

## Using RClone to Access Cloud Storage on HPCC

Why? While user accounts on the HPCC are allowed 50 gigabytes of storage as per the default user settings some users require a higher amount of storage. With Microsoft partnership MSU accounts have over 1TB of cloud storage available to them via OneDrive, and addition MSU account holders may use other cloud platforms such as Google Drive. Accessing these drives through HPCC however can be troublesome, so we will be using RClone module to link these drives to a folder on your user accounts home directory.

### Getting Started:

Step 1: You will need to load the RClone module to create the connection to your cloud storage services. Do this by typing “ml Rclone” into your SSH console.

Step 2: Begin the process of establishing a new connection, type “rclone config” into your SSH console, you will be prompted by the following screen

```
[lowencod@dev-intel14-k20 cloudStorage]$ rclone config
No remotes found - make a new one
n) New remote
s) Set configuration password
q) Quit config
n/s/q> █
```

select ‘n’ for new connection.

Step 3: Next you will be asked for a name, enter whatever you wish. However, I suggest naming your remote after the cloud storage platform you are using. For this example, we will be using “googleDrive” and “oneDrive” for our remote names.

While the setup processes for One Drive and Google Drive are fairly similar, we will be splitting the tutorial off at this point into their respective sections. Beginning first with One Drive

### One Drive:

Step 1: Type ‘rclone config’ and enter ‘n’ for new remote. Enter a name that is meaningful. At this point you will be prompted by the following page, while there are many more options than are shown here, we are only interested in the one labeled “19” or “Microsoft OneDrive”. Select this drive type simply by typing “19” into your console.

Step 2: From this point you will be prompted for a client ID, leave this blank by hitting enter.

Step 3: Next you will be prompted for a client secret, leave this blank as well by hitting enter.

Step 4: The next prompt will ask you if you want to “Edit advanced config?”, enter “n” for no.

Step 5: this step asks you if you want to use the auto config. It is very important that you say “n” for no, as hpcc is a remote machine.

Step 6: At this point you will want to open another SSH client terminal and login to HPCC again. You will need to type “rclone authorize onedrive” if you get an error ensure you have the Rclone module loaded.

Step 7: be patient, soon a firefox window will load, it will request your login information for Microsoft account linked to your one drive. Enter your information, and an authorization key will appear shortly. Copy this key and paste it into your original terminal as it has prompted you for a “result>”

Step 8: At this point it will ask you what type of drive this is. For personal use, enter “1”

Step 9: The prompt should then display your drive with a remote number. Select your remote number, enter “y” for yes when it asks if that is ok, then press “y” again. Congratulations, your remote cloud connection has been completed

### **Google Drive:**

Step 1: type “rclone config” to configure a new drive, ensure that the Rclone module is loaded by using “ml rclone”. Select new remote by typing “n”.

Step 2: you will be prompted for a name, you can name this drive whatever you please, but I suggest naming it simply “googleDrive”.

Step 3: select Google Drive from the list of providers by typing “12” into your console.

Step 4: press enter to accept the default client ID, then press enter again to select the default client secret.

Step 5: enter “1” for full access to your drive, read other options, however 1 is the recommended for normal configurations.

Step 6: You will be asked for a root folder, this can be left blank, and will be for this tutorial.

Step 7: Next you will be asked for a service account file, leave this blank as well by hitting enter.

Step 8: select “n” for no when asked for advanced config

Step 9: select “n” when asked if you would like to use auto config

Step 10: A firefox browser should appear shortly, if it does not, highlight the link and paste it into your host machines browser. Login with your credentials and follow the prompts. Copy the key made available, paste that key into your console where it prompts you for a verification code.

Step 11: The prompt will ask you if you want to configure it as a team drive, that is up to you, however for personal storage it is easier to simply type “n” for no.

Step 12: at this point it will ask you to verify the credentials, if they are all good type “y” for yes. Congratulations your drive has been configured.

### **Syncing Your Remote Drive to A Folder on HPCC:**

To simplify the syncing process using the ‘rclone copy’ command a powertool named ‘cloudSync’ was developed. Simply load powertools using ‘ml powertools’. Then, ensure that your current working directory is where you wish your synced folder to exist and type ‘cloudSync’ this will enter you into the prompt. For first time users you will be required to create a folder connection by typing ‘0’ and entering in the name (be precise) of your Rclone remote connection. You can view your registered Rclone remote connections by typing ‘rclone config’. It is important to note that while the powertool will sync the folders both to the cloud and from the cloud it is not being constantly synced. Anytime you have added a file to either your cloud drive or your local synced folder you will need to run the ‘cloudSync’ powertool again and simply select your drive from the listed drives that are saved to your personal configuration file.

### **How do I remove a remote connection from my cloudSync configuration?**

The configuration file is named ‘.cfg’ so it will not show up while browsing your directories, however if you type ‘ls -a’ you can see if it exists in your current directory. If you would like to remove all folder connections you can simply type ‘rm .cfg’ in its directory and the configuration file will be deleted. To modify it and remove or add individual connections type ‘nano .cfg’ and you can edit the existing remote connection names.