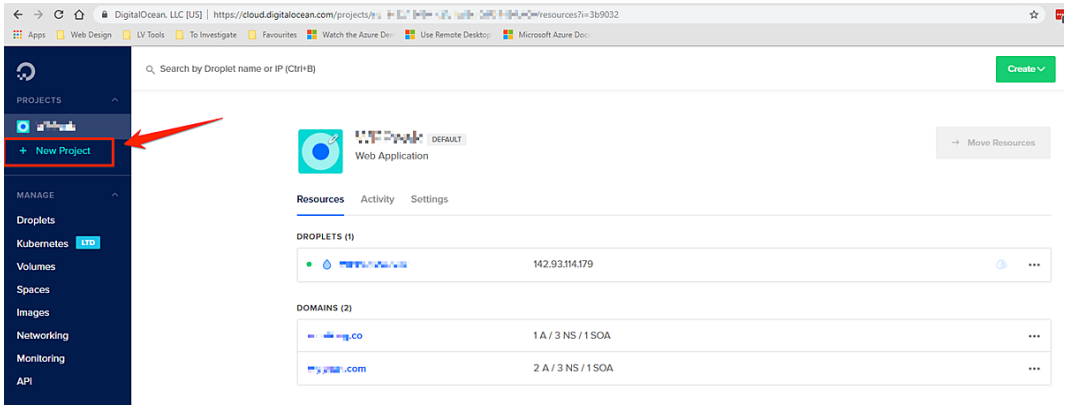
How to set up WP Ultimo on RunCloud with automatic SSL for your WaaS

a **LONELY VIKING** guide

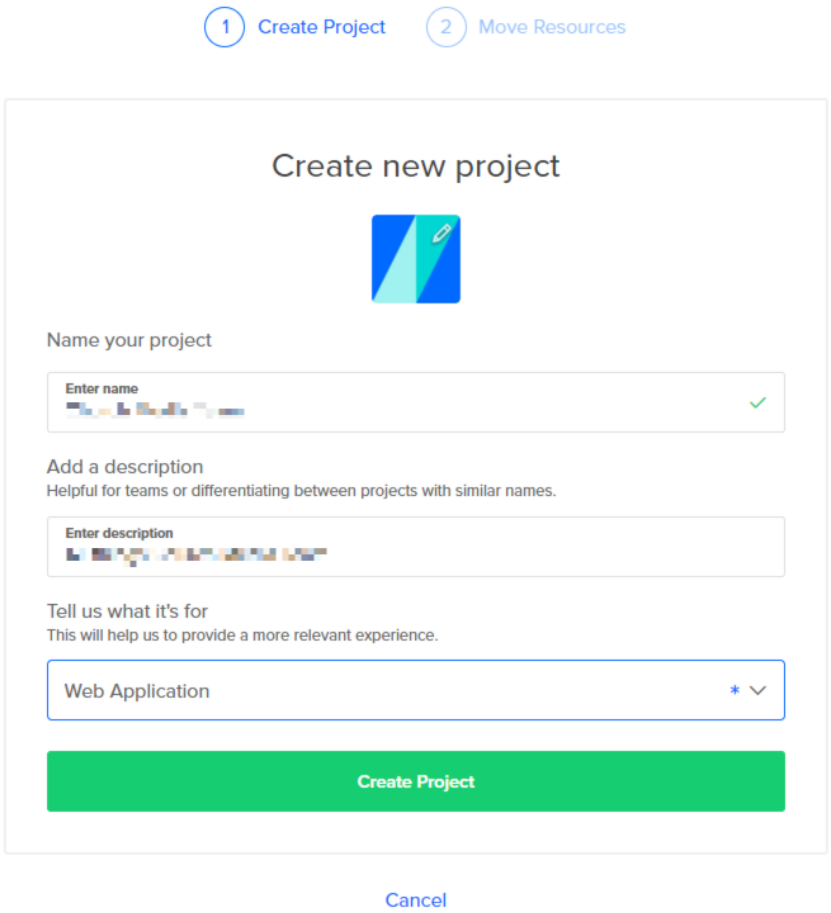
DIGITAL OCEAN SET UP

In order to set up a new Digital Ocean (DO) environment, first we need to create a parent project to group all the relevant items together.

1. Create a Project by simply clicking the '+ New Project' link on the top left of your DO Dashboard

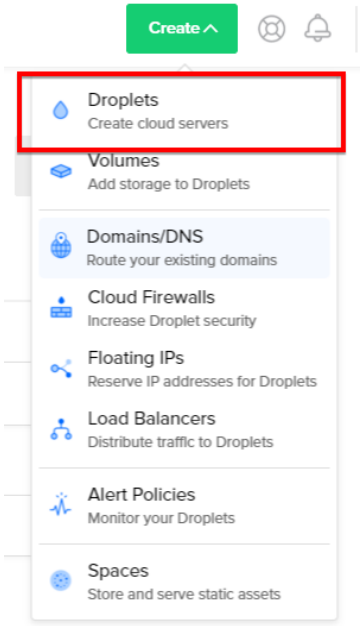


- Now fill in all the relevant details for the parent project group you are creating.



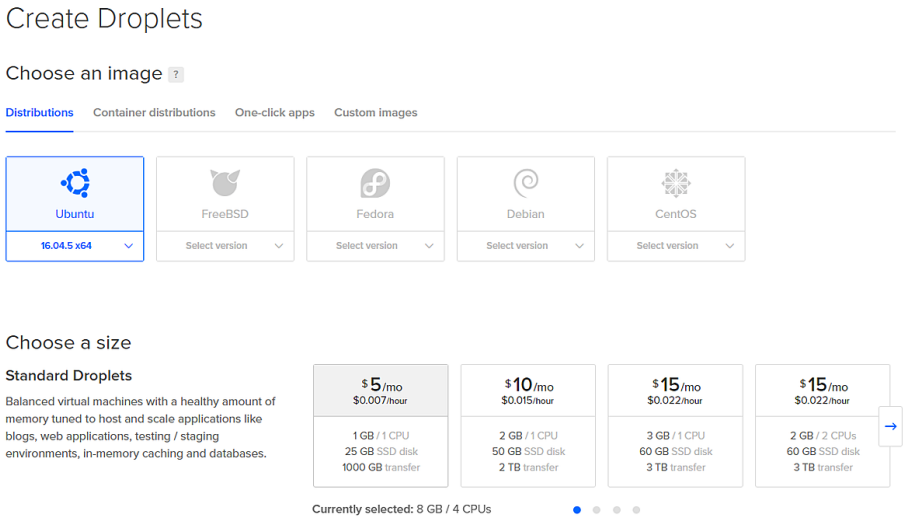
- You're Project has been created and you are ready to start building droplets, DNS servers etc. inside it.

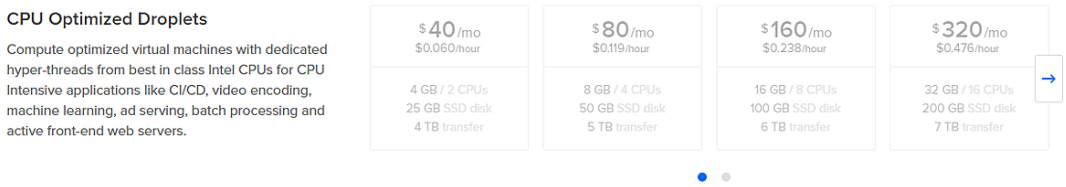
2. Within your newly created Project in the DO Dashboard, click the green ‘Create’ link on the top right and select ‘Droplets’



3. On the corresponding page, fill in all and select the relevant settings/information for the Droplet.

- Select Ubuntu 18.04 as your Image and Distributions
- Start small by selecting the smallest Droplet size (1 CPU, 25 GB SSD, 1000 GB transfer). You can always scale up later.





Each Droplet adds more free data transfer to your account, starting at 1TB/month and scaling with Droplet usage and size. Additional outbound data transfer is billed at $.01/GB. Read more.

Add backups

When you enable backups, a system-level disk image of the entire Droplet will be taken once a week and saved for four weeks. In the event of problems, you can restore from a point in time up to one month prior. Read more.

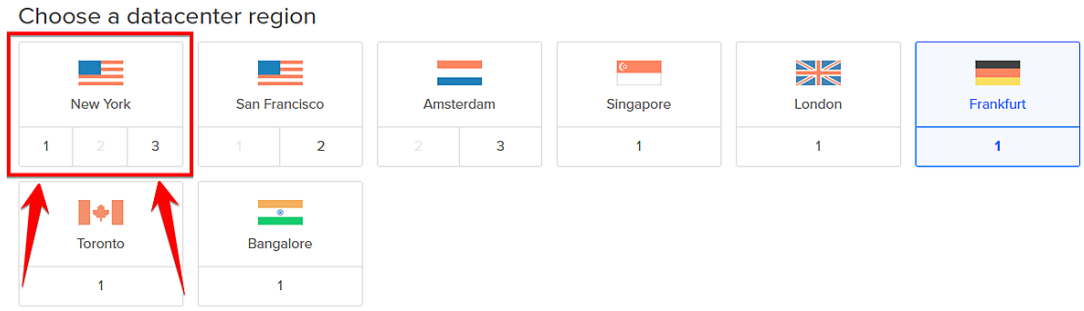
Add block storage

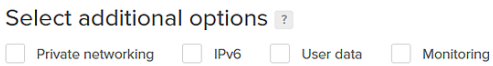
Currently only available in AMS3, BLR1, FRA1, LON1, NYC1, NYC3, SFO2, SGP1 and TOR1.

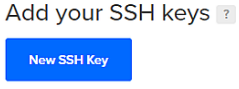
Block storage lets you add independent storage volumes that can be accessed like local disk and moved from one Droplet to another within the same region.

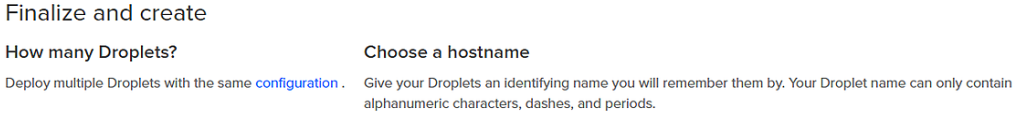
3. Choose a Data Center

- Use whichever is best suited for your WaaS

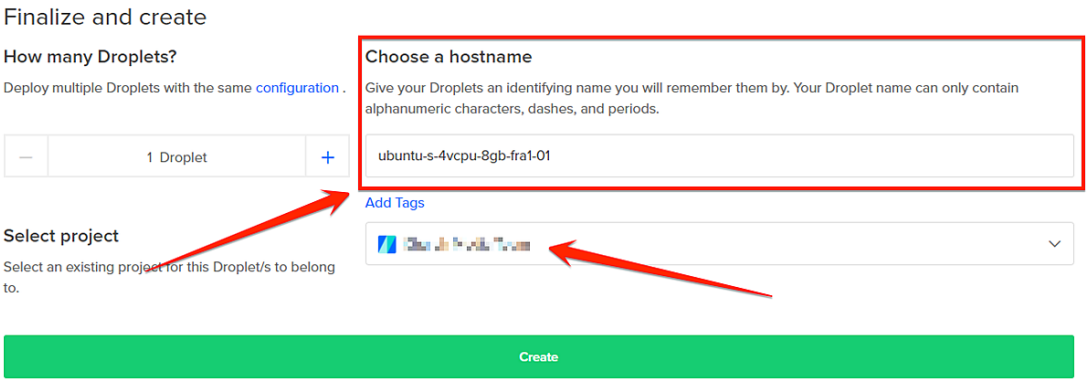








4. Finally, give your new Droplet a name (be as descriptive as possible) and ensure that you create it within the correct Project (created in Step 1).



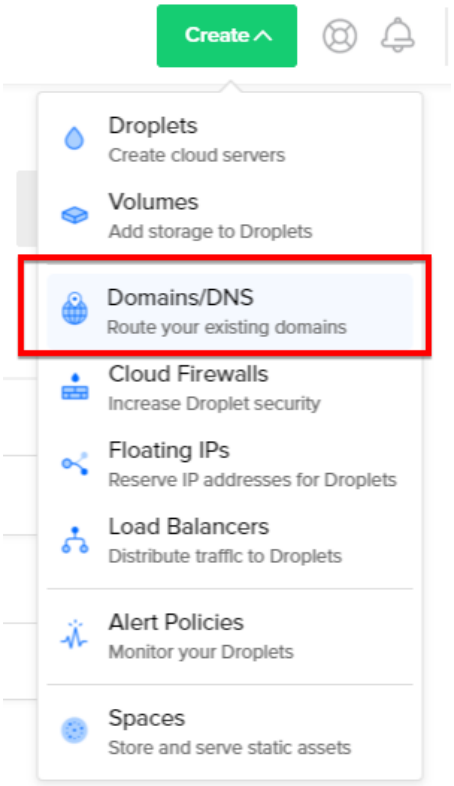
- Click the large green ‘Create’ button to complete the setup.

- You’ll notice that it takes some time for DO to complete the setup, in which case you can start the DNS setup in DO in the meantime.

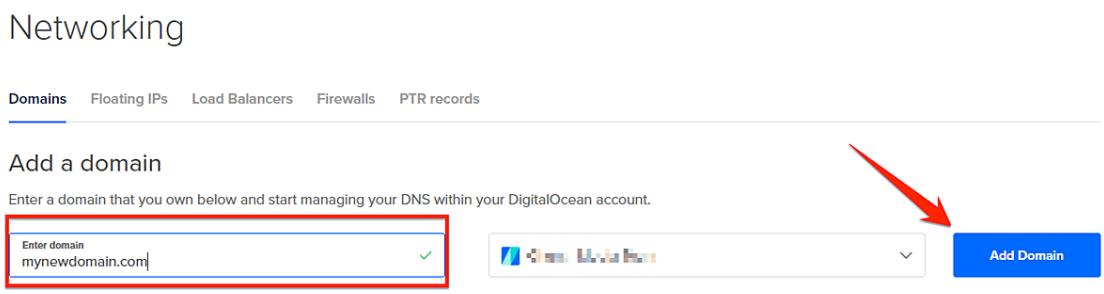
- Note the email you receive from DO, regarding your Droplet creation as it contains the root password required for an SSH connection/session (this will be required later when setting up RunCloud).

SET UP DIGITAL OCEAN DNS HOSTING

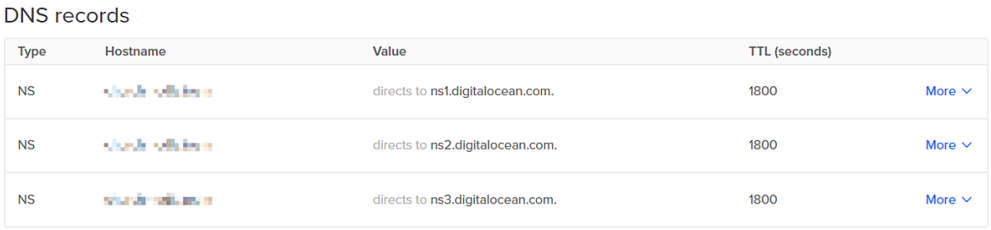
1. In the DO Dashboard, click the green ‘Create’ link on the top right and select ‘Domains/DNS’.



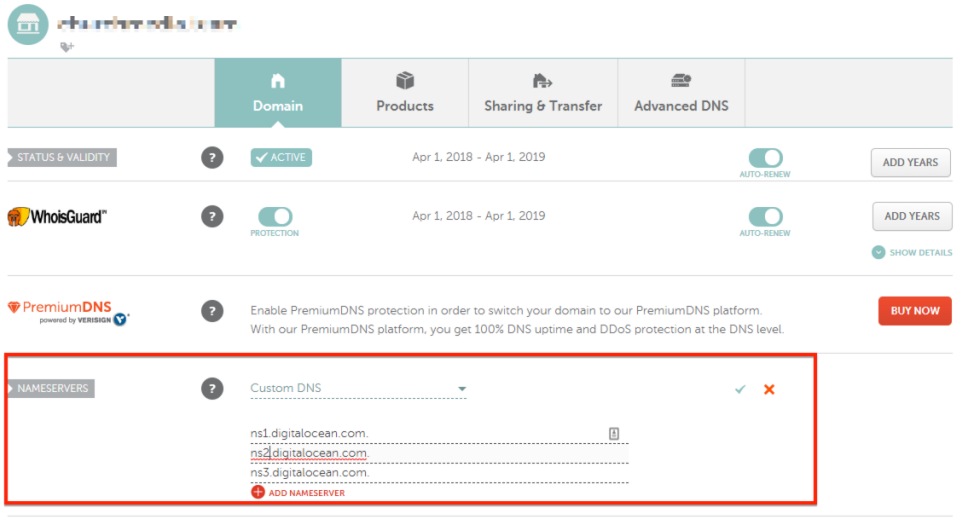
2. On the corresponding page, enter the name of the domain you wish to do DNS hosting on, and click ‘Add Domain’.



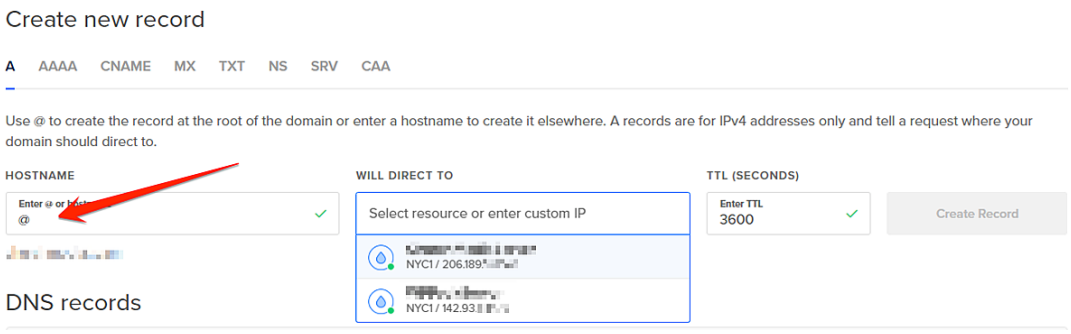
3. Thereafter, you will need to point your registrar to the new Nameservers shown by the DO Dashboard to ensure that DO becomes your DNS host.



(Namecheap dashboard for Nameserver changes on Registrar)



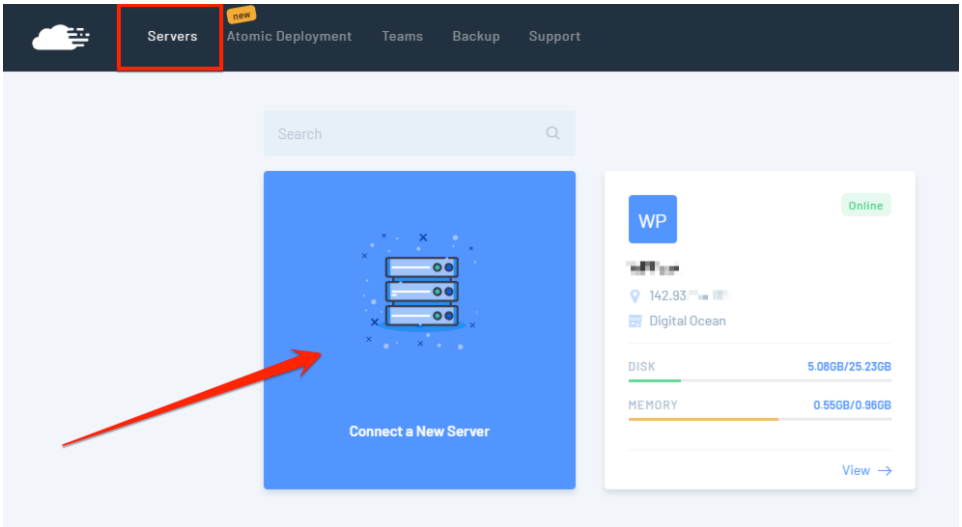
4. Once you've changed the Nameservers on your registrar to those specified by DO, you will need to add an 'A' record to point to your newly created Droplet IP.



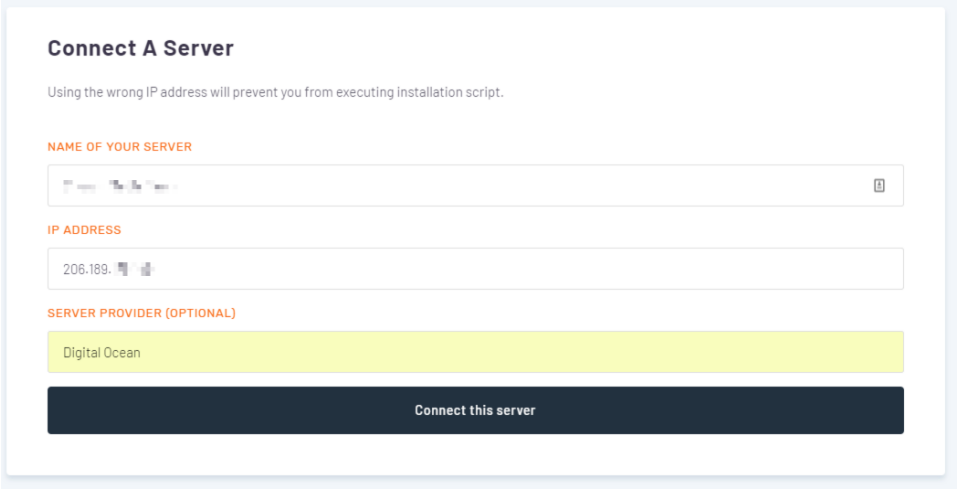
5. This will ensure that your domain points to your DO Droplet (which is obviously required once you run WordPress on it).

SET UP RUNCLOUD CONNECTION TO YOUR DIGITAL OCEAN DROPLET

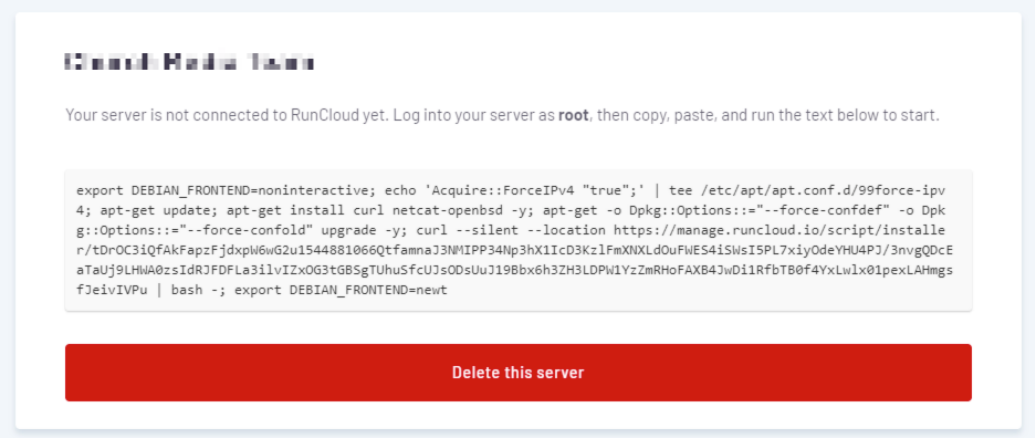
1. Navigate to your RunCloud dashboard, ensure you are in the ‘Servers’ tab and then select ‘Connect a New Server’.



2. On the corresponding page, detail your server as required and click ‘Connect this server'.



3. RunCloud will present you with a CLI command to execute as root on your source server (which in our case is a Digital Ocean Droplet running Ubuntu 18.04). It'll look something like this:



DEBIAN_FRONTEND=noninteractive; echo 'Acquire::ForceIPv4 "true";' | tee /etc/apt/apt.conf.d/99force-ipv4; apt-get update; apt-get install curl netcat-openbsd -y; apt-get -o Dpkg::Options::="--force-confdef" -o Dpkg::Options::="--force-confold" upgrade -y; curl --silent --location https://manage.runcloud.io/script/installer/tDrOC3iQfAkFapzFjdxpW6wG2u1544881066QtfamnaJ3NMIP | bash -; export DEBIAN_FRONTEND=newt

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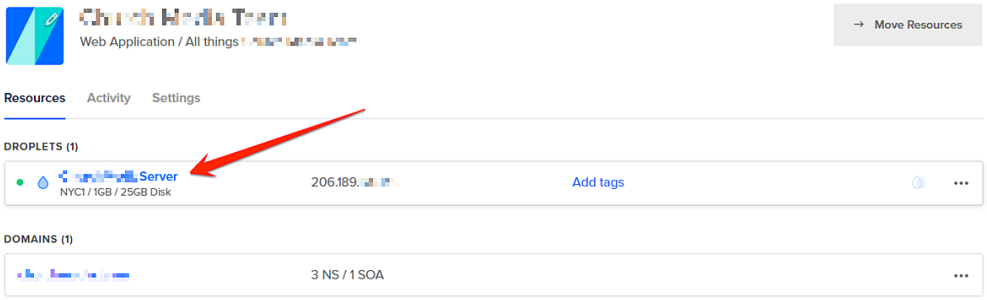
CONNECT TO YOUR DIGITAL DROPLET VIA SSH

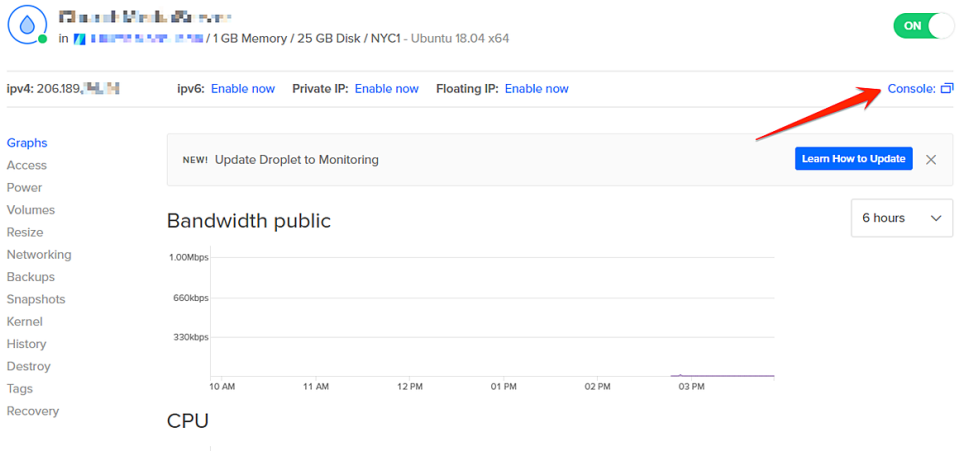
There are many ways to connect to your droplet but in order to keep this simple, these are two of the simplest ways.

1. Navigate back to your DO Dashboard and open the new Droplet you created.



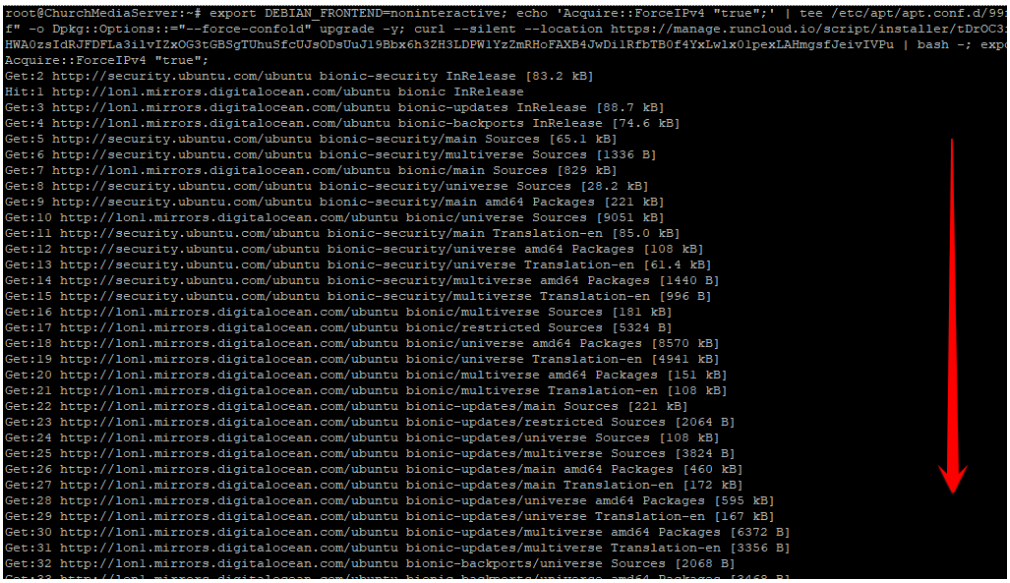
2. On the corresponding Droplet Dashboard, click ‘Console’ on the top right

(Alternatively, you can use an SSH tool (such as Putty) to connect to your new server).

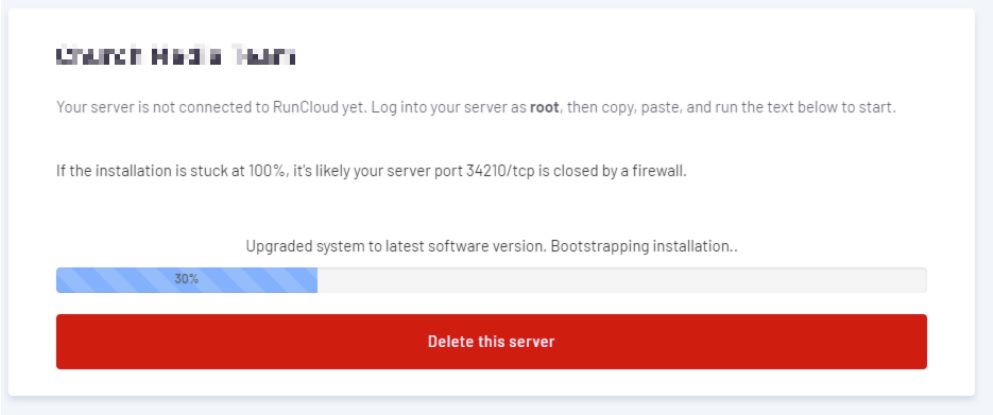


3. Once the SSH session window opens, log in using root and the password you received in your mail from DO when initially creating the Droplet. If this is your first time logging into your Droplet as root with your password, you’ll be asked to change your password).

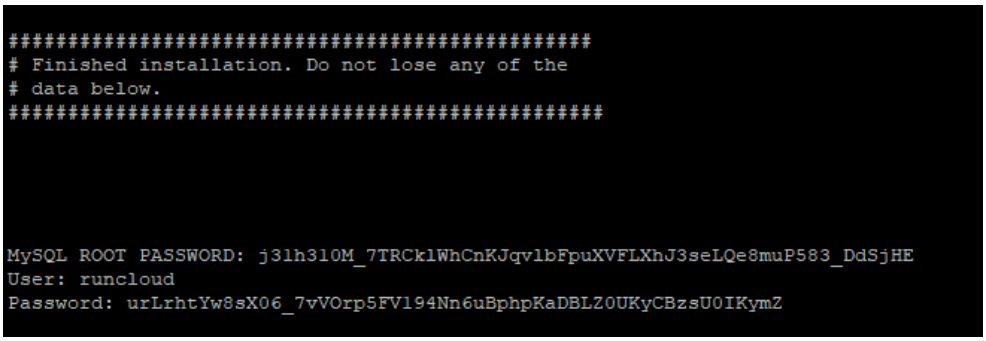
4. Once you have an SSH session, execute the command given by RunCloud (step 4c above) and allow it to finish.



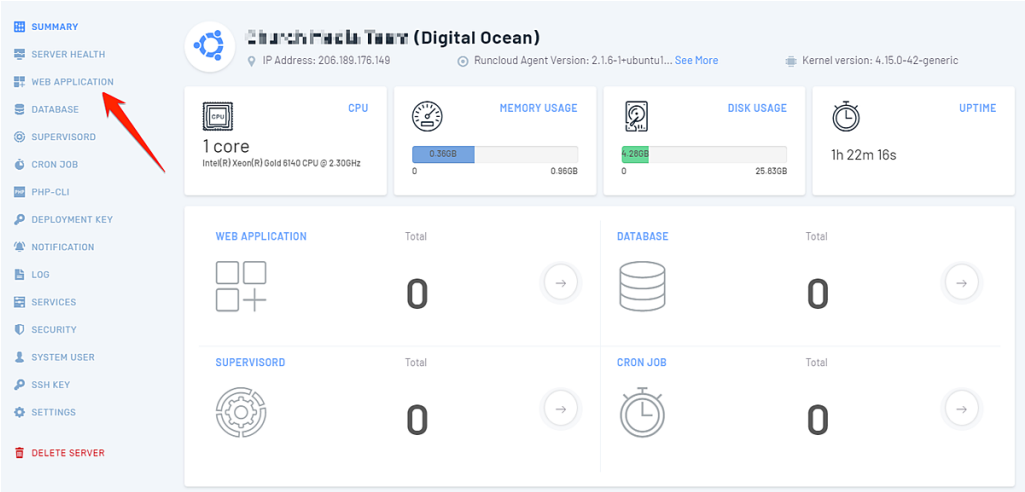
5. You'll notice that RunCloud gets notified of this process having started and a corresponding progress bar is displayed on your RunCloud installation step



6. Once this process finishes, it is crucial you save the RunCloud MySQL ROOT Password, User and Password displayed:

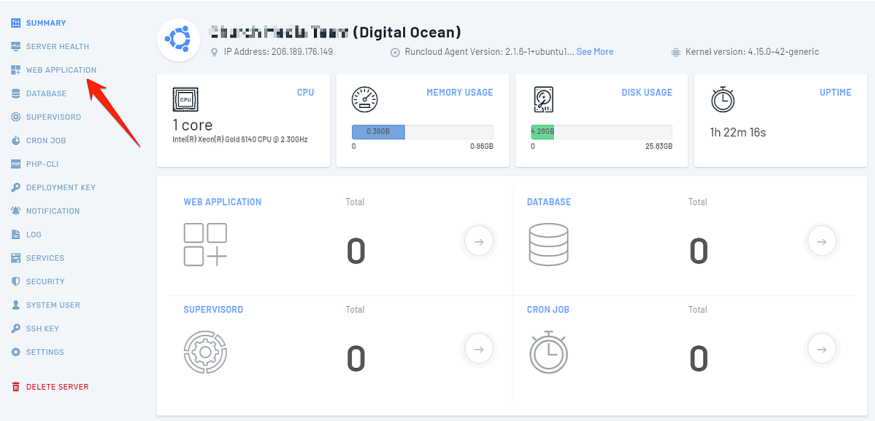


7. Also, on completion, you will be redirected to your new Connected Server dashboard on RunCloud automatically



INSTALLING YOUR WORDPRESS MULTISITE WEB APPLICATION WITHIN RUNCLOUD

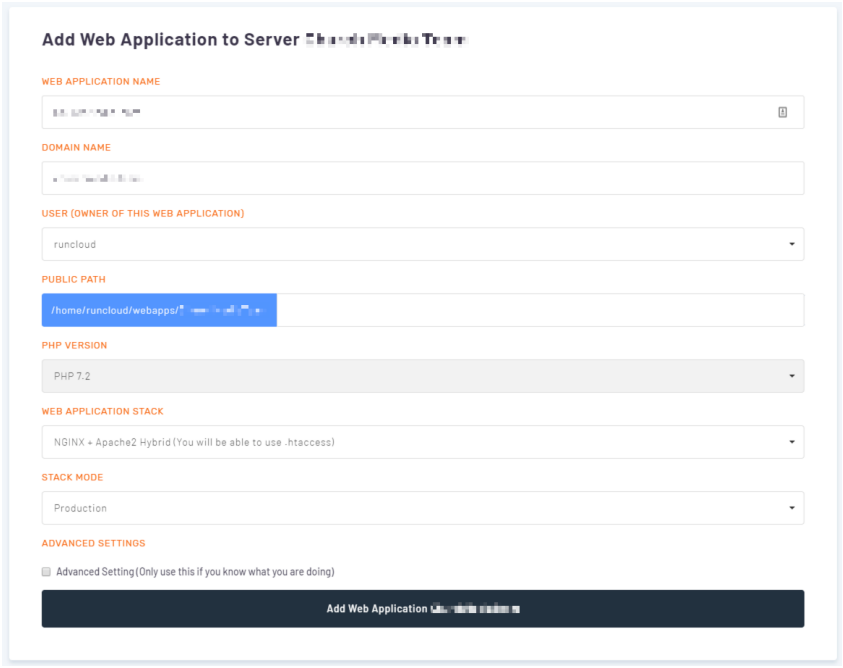
1. Within your RunCloud Dashboard on your newly Connected Server, navigate to Web Application on the right-hand side.



2. Since this will be your first Web Application on your new server, on the corresponding page click ‘Create Application’.

3. On the corresponding page fill in all the relevant information for your new Web Application.

- Ensure you enter the correct domain name for your Web Application (same as your DNS entry on DO – step 3a above).

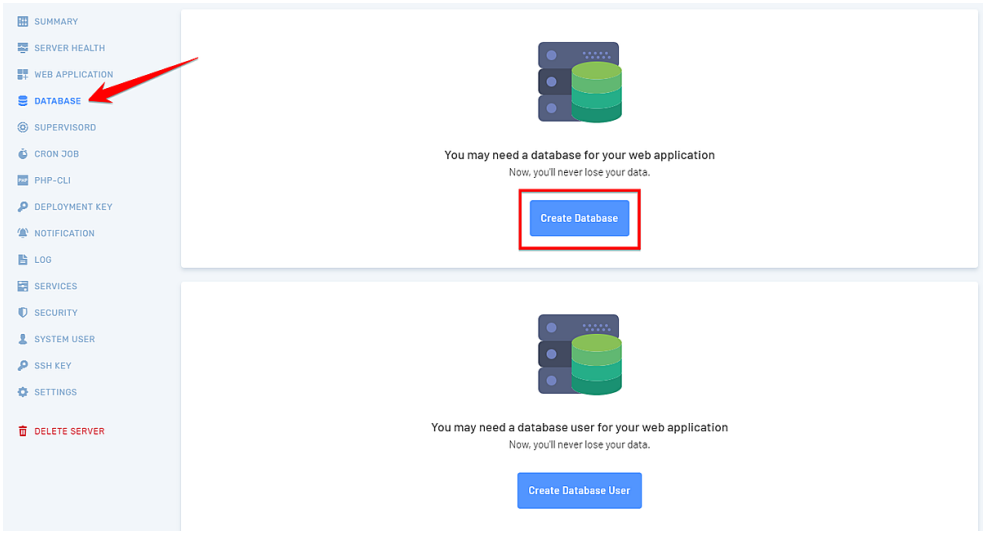


4. Ensure you enter the correct domain name for your Web Application (same as your DNS entry on DO – step 3a above).

CREATE A DATABASE IN RUNCLOUD FOR YOUR WORDPRESS APPLICATION

1. Navigate to the Database tab on your RunCloud Server Dashboard.

2. Select ‘Create Database’ to create a new Database.

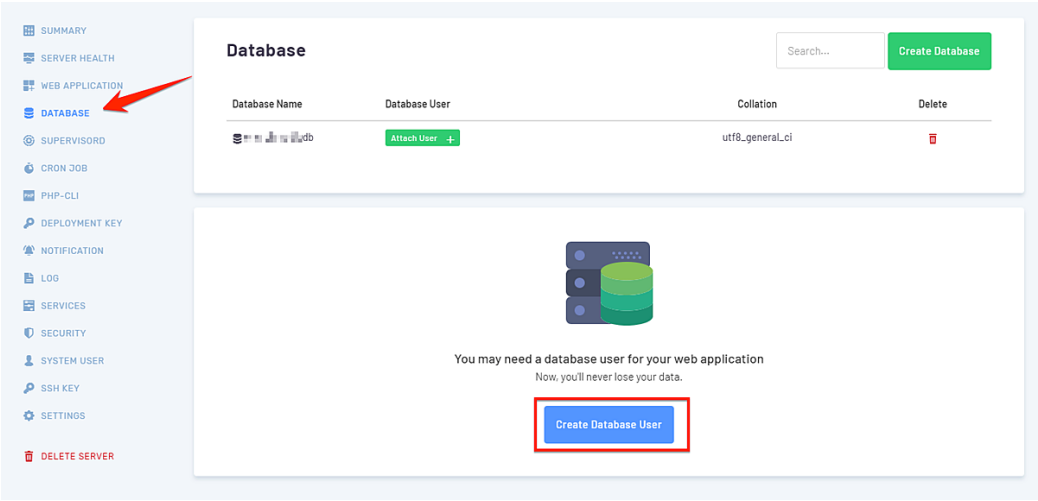


3. The corresponding page allows you to create a database.

- Give the Database a descriptive name (usually ending with ‘db’ to indicate that this is a ‘Database’).
- Usually we use the utf8_general_ci collation for WordPress Databases.

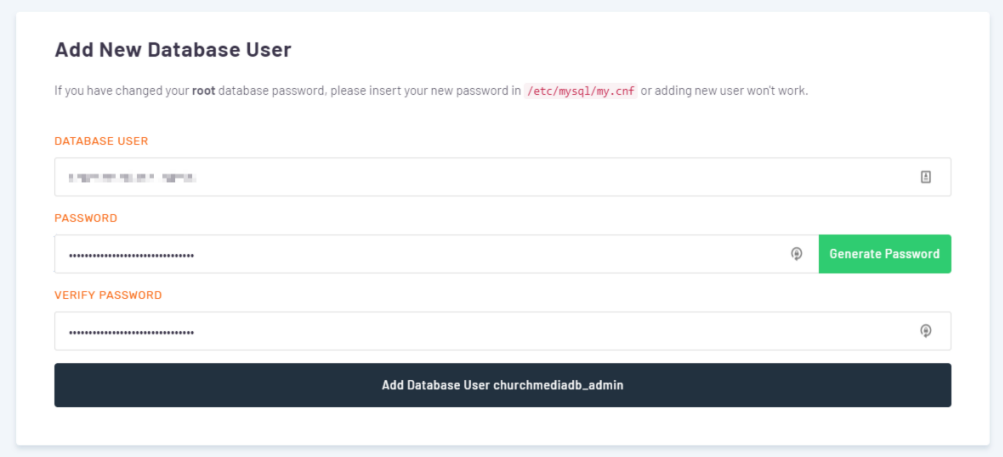
4. Click ‘Add Database’ to create it on your Server.

5. Once the database has been added, you need to create a user that has full access to this database for your WordPress installation to use.



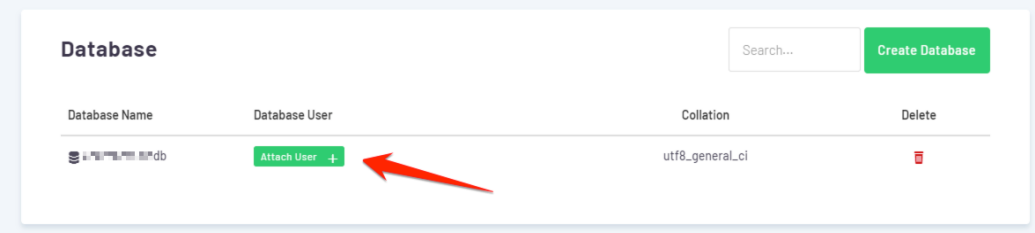
6. On the corresponding page, give the user details for access to the database.

- Give a detailed name for the Database user.
- It's a good idea to generate a custom password to ensure it is strong and keep it safe somewhere (look into 'LastPass').



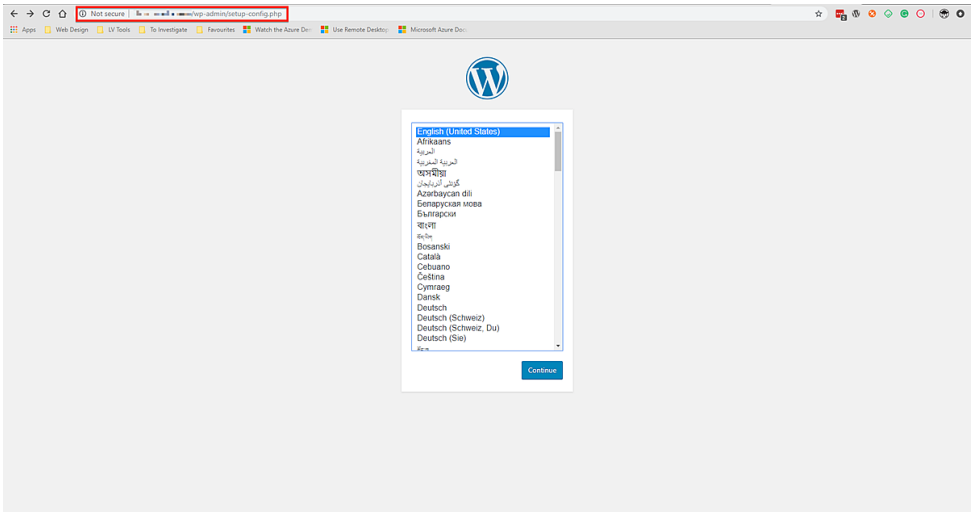
7. Click 'Add Database User' to complete the creation of a user.

8. Once you've created a DB user, attach it to your Database by clicking the 'Attach user' button on the Database dashboard and follow the prompts.



NOW YOU ARE READY TO RUN THE 5-MINUTE WORDPRESS INSTALLATION

1. Navigate to your hostname to start the WordPress setup.



2. Step through the setup selecting your language first.

- Note the items you'll need (all of which you did in the previous step)

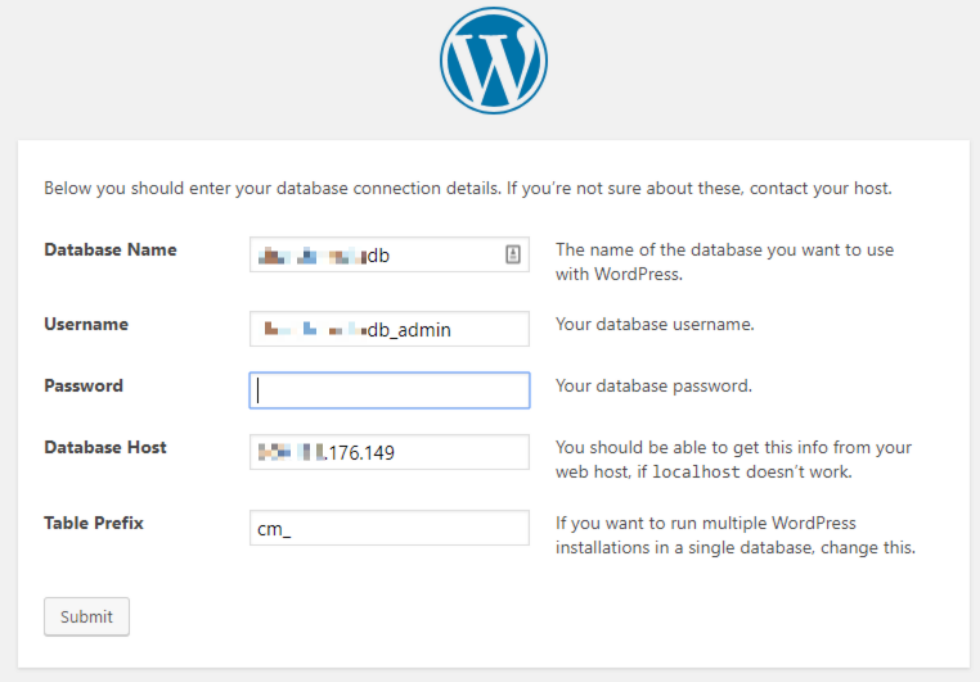
    i. Database name – the name of the DB you created earlier (churchmediadb)

    ii. Database username – the admin user you created earlier

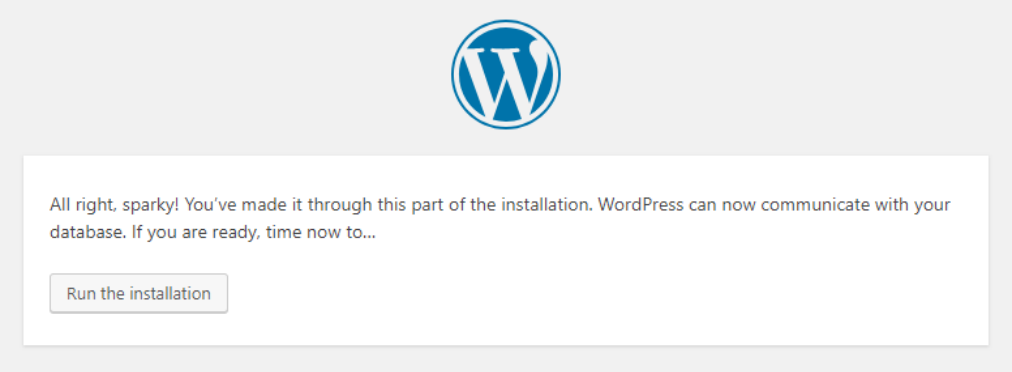
    iii. Database password – the generated password you used for your user creation earlier

    iv. Database host – this will be the IP of your server

    v. Table prefix - if you want to run more than one WordPress in a single database (good idea for a WordPress Multisite)

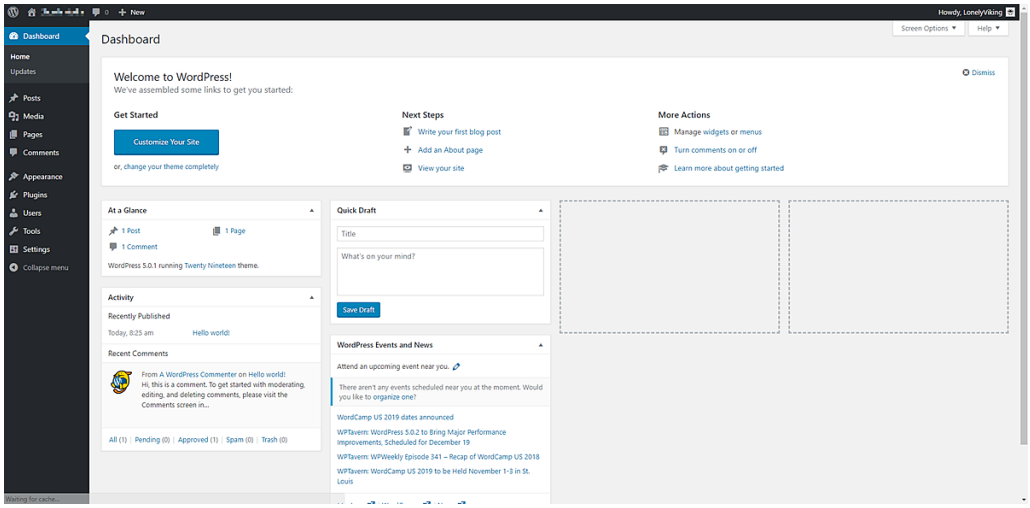


3. If the information you submitted are correct, you'll get a 'Run Installation' option on the next page and you're set to get the setup underway.



4. The corresponding page will require you to fill in the admin user and password for the WP installation, ensure to save this information somewhere safe.

5. Once you've completed the installation and logged in successfully, you'll be presented with the WordPress Dashboard that looks something like the below.



6. Now you've got a brand-new WordPress Instance, next up – set it up as a Multisite Instance.

WP MULTISITE

A really good guide to setting up a WordPress Multisite can be found here - https://www.wpbeginner.com/wp-tutorials/how-to-install-and-setup-wordpress-multisite-network/#enabling

First, you need to ensure you can access your new website's files via an SFTP client of some kind (see WinSCP, FileZilla or MobaXterm).

1. Connect to your site over SFTP.

2. Navigate to ~/public_html/ and open the 'wp-config.php' file.

3. You need to add the following code to your wp-config.php file just before the /* That's all, stop editing! Happy blogging. */ line.

/* Multisite */

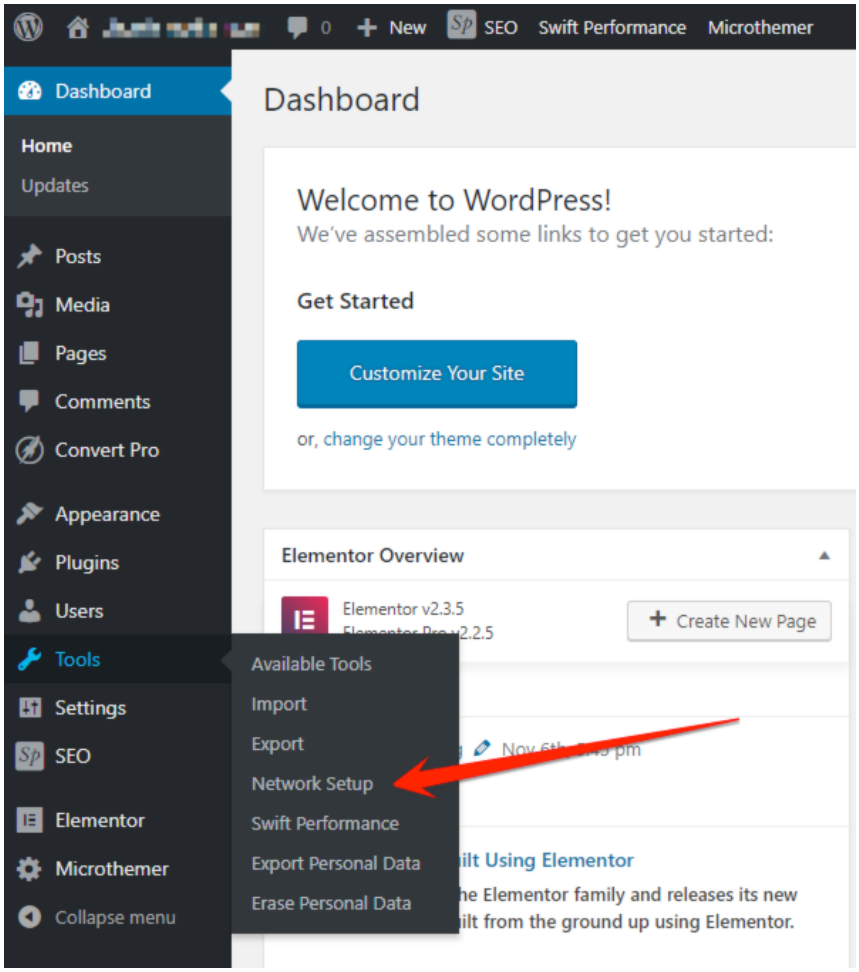
define('WP_ALLOW_MULTISITE', true);

---

4. Once you've completed editing the 'wp-config.php' file, you should save your changes and terminate your SFTP connection.

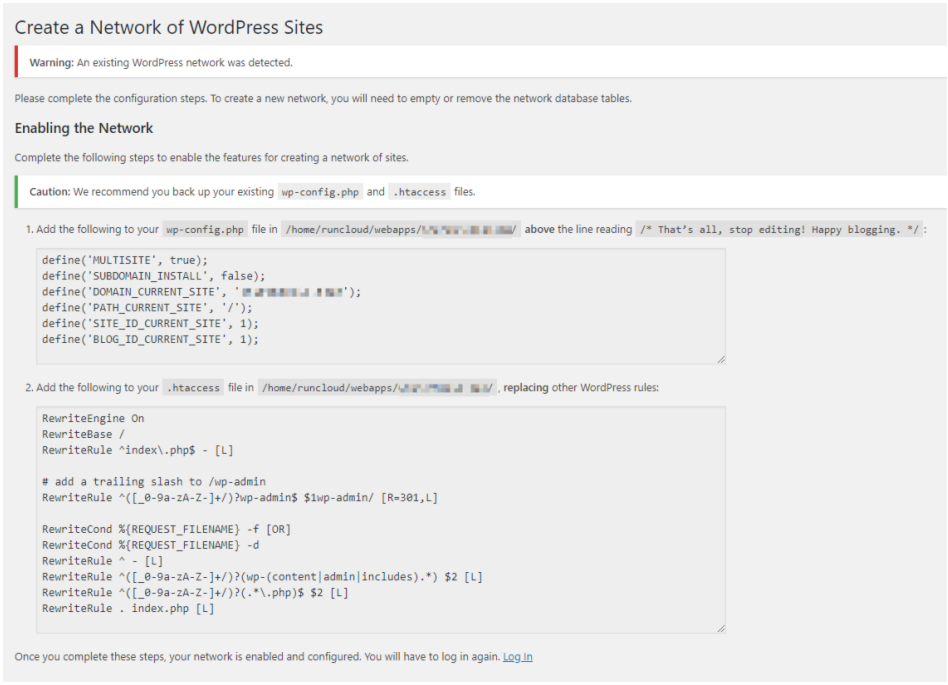
5. Navigate back to your site WordPress Dashboard (*/wp-admin).

6. Now, navigate to Tools → Network Setup in the side bar.



7. From here, you will be met with further instructions on getting your WordPress Multisite setup which will require further editing of the wp-config.php file (via an SFTP Client as before).

- You're Project has been created, you are ready to start building droplets, dns servers etc. inside it.



8. Add the following to your wp-config.php file in /home/runcloud/webapps/ChurchMediaTeam/ above the line reading /* That's all, stop editing! Happy blogging. */:

---

define('MULTISITE', true);

define('SUBDOMAIN_INSTALL', false);

define('DOMAIN_CURRENT_SITE', 'churchmedia.team');

define('PATH_CURRENT_SITE', '/');

define('SITE_ID_CURRENT_SITE', 1);

define('BLOG_ID_CURRENT_SITE', 1);

---

9. Add the following to your .htaccess file in /home/runcloud/webapps/ChurchMediaTeam/, replacing other WordPress rules:

RewriteEngine On

RewriteBase /

RewriteRule ^index\.php$ - [L]

add a trailing slash to /wp-admin

RewriteRule ^([_0-9a-zA-Z-]+/)?wp-admin$ $1wp-admin/ [R=301,L]

RewriteCond %{REQUEST_FILENAME} -f [OR]

RewriteCond %{REQUEST_FILENAME} -d

RewriteRule ^ - [L]

RewriteRule ^([_0-9a-zA-Z-]+/)?(wp-(content|admin|includes).*) $2 [L]

RewriteRule ^([_0-9a-zA-Z-]+/)?(.*\.php)$ $2 [L]

RewriteRule . index.php [L]

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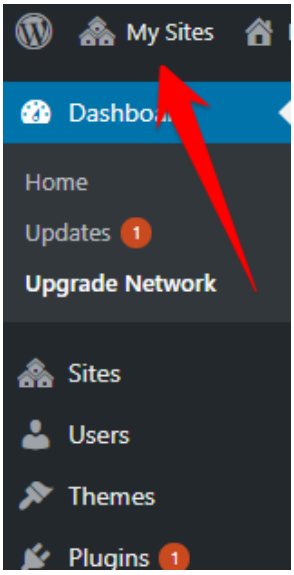
10. Once you've completed this step, you'll be asked to Log in again, after which you'll notice that you've successfully change your setup to a WordPress Multisite.

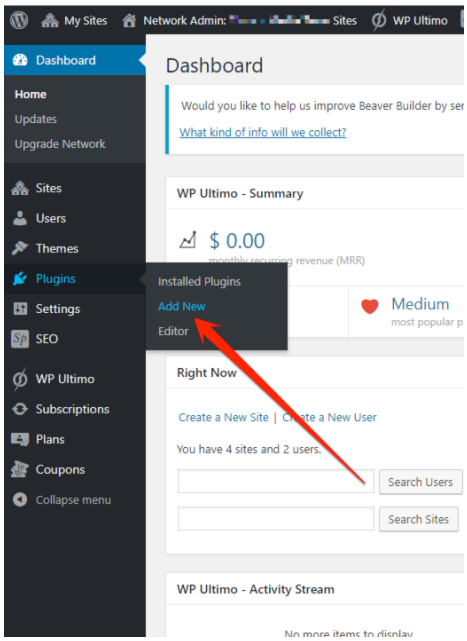
11. The easiest indicator of this change is the new 'My Sites' button on the top ribbon of the WordPress Dashboard.



SETTING UP WP ULTIMO

The very next step after setting up a WordPress Multisite is to set up WP Ultimo.

1. Install the plugin via the Plugin tab on the left hand side of your WordPress Dashboard.



2. Upload the .zip file and click ‘Install Now’ once completed.

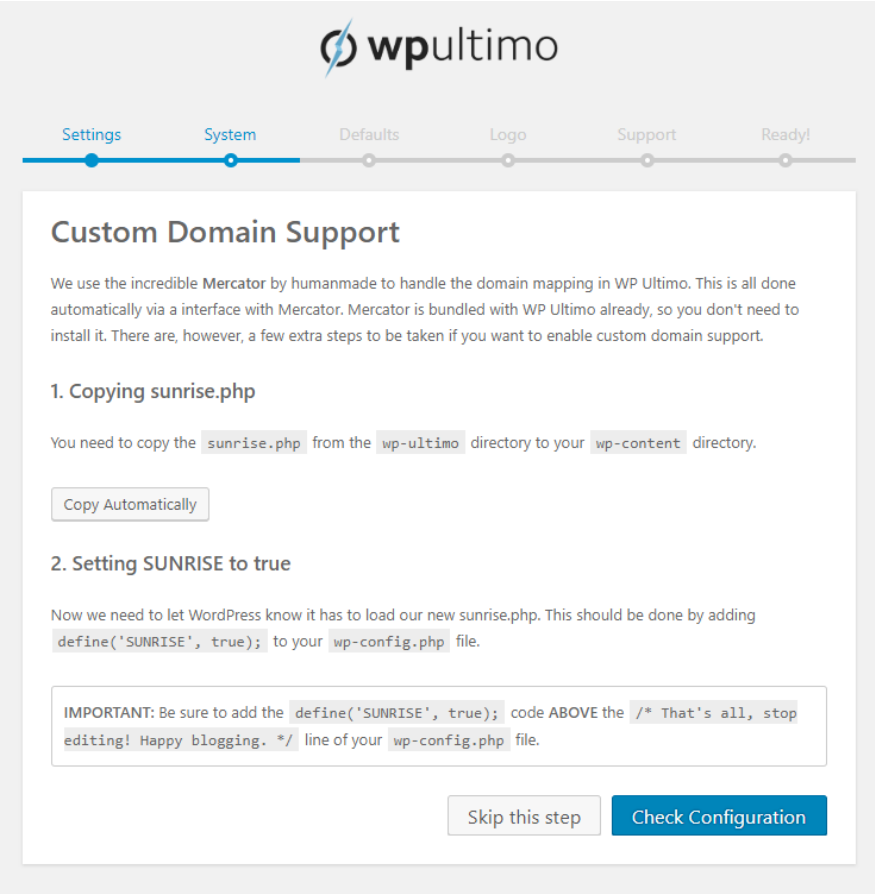
3. After it successfully installs, ensure you ‘Activate’ the plugin.

4. Thereafter, you will be prompted to run the WP Ultimo installation wizard.

WP ULTIMO INSTALLATION WIZARD

The WP Ultimo Installation Wizard is quite easy to follow.

1. The first couple of steps are quite self-explanatory, so carry on until you get to the ‘Custom Domain Support’ page.



2. This page allows you to configure the automation of Domain Mappings by making use of the ‘sunrise.php’ file and its parameter set in the ‘wp-config.php’ file too.

3. Follow the instructions here:

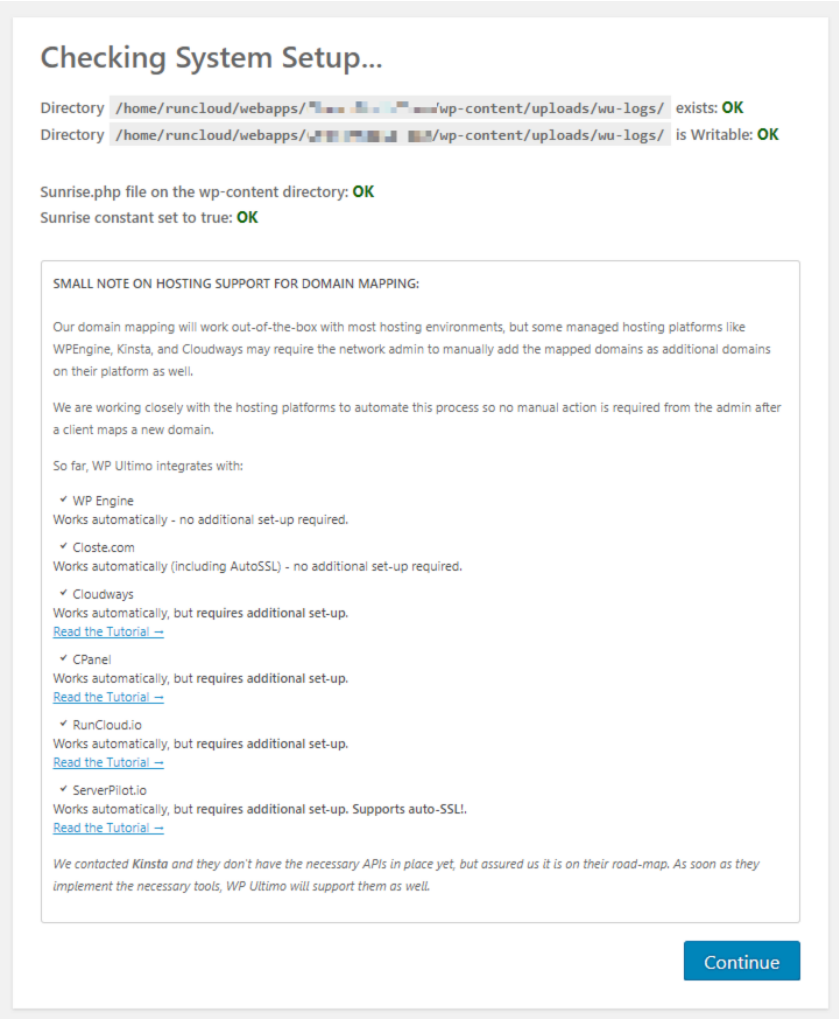
- Copying sunrise.php – clicking ‘Copy Automatically’ works perfectly
- Open your ‘wp-config.php’ file and add the line right above /* That's all, stop editing! Happy blogging. */

('SUNRISE', true);

---

4. Click ‘Check Configuration’ to allow WP Ultimo to verify that you have everything require correctly

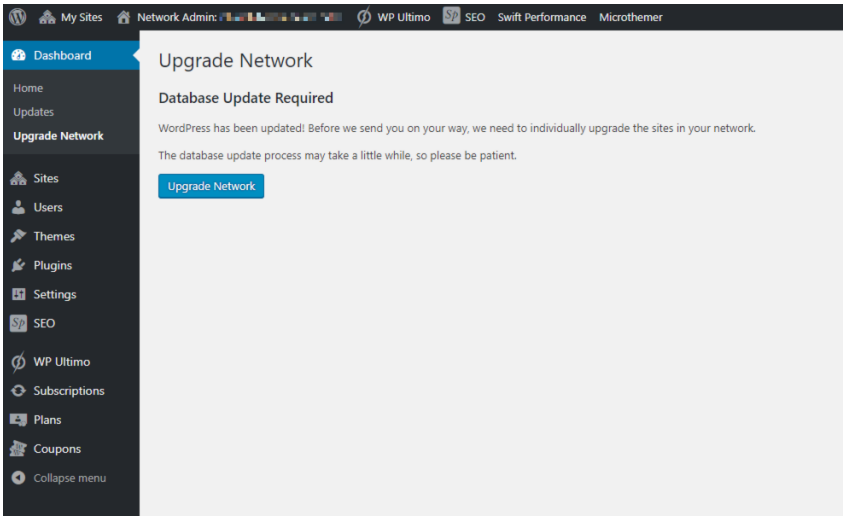
5. If the checks pass, you'll be presented with a note on Domain Mapping relative to different hosts. It is very important you follow the guide related to your relevant host (in our case, RunCloud) to ensure you maximize on the automation for your WP Ultimo setup.



6. The RunCloud Tutorial (here - https://docs.wpultimo.com/knowledge-base/configuring-automatic-domain-syncing-with-runcloud-io/) details how to allow WP Ultimo to automatically configure new domains for any new domains that should be mapped from your WordPress Multisite in RunCloud.

7. Once you've completed the steps, simply complete the Installation Wizard.

8. You may at some point during this setup be asked to ‘Upgrade’ your network. Simply follow the prompts to complete this.



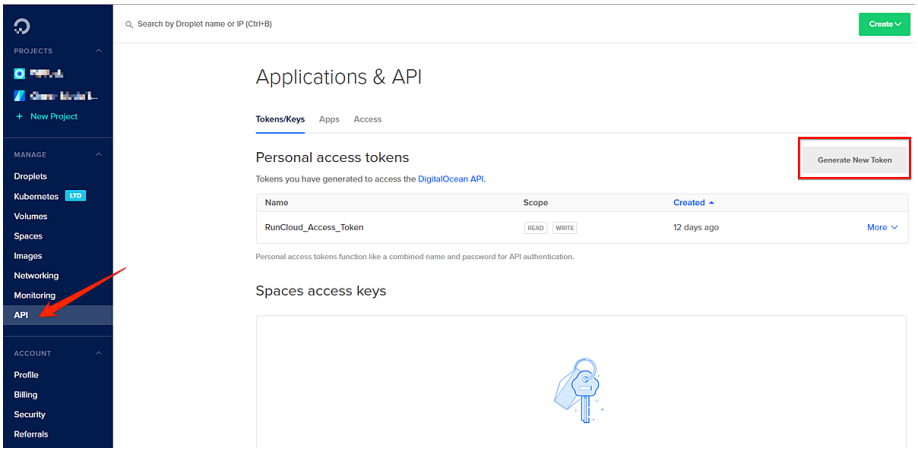
LINK DIGITAL OCEAN AND RUNCLOUD VIA API KEYS

For Digital Ocean and RunCloud to automatically communicate we need to associate their API interfaces.

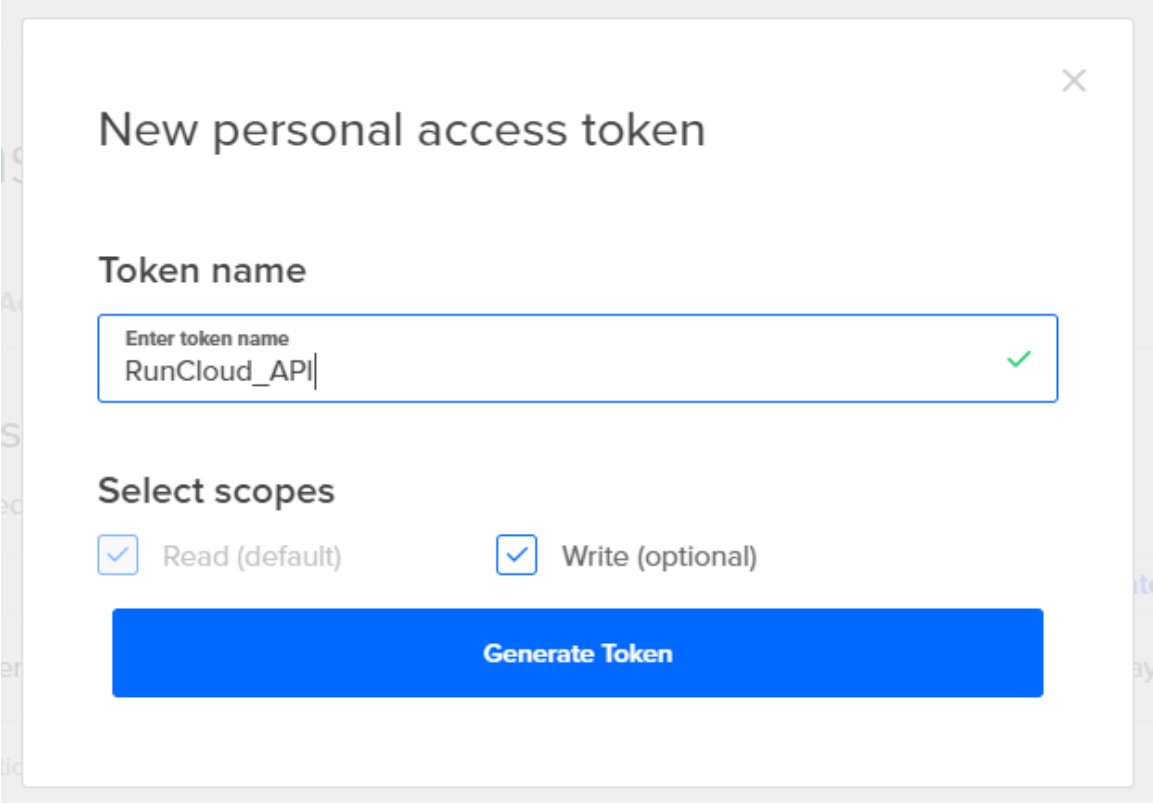
DIGITAL OCEAN API KEYS

1. Navigate to the ‘API’ tab on your DO Dashboard.

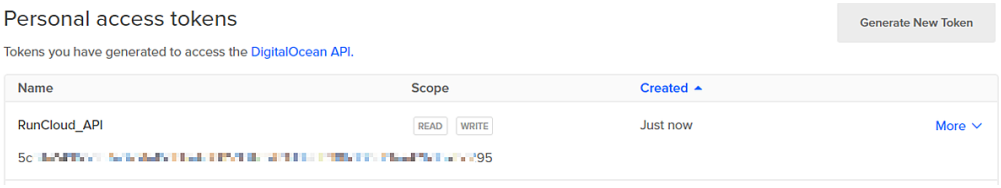
2. On the corresponding page, select ‘Generate New Token’ on the top right.



3. Give the new Token a detailed name to ensure its function is clear, select the Token scope (Read only or Read/Write) and click ‘Generate Token’.



4. Once the token has been generated you should ensure you copy (and possibly save it somewhere) as it will not be visible at a later stage again (this is for security purposes).



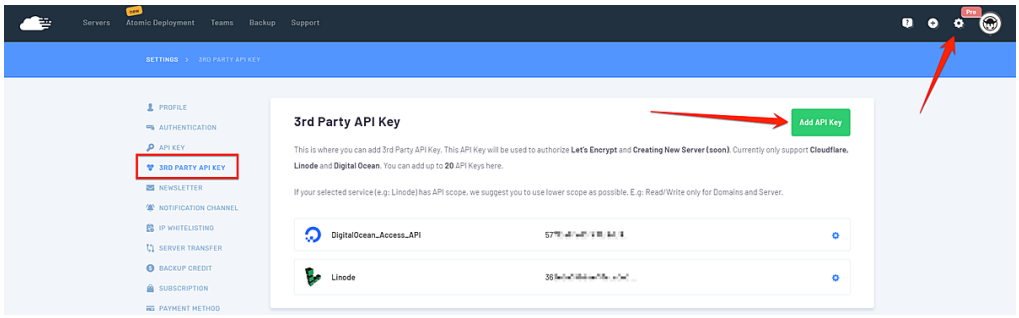
RUNCLOUD API KEY

Now that you have the API Key from Digital Ocean, you need to create a 3rd Party API key entry on RunCloud to use it.

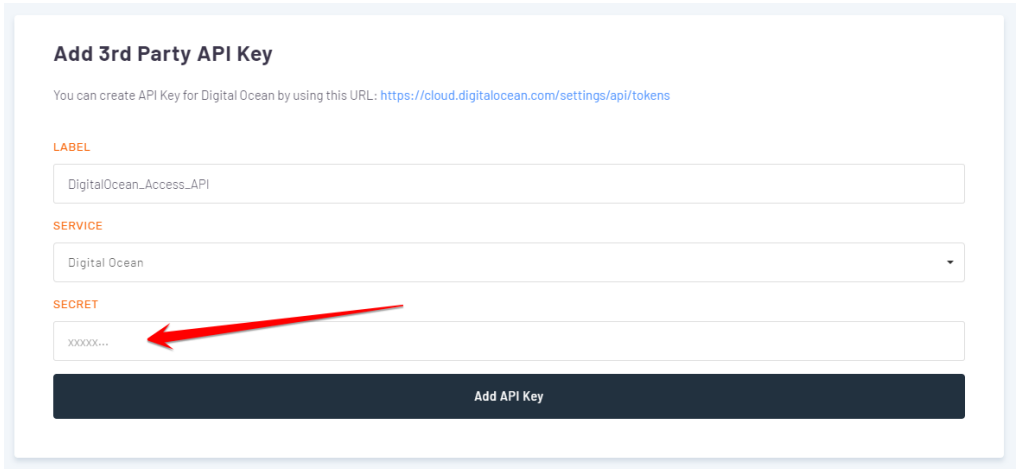
1. Navigate to your profile on RunCloud by clicking on the Gog on the top right next to your User Profile Pic.

2. Click ‘3rd Party API’ tab on the left in the corresponding page.

3. Select the green ‘Add API Key’ button on the top right of that page.



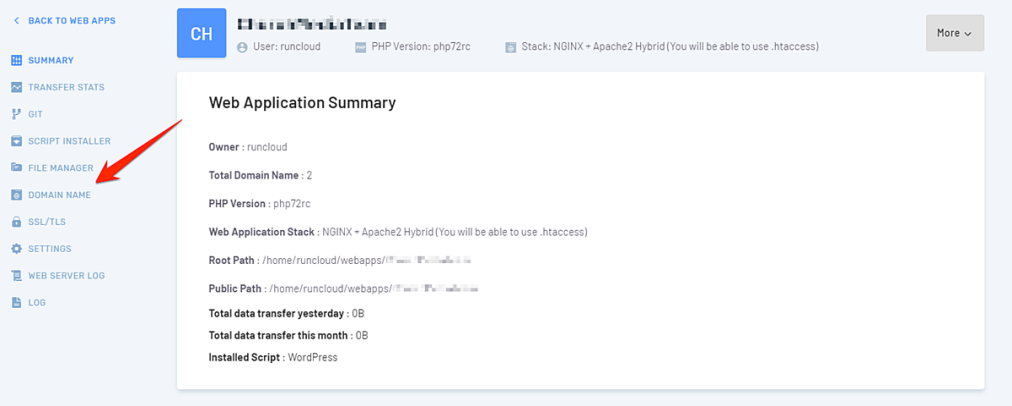
4. Fill in the corresponding table with relevant information (ensure to be a detailed name for clarity again) and paste the Digital Ocean API Key copied previously in the ‘Secret’ field.



5. Once all the fields are completed, click the ‘Add API Key’ at the bottom.

ADDING A WILDCARD DOMAIN NAME FOR YOUR WEB APPLICATION IN RUNCLOUD

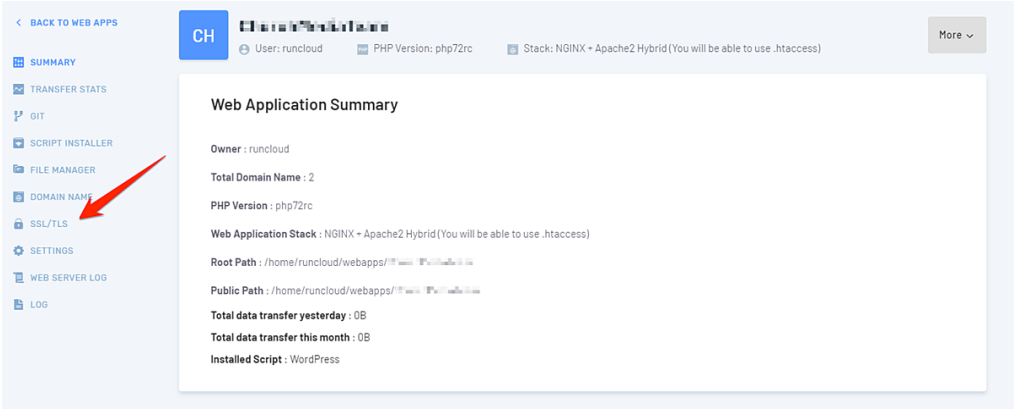
1. Navigate to the ‘Domain Name’ tab on your RunCloud dashboard.



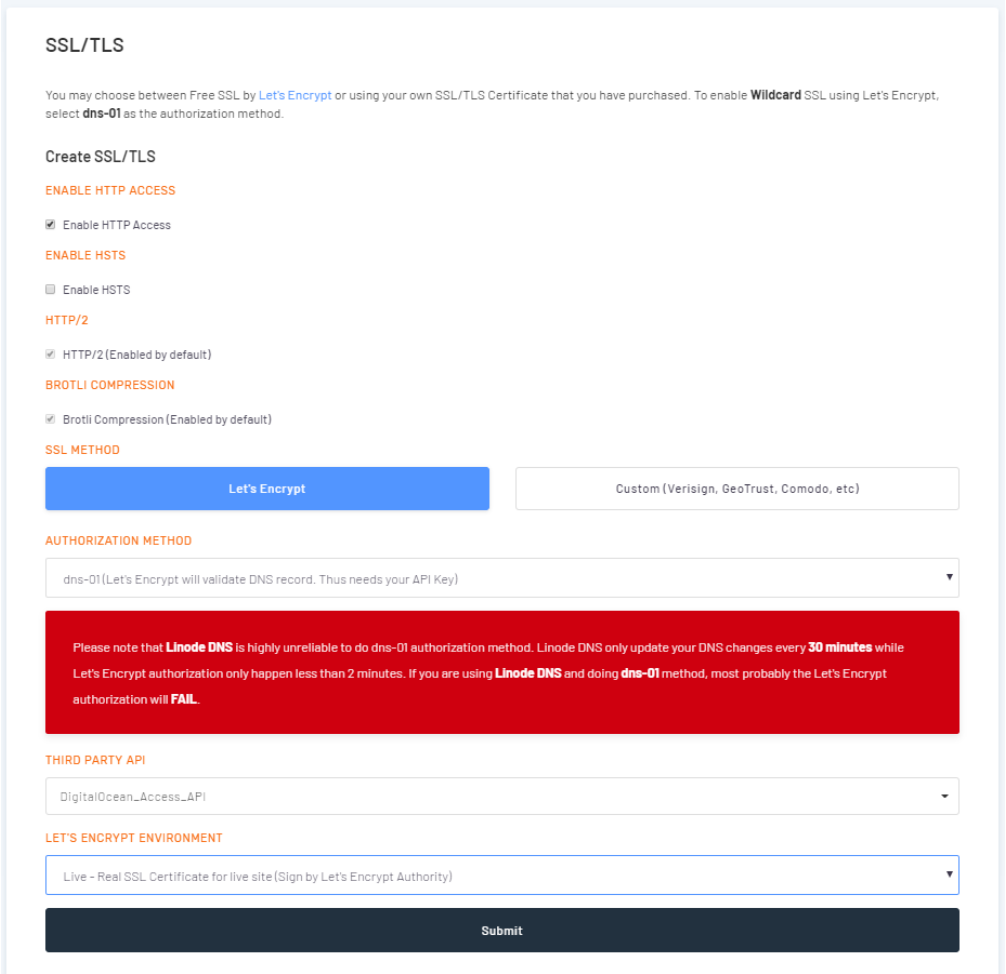
2. Attach a new Wildcard Domain by entering *.<domainName>.<topLevelDomainName> (ie: *.churchmedia.team) in the text field and click ‘Attach Domain Name’.

ISSUING A WILDCARD SSL CERTIFICATE FOR YOUR NEW WEB APPLICATION AND IT'S WILDCARD SUBORDINATES

1. Navigate to the ‘SSL/TLS’ tab on your RunCloud dashboard.



2. On the corresponding page, enter all the relevant details, ensure to select ‘dns-01’ in order to allow Let’s Encrypt to Verify your domain via the Digital Ocean API (added previously) for the Wildcard certificate implementation.



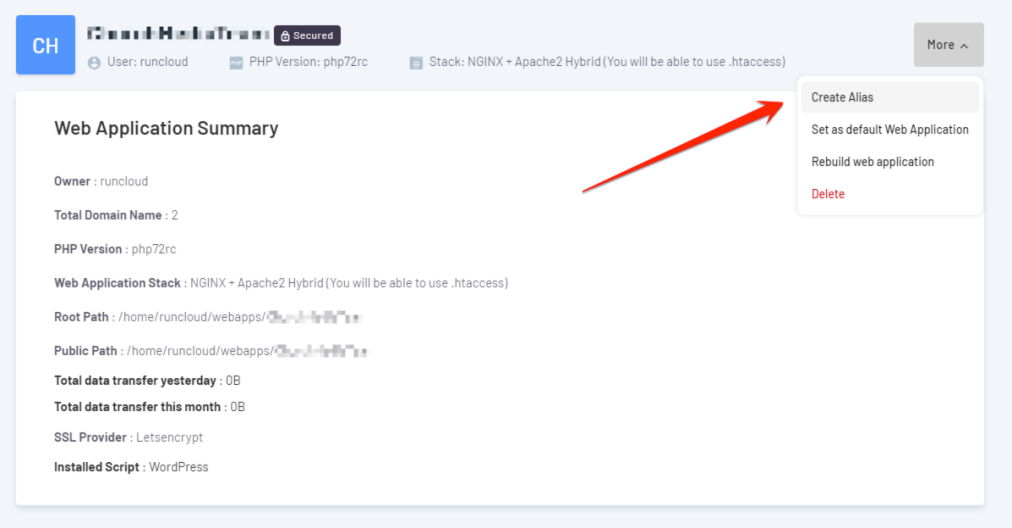
3. Select ‘Live – Real SSL Certificate for live site’ in the ‘Let’s Encrypt Environment’ dropdown and click ‘Submit’.

4. RunCloud will notify you that Domain verification is underway and will be completed shortly (they have a 2-minute SLA for this verification).

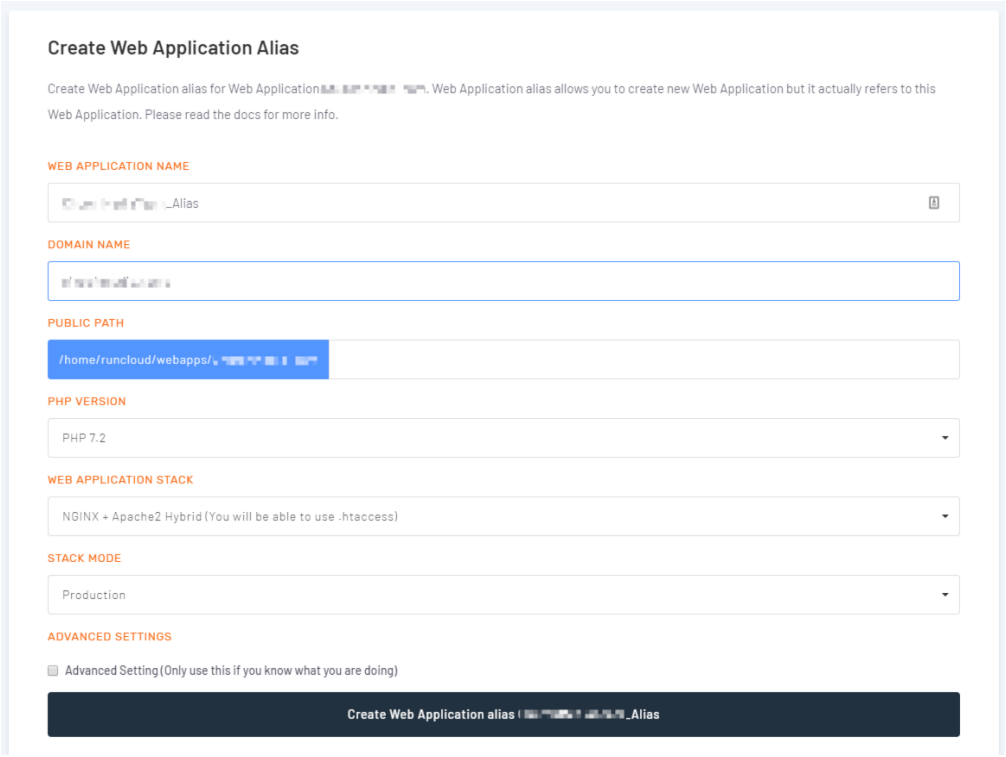
CREATE AN ALIAS WEB APPLICATION & RUN WP ULTIMO TO AUTOMATICALLY PROPAGATE IN RUNCLOUD

This allows mapped domains within your WordPress Multisite

1. From within the web app click the “more” drop down and create alias.



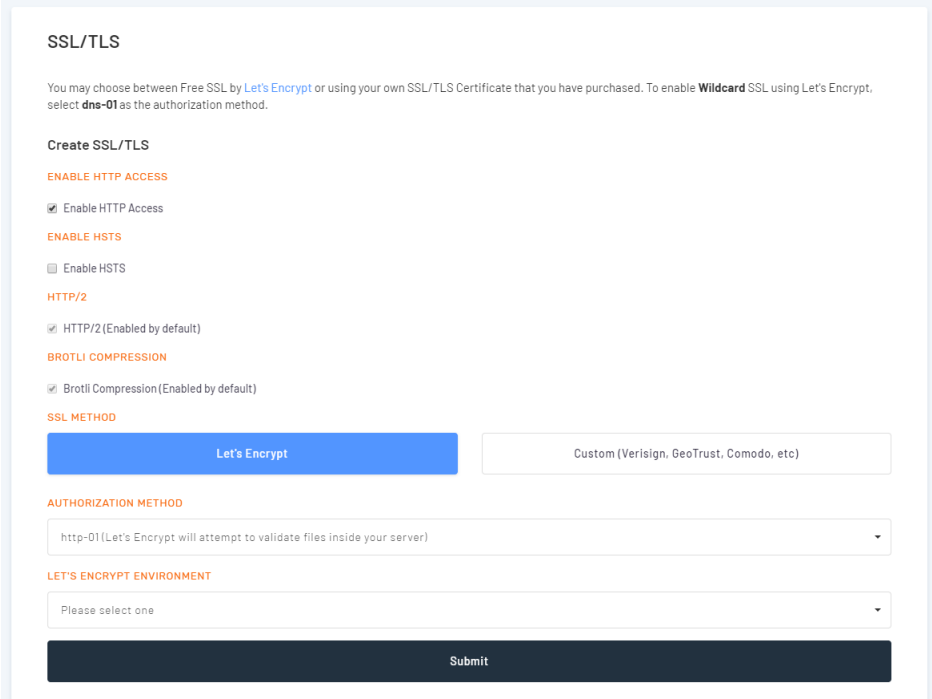
2. Give it a name and do the setup like you normally do for a web app.



3. You need to choose a domain. For this I used a separate domain name (churchmedia.name), it can be anything, this is just for the purpose of setting the alias, but it needs to be a real domain name that is pointed to the web app via your registrar. This is important because this domain will kick off your initial SSL certificate.

4. Now launch the initial certificate if you like.

- Same as steps above, just use the normal http-01 type as you're not creating a Wildcard SSL Certificate here.
- You will note, no use of API is required here as there is no DNS Challenge for non-wildcard domains



The only difference is that instead of using the main web app server id and application id you will use the id's that pertain to the alias. (this was the missing link after days of trying to get this to work).

Now whenever you map a top level domain to your subdomain Ultimo will apply it to the alias web app.

If it is all working correctly ultimo will create the subdomains in the main web application and any top level domain on the alias.

From this point forward whenever a new top domain name is mapped by a client you can apply an SSL to it via the alias web app. While this is a manual process it is literally just clicking a button. Your customers domain should have already been pointed to your RunCloud web app IP, give it at least a few hours to propagate before trying to apply the SSL.

FOUND THIS GUIDE HELPFUL?

This guide took a look of work to produce and we are stoked to provide it for free but if you are looking to sign up for **WP Ultimo**, **RunCloud** or **Digital Ocean** then please consider using our affiliate links listed below.

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