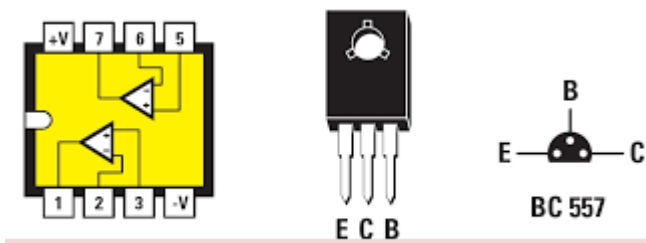


Mbsm.pro , principe de fonctionnement d'un transistor

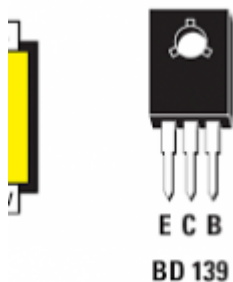
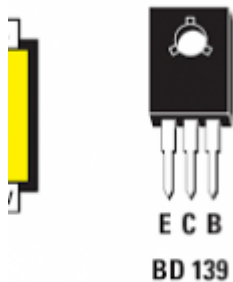
written by Lilianne | 5 October 2016

images.png (4 KB)



PictureS Mbsm Dot Pro : www.mbsm.pro

images.png (10 KB)



Description du transistor

Le transistor est un composant d'où sortent 3 fils électriques. Ils sont dénommés B (base), C (collecteur), et E (émetteur).

Voici un dessin du transistor BC 547, agrandi quatre fois :



Un tel transistor coûte de l'ordre de 10 FB dans les magasins de composants électronique.

Voici la représentation classique du transistor dans les schémas électroniques :



Le principe de fonctionnement

- Si on branche une source de tension entre les bornes C et E, le transistor ne laisse pas passer de courant (fig. 1).
- Par contre, entre B et E il y a un court-circuit. Si on veut faire passer un courant précis entre B et E, il faut utiliser une source de tension et une résistance (fig. 2).
- **Si** on envoie un courant de I_B ampères entre B et E, **alors** le transistor acceptera de laisser passer un courant de $I_C = \beta \cdot I_B$ ampères entre C et E (fig. 3). Dans ce cas ci, β vaut de l'ordre de 100.



Les schémas électroniques correspondants aux dessins des figures 1, 2 et 3 sont représentés par les figures 4, 5 et 6 :



Note : Pour ceux qui voudraient essayer ces branchements : une seule pile de 9 Volts peut jouer le rôle des deux piles (fig. 7 et 8) :



Faites attention à la polarité : mettez bien le pôle positif et le pôle négatif de la pile au bon endroit. Le sens du courant est important pour un transistor.

Le BC 547 est un transistor un peu faible pour allumer une lampe. Vous aurez peut-être intérêt à utiliser un transistor plus puissant, comme par exemple le BD 649. En voici un dessin, agrandi deux fois :



Au début, en faisant des erreurs de branchement ou en faisant dissiper une énergie trop importante au transistor, vous risquez fort d'en brûler quelques uns. C'est normal.

La raison pour laquelle on soustrait systématiquement 0,7 Volts de la tension U_{BE} est que les transistors bipolaires actuels contiennent une diode "parasite". La tension soustraite dépend du type de semiconducteur utilisé : 0,7 Volts pour le silicium, et 0,2 Volts pour le germanium.



www.mbsm.pro , Ubuntu un système Bien tester

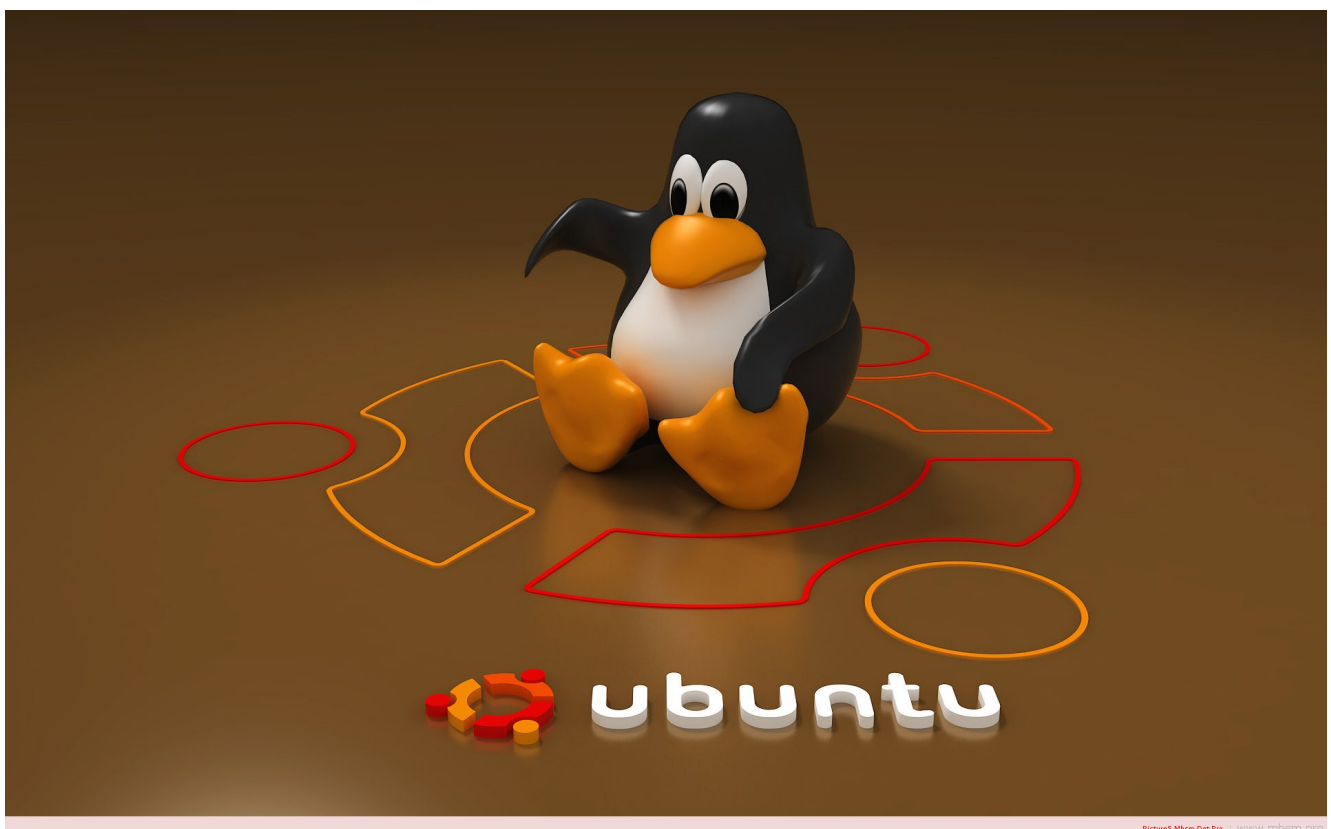
written by Lilianne | 5 October 2016

Ubuntu (/ʊ'bu:ntʊ/ uu-B00N-tuu) is a Debian-based Linux operating system and distribution for personal computers, smartphones and network servers. It uses Unity as its default user interface. It is based on free software and named after the Southern African philosophy of ubuntu (literally, "human-ness"), which often is translated as "humanity towards others" or "the belief in a universal bond of sharing that connects all humanity".

Development of Ubuntu is led by UK-based Canonical Ltd., a company owned by South African entrepreneur Mark Shuttleworth. Canonical generates revenue through the sale of technical support and other services related to Ubuntu. The Ubuntu project is publicly committed to the principles of open-source software development; people are encouraged to use free software, study how it works, improve upon it, and distribute it

In March 2016 Microsoft announced that they would support the Ubuntu userland on top of the Windows 10 kernel by implementing the Linux system calls as a subsystem. The focus lies on command-line tools like Bash and is therefore primarily directed towards developers.

mbsm_dot_pro_ubuntu.jpg (185 KB)



mbsm_dot_pro_ubuntu.jpg (98 KB)



mbsm_dot_pro_ubuntu1.jpg (65 KB)



mbsm_dot_pro_ubuntu1.jpg (76 KB)



mbsm_dot_pro_ubuntu2.jpg (436 KB)



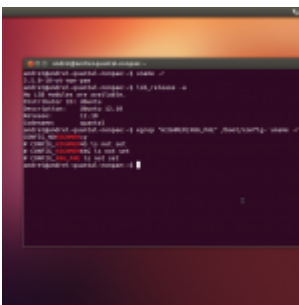
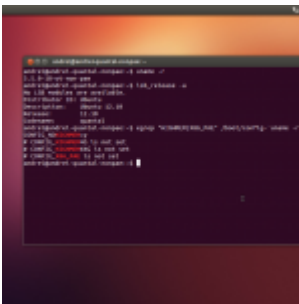
mbsm_dot_pro_ubuntu2.jpg (212 KB)



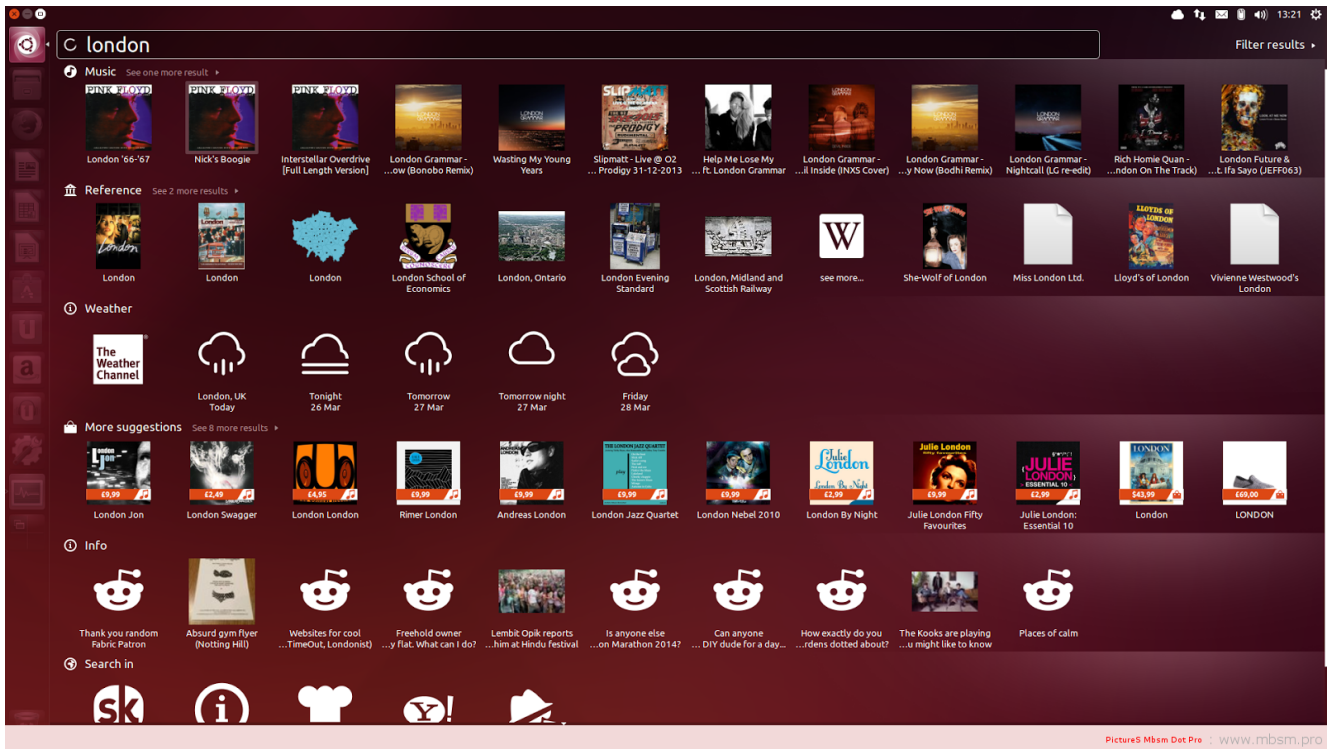
mbsm_dot_pro_ubuntu3.png (396 KB)



mbsm_dot_pro_ubuntu3.png (394 KB)

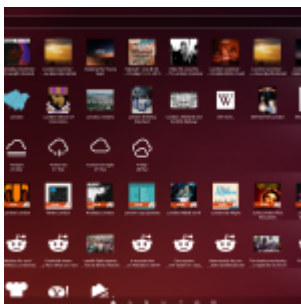
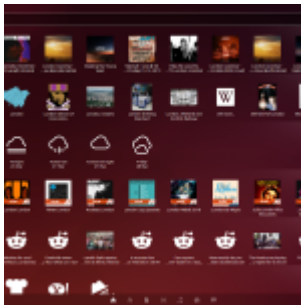


mbsm_dot_pro_ubuntu4.png (826 KB)



Picture5 Mbsm Dot Pro : www.mbsm.pro

mbsm_dot_pro_ubuntu4.png (820 KB)



mbsm_dot_pro_ubuntu5.png (146 KB)

```
manivannan@manivannan:~/Downloads$ sudo apt-get -f install
Reading package lists... Done
Building dependency tree
Reading state information... Done
Correcting dependencies... Done
The following extra packages will be installed:
  libnss3-1d libxss1
The following NEW packages will be installed:
  libnss3-1d libxss1
0 upgraded, 2 newly installed, 0 to remove and 0 not upgraded.
1 not fully installed or removed.
Need to get 22.0 kB of archives.
After this operation, 157 kB of additional disk space will be used.
Do you want to continue [Y/n]? y
Get:1 http://in.archive.ubuntu.com/ubuntu/ precise/main libnss3-1d i386 3.13.1.with.ckbi.1.88-1ubuntu6 [13.4 kB]
Get:2 http://in.archive.ubuntu.com/ubuntu/ precise/main libxss1 i386 1:1.2.1-2 [8,604 B]
Fetched 22.0 kB in 0s (35.6 kB/s)
Selecting previously unselected package libnss3-1d.
(Reading database ... 170014 files and directories currently installed.)
Unpacking libnss3-1d (from .../libnss3-1d_3.13.1.with.ckbi.1.88-1ubuntu6_i386.deb) ...
Selecting previously unselected package libxss1.
Unpacking libxss1 (from .../libxss1_1%3a1.2.1-2_i386.deb) ...
Setting up libnss3-1d (3.13.1.with.ckbi.1.88-1ubuntu6) ...
Setting up libxss1 (1:1.2.1-2) ...
Setting up google-chrome-stable (18.0.1025.168-r134367) ...
update-alternatives: using /usr/bin/google-chrome to provide /usr/bin/x-www-browser (x-www-browser) in auto mode.
update-alternatives: using /usr/bin/google-chrome to provide /usr/bin/gnome-www-browser (gnome-www-browser) in auto mode.
Processing triggers for libc-bin ...
ldconfig deferred processing now taking place
```

mbsm_dot_pro_ubuntu5.png (152 KB)

```
manivannan@manivannan:~/Downloads$ sudo apt-get -f install
Reading package lists... Done
Building dependency tree
Reading state information... Done
Correcting dependencies... Done
The following extra packages will be installed:
  libnss3-1d libxss1
The following NEW packages will be installed:
  libnss3-1d libxss1
0 upgraded, 2 newly installed, 0 to remove and 0 not upgraded.
1 not fully installed or removed.
Need to get 22.0 kB of archives.
After this operation, 157 kB of additional disk space will be used.
Do you want to continue [Y/n]? y
Get:1 http://in.archive.ubuntu.com/ubuntu/ precise/main libnss3-1d i386 3.13.1.with.ckbi.1.88-1ubuntu6 [13.4 kB]
Get:2 http://in.archive.ubuntu.com/ubuntu/ precise/main libxss1 i386 1:1.2.1-2 [8,604 B]
Fetched 22.0 kB in 0s (35.6 kB/s)
Selecting previously unselected package libnss3-1d.
(Reading database ... 170014 files and directories currently installed.)
Unpacking libnss3-1d (from .../libnss3-1d_3.13.1.with.ckbi.1.88-1ubuntu6_i386.deb) ...
Selecting previously unselected package libxss1.
Unpacking libxss1 (from .../libxss1_1%3a1.2.1-2_i386.deb) ...
Setting up libnss3-1d (3.13.1.with.ckbi.1.88-1ubuntu6) ...
Setting up libxss1 (1:1.2.1-2) ...
Setting up google-chrome-stable (18.0.1025.168-r134367) ...
update-alternatives: using /usr/bin/google-chrome to provide /usr/bin/x-www-browser (x-www-browser) in auto mode.
update-alternatives: using /usr/bin/google-chrome to provide /usr/bin/gnome-www-browser (gnome-www-browser) in auto mode.
Processing triggers for libc-bin ...
ldconfig deferred processing now taking place
```

```
manivannan@manivannan:~/Downloads$ sudo apt-get -f install
Reading package lists... Done
Building dependency tree
Reading state information... Done
Correcting dependencies... Done
The following extra packages will be installed:
  libnss3-1d libxss1
The following NEW packages will be installed:
  libnss3-1d libxss1
0 upgraded, 2 newly installed, 0 to remove and 0 not upgraded.
1 not fully installed or removed.
Need to get 22.0 kB of archives.
After this operation, 157 kB of additional disk space will be used.
Do you want to continue [Y/n]? y
Get:1 http://in.archive.ubuntu.com/ubuntu/ precise/main libnss3-1d i386 3.13.1.with.ckbi.1.88-1ubuntu6 [13.4 kB]
Get:2 http://in.archive.ubuntu.com/ubuntu/ precise/main libxss1 i386 1:1.2.1-2 [8,604 B]
Fetched 22.0 kB in 0s (35.6 kB/s)
Selecting previously unselected package libnss3-1d.
(Reading database ... 170014 files and directories currently installed.)
Unpacking libnss3-1d (from .../libnss3-1d_3.13.1.with.ckbi.1.88-1ubuntu6_i386.deb) ...
Selecting previously unselected package libxss1.
Unpacking libxss1 (from .../libxss1_1%3a1.2.1-2_i386.deb) ...
Setting up libnss3-1d (3.13.1.with.ckbi.1.88-1ubuntu6) ...
Setting up libxss1 (1:1.2.1-2) ...
Setting up google-chrome-stable (18.0.1025.168-r134367) ...
update-alternatives: using /usr/bin/google-chrome to provide /usr/bin/x-www-browser (x-www-browser) in auto mode.
update-alternatives: using /usr/bin/google-chrome to provide /usr/bin/gnome-www-browser (gnome-www-browser) in auto mode.
Processing triggers for libc-bin ...
ldconfig deferred processing now taking place
```