Appendix E—HelpDesk Installation Guide

Operating System Install

Notation: user input in the console is shown below as "[input here]".

You need the first three Fedora CD's, available for download from the internet.

1.1. Install Fedora with the 'server' preset

1.2. Set the host name to "your.hostname"

1.3. Make sure you select the following components for installation:
- KDE or Gnome
- From 'Web Server', check php-mysql
- From 'SQL Database Server', check 'mysql-server'
- Mozilla to be able to browse
- Nice to have: from 'Text-based internet', choose lynx

1.4. After the server has successfully installed, we need to make the web server (httpd) and the database server (mysqld) start automatically if the machine resets. For this, type the following commands:

[chkconfig --level 345 httpd on]
[chkconfig --level 345 mysqld on]

Now we need to start these manually:

[service mysqld start]
[service httpd start]

1.5. We need to add the following to apache's config file, in our webroot:

Options MultiViews
AllowOverride All

1.6. We might need to modify the configuration script for the network interface, see example;

1.7. We might have to change /etc/php.ini to [register_globals = On]

1.8. Depending on whether DNS services are available to the server, we need to edit the /etc/hosts file and to manually add some entries there, see example;

1.9. For backup, we need to generate public ssh keys and copy those onto the machine where we want to send the backups. Let's assume our server is machine A, and that the machine to which we send the files is machine B (both linux). Follow these steps:

1. On machine A, run [ssh-keygen -t dsa]
2. This will generate tow files, id_dsa, and id_dsa.pub
3. Copy id_dsa.pub on machine B, in directory /home/your_user/.ssh/machine_A_pub_key
4. On machine B, in folder /home/your_user/.ssh/, create file authorized_keys, if not existing
5. In this file, put the contents of machine_A_pub_key
6. Chang permissions on the authorized_keys file with chmod go-rw authorized_keys

Now, we have to copy the backup script (helpdesk_backup.sh) into the /etc/cron/daily folder, so that backups are run daily.

Software Installation

1. Create a temporary dir on the target machine and copy helpdesk-1.xxx.tar.gz in there. Change dir to that directory;

2. Decompress the archive ([tar zxvf helpdesk-1.xxx.tar.gz]);

3. Create directory for helpdesk in the document root and configure the server;

4. Move dev-hdesk.tar.gz to the newly created directory in the document root; uncompress there; remove archive;

5. Create database for LFXlib and HelpDesk ([CREATE DATABASE lfxlib_hdesk]; [CREATE DATABASE hdesk]);

6. Create database user for HelpDesk and allow full privileges on the two databases ([GRANT ALL ON lfxlib_hdesk.* TO hdesk IDENTIFIED BY 'password here';]; [GRANT ALL ON hdesk.* TO hdesk;]; [use mysql]; [UPDATE user SET Host='localhost' WHERE User='Hdesk']; [FLUSH PRIVILEGES]; make sure to remember the password you set in the first step, you'll need it later on);

7. Import SQL from lfxlib_hdesk.sql into database for LFXlib ([mysql lfxlib_hdesk < lfxlib_hdesk.sql]);

8. Same with hdesk.sql for database hdesk ([mysql hdesk < hdesk.sql]);

9. Now you'll need to create the files which store the database credentials. You'll need to be a superuser now. Extract LFX_hdesk.tar.gz and move the resulting LFX_hdesk directory to /etc. Change ownership of /etc/LFX_hdesk and all files to apache.apache (or whatever the Apache user is), and permissions to 750 to all:

[chmod –R 750 /etc/LFX_hdesk]
[chown –R apache.apache /etc/LFX_hdesk]

10. Edit /etc/LFX_hdesk/LFX_dbData.php and synchronize the data in there with the database names/user names/credentials you have defined in steps 5-6 above.

11. Edit /etc/LFX_hdesk/LFXlink.php and change the directory for the HelpDesk as defined at step 3 above (you need to provide the absolute filesystem path to that dir). See appended file.

12. Change dir to document root and edit .htaccess—make sure the path is right there as well. See appended file.

Try accessing the document root via browser--only one user is created, username 'andrei', same password as Andrei's password on EH-Master. After logging in you should see the test page. If that works, try accessing the two directories in the document root--one will provide you with the LFXlib controls (document root/LFXlib) and the other is the actual HelpDesk system (document root/helpdesk).

13. MIME Types and directories

You will find a separate archive attached to this e-mail called "mimes.zip". Download it to your local computer (Windows) and extract it. Go to the LFXlib control panel and click on "Document Types Management". You will now have to create a few icons for proper system usage. More will be added at a later time for completeness. The fields you must fill in are shown below, separated by a vertical bar ("|"). In the "Browse for icon" field you will have to click on "Browse" and select the appropriate file specified below from the Windows folder you extracted the zip file to (I just know you'll love this phrase).

Default DocType | default | application/octet-stream | default.ico | image/x-icon | Special

Directory Open ICON | dir_open | | open_folder.ico | image/x-icon | Special

Directory Closed ICON | dir_closed | | closed_folder.ico | image/x-icon
| Special

Icon YES | yes | | yes.jpg | image/jpeg | Special

Icon NO | no | | no.jpg | images/jpeg | Special

14. Translations

Attention: apache doesn't have the right to write in /var in a default Fedora installation. So for translations for example, we have to set the correct permissions:

[chown –R apache.apache /var/LFX_hdesk/]

REQUIRED FILES AND FOLDERS FOR THE INSTALL CD

No.	file/Folder	Description
1	F: ~webroot/helpdesk/LFXlib	Core libraries
2	F: ~webroot/helpdesk/helpdesk	Heldpesk software
3	F: /etc/LFX_hdesk	Data used by the libraries, including paths, database passwords etc.
4	f: ~webroot/helpdesk/.htaccess	Same with /LFXlib/.htaccess, this ensures that only logged-in users have access here
5	f: /etc/php.ini	The php configuration file
6	f: /etc/hosts	If you don't have DNS, you need to add hosts here manually
7	f: /etc/httpd/conf/httpd.conf	This is the webserver configuration file, you need to have Options MultiViews and AllowOverride All in your webroot or virtual host.
8	f:	The configuration file for the network

	/etc/sysconfig/network -scripts/ifcfg-eth0	interface
9	f: mimes.zip	This archive contains the mime types used by the application

Settings and Data storage in HelpDesk

Settings are stored in:
- '/etc/LFXlib'. This contains database passwords to be used by the web code, as well as pointers to the correct locations of the includes and the web code;
- In the web web folders which are to be protected by password (currently 'hdesk' and 'LFXlib'), a '.htaccess' file has to be present, which prepends the php file which does the authentication.

Data are stored in:
- MySQL databases:
  - 'hdesk'—contains HelpDesk data such as processes, requests, escalation presets;
  - 'lfxlib_hdesk'—contains system data such as users, groups, translation settings;
- Filesystem:
  - '/var/LFX_data' (definable via a global in module LFX)— contains binary data like translation files and images, which is better stored on the file system and retrieved faster.