??????? ARM OS
https://wiki.ubuntu.com/ARM

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(https://wiki.edubuntu.org/ARM/BuildArmPackages)
??????

mkdir arm_ubuntu-lucid
cd arm_ubuntu-lucid

????????? rootstock

sudo apt-get install debootstrap fakeroot bzr
bzr branch lp:project-rootstock

TIPs

    bzr ????????? rootstock ??????????????

    rootstock ???????? rootfs ? tarball ????????

?? Lucid ? vmlinuz ?

wget http://ports.ubuntu.com/ubuntu-ports/dists/lucid/main/installer-armel/current/images/versatile/netboot/vmlinuz

??????? qemu_ubuntu-lucid_arm.img

sudo project-rootstock/rootstock --fqdn ubuntu --login ubuntu --password ubuntu --notarball --imagesize 3G
mv qemu-armel-201203301652.img qemu_ubuntu-lucid_arm.img
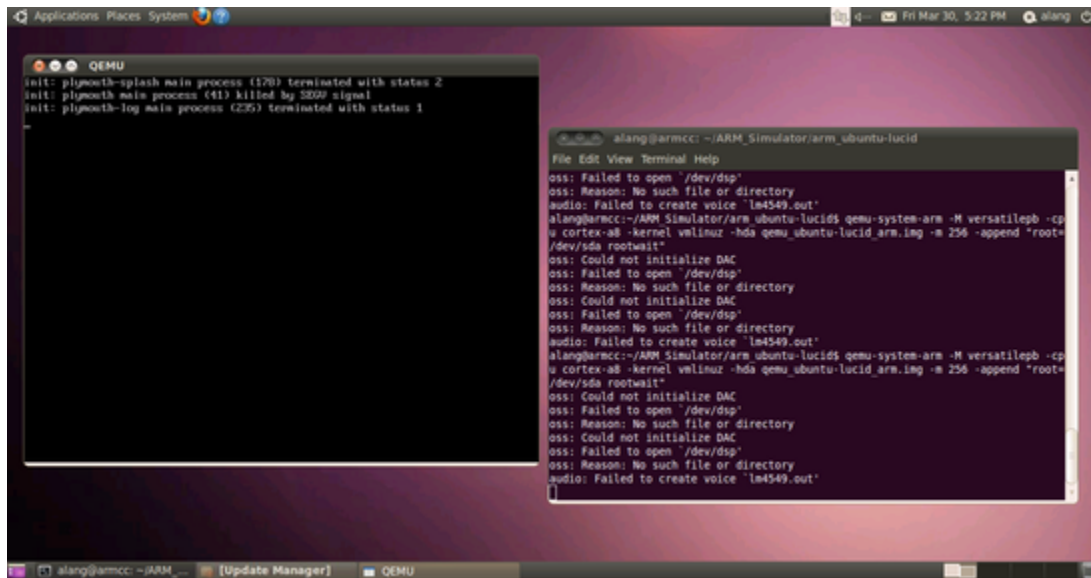
TIPs

    ?????????????????????

    ?????????????

    ?????? sudo?

??????

qemu-system-arm -M versatilepb -cpu cortex-a8 -kernel vmlinuz -hda qemu_ubuntu-lucid_arm.img -m 256 -append "root=/dev/sda rootwait"

???????????????
???? ALT+F1?????????? ubuntu : ubuntu ???

??????????????????
???????????????????????

?????????? **DHCP**

vi /etc/network/interface

interface:

auto eth0
iface eth0 inet dhcp

???? eth0

sudo ifconfig eth0 up
sudo dhclient eth0

TIPs

    ???????? IP 10.0.2.x???? qemu ???????

    ???????????????????????

??????(Host)???
? Host ????? DHCP server ?? dnsmasq????? qemu-ifup

sudo apt-get install dnsmasq

????????????????????????????? qemu-ifup ???

```
/etc/init.d/dnsmasq stop
update-rc.d -f dnsmasq remove
```

?? /etc/qemu-ifup

```sh
#!/bin/sh
#
# Copyright IBM, Corp. 2010
#
# Authors:
#  Anthony Liguori <aliguori@us.ibm.com>
#
# This work is licensed under the terms of the GNU GPL, version 2.  See
# the COPYING file in the top-level directory.

# Set to the name of your bridge
BRIDGE=br0

# Network information
NETWORK=192.168.53.0
NETMASK=255.255.255.0
GATEWAY=192.168.53.1
DHCPRANGE=192.168.53.2,192.168.53.254

# Optionally parameters to enable PXE support
TFTPROOT=
BOOTP=

do_brctl() {
    brctl "$@"
}

do_ifconfig() {
    ifconfig "$@"
}

do_dd() {
    dd "$@"
}

do_iptables_restore() {
    iptables-restore "$@"
}

do_dnsmasq() {
    dnsmasq "$@"
```

```
}

check_bridge() {
   if do_brctl show | grep "^$1" > /dev/null 2> /dev/null; then
      return 1
   else
      return 0
   fi
}

create_bridge() {
   do_brctl addbr "$1"
   do_brctl stp "$1" off
   do_brctl setfd "$1" 0
   do_ifconfig "$1" "$GATEWAY" netmask "$NETMASK" up
}

enable_ip_forward() {
   echo 1 | do_dd of=/proc/sys/net/ipv4/ip_forward > /dev/null
}

add_filter_rules() {
do_iptables_restore <<EOF
# Generated by iptables-save v1.3.6 on Fri Aug 24 15:20:25 2007
*nat
:PREROUTING ACCEPT [61:9671]
:POSTROUTING ACCEPT [121:7499]
:OUTPUT ACCEPT [132:8691]
-A POSTROUTING -s $NETWORK/$NETMASK -j MASQUERADE
COMMIT
# Completed on Fri Aug 24 15:20:25 2007
# Generated by iptables-save v1.3.6 on Fri Aug 24 15:20:25 2007
*filter
:INPUT ACCEPT [1453:976046]
:FORWARD ACCEPT [0:0]
:OUTPUT ACCEPT [1605:194911]
-A INPUT -i $BRIDGE -p tcp -m tcp --dport 67 -j ACCEPT
-A INPUT -i $BRIDGE -p udp -m udp --dport 67 -j ACCEPT
-A INPUT -i $BRIDGE -p tcp -m tcp --dport 53 -j ACCEPT
-A INPUT -i $BRIDGE -p udp -m udp --dport 53 -j ACCEPT
-A FORWARD -i $1 -o $1 -j ACCEPT
-A FORWARD -s $NETWORK/$NETMASK -i $BRIDGE -j ACCEPT
-A FORWARD -d $NETWORK/$NETMASK -o $BRIDGE -m state --state RELATED,ESTABLISHED -j ACCEPT
-A FORWARD -o $BRIDGE -j REJECT --reject-with icmp-port-unreachable
-A FORWARD -i $BRIDGE -j REJECT --reject-with icmp-port-unreachable
COMMIT
# Completed on Fri Aug 24 15:20:25 2007
EOF
}
```

```bash
start_dnsmasq() {
    do_dnsmasq \
        --strict-order \
        --except-interface=lo \
        --interface=$BRIDGE \
        --listen-address=$GATEWAY \
        --bind-interfaces \
        --dhcp-range=$DHCPRANGE \
        --conf-file="" \
        --pid-file=/var/run/qemu-dnsmasq-$BRIDGE.pid \
        --dhcp-leasefile=/var/run/qemu-dnsmasq-$BRIDGE.leases \
        --dhcp-no-override \
        ${TFTPROOT:+"--enable-tftp"} \
        ${TFTPROOT:+"--tftp-root=$TFTPROOT"} \
        ${BOOTP:+"--dhcp-boot=$BOOTP"}
}

setup_bridge_nat() {
    if check_bridge "$1" ; then
        create_bridge "$1"
        enable_ip_forward
        add_filter_rules "$1"
        start_dnsmasq "$1"
    fi
}

setup_bridge_vlan() {
    if check_bridge "$1" ; then
        create_bridge "$1"
        start_dnsmasq "$1"
    fi
}

setup_bridge_nat "$BRIDGE"

if test "$1" ; then
    do_ifconfig "$1" 0.0.0.0 up
    do_brctl addif "$BRIDGE" "$1"
fi
```

/etc/qemu-ifdown?

```bash
#! /bin/bash

BR="br0"
echo "Executing /etc/qemu-ifdown"
echo "Remove Bridge $BR..."
/sbin/ifconfig $BR down
/usr/sbin/brctl delbr $BR
```

```
echo "Cleaning up the iptables rules"
/sbin/iptables -F
/sbin/iptables -X

echo "Kill the process dnsmasq"
killall dnsmasq
```

????

?? Qemu image ???????

```
sudo qemu-system-arm -M versatilepb -cpu cortex-a8 -kernel vmlinuz -hda qemu_ubuntu-lucid_arm.img
-m 256 -append "root=/dev/sda rootwait" -net nic -net tap,ifname=tap0
```

TIPs

> -M ????
> -cpu ?????
> -m RAM ???
> -net nic,macaddr=00:16:3e:00:00:01 ?????????????????? Qemu ??????????????? macaddr?
> -net tap,ifname=tap0,script=no ???????????????? tap0, tap1, tap2,....., script ???????? /etc/qemu-ifup, qemu-ifdown?
>
> ???? sudo ????? tap ?????????

????

- [?????? ARM ???](#)