## **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.


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## 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.

**S1. Deploy New Linode with jacktrip installed via the Linode website**
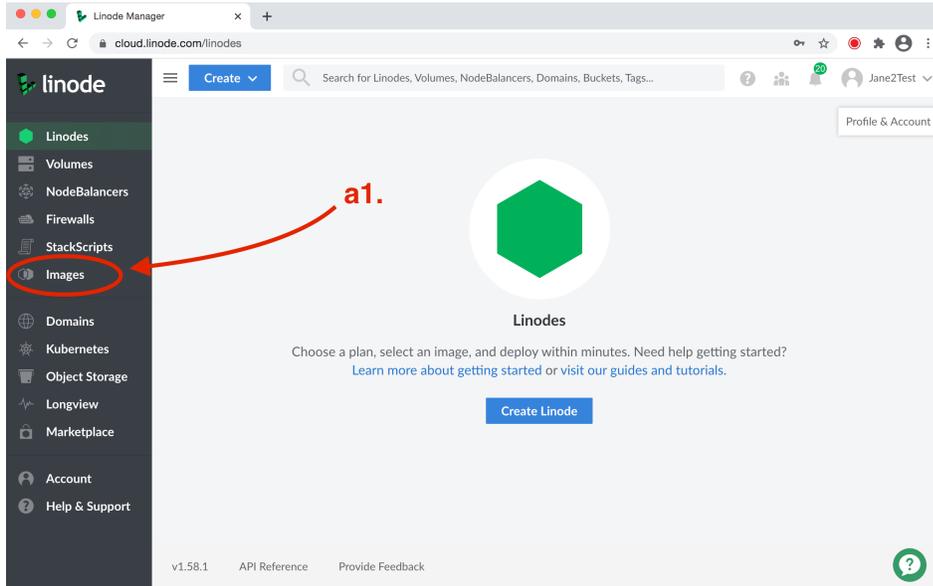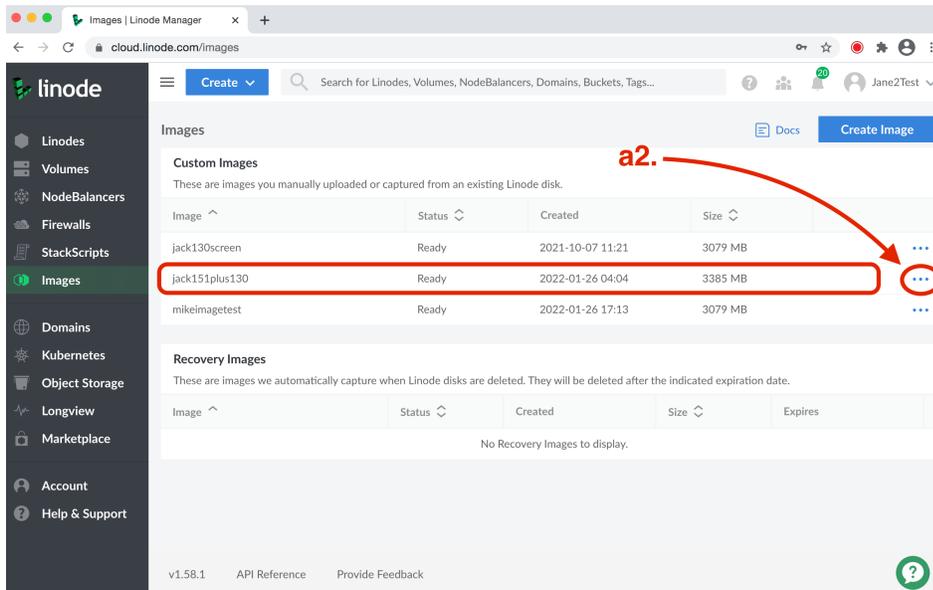
**a1.** click on

**Images**

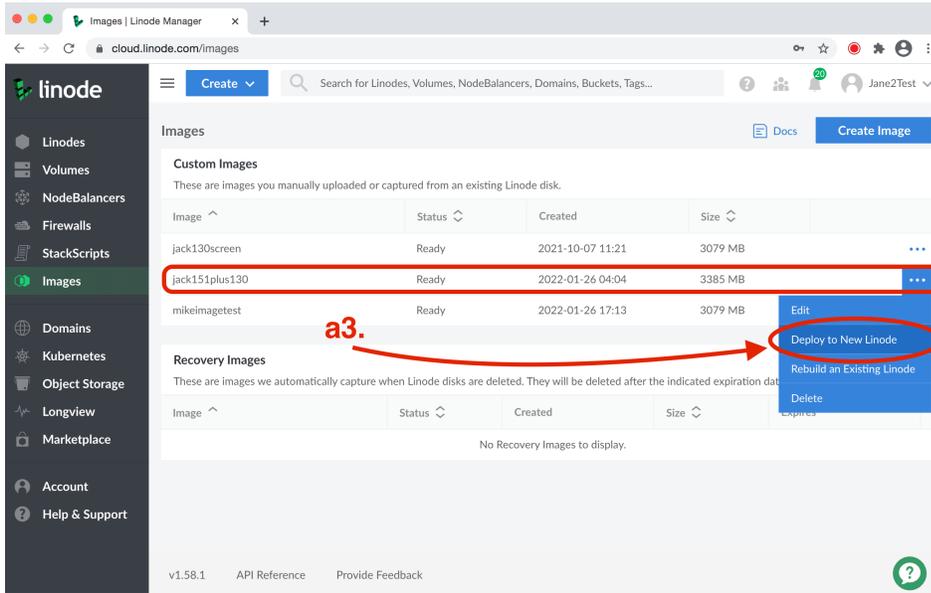in the leftmost black menu

[**Images** page should appear]

[In this example, the image you are selecting is: **jack151plus130**]
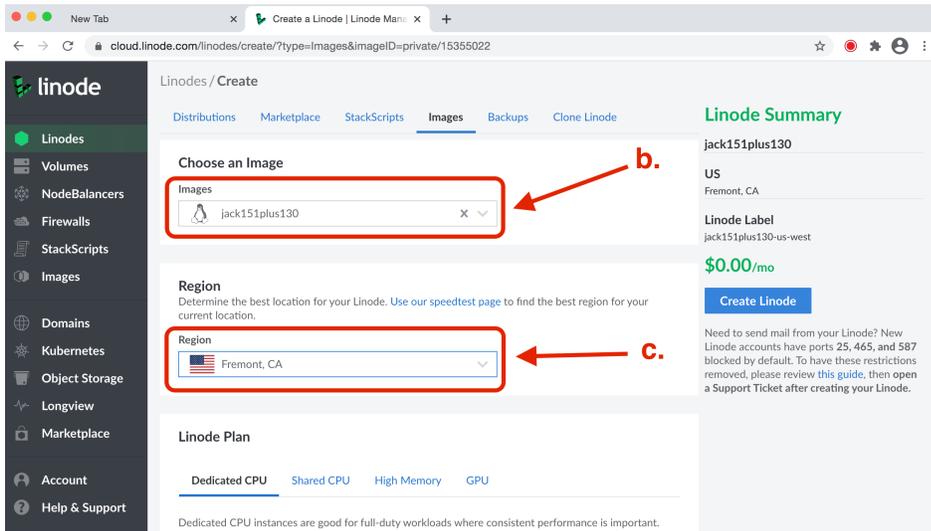
**a2.** Click on ...
[blue dots]

[the **images options pop up menu** should appear]



**a3.** click on
**Deploy to New Linode**

[in this example
corresponding to the
image **jack151plus130**]

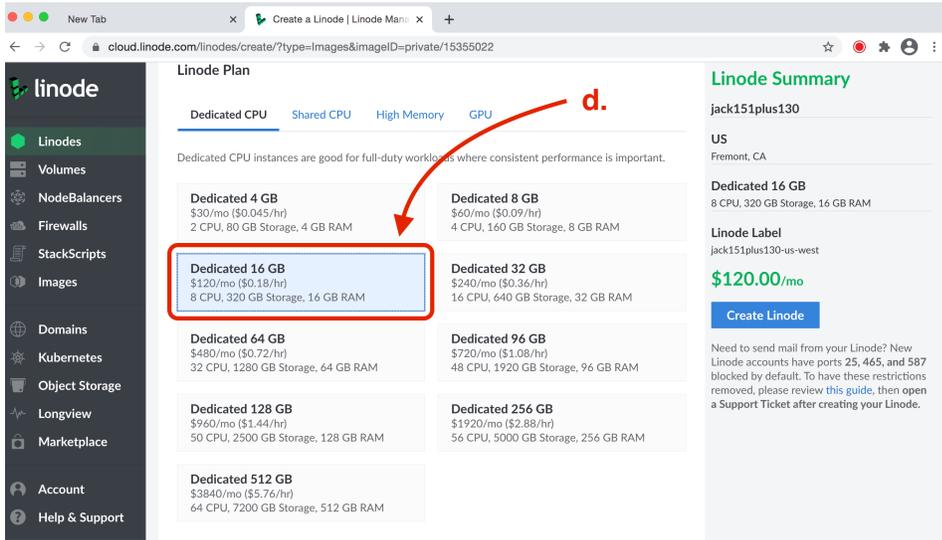[the **Linodes / Create** page should appear]



**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**[1]

[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**.

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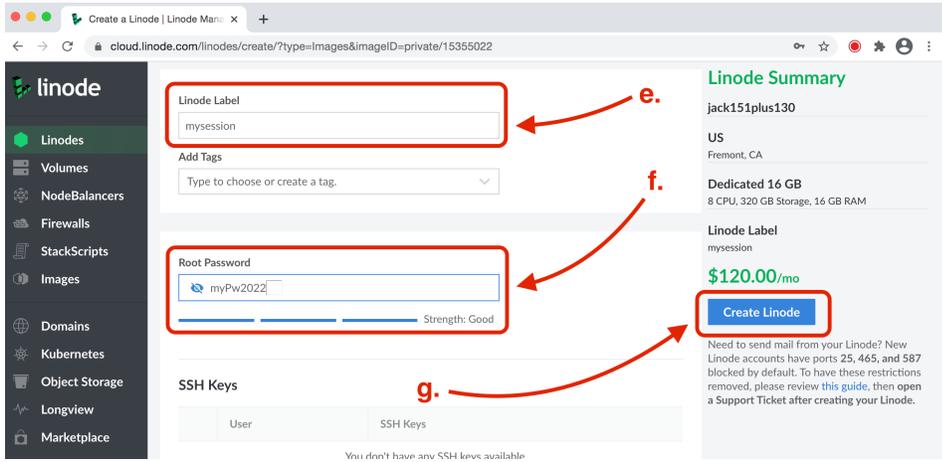


**e.** Type in something
you will remember
for the
**Linode Label**

**f.** Create the
**Root Password\***
for your remote
Linode Cloud Server

**g.** Click on **blue**
**Create Linode**
button

**\***click on the blue eye to see your password;  you will need to use this **Password** later in Terminal.
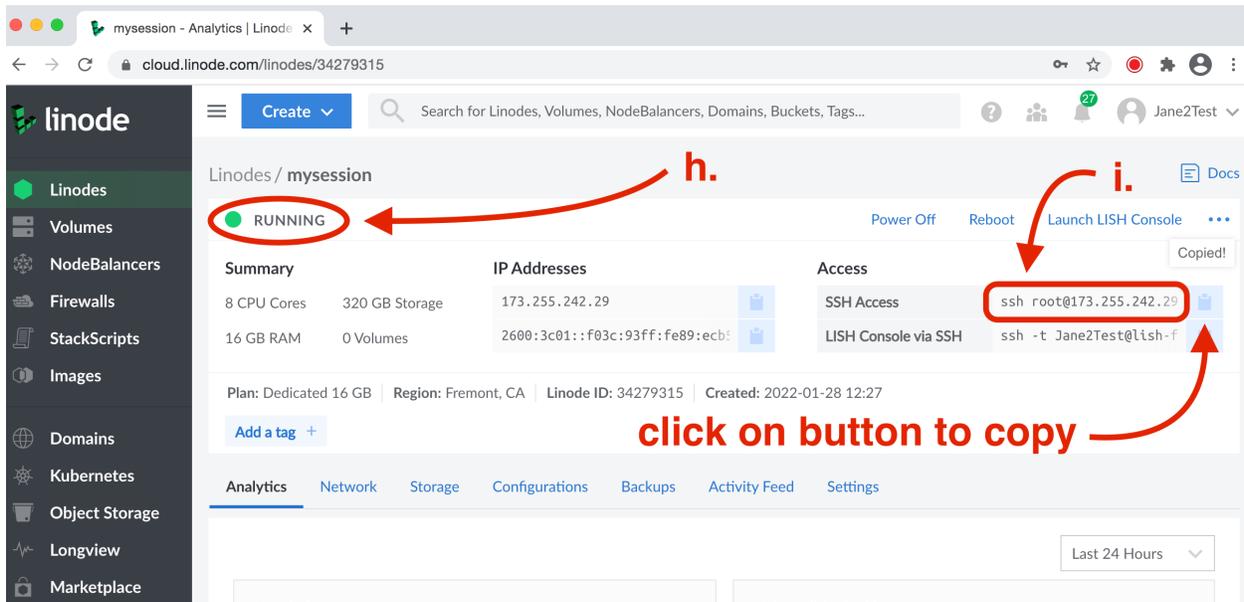
Note:  ***You should only get charged by the hour*** even though the **Linode Summary** window makes it
look like you are going to get charged by the month

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[1] 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 🟠 PROVISIONING -> 🟠 BOOTING -> 🟢 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.



**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[2] 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:
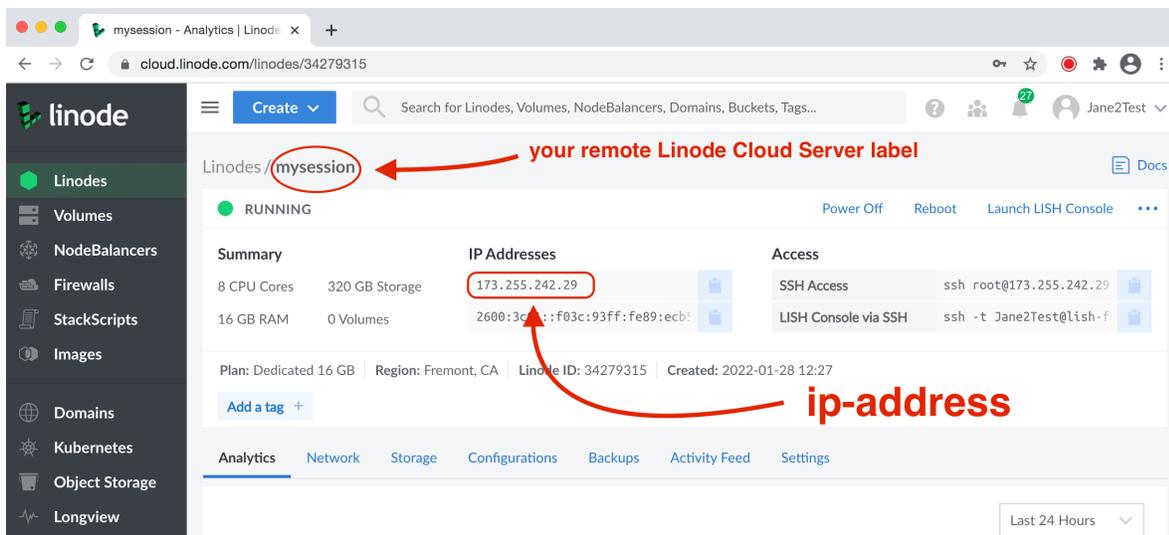


e. Once you are done with your jacktrip session, you can close/quit out of Terminal, it won't hurt anything.

Then go on to the next section **S4.**

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[2]  to see all the jacktrip command options, type `./jacktrip –h`
    or go to: https://manpages.debian.org/testing/jacktrip/jacktrip.1.en.html

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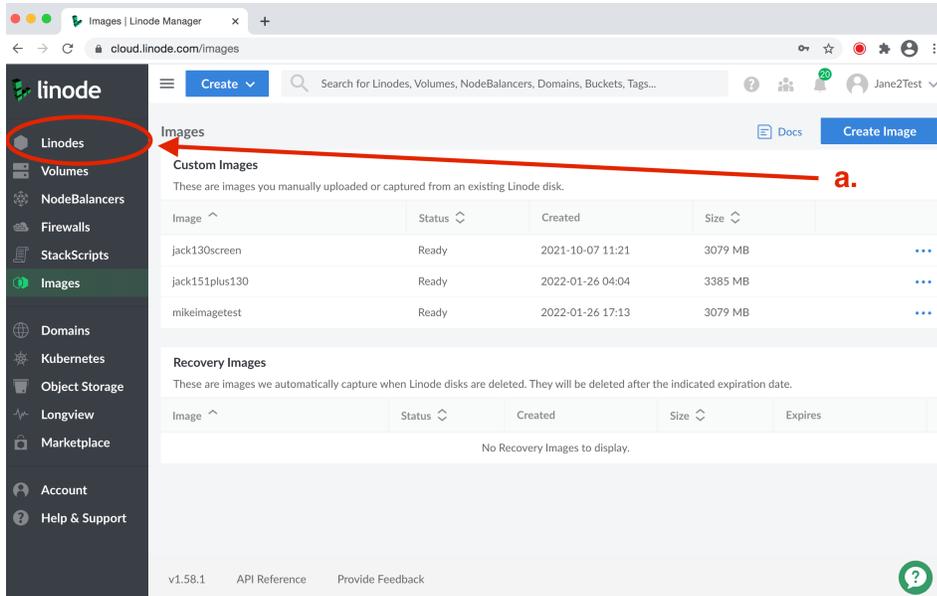


**a**. Click on **Linodes** to go back to the Linodes page if you aren't already there

[The **Linodes** page should appear]
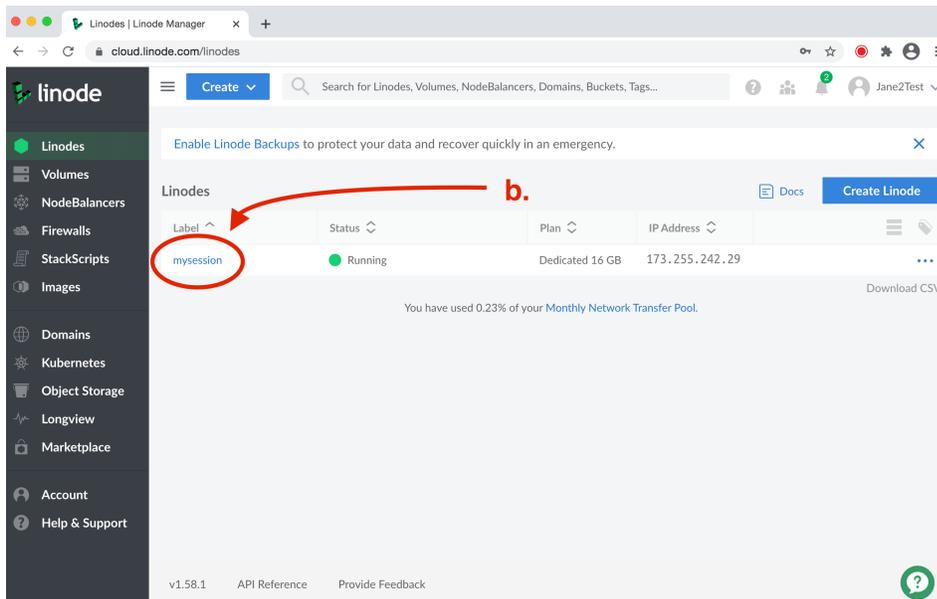


**b.** Click on the

**Label**

for your remote **Linode Cloud Server**

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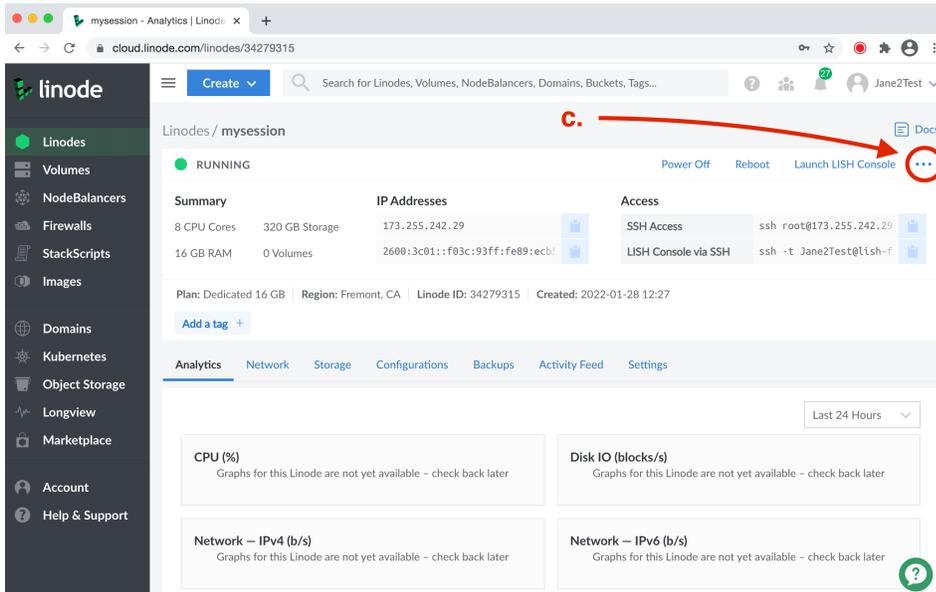


**c.** Click on **...** -> **...** *
to see the
**more options
pop up menu**

 * when the cursor
hovers over the blue
dots, the dots turn white
and are highlighted in
blue

[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:



**e.** Click on **the bell icon** to check your messages
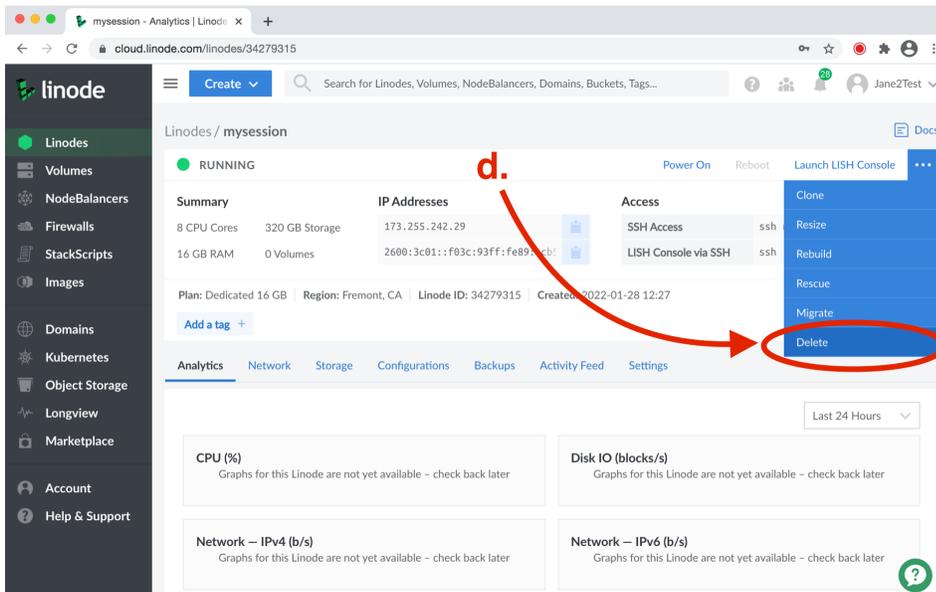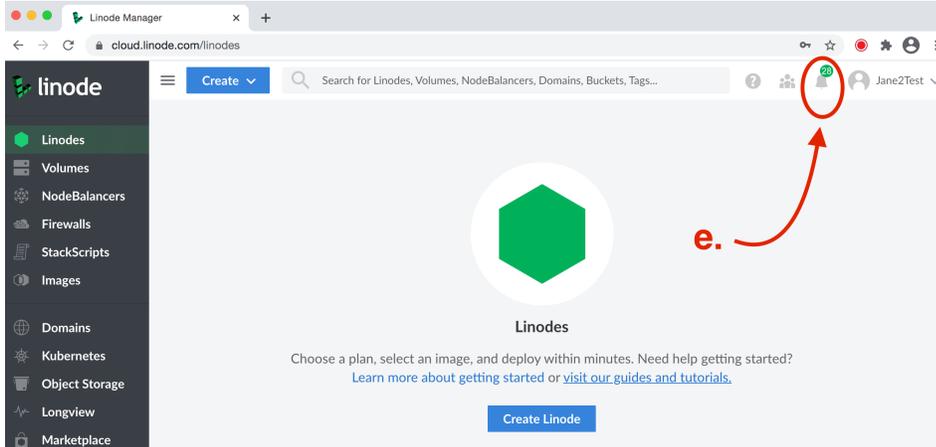
Check the list of **Events** to see that the remote Linode Cloud Server you wanted to delete was deleted:
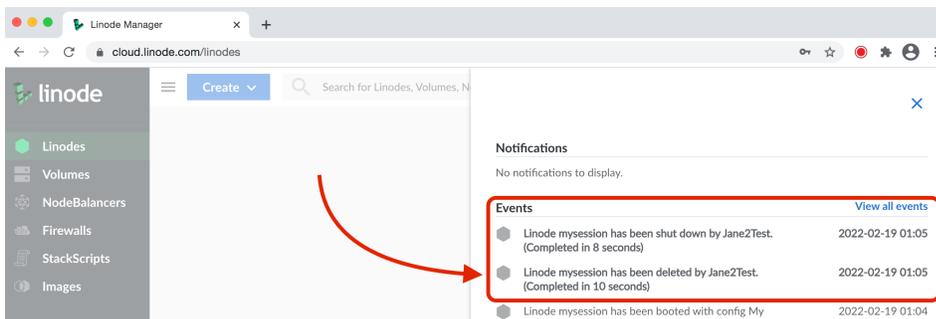


in this example,

Linode mysession has been deleted by Jane2Test.

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**