

Tutorial #1 - Load Balancing

1 Overview

In this tutorial we will be demonstrating load balancing in a round-robin fashion between two directories, Directory 1 and 2. LDAP requests that come to the LDAP Proxy will be sent in a round-robin fashion first to Directory 1, then to Directory 2, then to Directory 1, then to Directory 2 and so on.

2 Assumptions

LDAP Proxy is installed and configured properly; LDAP Proxy is currently running.

Directory 1 & 2 are both installed and accessible from the computer on which LDAP Proxy is installed.

Both of your directories are populated with users.

Directory 1 & 2 are replicating with or are nearly identical to one another.

Directory 1 & 2 are both accessible on port 389 (default ldap port)

You have a good understanding of the DIT structure of your directories.

Port 3890 is available on the computer in which LDAP Proxy is installed.

You have the ability to view the proper logs in Directory 1 and 2.

3 Create a New Configuration

Click File on the menu bar, then click New.

Click the OK button when asked which server you want to create the new configuration on (the default server is Local).

Enter LoadBalancingTutorial for the filename when prompted, then click the Save button and the following will appear:

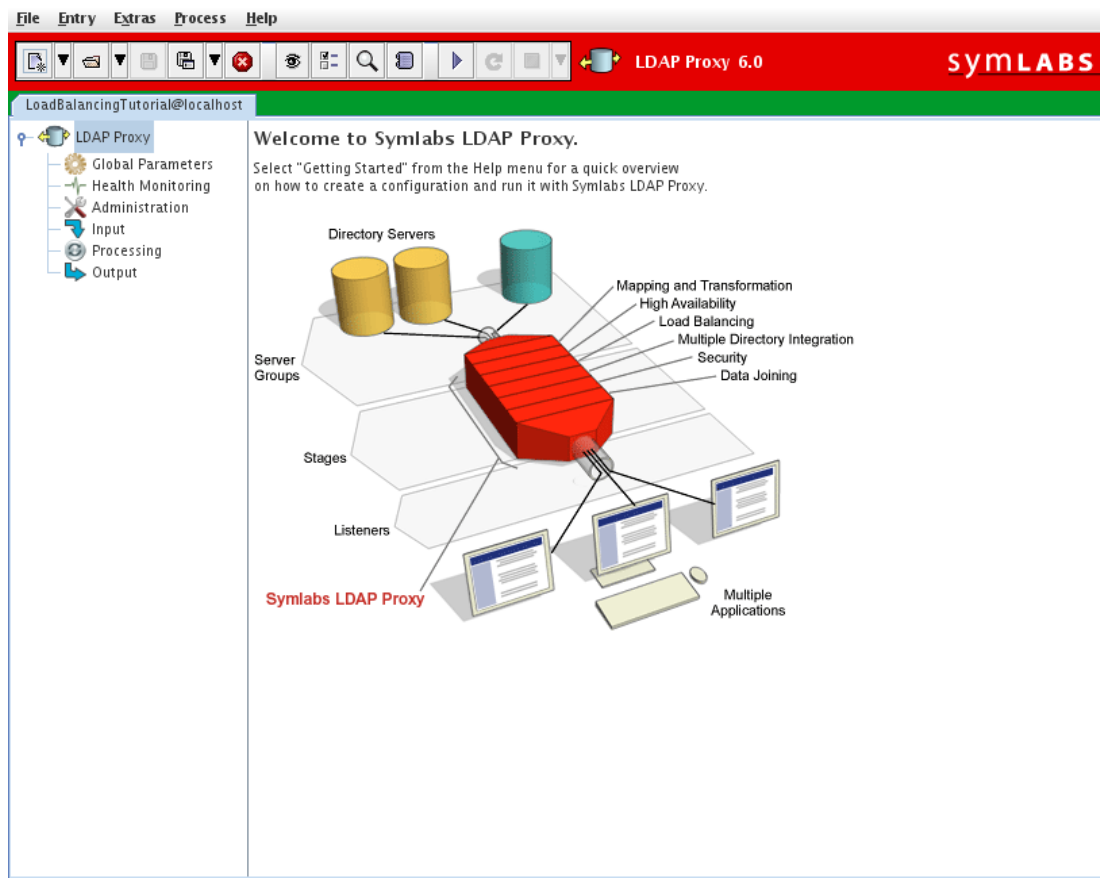


Fig-1: LDAP Proxy New configuration

3.1 Server Group Configuration

Server Groups are the directories where your user information is stored. Examples include Active Directory, Sun Directory Server and Oracle Internet Directory. For this tutorial we will be creating one Server Group that contains two directories, Directory 1 and Directory 2.

Click on the Output button on the left-hand side of the application and the following will appear:

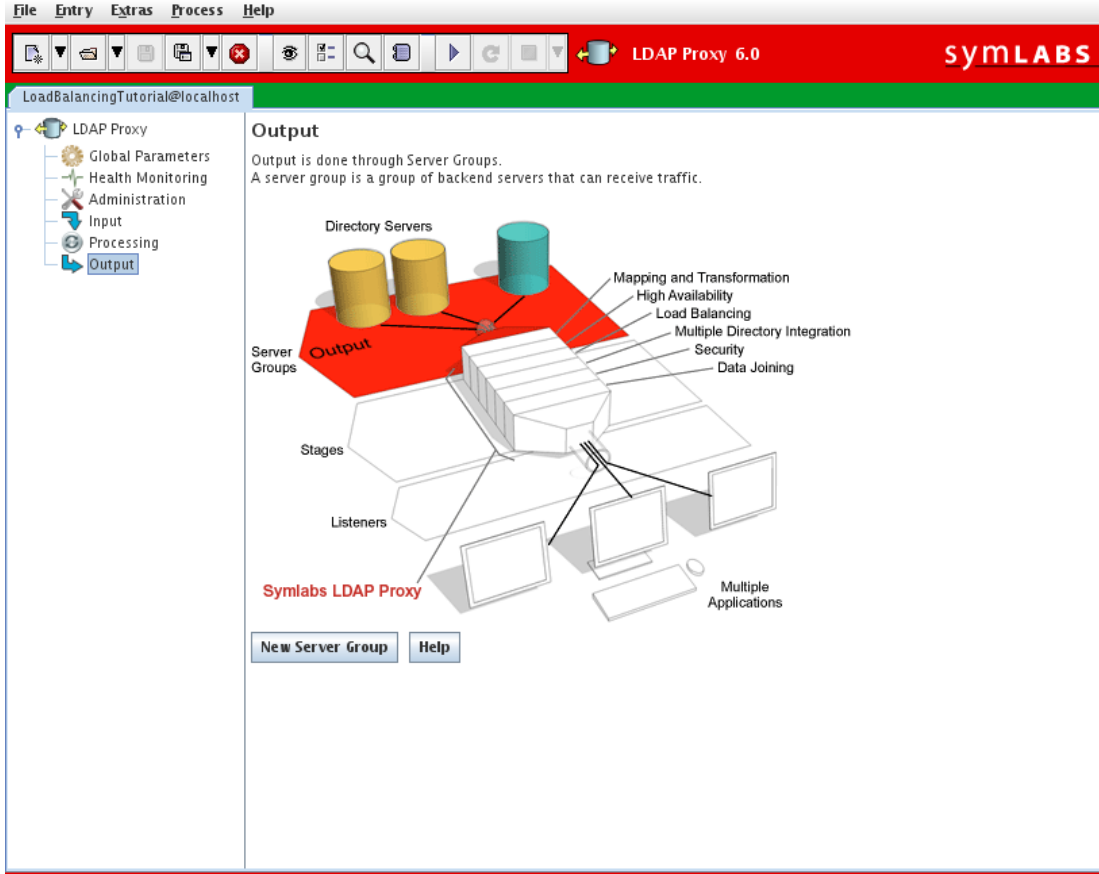


Fig-2: Add a Server Group

Click on the New Server Group button near the bottom of the screen.

Click on ReplicatedDirectories to enter the configuration panel for your new Server Group and leave the Server Group Type as Automatic and then click the Okay button.

Verify that the Protocol is set to ldap.

Under the Servers tab, enter the Hostname / IP Address and the Port of Directory 1.

Under the Servers tab, enter the Hostname / IP Address and the Port of Directory 2.

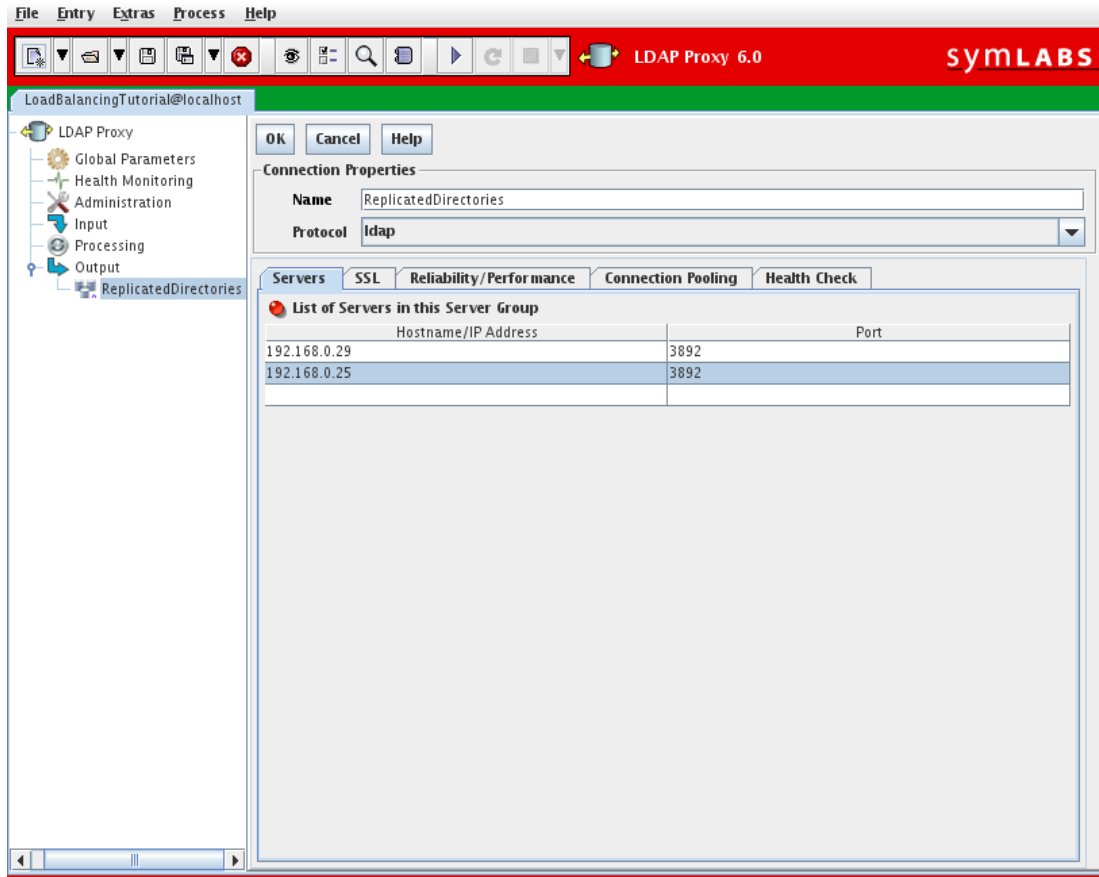


Fig-3: Configure the server group

Click on the Reliability/Performance tab and click on the Load-Balancing radio button.

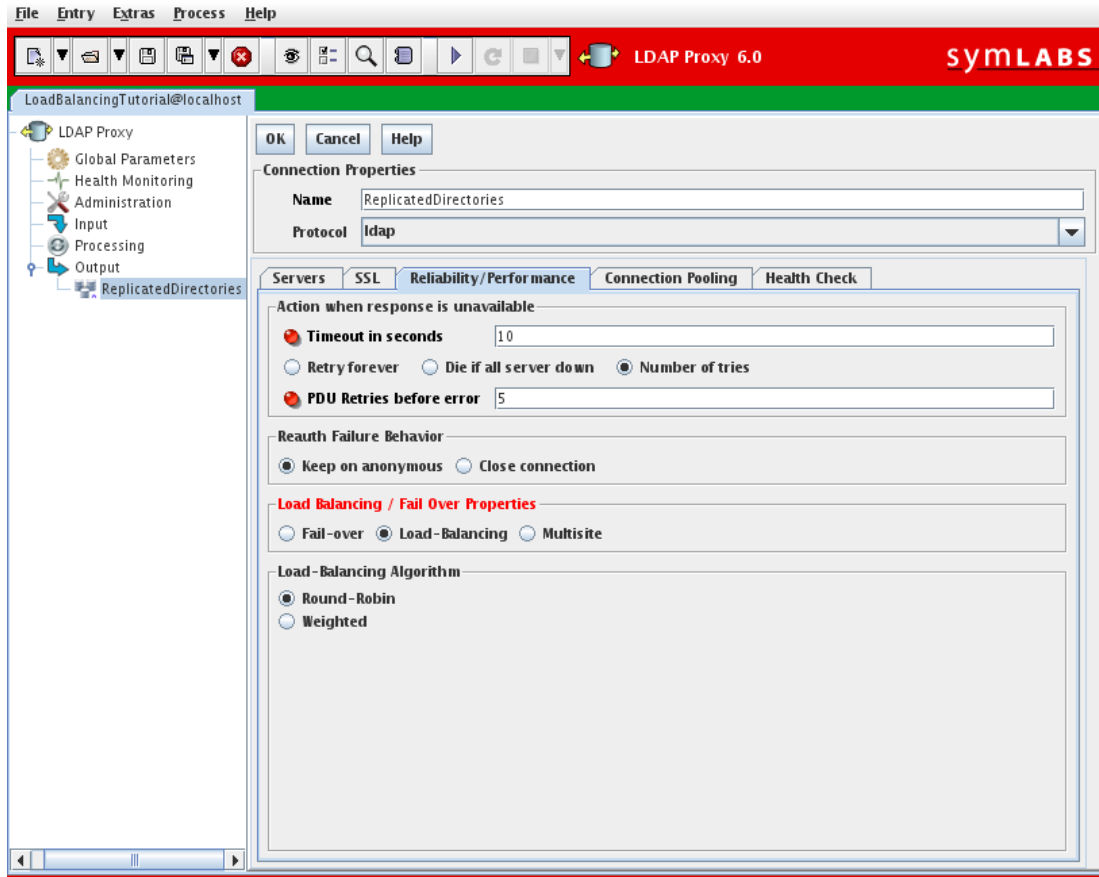


Fig-4: Enable Load Balancing

Click the OK button near the top of the application to save the ReplicatedDirectories Server Group Configuration.

3.2 Listener Configuration

Click on the Input button on the left-hand side of the application and the following will appear:

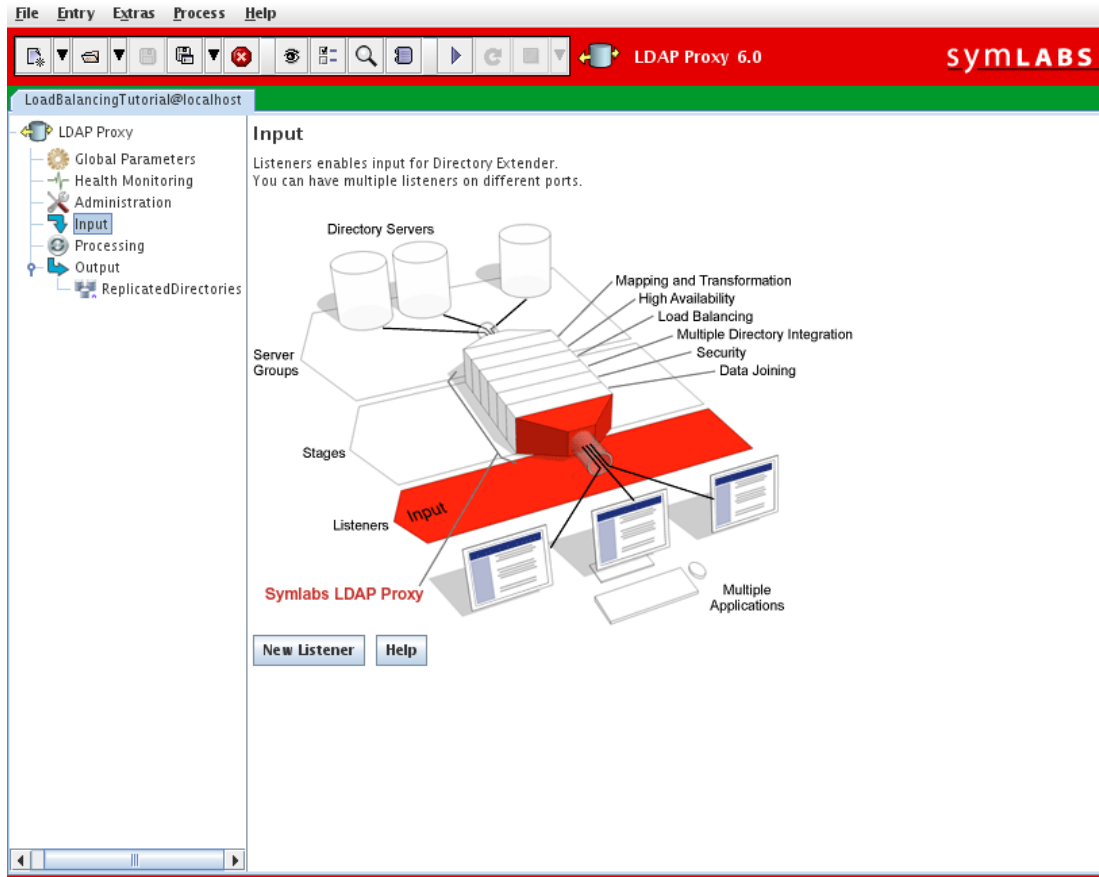


Fig-5: Add an LDAP Proxy Listener

Click on the New Listener button near the bottom of the screen.

Enter LoadBalancing for the new input / listener and then click the Okay button.

Click on the LoadBalancing node on the left-hand side of the screen and the following will appear:

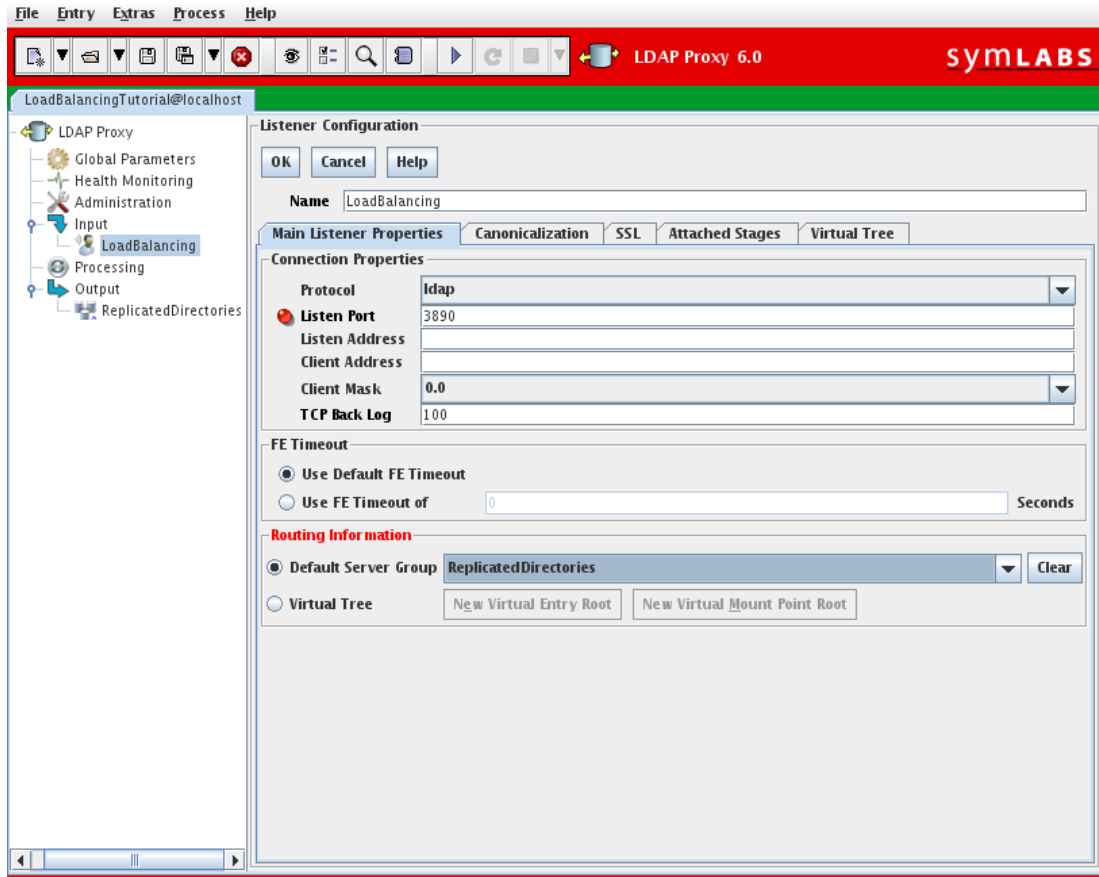


Fig-6: LDAP Proxy Listener configuration

Under the Main Listener Properties tab, make sure the Protocol is set to ldap.

Under the Main Listener Properties tab, set the port to 3890.

Under the Main Listener Properties tab, select ReplicatedDirectories from the dropdown box to the right of Default Server Group.

Click the OK button near the top of the screen to save the Listener configuration.

4 Health Monitoring Configuration

Health Checking is an important feature of Directory Extender. You will need it whenever you are using load-balancing or fail-over in server groups. The principle is simple: LDAP Proxy will periodically check every server by sending simple requests to it. Whenever LDAP Proxy notices that a server has gone down or come back up, the server status will change respectively. LDAP Proxy makes use of this state information for deciding where to send each next request.

Click on the Health Monitoring button on the left-hand side of the screen and the following will appear:

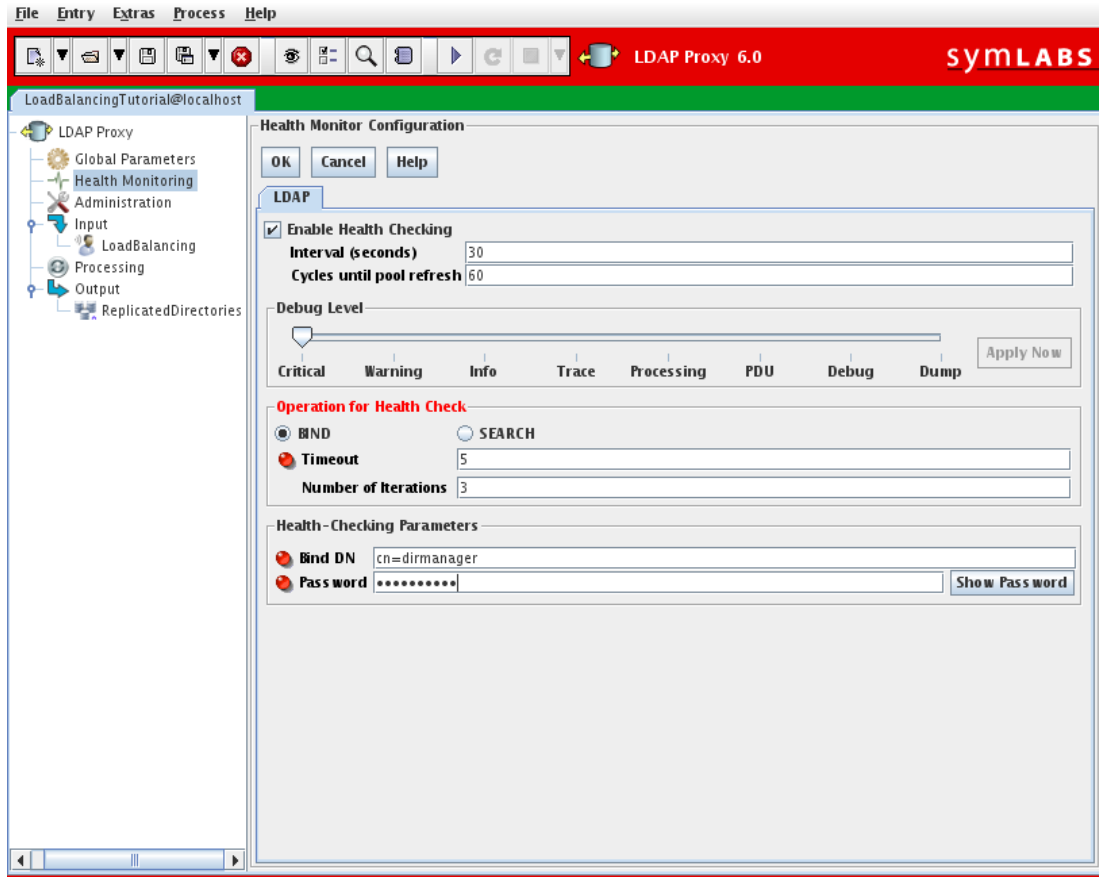


Fig-7: LDAP Proxy Health monitoring configuration

Make sure the Enable Health Checking box is checked and set the Interval to 5 seconds (for testing purposes only).

In the Operation for Health Checking section, make sure the BIND radio-button is selected. Set the Timeout to 5 seconds and the Number of Iterations to 3.

In the Debug Level section, move the slider to Trace.

In the Health Checking Parameters section, enter the appropriate information for the Bind DN and Password fields. These credentials are used to determine if the directories are up and running.

5 Save Configuration

When you created the new configuration you were prompted to enter a filename for your configuration. The file type for this file is Idif. The configuration must be saved before the LDAP Proxy can be launched for the first time. Also, the configuration must be saved and the LDAP Proxy re-launched before changes to the configuration will take effect.

Click on the File button on the menu bar.

Click Save and your configuration will then be ready to launch.

6 Launch and Test Configuration

Click the Process button on the menu bar.

Click Run on the drop-down menu. At this point the LDAP Proxy is running and is ready to accept LDAP requests.

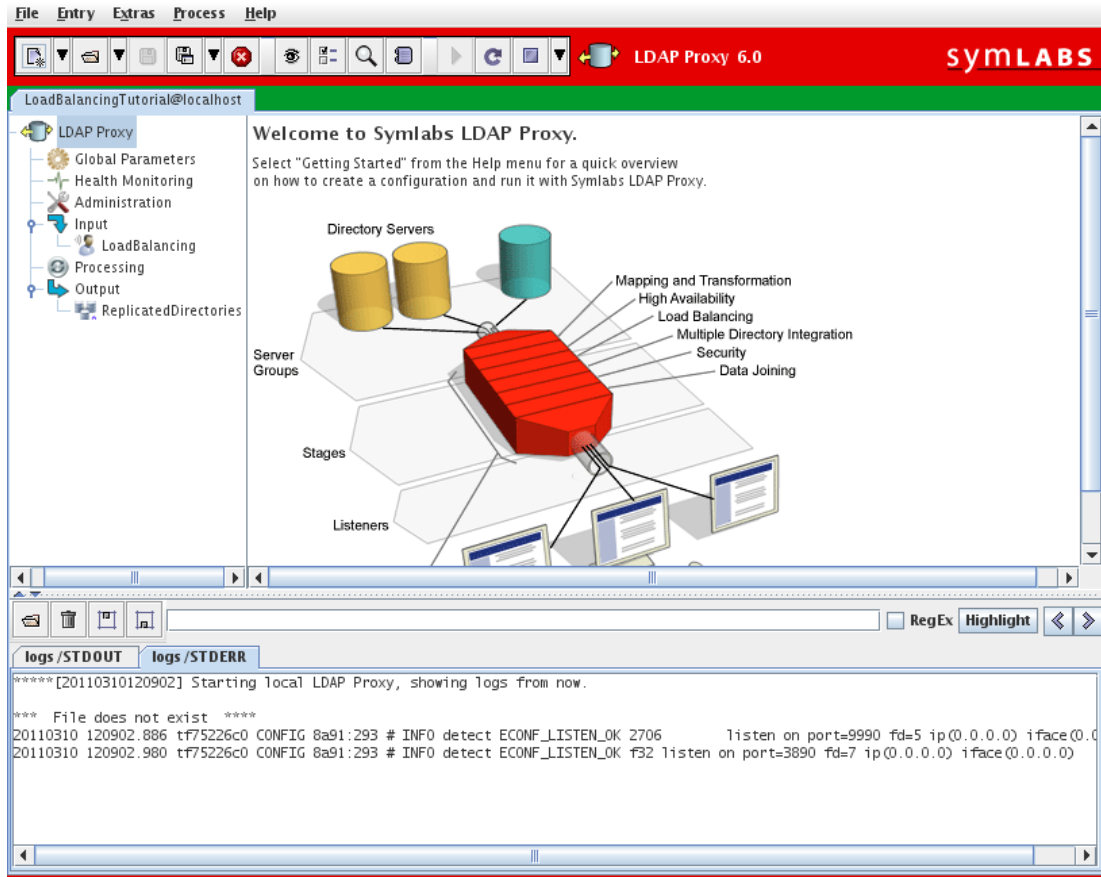


Fig-8: LDAP Proxy Launch and test configuration

Click the Extras button on the menu bar.

Click LDAP Browser on the drop-down menu and the following will appear:

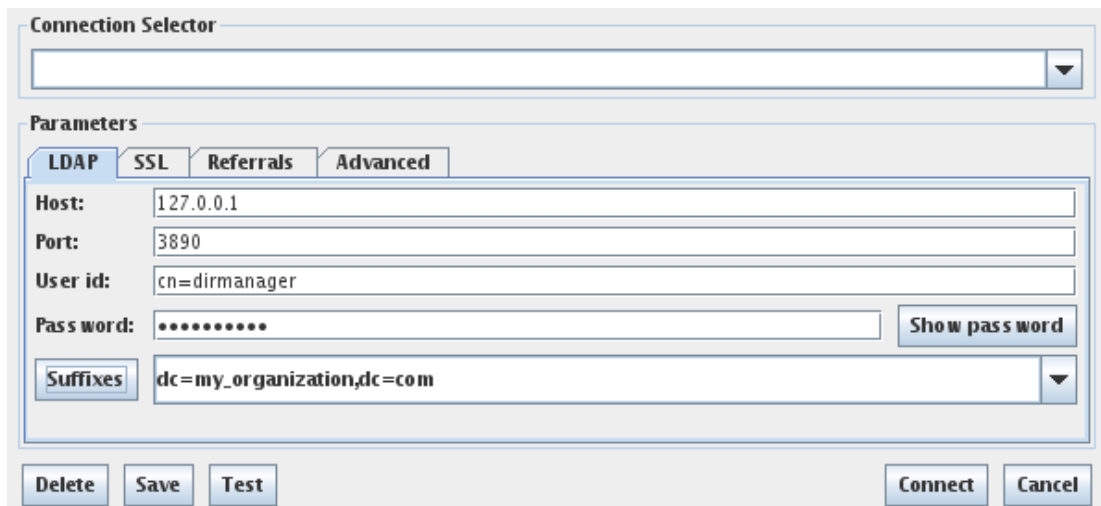


Fig-9: The LDAP Browser Connection Window

In the Name textbox, enter Load Balancing.

In the Hostname textbox, enter the IP Address of the computer that LDAP Proxy is installed on.

In the Port textbox, enter 3890.

In the Root Suffix textbox, enter the DN you'd like to be the root of your LDAP request.

In the Bind DN textbox, enter the DN of the user that has appropriate access to both Directory 1 and 2.

Enter the Password twice for the user specified in the step above.

Click the Test button.

Assuming you entered the correct information, a Test Successful! message will appear. Click the OK button. At this point, the LDAP Proxy routed a Bind request to either Directory 1 or 2 which you can verify by viewing the logs for Directory 1 and 2.

Click the Test button again.

Again, a Test Successful! message will appear. Click the OK button. At this point, the LDAP Proxy routed another Bind request to either Directory 1 or 2. This time however, the Bind request went to the directory that it did not go last time. Again, this can be verified by viewing the logs for Directory 1 and 2.

You can continue testing the connection or viewing entries in the LDAP browser and you can verify that the LDAP operations are alternating between the two directories by viewing the logs for Directory 1 and 2.

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