

Dernière mise-à-jour : 2020/01/30 03:27

106.2 - Configurer un display manager (1/60)

Gestionnaire de Fenêtres

X ne doit être confondue avec un **Gestionnaire de Fenêtres** (*Window Manager*). Le Gestionnaire de Fenêtres est responsable de la mise en page des éléments fournis pas **X**. C'est pour cette raison que sous Linux il existe de nombreux Gestionnaires différents tels :

- KDE,
- GNOME,
- twm,
- IceWM,
- Rvwm,
- CDE,
- WindowMaker,
- Enlightenment,
- Xfce,
- Afterstep
- Compiz Fusion,
- Fluxbox,
- Openbox,
- Metacity,
- Blackbox,
- Ion,
- Wmii,
- etc.

Les Gestionnaires les plus connus sont :

- **KDE** (*Kool Desktop Environment*) par **Matthias Ettrich** en **1996**,

- **GNOME** (*Gnu Network Object Model Environment*) par **Miguel de Icaza** et **Federico Mena** en **1997**,

Toolkits

Chaque Gestionnaire utilise une bibliothèque graphique contenant des fonctions “toutes faites” pour créer les éléments graphiques. Chaque élément pour le Gestionnaire lui même s'appelle un **Widget** (*Windows Gadget*) tandis que élément pour une fenêtre s'appelle simplement un **Gadget**.

Une bibliothèque complète est appelée un **Widget Toolkit**. Le Toolkit le plus connu est **MOTIF**. Cependant **MOTIF** n'est pas libre. Pour cette raison les développeurs de Linux ont du concevoir des Toolkits ayant une licence libre.

Comme dans beaucoup de cas de développement sous Linux, il existe plusieurs Toolkits dont les deux les plus connus sont :

- **GTK** (*GIMP Toolkit*), programé en langage C et embarqué par défaut dans le Gestionnaire de Fenêtres **Gnome**,
- **QT** (*Cute*), programé en langage C++ et embarqué par défaut dans le Gestionnaire de Fenêtres **KDE**.

Freedesktop

Afin d'assurer la possibilité d'utiliser une application développée avec GTK sur un système fonctionnant sous QT et vice-versa, les développeurs de GNOME et KDE ont créé ensemble le projet **Freedesktop**. Les développements issus de ce projet sont intégrés dans les deux Gestionnaires.

Display Manager

Le **Display Manager** est chargé de gérer les connexions locales et à distance, les authentifications et les ouvertures de sessions. De ce fait, Le Display Manager est l'équivalent des services console **init**, **getty** et **login** réunis.

Pour les connexions à distance le Display Manager utilise le protocole **XDMCP** (*X Display Manager Control Panel*). Le fichier de configuration de XDMCP est **/etc/X11/xdm/xdmconfig**.

XDM, GDM et KDM

Le Display Manager par défaut, compatible avec tous les serveurs **X**, est **XDM**. Les deux autres Display Managers les plus connus sont :

- **GDM** pour GNOME,
- **KDM** pour KDE,
- **LightDM** de Canonical.

Les deux premiers sont essentiellement des XDM avec des fonctionnalités supplémentaires telles :

- le passage d'un utilisateur à un autre,
- la liste des utilisateurs,
- le choix d'un gestionnaire de fenêtres,
- la possibilité d'une autoconnexion,
- la liste des serveurs **X** distants,
- etc.

LightDM

LightDM est un gestionnaire d'affichage conçu pour être une alternative relativement légère et très personnalisable à GDM par Robert Ancell, de Canonical. LightDM possède les caractéristiques suivantes :

- Pas de dépendances de Gnome
- Utilisation de webkit pour le rendu des thèmes
- Support de Toolkits Gtk et Qt

Sous RHEL/CentOS 7, LightDM n'est pas installé par défaut et se trouve dans le dépôt EPEL. Installez donc le dépôt :

```
[root@centos7 ~]# yum install -y epel-release
Loaded plugins: fastestmirror, langpacks
Loading mirror speeds from cached hostfile
* base: fr.mirror.babylon.network
* extras: fr.mirror.babylon.network
```

```
* updates: fr.mirror.babylon.network
```

```
Resolving Dependencies
```

```
--> Running transaction check
```

```
---> Package epel-release.noarch 0:7-6 will be installed
```

```
--> Finished Dependency Resolution
```

```
Dependencies Resolved
```

```
=====
```

Package	Arch	Version	Repository	Size
Installing:				
epel-release	noarch	7-6	extras	14 k

```
=====
```

```
Transaction Summary
```

```
=====
```

```
Install 1 Package
```

```
Total download size: 14 k
```

```
Installed size: 24 k
```

```
Downloading packages:
```

```
epel-release-7-6.noarch.rpm | 14 kB 00:01
```

```
Running transaction check
```

```
Running transaction test
```

```
Transaction test succeeded
```

```
Running transaction
```

```
Installing : epel-release-7-6.noarch 1/1
```

```
Verifying : epel-release-7-6.noarch 1/1
```

```
Installed:
```

```
epel-release.noarch 0:7-6
```

```
Complete!
```

Installez ensuite LightDM :

```
[root@centos7 ~]# yum install -y lightdm
Loaded plugins: fastestmirror, langpacks
epel/x86_64/metalink           | 23 kB      00:00
epel                          | 4.3 kB      00:00
(1/3): epel/x86_64/group_gz   | 170 kB     00:00
(2/3): epel/x86_64/updateinfo | 588 kB     00:00
(3/3): epel/x86_64/primary_db | 4.3 MB     00:01
Loading mirror speeds from cached hostfile
 * base: fr.mirror.babylon.network
 * epel: mirrors.ircam.fr
 * extras: fr.mirror.babylon.network
 * updates: fr.mirror.babylon.network
Resolving Dependencies
--> Running transaction check
---> Package lightdm.x86_64 0:1.10.6-4.el7 will be installed
--> Processing Dependency: lightdm-greeter = 1.2 for package: lightdm-1.10.6-4.el7.x86_64
--> Processing Dependency: lightdm-gobject(x86-64) = 1.10.6-4.el7 for package: lightdm-1.10.6-4.el7.x86_64
--> Running transaction check
---> Package lightdm-gobject.x86_64 0:1.10.6-4.el7 will be installed
---> Package lightdm-gtk.x86_64 0:1.8.5-19.el7 will be installed
--> Processing Dependency: lightdm-gtk-common = 1.8.5-19.el7 for package: lightdm-gtk-1.8.5-19.el7.x86_64
--> Running transaction check
---> Package lightdm-gtk-common.noarch 0:1.8.5-19.el7 will be installed
--> Finished Dependency Resolution
```

Dependencies Resolved

```
=====
Package                Arch          Version           Repository        Size
=====
Installing:
lightdm                x86_64       1.10.6-4.el7     epel              190 k
=====
```

Installing for dependencies:

lightdm-gobject	x86_64	1.10.6-4.el7	epel	57 k
lightdm-gtk	x86_64	1.8.5-19.el7	epel	58 k
lightdm-gtk-common	noarch	1.8.5-19.el7	epel	57 k

Transaction Summary

=====

Install 1 Package (+3 Dependent packages)

Total download size: 362 k

Installed size: 970 k

Downloading packages:

warning: /var/cache/yum/x86_64/7/epel/packages/lightdm-1.10.6-4.el7.x86_64.rpm: Header V3 RSA/SHA256 Signature, key ID 352c64e5: NOKEY

Public key for lightdm-1.10.6-4.el7.x86_64.rpm is not installed

(1/4): lightdm-1.10.6-4.el7.x86_64.rpm	190 kB	00:01
(2/4): lightdm-gobject-1.10.6-4.el7.x86_64.rpm	57 kB	00:00
(3/4): lightdm-gtk-1.8.5-19.el7.x86_64.rpm	58 kB	00:00
(4/4): lightdm-gtk-common-1.8.5-19.el7.noarch.rpm	57 kB	00:00

Total 179 kB/s | 362 kB 00:02

Retrieving key from file:///etc/pki/rpm-gpg/RPM-GPG-KEY-EPEL-7

Importing GPG key 0x352C64E5:

Userid : "Fedora EPEL (7) <epel@fedoraproject.org>"
Fingerprint: 91e9 7d7c 4a5e 96f1 7f3e 888f 6a2f aea2 352c 64e5
Package : epel-release-7-6.noarch (@extras)
From : /etc/pki/rpm-gpg/RPM-GPG-KEY-EPEL-7

Running transaction check

Running transaction test

Transaction test succeeded

Running transaction

Installing : lightdm-gobject-1.10.6-4.el7.x86_64	1/4
Installing : lightdm-gtk-common-1.8.5-19.el7.noarch	2/4
Installing : lightdm-1.10.6-4.el7.x86_64	3/4

```
Installing : lightdm-gtk-1.8.5-19.el7.x86_64                4/4
Verifying  : lightdm-gtk-common-1.8.5-19.el7.noarch
1/4
Verifying  : lightdm-gtk-1.8.5-19.el7.x86_64
2/4
Verifying  : lightdm-1.10.6-4.el7.x86_64
3/4
Verifying  : lightdm-gobject-1.10.6-4.el7.x86_64
4/4

Installed:
  lightdm.x86_64 0:1.10.6-4.el7

Dependency Installed:
  lightdm-gobject.x86_64 0:1.10.6-4.el7          lightdm-gtk.x86_64 0:1.8.5-19.el7
  lightdm-gtk-common.noarch 0:1.8.5-19.el7

Complete!
```

Le fichier de configuration de LightDM est **/etc/lightdm/lightdm.conf** :

```
[root@centos7 ~]# cat /etc/lightdm/lightdm.conf
#
# General configuration
#
# start-default-seat = True to always start one seat if none are defined in the configuration
# greeter-user = User to run greeter as
# minimum-display-number = Minimum display number to use for X servers
# minimum-vt = First VT to run displays on
# lock-memory = True to prevent memory from being paged to disk
# user-authority-in-system-dir = True if session authority should be in the system location
# guest-account-script = Script to be run to setup guest account
# logind-load-seats = True to automatically set up multi-seat configuration from logind
# logind-check-graphical = True to on start seats that are marked as graphical by logind
```

```
# log-directory = Directory to log information to
# run-directory = Directory to put running state in
# cache-directory = Directory to cache to
# sessions-directory = Directory to find sessions
# remote-sessions-directory = Directory to find remote sessions
# greeters-directory = Directory to find greeters
# backup-logs = True to move add a .old suffix to old log files when opening new ones
#
[LightDM]
#start-default-seat=true
#greeter-user=lightdm
#minimum-display-number=0
minimum-vt=1
#lock-memory=true
user-authority-in-system-dir=true
#guest-account-script=guest-account
#logind-load-seats=false
#logind-check-graphical=false
#log-directory=/var/log/lightdm
#run-directory=/var/run/lightdm
#cache-directory=/var/cache/lightdm
#sessions-directory=/usr/share/lightdm/sessions:/usr/share/xsessions
#remote-sessions-directory=/usr/share/lightdm/remote-sessions
#greeters-directory=/usr/share/lightdm/greeters:/usr/share/xgreeters
#backup-logs=true

#
# Seat defaults
#
# type = Seat type (xlocal, xremote)
# xdg-seat = Seat name to set pam_systemd XDG_SEAT variable and name to pass to X server
# pam-service = PAM service to use for login
# pam-autologin-service = PAM service to use for autologin
# pam-greeter-service = PAM service to use for greeters
```

```
# xserver-command = X server command to run (can also contain arguments e.g. X -special-option)
# xmir-command = Xmir server command to run (can also contain arguments e.g. Xmir -special-option)
# xserver-layout = Layout to pass to X server
# xserver-config = Config file to pass to X server
# xserver-allow-tcp = True if TCP/IP connections are allowed to this X server
# xserver-share = True if the X server is shared for both greeter and session
# xserver-hostname = Hostname of X server (only for type=xremote)
# xserver-display-number = Display number of X server (only for type=xremote)
# xdmcp-manager = XDMCP manager to connect to (implies xserver-allow-tcp=true)
# xdmcp-port = XDMCP UDP/IP port to communicate on
# xdmcp-key = Authentication key to use for XDM-AUTHENTICATION-1 (stored in keys.conf)
# unity-compositor-command = Unity compositor command to run (can also contain arguments e.g. unity-system-
compositor -special-option)
# unity-compositor-timeout = Number of seconds to wait for compositor to start
# greeter-session = Session to load for greeter
# greeter-hide-users = True to hide the user list
# greeter-allow-guest = True if the greeter should show a guest login option
# greeter-show-manual-login = True if the greeter should offer a manual login option
# greeter-show-remote-login = True if the greeter should offer a remote login option
# user-session = Session to load for users
# allow-user-switching = True if allowed to switch users
# allow-guest = True if guest login is allowed
# guest-session = Session to load for guests (overrides user-session)
# session-wrapper = Wrapper script to run session with
# greeter-wrapper = Wrapper script to run greeter with
# guest-wrapper = Wrapper script to run guest sessions with
# display-setup-script = Script to run when starting a greeter session (runs as root)
# display-stopped-script = Script to run after stopping the display server (runs as root)
# greeter-setup-script = Script to run when starting a greeter (runs as root)
# session-setup-script = Script to run when starting a user session (runs as root)
# session-cleanup-script = Script to run when quitting a user session (runs as root)
# autologin-guest = True to log in as guest by default
# autologin-user = User to log in with by default (overrides autologin-guest)
# autologin-user-timeout = Number of seconds to wait before loading default user
```

```
# autologin-session = Session to load for automatic login (overrides user-session)
# autologin-in-background = True if autologin session should not be immediately activated
# exit-on-failure = True if the daemon should exit if this seat fails
#
[SeatDefaults]
#type=xlocal
#xdg-seat=seat0
#pam-service=lightdm
#pam-autologin-service=lightdm-autologin
#pam-greeter-service=lightdm-greeter
xserver-command=X -background none
#xmir-command=Xmir
#xserver-layout=
#xserver-config=
#xserver-allow-tcp=false
#xserver-share=true
#xserver-hostname=
#xserver-display-number=
#xdmcp-manager=
#xdmcp-port=177
#xdmcp-key=
#unity-compositor-command=unity-system-compositor
#unity-compositor-timeout=60
greeter-session=lightdm-greeter
#greeter-hide-users=false
#greeter-allow-guest=true
#greeter-show-manual-login=false
#greeter-show-remote-login=true
#user-session=default
#allow-user-switching=true
#allow-guest=true
#guest-session=
session-wrapper=/etc/X11/xinit/Xsession
#greeter-wrapper=
```

```
#guest-wrapper=
#display-setup-script=
#display-stopped-script=
#greeter-setup-script=
#session-setup-script=
#session-cleanup-script=
#autologin-guest=false
#autologin-user=
#autologin-user-timeout=0
#autologin-in-background=false
#autologin-session=UNIMPLEMENTED
#exit-on-failure=false

#
# Seat configuration
#
# Each seat must start with "Seat:".
# Uses settings from [SeatDefaults], any of these can be overridden by setting them in this section.
#
#[Seat:0]

#
# XDMCP Server configuration
#
# enabled = True if XDMCP connections should be allowed
# port = UDP/IP port to listen for connections on
# listen-address = Host/address to listen for XDMCP connections (use all addresses if not present)
# key = Authentication key to use for XDM-AUTHENTICATION-1 or blank to not use authentication (stored in
keys.conf)
#
# The authentication key is a 56 bit DES key specified in hex as 0xnxxxxxxxxxxxxxxxx. Alternatively
# it can be a word and the first 7 characters are used as the key.
#
[XDMCPServer]
```

```
#enabled=false
#port=177
#listen-address=
#key=

#
# VNC Server configuration
#
# enabled = True if VNC connections should be allowed
# command = Command to run Xvnc server with
# port = TCP/IP port to listen for connections on
# listen-address = Host/address to listen for VNC connections (use all addresses if not present)
# width = Width of display to use
# height = Height of display to use
# depth = Color depth of display to use
#
[VNCServer]
#enabled=false
#command=Xvnc
#port=5900
#listen-address=
#width=1024
#height=768
#depth=8
```

La configuration de l'écran d'accueil GTK de LightDM se trouve dans le fichier **/etc/lightdm/lightdm-gtk-greeter.conf** :

```
[root@centos7 ~]# cat /etc/lightdm/lightdm-gtk-greeter.conf
#
# background = Background file to use, either an image path or a color (e.g. #772953)
# theme-name = GTK+ theme to use
# icon-theme-name = Icon theme to use
# font-name = Font to use
# xft-antialias = Whether to antialias Xft fonts (true or false)
```

```
# xft-dpi = Resolution for Xft in dots per inch (e.g. 96)
# xft-hintstyle = What degree of hinting to use (none, slight, medium, or hintfull)
# xft-rgba = Type of subpixel antialiasing (none, rgb, bgr, vrgb or vbgr)
# show-indicators = semi-colon ";" separated list of allowed indicator modules. Built-in indicators include
"~ally", "~language", "~session", "~power". Unity indicators can be represented by short name (e.g. "sound",
"power"), service file name, or absolute path
# show-clock (true or false)
# clock-format = strftime-format string, e.g. %H:%M
# keyboard = command to launch on-screen keyboard
# position = main window position: x y
# default-user-image = Image used as default user icon, path or #icon-name
# screensaver-timeout = Timeout (in seconds) until the screen blanks when the greeter is called as lockscreen
#
[greeter]
background=/usr/share/backgrounds/day.jpg
#theme-name=
#icon-theme-name=
#font-name=
#xft-antialias=
#xft-dpi=
#xft-hintstyle=
#xft-rgba=
#show-indicators=
#show-clock=
#clock-format=
#keyboard=
#position=
#screensaver-timeout=
```

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