

Memasang Ubuntu Aarch64 (64bit) pada Qemu Versi Terbaru

Note : Versi terbaru saat dokumen ini dibuat adalah Qemu 5.1.0

1. Buat direktori baru untuk pemasangan Ubuntu Aarch64 pada Qemu:

```
$ mkdir ubuntu_aarch64
$ cd ubuntu_aarch64
```

2. Unduh semua file yang diperlukan:

```
$ wget -O ubuntu-16.04.7-server-arm64.iso
http://cdimage.ubuntu.com/ubuntu/releases/16.04.7/release/ubuntu-16.04.7-
server-arm64.iso
$ wget https://releases.linaro.org/components/kernel/uefi-
linaro/latest/release/qemu64/QEMU_EFI.fd
```

Setelah proses pengunduhan selesai, pastikan pada direktori `ubuntu_aarch64` terdapat file bernama `ubuntu-16.04.7-server-arm64.iso` dan `QEMU_EFI.fd`.

```
isro@isro-vmware:~/ubuntu_aarch64$ ls
QEMU_EFI.fd  ubuntu-16.04.7-server-arm64.iso
```

3. Buat hard disk virtual untuk pemasangan Ubuntu Aarch64:

```
$ cp QEMU_EFI.fd flash0.img
$ truncate -s 64M flash0.img
$ truncate -s 64M flash1.img
$ qemu-img create -f qcow2 xenial.qcow2 16G
```

Perhatikan bahwa nama hard disk virtual adalah `xenial.qcow2` dan ukurannya 16GB. Sesuaikan dengan kebutuhan dan pastikan bahwa file tersebut berhasil dibuat dan terdapat pada folder `ubuntu_aarch64`. Selain itu, ada dua file bernama `flash0.img` dan `flash1.img` yang masing-masing berukuran 64MB dan berfungsi sebagai bootloader.

```
isro@isro-vmware:~/ubuntu_aarch64$ ls
flash0.img  QEMU_EFI.fd  xenial.qcow2
flash1.img  ubuntu-16.04.7-server-arm64.iso
```

4. Pasang Ubuntu Aarch64 sebagaimana memasang Ubuntu Headless / Server (Contoh Terlampir) dengan menjalankan perintah berikut:

```
$ qemu-system-aarch64 -M virt -cpu cortex-a53 -m 4096 \
-drive if=pflash,format=raw,file=flash0.img,readonly \
-drive if=pflash,format=raw,file=flash1.img \
-drive if=none,file=xenial.qcow2,format=qcow2,id=hd \
-device virtio-blk-device,drive=hd \
-netdev type=user,id=mynet \
-device virtio-net-device,netdev=mynet \
-nographic -no-reboot \
-device virtio-scsi \
-drive if=none,id=cd,file=ubuntu-16.04.7-server-arm64.iso \
-device scsi-cd,drive=cd
```

Perhatikan bahwa parameter `file=xenial.qcow2` harus sesuai dengan nama hard disk virtual yang telah dibuat dan parameter `-m 4096` tidak melebihi ukuran memori sistem utama (dalam MB). Parameter `file=flash0.img` dan `file=flash1.img` adalah bootloader yang digunakan oleh Qemu untuk menjalankan Ubuntu Aarch64 sehingga perlu disertakan selama proses pemasangan maupun setelah pemasangan selesai. Sedangkan parameter `file=ubuntu-16.04.7-server-arm64.iso` adalah image Ubuntu Aarch64 yang digunakan selama proses pemasangan dan tidak perlu digunakan lagi setelah pemasangan selesai.

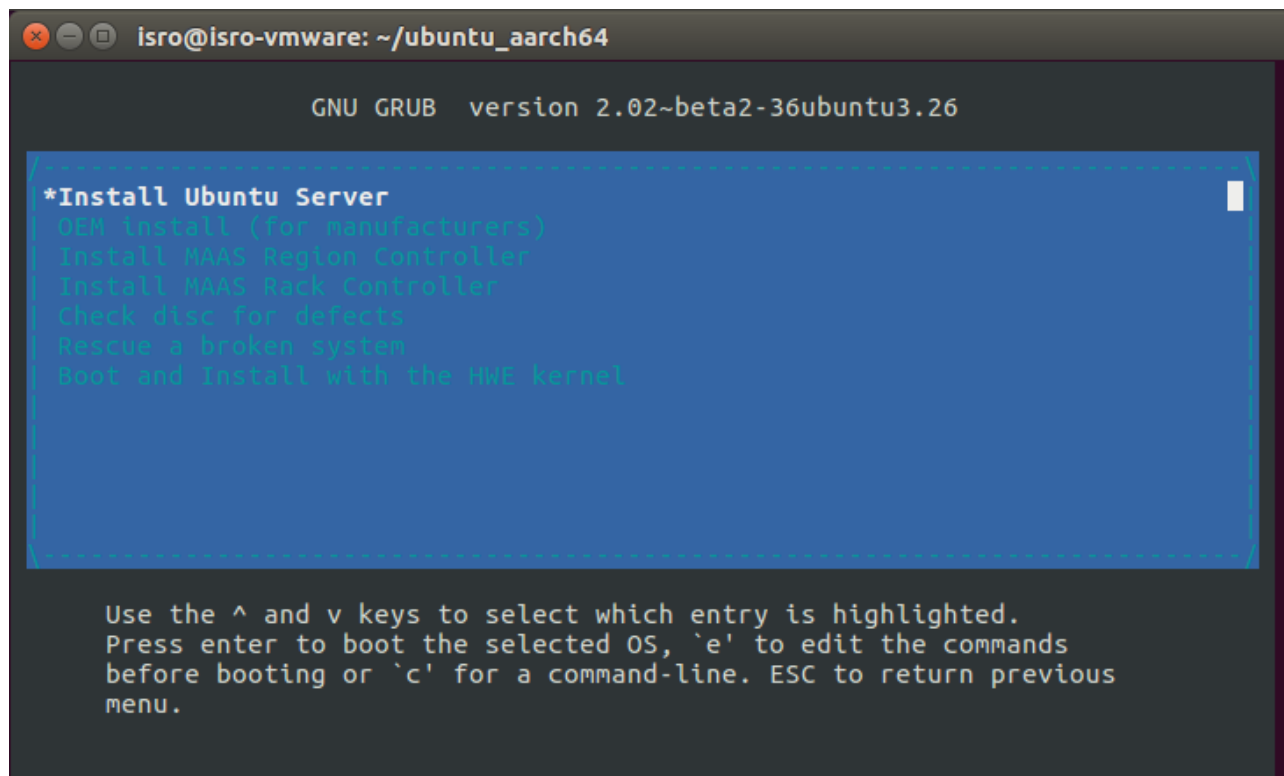
Setelah terpasang, Ubuntu Aarch64 dapat dijalankan dengan perintah berikut:

```
$ qemu-system-aarch64 -M virt -cpu cortex-a53 -m 4096 \  
-drive if=pflash,format=raw,file=flash0.img,readonly \  
-drive if=pflash,format=raw,file=flash1.img \  
-drive if=none,file=xenial.qcow2,format=qcow2,id=hd \  
-device virtio-blk-device,drive=hd \  
-netdev type=user,id=mynet \  
-device virtio-net-device,netdev=mynet \  
-nographic
```

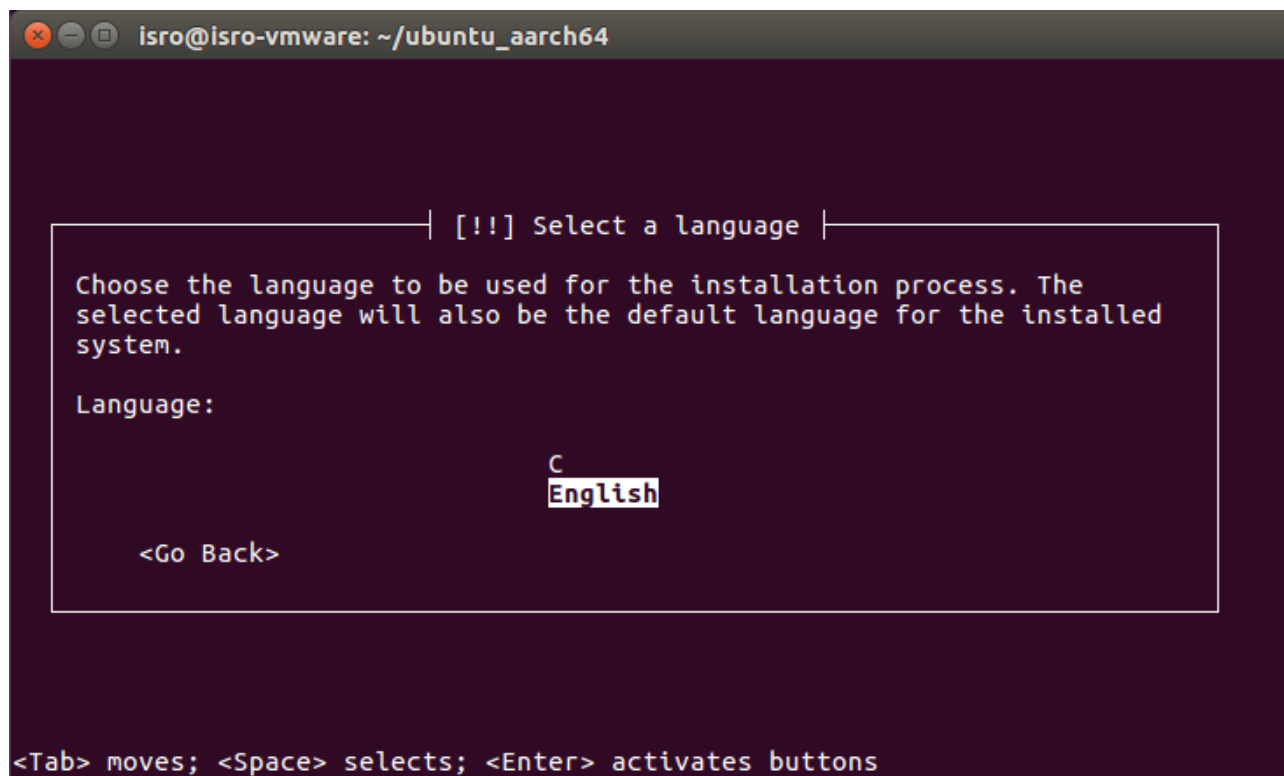
Pengguna dapat menambahkan parameter lain saat menjalankan Qemu apabila dirasa perlu.

Contoh Pemasangan Ubuntu Aarch64 (64bit) pada Qemu Versi Terbaru

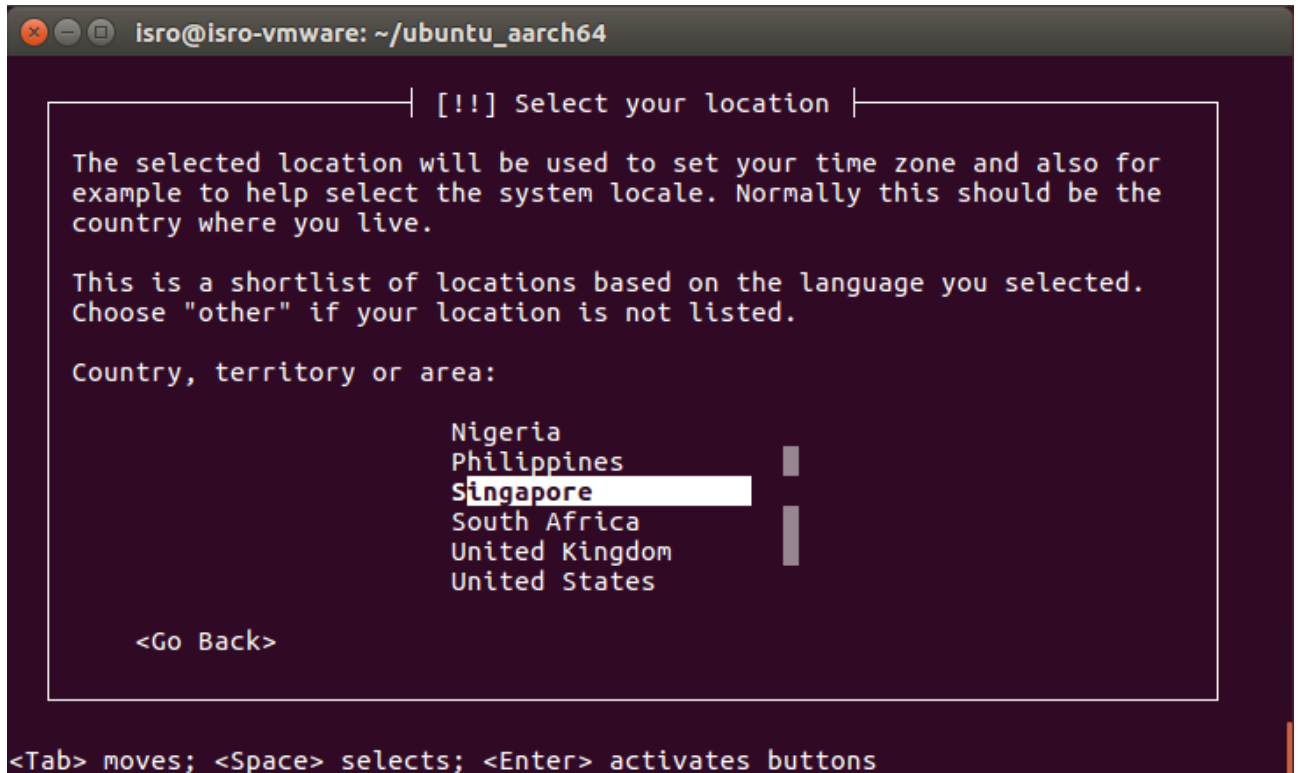
1. Menu Pemasangan



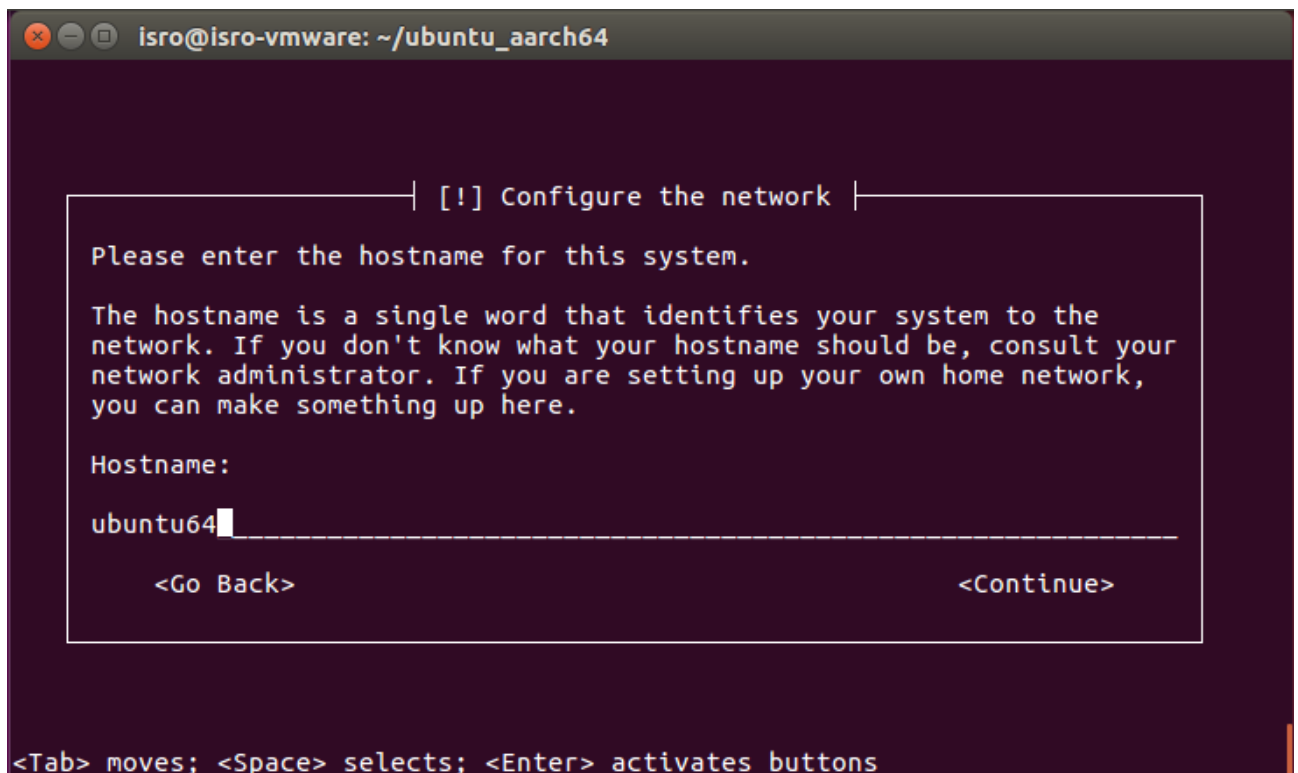
2. Pilih bahasa



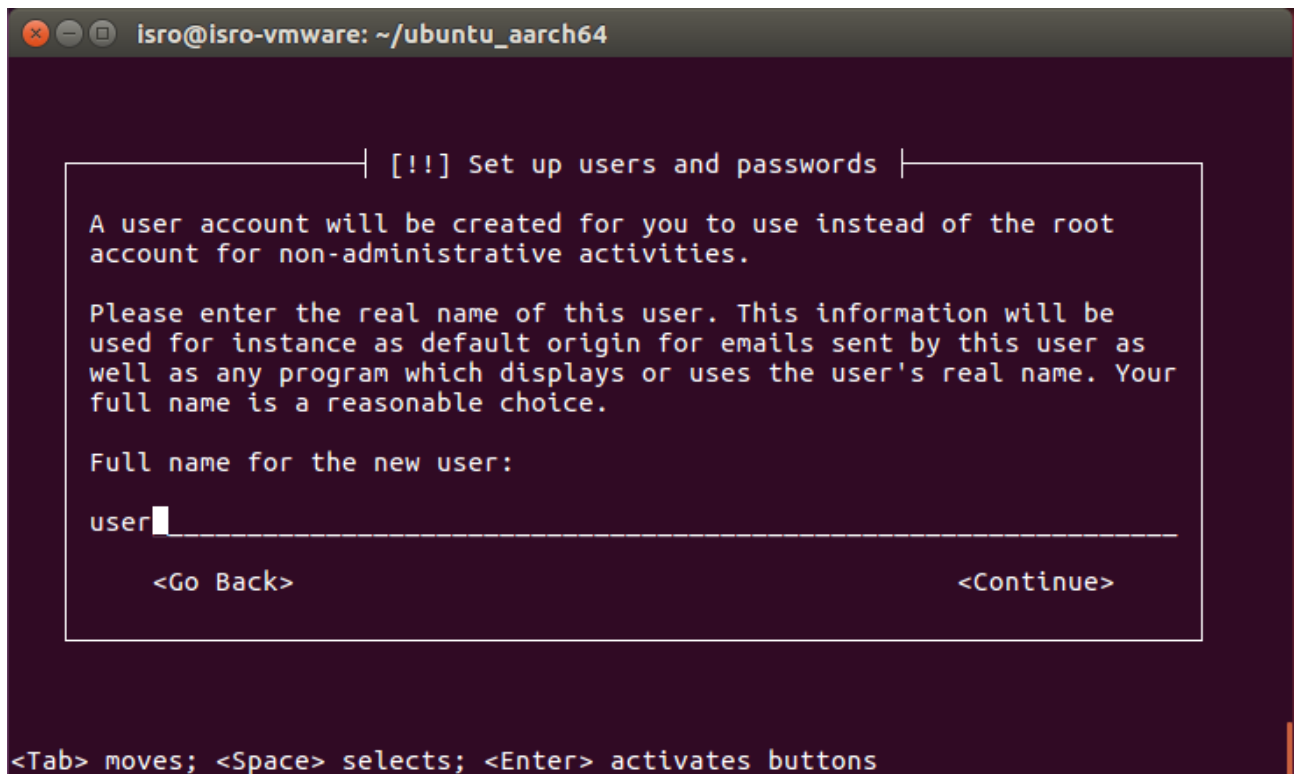
3. Pilih lokasi (bebas, pilih other jika nantinya ingin memilih Indonesia)



4. Masukkan nama host untuk identifikasi sistem di jaringan



5. Masukkan nama pengguna (bukan nama akun tapi boleh sama)



isro@isro-vmware: ~/ubuntu_aarch64

[!!] Set up users and passwords

A user account will be created for you to use instead of the root account for non-administrative activities.

Please enter the real name of this user. This information will be used for instance as default origin for emails sent by this user as well as any program which displays or uses the user's real name. Your full name is a reasonable choice.

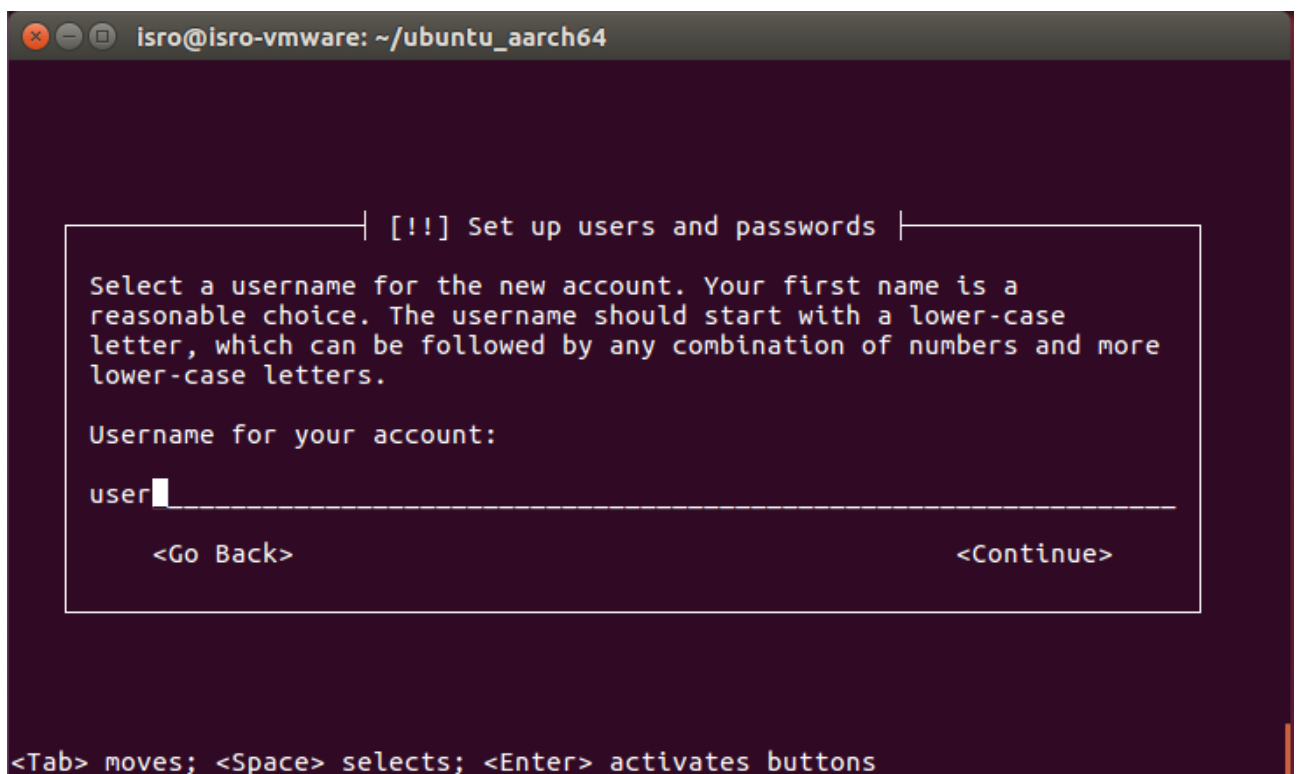
Full name for the new user:

user

<Go Back> <Continue>

<Tab> moves; <Space> selects; <Enter> activates buttons

6. Masukkan nama akun



isro@isro-vmware: ~/ubuntu_aarch64

[!!] Set up users and passwords

Select a username for the new account. Your first name is a reasonable choice. The username should start with a lower-case letter, which can be followed by any combination of numbers and more lower-case letters.

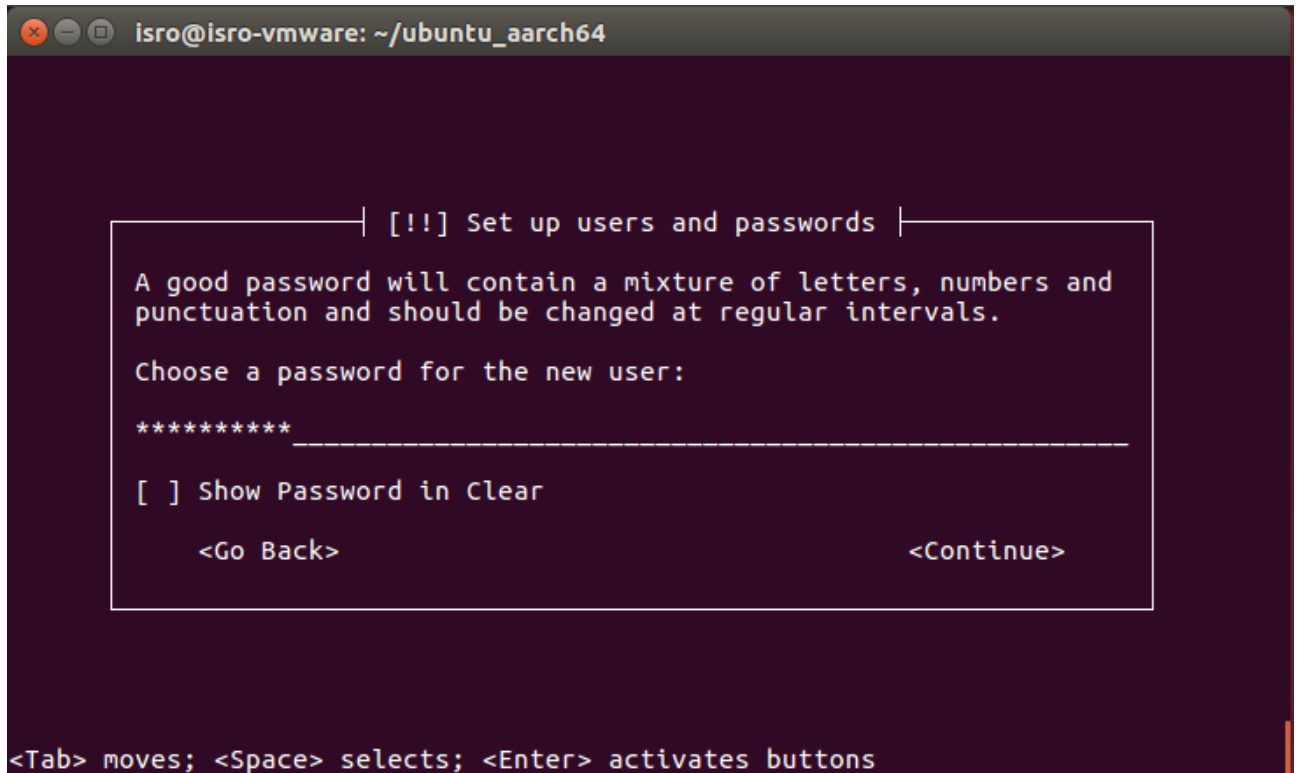
Username for your account:

user

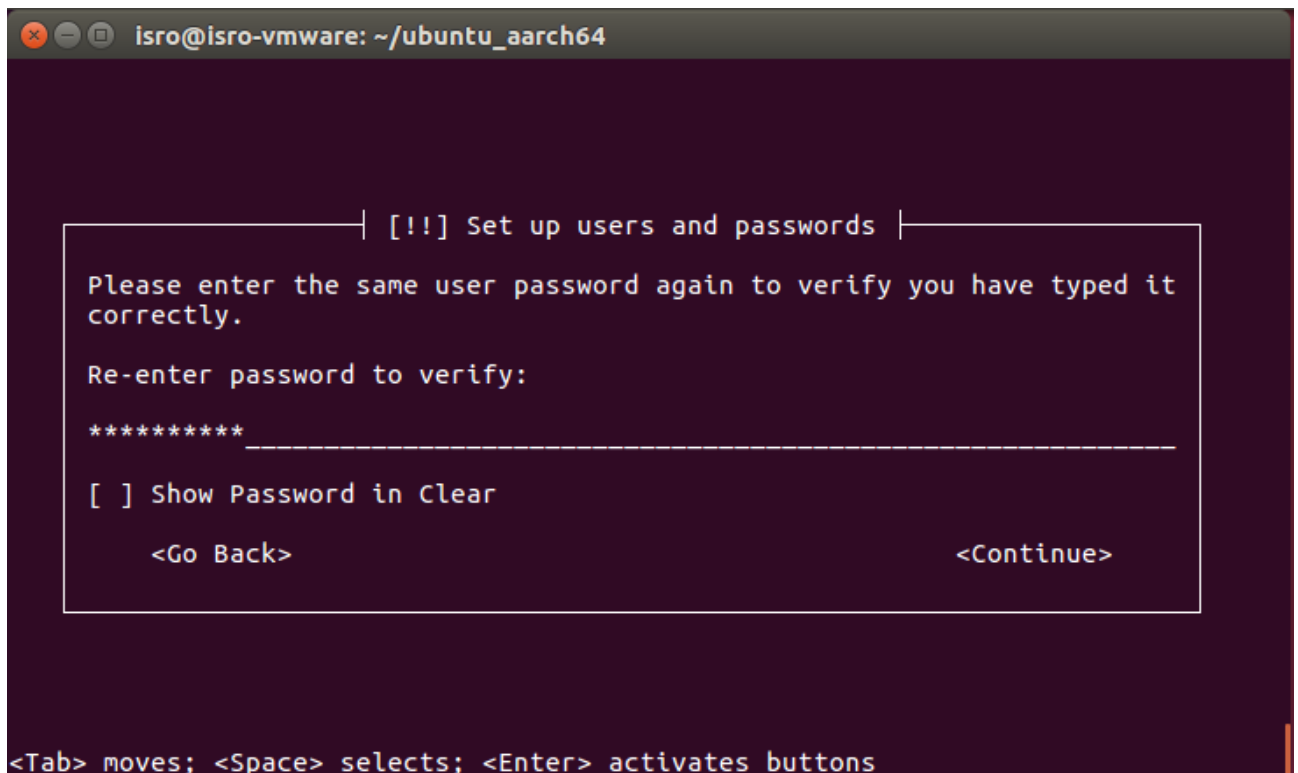
<Go Back> <Continue>

<Tab> moves; <Space> selects; <Enter> activates buttons

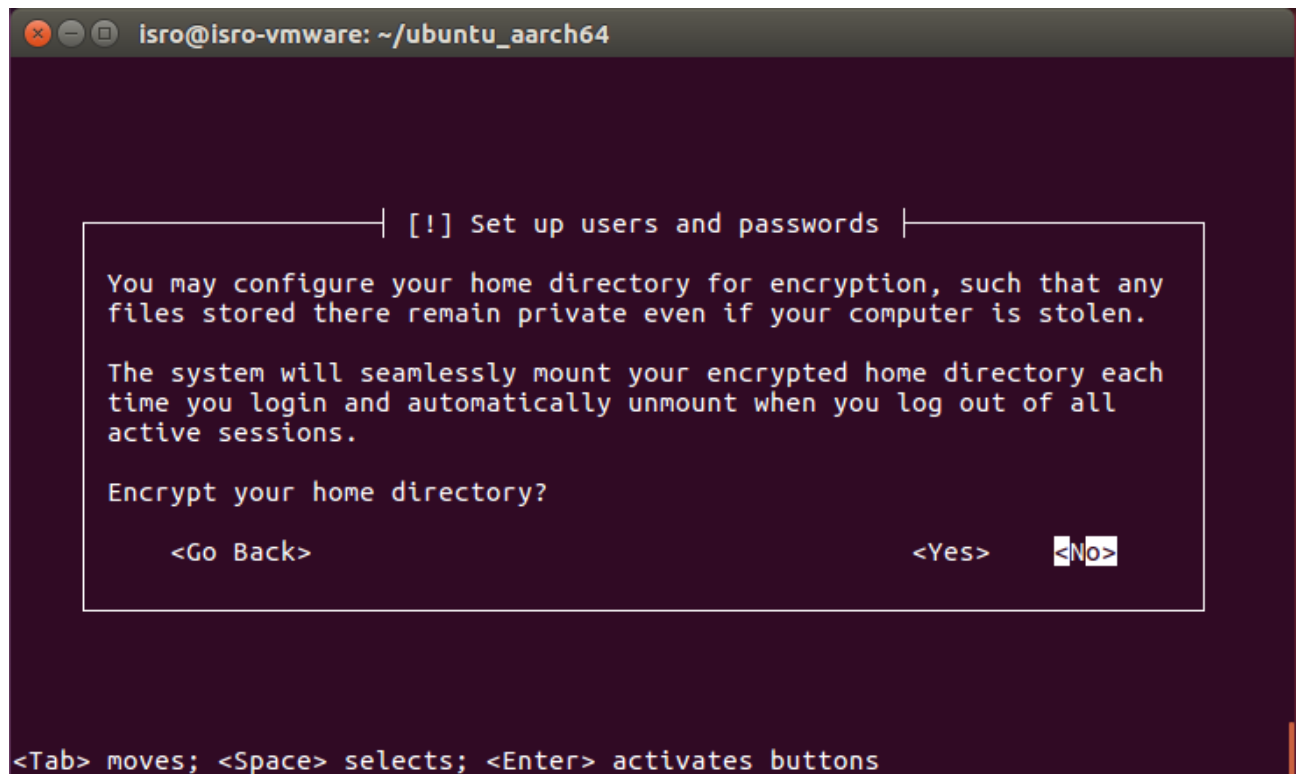
7. Masukkan kata sandi akun



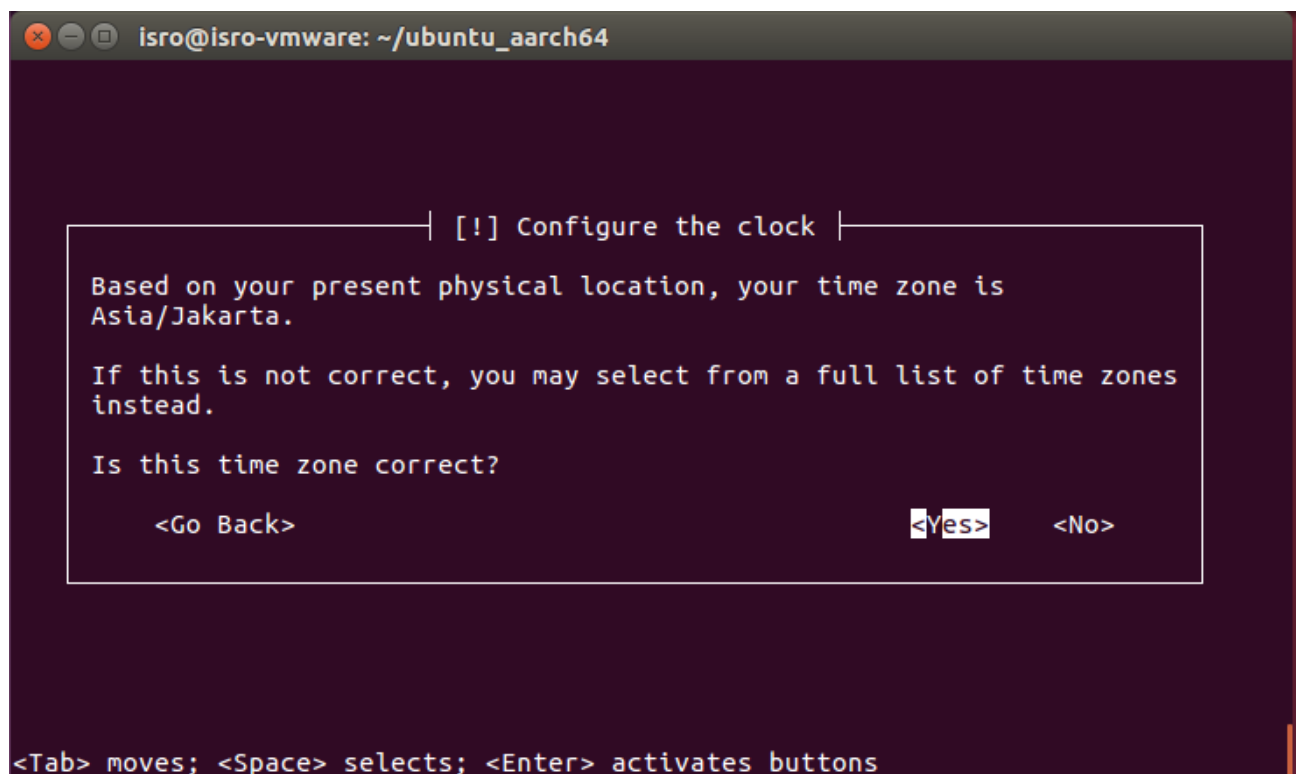
8. Masukkan kembali kata sandi akun



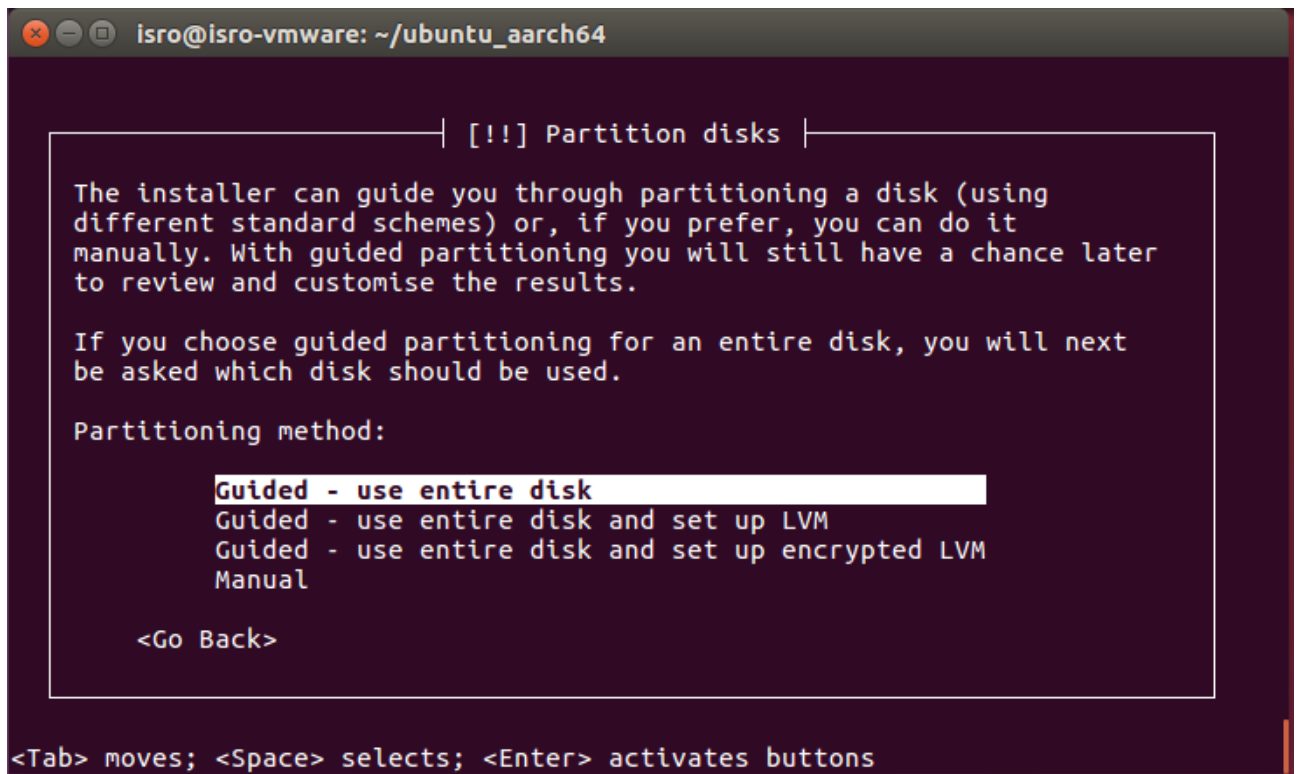
9. Pilih enkripsi direktori home (tidak)



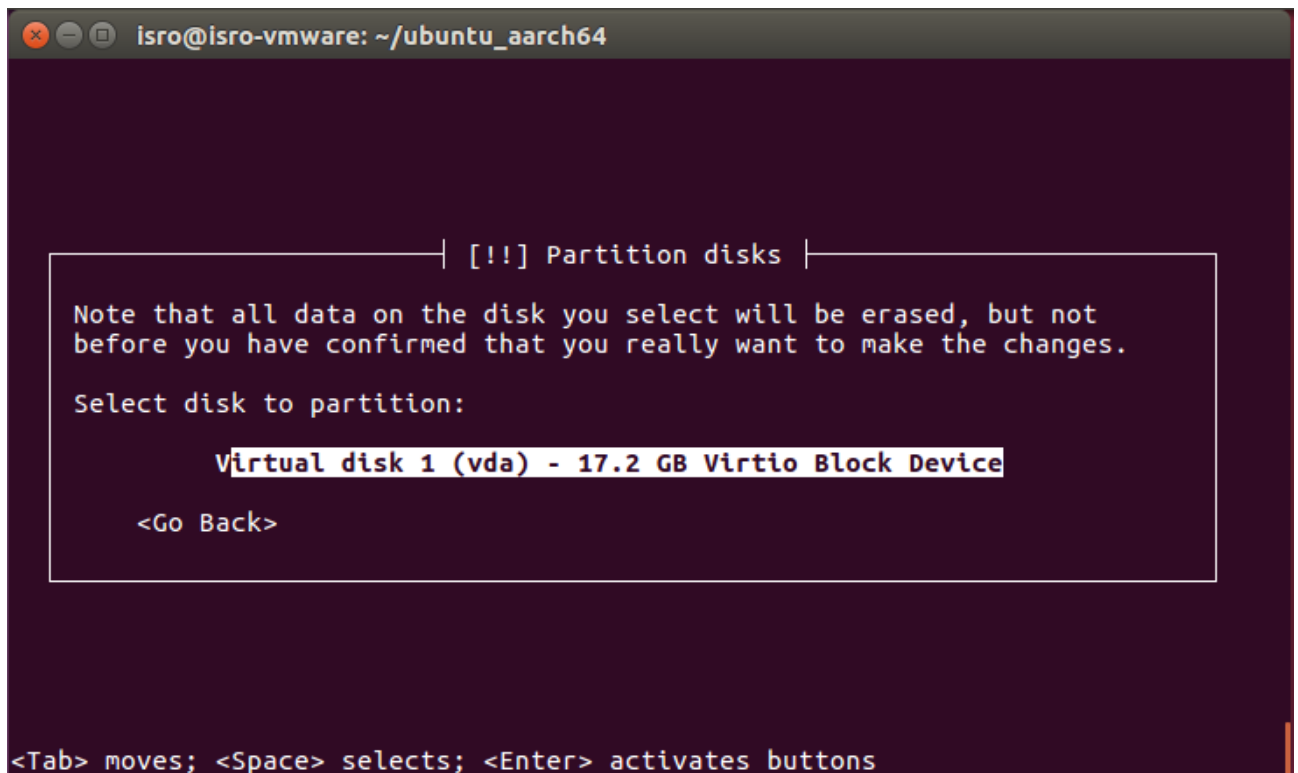
10. Pastikan hasil deteksi lokasi untuk menentukan zona waktu



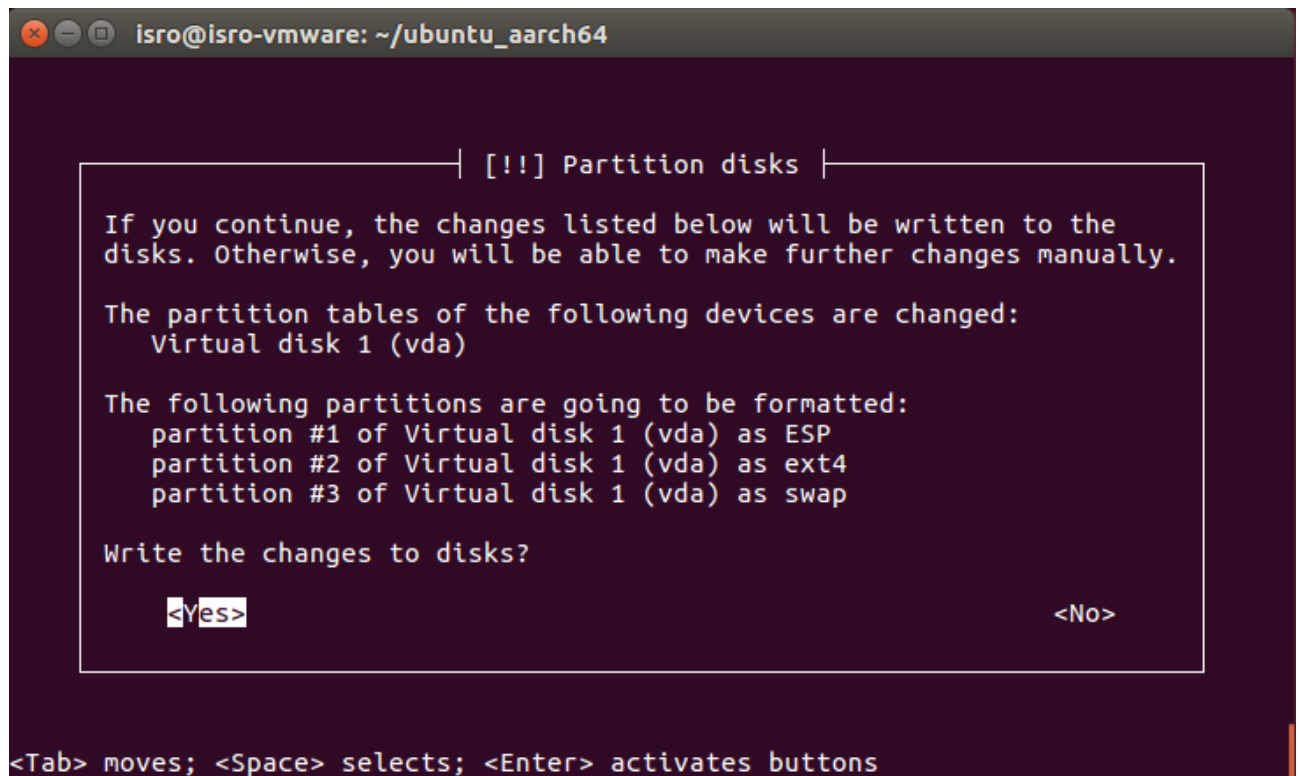
11. Pilih metode partisi hard disk virtual



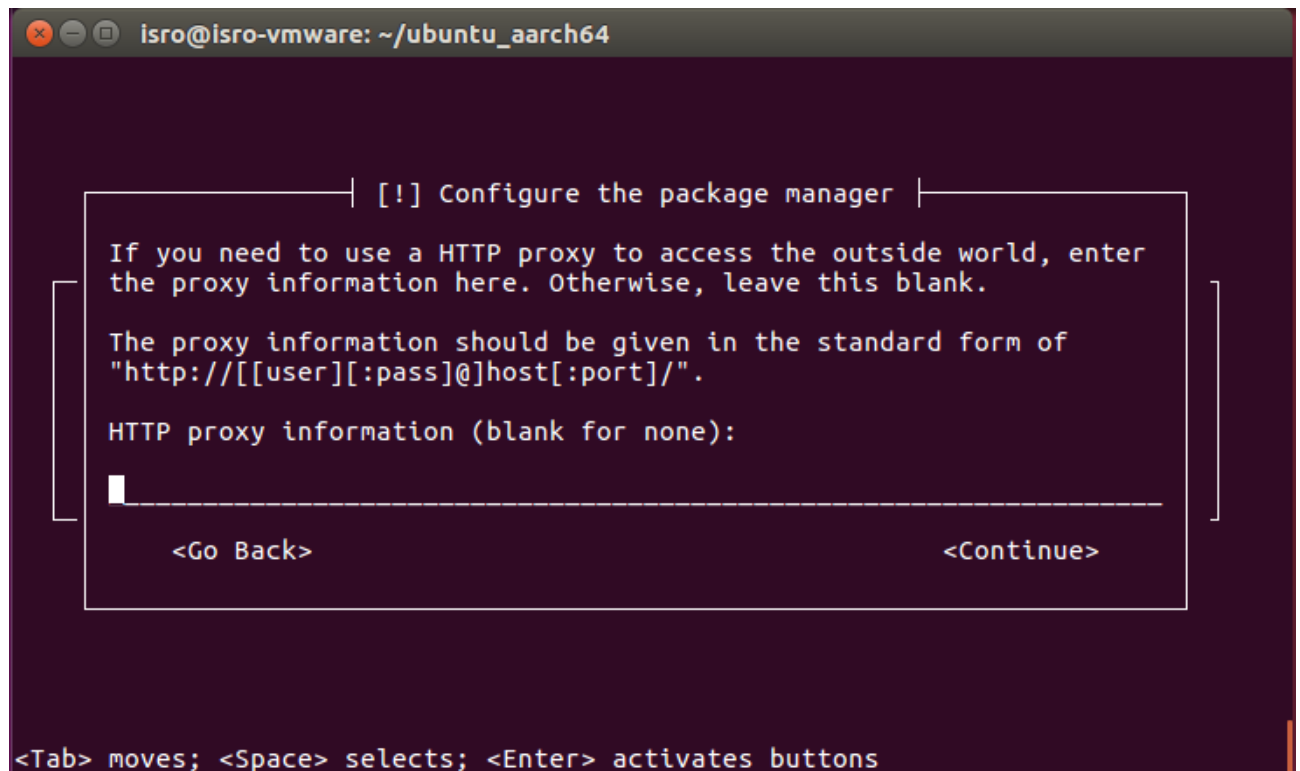
12. Pilih hard disk virtual untuk partisi



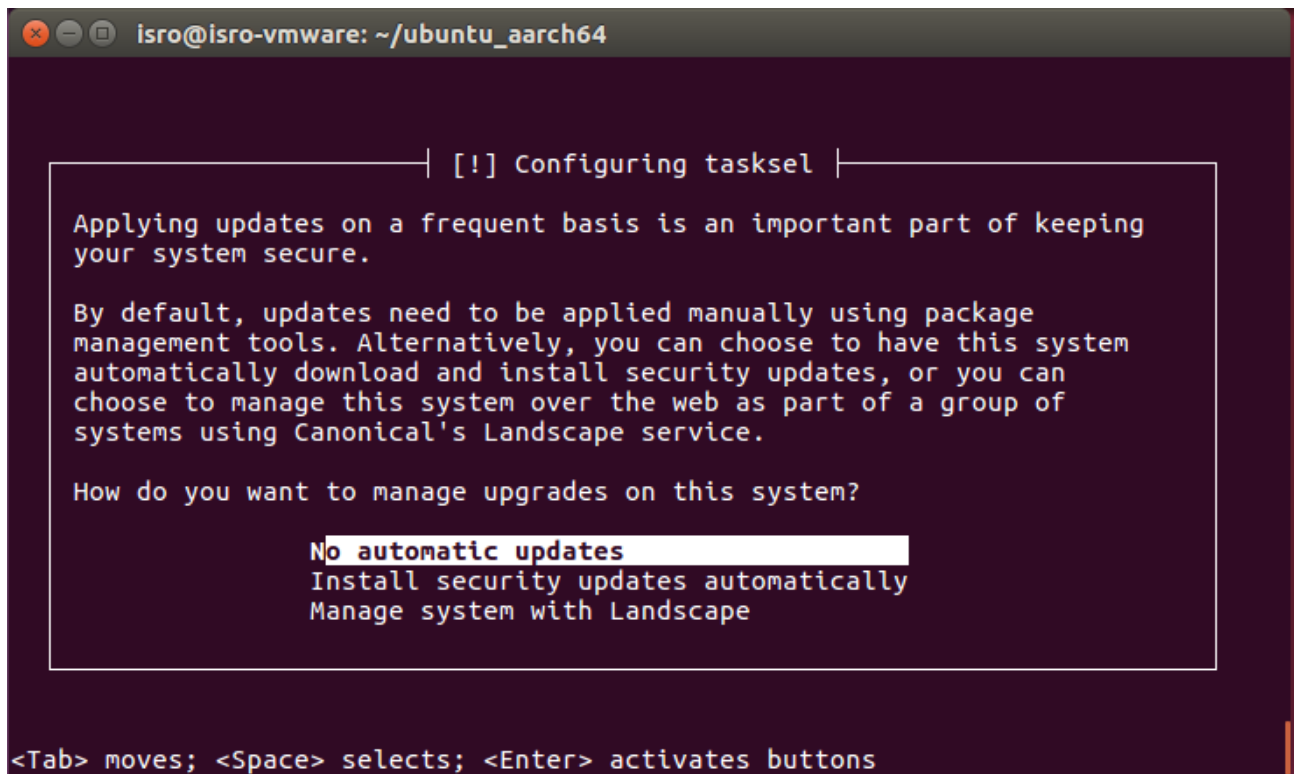
13. Pastikan partisi hard disk virtual



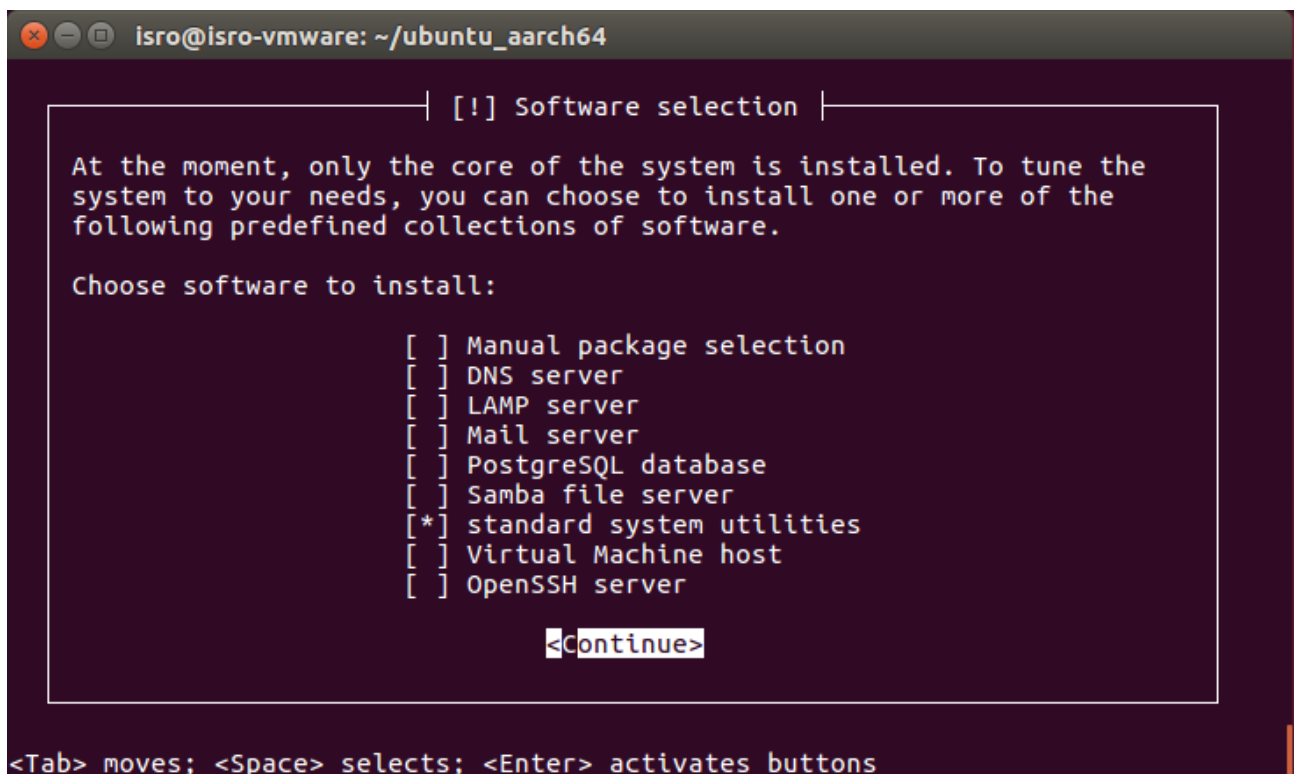
14. Masukkan informasi proxy dari jaringan (jika ada)



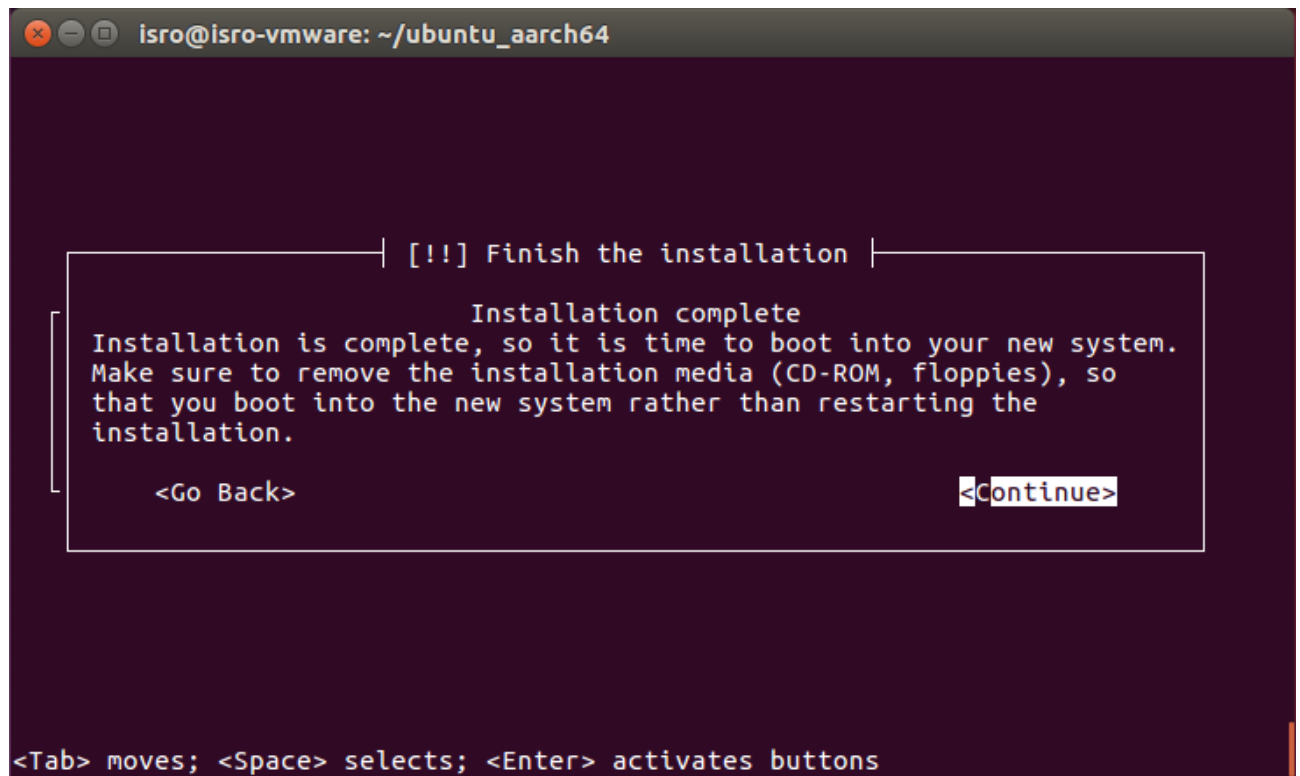
15. Pilih metode update sistem



16. Pilih software untuk dipasang



17. Pemasangan selesai



Menjalankan Ubuntu Aarch64 (64bit) pada Qemu Versi Terbaru

1. Tampilan login Ubuntu Aarch64

```
isro@isro-vmware: ~/ubuntu_aarch64
[ OK ] Started Login to default iSCSI targets.
[ OK ] Reached target Remote File Systems (Pre).
[ OK ] Reached target Remote File Systems.
Starting LSB: daemon to balance interrupts for SMP systems...
Starting LSB: Set the CPU Frequency Scaling governor to "ondemand"...
Starting Permit User Sessions...
Starting LSB: automatic crash report generation...
[ OK ] Started Permit User Sessions.
Starting Hold until boot process finishes up...
Starting Terminate Plymouth Boot Screen...
[ OK ] Started Hold until boot process finishes up.
[ OK ] Started Getty on tty1.
Starting Set console scheme...
[ OK ] Started Serial Getty on ttyAMA0.
[ OK ] Reached target Login Prompts.
[ OK ] Started Terminate Plymouth Boot Screen.
[ OK ] Started Set console scheme.
[ OK ] Started LSB: Set the CPU Frequency Scaling governor to "ondemand".
[ OK ] Started LSB: daemon to balance interrupts for SMP systems.
[ OK ] Started LSB: automatic crash report generation.

Ubuntu 16.04.7 LTS ubuntu64 ttyAMA0
ubuntu64 login: █
```

2. Tampilan terminal (shell) Ubuntu Aarch64

```
isro@isro-vmware: ~/ubuntu_aarch64
ubuntu64 login: user
Password:
Welcome to Ubuntu 16.04.7 LTS (GNU/Linux 4.4.0-186-generic aarch64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

84 packages can be updated.
60 updates are security updates.

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

user@ubuntu64:~$ █
```