Start a remote Linode Cloud Server for a jacktrip session using an Existing Image

betaFeb252022 : added note about using <enter> after each Terminal command

**IMPORTANT:** ALWAYS BE SURE TO DELETE your remote Linode Cloud Server before you logout of your Linode website user account, otherwise you will get charged even if it is OFFLINE!!

This how to guide assumes that you already have a working Linode Image and you just want to Deploy a New Linode for a jacktrip session.

#### **CONTENTS:**

S1. Deploy New Linode with jacktrip installed via the Linode website

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S3. Fire up jackd and then jacktrip in Server Mode on your new remote Linode Cloud Server via Terminal on your computer

S4. When done with your jacktrip session, Delete your remote Linode Cloud Server via the Linode website

S5. Terminal Window Remote Server SHORTCUTS

S6. Extra Feature - Run Jacktrip in Server Mode independently

#### **GENERAL TIPS:**

1. When using Terminal commands, if something doesn't work as you expected **always recheck what you typed in**, sometimes a little typo can make the difference between failure and success!

2. When using the Linode website, whenever you perform an action, make sure to wait until the action completes. For example, when you power up your remote Linode Cloud Server, be sure wait until it says RUNNING with a green dot before copying the **ssh** command and trying to login to your remote Linode Cloud Server.

3. Before you logout of your Linode website user account, make sure to always DELETE your remote Linode Cloud Server otherwise you will continue to get charged for it even if it's listed as being OFFLINE.

4. As of this writing, there is a monthly charge of \$0.10/GB to store Images for Linode users. Limits per user account are: 6GB per Image, 150 GB maximum combined size of all images, up to 25 images.

### Start a remote Linode Cloud Server for a jacktrip session using an Existing Image

If you aren't already logged into the Linode website via the Google Chrome web browser, then do so before starting the following set of instructions.

#### 🗧 🔍 🗣 🖡 Linode Manager × + $\leftarrow \rightarrow$ C $\triangleq$ cloud.linode.com/linodes ⊶ ☆ 🖲 🗯 😝 : 20 E Create V Q Search for Linodes, Volumes, NodeBalancers, Domains, Buckets, Tags... 0 # A Jane2Test 🗸 🐓 linode Profile & Account a1. click on Volumes NodeBalancers a1. Images Firewalls StackScripts in the leftmost Images black menu Domains Linodes Kubernete Choose a plan, select an image, and deploy within minutes. Need help getting started? Learn more about getting started or visit our guides and tutorials 1 Object Storage Longview Marketplace Account Help & Support ? v1.58.1 API Reference Provide Feedback

#### S1. Deploy New Linode with jacktrip installed via the Linode website

#### [Images page should appear]

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[the images options pop up menu should appear]

[the Linodes / Create page should appear]



### b. Set **Images** to your image

[in this example jack151plus130]

**c.** Select the **Region** for the Linode server

[eg, Freemont, CA]

[scroll down page if necessary to **Linode Plan** selections (the look of this part of the page might look slightly different on different systems)]



#### d. Select a Linode Plan<sup>1</sup>

[eg, Dedicated 16 GB]

My advice is to pick a dedicated plan that is at least **8 GB**.

Note: You should only be charged by the hour by default

When selecting which plan to select for your ensemble, 1 CPU = 2 to 5 connections, a hub requires 2 connections per ensemble member; 8 CPU is probably fine for 8 ensemble members.

🔍 🔍 🗣 Create a Linode | Linode Mana 🗙 🕂 e. Type in something  $\leftarrow \ \ \, \rightarrow \ \ \, {\bf C} \quad \ \ \, {\bf e} \quad {\bf coud.linode.com/linodes/create/?type=lmages&imagelD=private/15355022}$ • \* • on ☆ you will remember **Linode Summary** linode for the e. Linode Label jack151plus130 Linode Label mysession US Linodes Fremont, CA Add Tags Volumes Type to choose or create a tag f. f. Create the Dedicated 16 GB NodeBalancers 8 CPU, 320 GB Storage, 16 GB RAM **Root Password\*** Firewalls Linode Label for your remote StackScripts Root Password \$120.00/mo Images Linode Cloud Server **W** mvPw2022 Domains our Linode? N Kuber g. Click on blue Linode accounts have ports 25, 465, and 587 blocked by default. To have these restrictions **Object Storage** SSH Keys g **Create Linode** a Support Ticket after creating your Linode. Longview SSH Keys button User Marketplace You don't have any SSH keys available

[scroll down page if necessary to fill in Linode Label and Root Password]

\*click on the blue eye to see your password; you will need to use this Password later in Terminal.

Note: You should only get charged by the hour even though the Linode Summary window makes it look like you are going to get charged by the month

<sup>&</sup>lt;sup>1</sup> If you decide to select Dedicated 16 GB or greater, the first time you do so, you will get the message: *Additional verification is required to add this service. Please open a Support ticket*?

You can open a support ticket and the Linode Support team will give you permission to select higher plans.

[The Linodes page for your remote Linode Cloud Server should appear]

- h. current status will go from e provisioning -> e BOOTING -> e RUNNING
- i. click on button to copy ssh root@[ip-address] command into your clipboard



#### S2. Login to the new remote Linode Cloud Server via Terminal on your computer

Open Terminal on your computer.

● ● ●
Last login: Wed Jan 26 18:21:05 on ttys000 Janes-MacBook-Pro-2:~ suziew96\$ ssh root@173.255.242.29) can't be established. RSA key fingerprint is 76:5f:24:d1:41:1c:95:95:96:95:41:b8:f4:a0:5b:46. Are you sure you want to continue connecting (yes/no)? yes Warning: Permanently added '173.255.242.29' (RSA) to the list of known hosts. root@173.255.242.29' gassword: Linux localhost 5.15.10-x86_64-linode151 #1 SMP Tue Dec 21 13:37:22 EST 2021 x86 _64
The programs included with the Debian GNU/Linux system are free software; <b>C.</b> the exact distribution terms for each program are described in the individual files in /usr/share/doc/*/copyright.
permitted by applicable law. Last login: Wed Jan 26 03:40:37 2022 from 66.31.128.53 root@localhost:~# []

a. Paste from clipboard ssh root@[ip-address] command, and hit <enter> [if nothing happens, quit Terminal and try again]

b. when prompted, type yes<enter>

C. when prompted, type in the Root Password\* and hit <enter>

\* use the Root Password you entered in { 1. Create a remote Linode Cloud Server via the Linode website: f. }

the password is hidden when you type it in, and the cursor will not move

#### S3. Fire up jackd and then jacktrip in Server Mode on your new remote Linode Cloud Server via Terminal on your computer

Type in the Terminal commands below (shown in boldface) and hit the **<enter>** key.

a. Go to the builddir directory:

cd

then cd jacktrip

then cd builddir

b. Start jack in server mode:

in this example, buffer of 512 frames/period, sample rate of 48k, **&**=run command in background jackd -d dummy -p512 -r48000 &

After the jackd messages appear, hit **<enter>** to see the prompt for a new command.

c. Start jacktrip<sup>2</sup> in server mode:

here is an example of a command Sarah Weaver has used with the NowNet ensembles [-S = run in Hub Server Mode, -p2 = client out/in but no loopback] ./jacktrip -S -p2 -q32 -z

d. Connect in jacktrip to your remote Linode Cloud Server as you normally would do.

To do this, you will need the *ip-address* for your remote Linode Cloud Server.

You can find it on the Linode website back on the Linodes page for your remote Linode Cloud Server:



e. Once you are done with your jacktrip session, you can close/quit out of Terminal, it won't hurt anything.

Then go on to the next section **<u>S4</u>**.

<sup>&</sup>lt;sup>2</sup> to see all the jacktrip command options, type **./jacktrip -h** or go to: <u>https://manpages.debian.org/testing/jacktrip/jacktrip.1.en.html</u>

## S4. When done with your jacktrip session, Delete your remote Linode Cloud Server via the Linode website

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Linodes	Images			E Doc	Create Image		
Volumes	Custom Images						
NodeBalancers	These are images you manually uploaded or o	These are images you manually uploaded or captured from an existing Linode disk.					
🛋 Firewalls	Image ^	Status 🗘	Created	Size 🗘			
StackScripts	jack130screen	Ready	2021-10-07 11:21	3079 MB			
🕦 Images	jack151plus130	Ready	2022-01-26 04:04	3385 MB			
	mikeimagetest	Ready	2022-01-26 17:13	3079 MB			
Domains							
Kubernetes	Recovery Images						
Object Storage	These are images we automatically capture when Linode disks are deleted. They will be deleted after the indicated expiration date.						
⊮ Longview	Image ^	Status 🗘	Created	Size 🗘 🛛 Ex	pires		
Marketplace	No Recovery Images to display.						
Account							
Help & Support							
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a. Click on Linodes to go back to the Linodes page if you aren't already there

#### [The Linodes page should appear]



[The dedicated page for your remote Linode Cloud Server should appear]

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[the more options pop up menu should appear]



d. Click on

Delete

on the more options pop up menu You will know your remote Linode Cloud Server was successfully deleted when you see the **Linode Manager** page appear again with no Linodes listed or with that particular Linode missing if you had multiple Linodes running.



To double check that the remote Linode Cloud Server you wanted to delete was deleted:

Check the list of **Events** to see that the remote Linode Cloud Server you wanted to delete was deleted:



You can now logout of the Linode website.

You should also get an email from Linode detailing your Linode related activity.

Here's an example [Inactivate Linode means it was deleted]:

Hello Jane2Test! The following activity has recently occurred:

\* rpiLinode - (238383963) System Shutdown - Completed Fri, 12 Feb 2021 19:46:31 GMT

\* rpiLinode - (238383964) Inactivate Linode - Completed Fri, 12 Feb 2021 19:46:42 GMT

### **S5. Terminal Window Remote Server SHORTCUTS:**

1. Paste from clipboard ssh root@[ip-address] command, and hit <enter>

2. When prompted, type yes<enter>

3. When prompted, type in the Root Password, and hit <enter>

Type in the Terminal commands below (shown in boldface) and hit the **<enter>** key.

4. Go to the builddir directory: cd

then **cd jacktrip** 

then **cd builddir** 

5a. Start jack in server mode:

in this example, buffer of 512 frames/period, sample rate of 48k, &=run command in background jackd –d dummy –p512 –r48000 &

5b. Start jacktrip in server mode:

here is an example of a command Sarah Weaver has used with the NowNet ensembles [-S = run in Hub Server Mode, -p2 = client out/in but no loopback] ./jacktrip -S -p2 -q32 -z

6. When you are done with your session, DON'T FORGET to DELETE your remote Linode Cloud Server or you will continue to get charged!

#### S6. Extra Feature - Run Jacktrip in Server Mode independently

This extra section is for users who would like to be able to run jacktrip in Server Mode without having to stay logged into the remote server. This might be useful if you are setting up a session for someone else or if you want to free up your computer or even logout of your computer completely.

The ability to do this is by using the **screen** command in Terminal which provides the ability to launch and use multiple shell sessions within a single ssh session. Once you end your Linode session, you can create an image with the **screen** command pre-installed for future sessions if you wish so you don't have to repeat Step 1. for subsequent sessions.

The instructions in this section assume you already have a running remote Linode Cloud Server.

Type in the Terminal commands below (shown in boldface) and hit the **<enter>** key; [exceptions: when you press **<ctrl>a** and then press **<ctrl>d** ]

1. Install the **screen** command:

#### sudo apt update

then **sudo apt install screen** 

2. Start up a jacktrip server using the screen command:

2a. Go to the builddir directory:

cd

```
then
cd jacktrip
```

then cd builddir

2b. Run Terminal in screen mode; for [name] pick an id you will remember:

screen -S [name]

for example: screen -S feb14

your Terminal window will suddenly change to just this:

root@localhost:~/jacktrip/builddir#

2c. Start jack in server mode:

in this example, buffer of 512 frames/period, sample rate of 48k, &=run command in background jackd -d dummy -p512 -r48000 &

After the jackd messages appear, hit **<enter>** to see the prompt for a new command.

2d. Start jacktrip in server mode:

here is an example of a command Sarah Weaver has used with the NowNet ensembles [-S = run in Hub Server Mode, -p2 = client out/in but no loopback, &=run command in background] ./jacktrip -S -p2 -q32 -z &

After the jacktrip messages appear, hit **<enter>** to see the prompt for a new command.

2e. Once jacktrip is running in server mode you can now exit out of the screen:

press <**ctrl>a** 

then press <**ctrl>d** 

2f. Now you can quit out of Terminal and jacktrip in server mode will continue to run.

3. If you want to check what is happening on the jacktrip server you set up, do the following:

3a. Log back into your remote Linode Cloud Server via Terminal.

3b. Restore the screen that has jacktrip in server mode (in the example, the name was **feb14**):

#### screen -r feb14

If you forgot what you named the screen, you can list all screens you had setup by typing in:

#### screen -ls

note that the name of the screen might have more characters in it, for example:

1224.feb14

3c. Once you are in the screen for jacktrip in server mode, you will see whatever activity was generated by that session.

# 4. When you are done with your session, DON'T FORGET to DELETE your remote Linode Cloud Server or you will continue to get charged