
i3 window-manager extensions

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i3 is a tiling window manager for advanced Linux users. This note introduces some handy extensions to i3:

- a file-manager extension with a proper workflow,
- an exit-mode extension and
- a pass-through-mode extension.

The extensions can be enabled by appending some lines of code to the i3 configuration file `etc/i3/conf`. The following explains these changes. A complete configuration sample can be downloaded [here](#).

1 File manager integration

Have you ever thought about how we start a new work in i3? This is our typical workflow:

- We launch an application with `Alt+D` or `Alt+Shift+D`¹, or
- we open a file manager with `Alt+T`, choose a file and then launch the associated application.

¹`bindsym $mod+Shift+d exec xfce4-appfinder`

1.1 File manager usage in i3

In every day work we usually work with applications and file managers on the same project but never at the same time! This is why it is very handy to keep file manager windows in the background not mixing them with application windows.

This i3 configuration separates usual application windows from file manager windows. File manager windows are kept in the *scratchpad* of i3 allowing to make them appear and disappear without disturbing application windows.

Alt+T	Opens a file manager instance,
Alt+-	hides it, ²
Alt+-	unhides it one by one by pressing the same key again, ³
Alt+<	hides all file manager windows,
Alt+<	unhides all filemanager windows at the same time by pressing the same key again. ⁴
Alt+Shift+Q	closes the file manager.

Table: File manager usage in i3

For “drag and drop” copy operations you need to see more then one file manager window at the same time. Use Alt+< to toggle view all file managers. As all file manager windows have the same default size and position you will see only the top window. Move the top window manually, then the underlaying window become visible. Press the Alt+< key again to make them disappear.

Another handy way to hide and show the file manager is the `gtrayicon` as shown in red below. It has the same function as Alt+<.

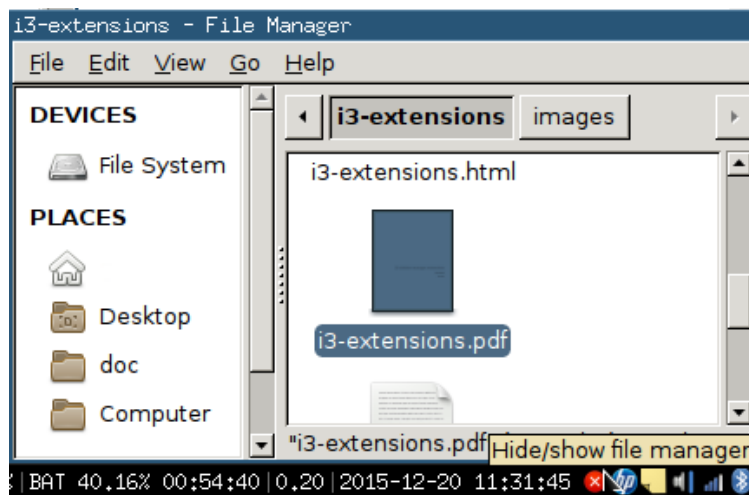


Fig. 1: Hide/unhide filemanager windows with gtrayicon

1.2 Source code of file manager integration

The following source code lines launch the Thunar file manager. To change replace the keyword “thunar” with your preferred file manager.

Install the `gtrayicon` package (Debian, Ubuntu)

² When another window is selected press the key twice to hide.

³ It actually cycles through all windows in the scratchpad.

⁴ The windows might be stacked and you see only the top one. Move them manually.

```
sudo apt-get install gtrayicon
```

Append the following to `/etc/i3/config`:

`/etc/i3/conf` excerpt

```
bindsym Alt+t exec thunar
bindsym Alt+minus scratchpad show
for_window [class="Thunar"] move scratchpad; [class="Thunar"] scratchpad show;
bindsym Alt+less [class="Thunar"] scratchpad show
exec gtrayicon --tooltip="Hide/show file manager." --activate='i3-msg [class="Thunar"
↵] scratchpad show;' --deactivate='i3-msg [class="Thunar"] scratchpad show;'
```

2 Exit mode

The standard configuration defines `Alt+Shift+e` to exit `i3`. It will send you back to the login screen.

2.1 Exit mode usage

The new exit mode defines the following shortcuts:

<code>Alt+Shift+X, L</code>	Lock the screen.
<code>Alt+Shift+X, E</code>	Exit <code>i3</code> (same as <code>Alt+Shift+E</code>).
<code>Alt+Shift+X, S</code>	Suspend.
<code>Alt+Shift+X, H</code>	Hibernate.
<code>Alt+Shift+X, R</code>	Reboot.
<code>Alt+Shift+X, D</code>	Shutdown.

Table: Exit mode usage

2.2 Source code

Append the following to `/etc/i3/config`:

Debian 8/Debian 9 extract of `/etc/i3/config`

```
# New exit mode.
set $mode_system System (l) lock, (e) logout, (s) suspend, (h) hibernate, (r) reboot,
↵(d) shutdown
mode "$mode_system" {
    bindsym l exec --no-startup-id i3lock, mode "default"
    bindsym e exec --no-startup-id "i3-nagbar -t warning -m 'You pressed the exit
↵shortcut. All unsaved data will be lost.' -b 'Yes, exit i3' 'i3-msg exit'", mode
↵"default"
    bindsym s exec --no-startup-id i3lock, mode default; exec --no-startup-id /bin/
↵systemctl suspend, mode "default"
    bindsym h exec --no-startup-id i3lock, mode default; exec --no-startup-id /bin/
↵systemctl hibernate, mode "default"
    bindsym r exec --no-startup-id "i3-nagbar -t warning -m 'You pressed the reboot
↵shortcut. All unsaved data will be lost.' -b 'Yes, reboot' '/bin/systemctl reboot'",
↵ mode "default"
```

```
bindsym d exec --no-startup-id "i3-nagbar -t warning -m 'You pressed the shutdown
↳shortcut. All unsaved data will be lost.' -b 'Yes, shutdown' '/bin/systemctl
↳poweroff'", mode "default"

# back to normal: Enter or Escape
bindsym Return mode "default"
bindsym Escape mode "default"
}
bindsym $mod+Shift+x mode "$mode_system"
```

Important: Your system policy might not allow users to suspend, power off, hibernate and restart. The rights to do so are defined in: `/usr/share/polkit-1/actions/org.freedesktop.login1.policy`. A step by step howto can be found [here](#).

Create the following file:

Sample file: `/etc/polkit-1/localauthority/50-local.d/org.freedesktop.consolekit.pkla`

```
### Make shure that all users are part of the group `users`.
# gpasswd -a thomas users
# See https://wiki.debianforum.de/Xfce
[Local restart]
Identity=unix-group:users
Action=org.freedesktop.consolekit.system.restart
ResultAny=yes
ResultInactive=no
ResultActive=yes

[Local shutdown]
Identity=unix-group:users
Action=org.freedesktop.consolekit.system.stop
ResultAny=yes
ResultInactive=no
ResultActive=yes

[Local restart - multiple]
Identity=unix-group:users
Action=org.freedesktop.consolekit.system.restart-multiple-users
ResultAny=yes
ResultInactive=no
ResultActive=yes

[Local shutdown - multiple]
Identity=unix-group:users
Action=org.freedesktop.consolekit.system.stop-multiple-users
ResultAny=yes
ResultInactive=no
ResultActive=yes

# See also
# https://wiki.archlinux.org/index.php/NetworkManager
# See also group definitions here
# https://wiki.debian.org/SystemGroups
```

```
[Local shutdown - multiple]
Identity=unix-group:netdev
Action=org.freedesktop.ModemManager1.Device.Control
ResultAny=yes
ResultInactive=no
ResultActive=yes
```

3 Pass-through mode

What makes `i3` so convenient is that most of the actions can be controlled with a simple keystroke. All `i3` functions are bound to the a user defined modifier key which is usually the `Alt` or the `Win` key. Combinations with this modifier key like `Alt+Return` are interpreted by `i3` and are *not* forwarded to the active window. But in some cases it is necessary to pass such an `i3` key sequence to the active window.

<code>Alt+Shift+Backspace</code>	disables temporarily all <code>i3</code> key bindings forwarding all key strokes to the active window.
<code>Alt+Shift+Backspace</code>	re-enables all <code>i3</code> key bindings.

Table: Pass-through-mode usage in `i3`

Append the following to `/etc/i3/config`:

Source code of pass-through mode.

```
set $passthrough_keys Suspend all window manager keys exit: Mod+Shift+Backspace
mode "$passthrough_keys" {
    bindcode Alt+Shift+22 mode "default"
}
bindcode Alt+Shift+22 mode "$passthrough_keys"
```

4 Date stamper

The `YYYYMMDD-` prefix in filenames like for example in `20150225-minutes.doc` is very useful to archive files chronologically. The `Alt+Shift+N` time stamper shortcut copies the current date into the clipboard from where it can be pasted with `Ctrl+V` or the middle mouse button.

<code>Alt+Shift+N, Ctrl+V</code>	Copies and pastes the current date at the cursor position.
<code>Alt+Shift+N, middle mouse button</code>	Copies and pastes the current date at the mouse pointer position.

Table: Date stamper usage

Append the following to `/etc/i3/config`:

Source code of date stamper

```
bindsym $mod+Shift+n exec "echo $(date +%Y%m%d)- |tr -d '\n' | xclip -selection c";  
→exec "echo $(date +%Y%m%d)- |tr -d '\n' | xclip"
```