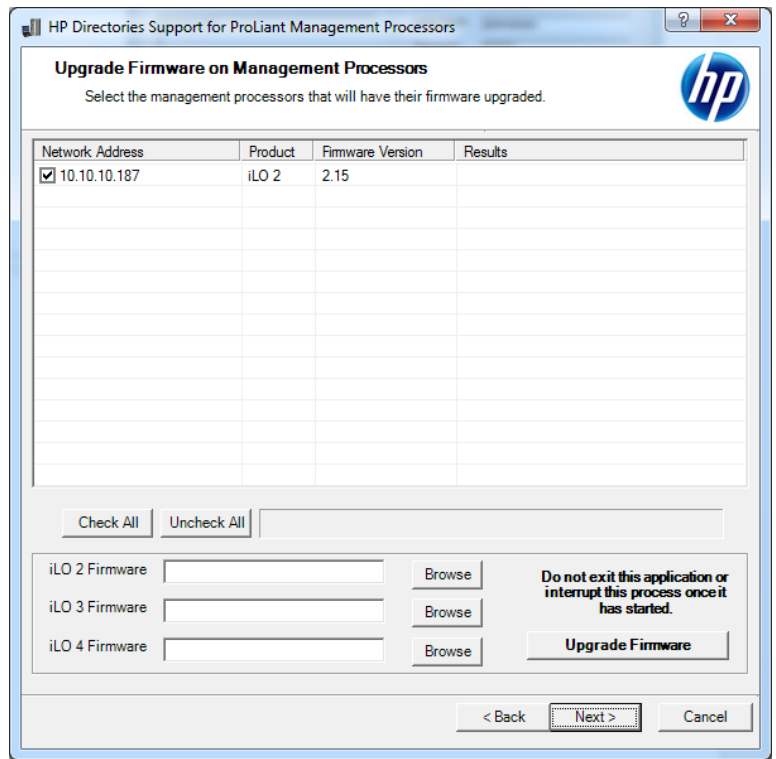
- 4) Click Next on the Welcome screen.



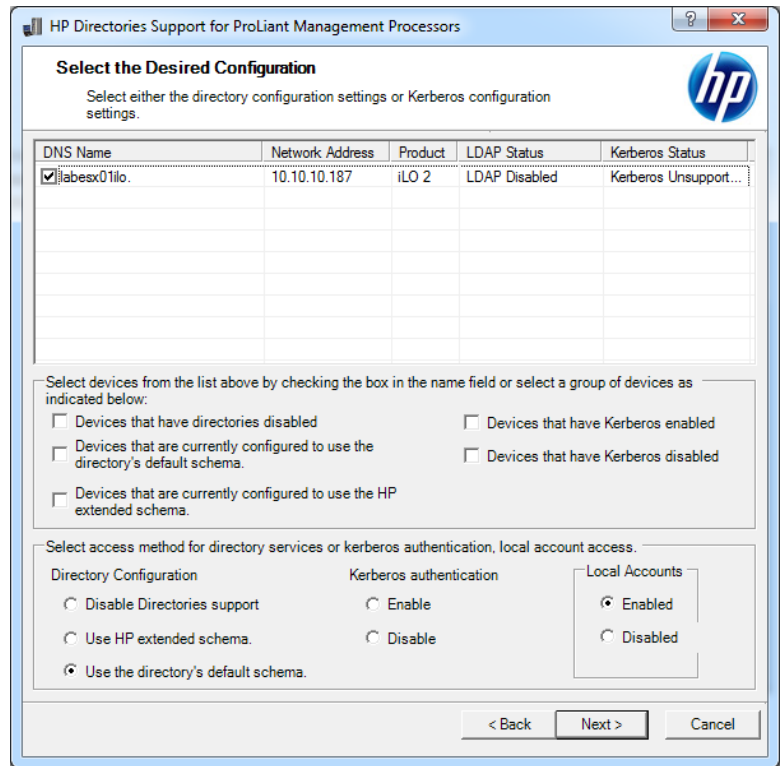
- 5) In the lower left, enter the IP address of your iLO interface and on the right provide your iLO username/password. Click Verify and the details will load at the top. Click Next when done.
- a. Note that you should create a new local user account on each iLO as a Security best practice.



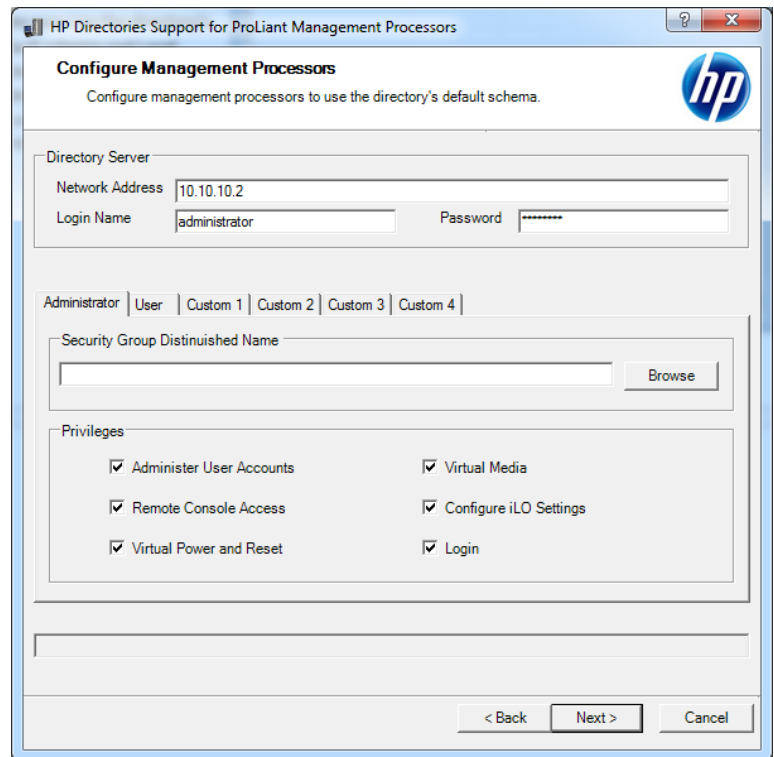
- 6) This screen is a handy option for upgrading your iLO firmware. We will not use it at this time. Click Next.



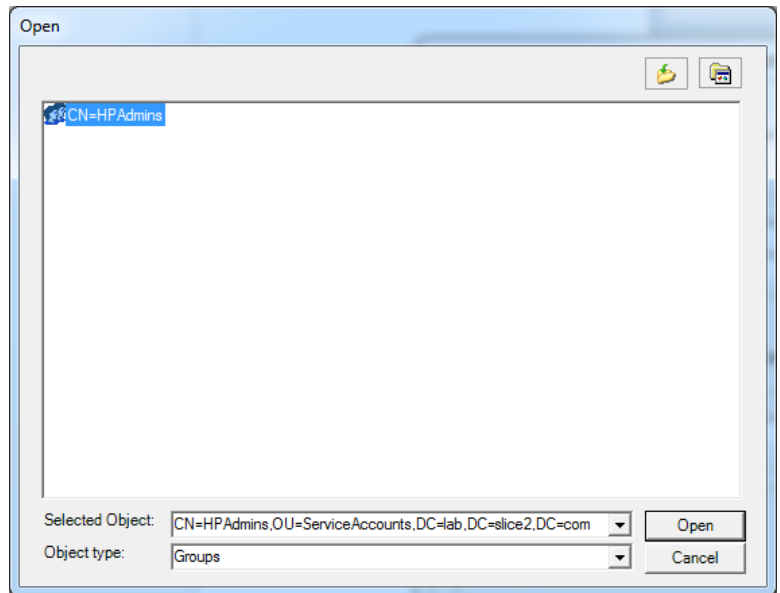
- 7) Since we only have one iLO port, check the entry listed in the upper left.
- In the Select devices section, leave all options unchecked. Normally you will have multiple iLO port so this gives you the option to filter.
 - In the Select access section, make sure Use the directory's default schema and Local Account enabled are selected. If you disable local accounts, you will be locked out of iLO if AD is not available.



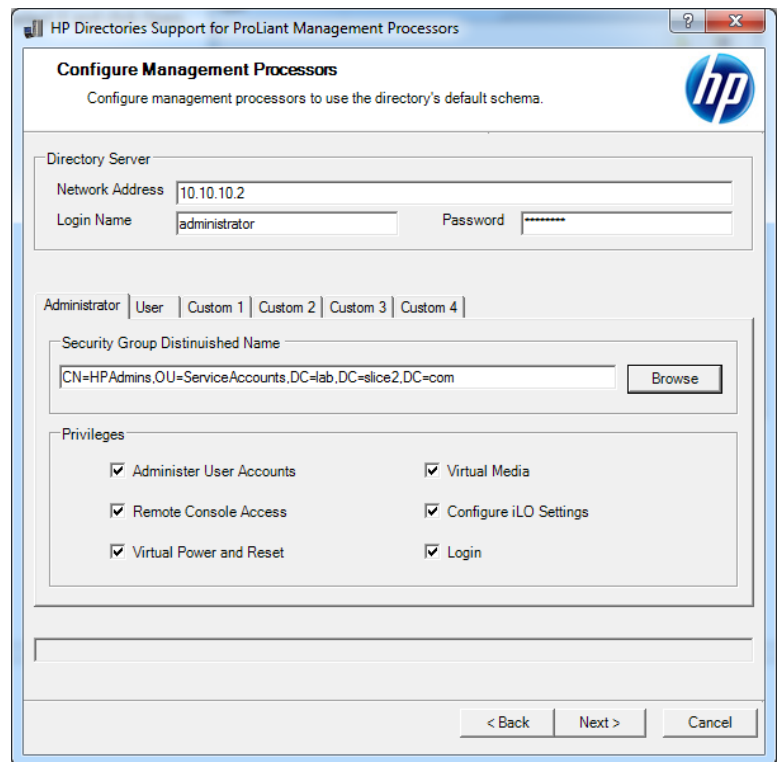
- 8) Enter your Domain Controller IP or hostname and a Domain Admin account. Click Browse.



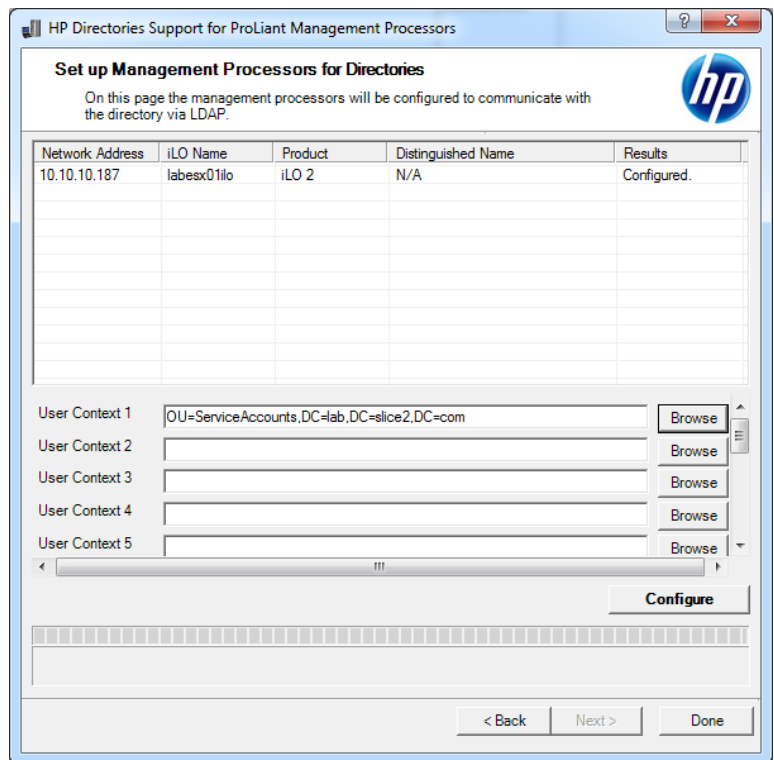
9) Browse out to the iLO Security Group you created, select it and click Open.



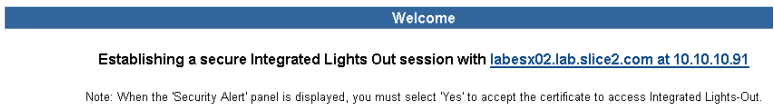
10) Make sure all options are selected on the Administrator tab and click Next. Note that you can create other Groups with limited permissions using this tab.



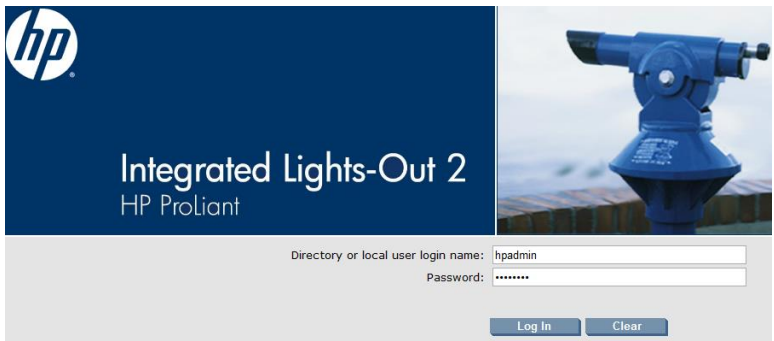
11) Across from User Content 1, click Browse and select the OU where your Security Group resides and then click Configure. When the Results field says Configured, click Done to exit.



12) Launch Firefox and enter the IP address or hostname of the iLO port. You will see it redirect to a secure session.



13) You may now notice the HP iLO login page has the option of Directory or local user login name. Enter the Active Directory username and click Login.



14) At the bottom of the Summary page you can see the Domain user session details.

