MAAS installation and configuration

Ref: https://docs.maas.io/2.3/en/installconfig-package-install
Prerequisite:
1) Ubuntu Server OS installed on MAAS server in this case 16.04 LTS release
2) MAAS server should be NAT enabled before MAAS installation
3) Using PUTTY, ssh-ing to the upstream maas-server IP address. (ex. ssh <username>@<ip_address>)

Below steps will install MAAS from packages
At MAAS server do:
show full list of MAAS packages
apt-cache search maas
# Add a stable package repositories
sudo apt-add-repository -yu ppa:maas/stable
# Initial setup of MAAS environment
sudo apt update
sudo apt install maas -y
# Create admin user
sudo maas createadmin
# Alternative way to create MAAS user with script
# ex. username = "vmaas201", password = "Super123"
sudo maas createadmin --username=$PROFILE --emaail=$EMAIL_ADDRESS
#Import SSH keys - this can be done at web ui
Now login to MAAS web UI to complete the user configuration
At any web browser do:

http://<your_maas_ip>:5240/MAAS

At MAAS web UI to do:
Fill in the details for the initial MAAS configuration
For DNS forwarder value, use nslookup command to get the DNS ip

Region name = <MAAS name>
DNS forwarder = <Upstream DNS ip address from nslookup yahoo.com>
Choosing source = mass.io and Ubuntu images = 16.04 LTS release
SSH keys for admin = <add multiple keys from launchpad and Github or enter manually>

To setup public key authentication for SSH manually:
ref: https://www.ssh.com/ssh/keygen/
At MAAS server do:
execute the command at home directory

ssh-keygen

copy the public key authentication
cat ~/.ssh/id_rsa.pub

At MAAS web ui do:
Paste the publick key generated from MAAS server to the SSH keys for admin entry
Go to the "Subnets" tab
Add Fabric to the MAAS in networks
Add subnet to the Fabric

# At "Add subnet" sub-page do:
# Fill in the details for the dynamic range
Name = <name-of-subnet>
CIDR = <ex. 192.168.101.0/24>
Fabric & VLAN = <choose the fabric to be linked with the subnet>
Reserve range = <enter the start IP address and the end IP address>

Turn on DHCP
Select default VLAN assigned to the Fabric under column VLAN
Set the Rack controller that will manage DHCP (in this case the "MAAS")
From the "Take action" button, select "Provide DHCP"

Enlist and commission servers
At target node BIOS:
Set all servers to PXE boot (make sure the right NIC interface as the boot device)
Set IPMI to DHCP mode
Boot each machine. Machines will be automatically enlisted in the Nodes tab
Select all machines and "Commission" them using the "Take action" button
Once machines are in "Ready" status, you can start deploying

 # Below steps to provision virtual machine in MAAS:
MAAS with KVM
ref: https://docs.maas.io/2.3/en/nodes-add

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# The procedure below is to add nodes via a Pod
# At MAAS node do:
sudo apt install libvirt-bin -y
# Generating SSH private/pub key 'maas' user.. (in case no private/pub key generated)
# Remember this is key pair for 'maas' user!!!!
sudo chsh -s /bin/bash maas
sudo su - maas
ssh-keygen -f ~/.ssh/id_rsa -N ''
# Copy public key to the target node (from MAAS to KVM host in this case)
# Remember this is still under 'mass' user shell/console!!!
# Where $KVM_HOST represents the IP address of the KVM host
# $USER represents a user on the KVM host with the permission to communicate with the libvirt
daemon
# NOTE: user_name = User Name of KVM Host (ex. 'acd')
# NOTE: ip_address = IP address of the host bridge (ex. br201 - 10.100.201.2)
# Example "ssh-copy-id -i ~/.ssh/id_rsa acd@10.100.201.2
ssh-copy-id -i ~/.ssh/id_rsa $USER@$KVM_HOST

# Testing connection between MAAS and KVM-Host:
virsh -c qemu+ssh://$USER@$KVM_HOST/system list --all

# Exit from 'maas' user shell
exit

# Go and read - Add nodes via a Pod section (adding KVM VMs)...
# https://docs.maas.io/2.3/en/nodes-comp-hw
# NOTE: user_name = User Name of KVM Host (ex. 'acd')
# NOTE: ip_address = IP address of the host bridge (ex. br201 - 10.100.201.2)
At MAAS web UI do the following:
Go to Pods menu and add pod
Select Pod type to "Virsh virtual system"
Enter the Virsh address = "qemu+ssh://<user_name>@<ip_address>/system"
Save Pod

# To enlist and commission the VM(s)
Set virtual node(s) to PXE boot at KVM boot up setting
Boot each machine. Machines will be automatically enlisted in the Nodes tab
Select all machines and "Commission" them using the "Take action" button
Once machines are in "Ready" status, you can start deploying
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