How to Deploy MERN Full-Stack to Render

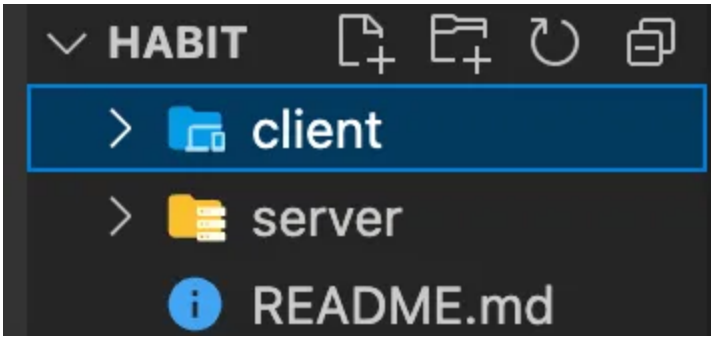
Mai Vang · Follow

4 min read · Feb 20, 2023

I recently learned how to deploy my MERN Full-stack project and can't wait to help you deploy yours too.

When deploying MERN full-stack project, the backend and frontend needs to be deployed separately. Let's walk through how to deploy the backend first:

Here's the setup of the repo I'm deploying to Render:



My folder setup

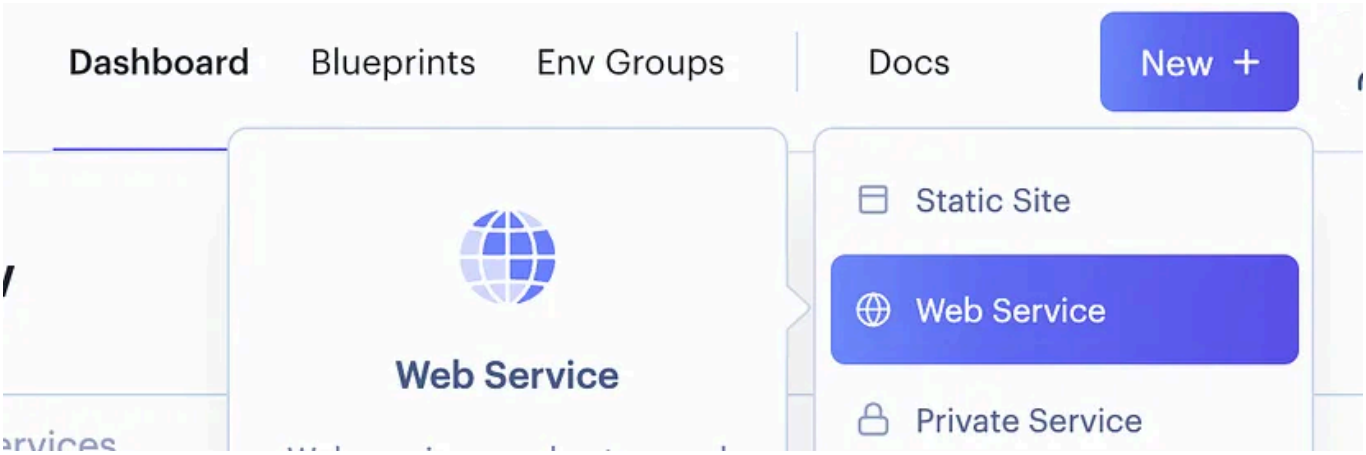
I have client folder for the frontend and server folder for the backend.

First and foremost: Sign up to Render for a free account. I recommend signing up through your GitHub account so it can access your folders faster.

Backend:

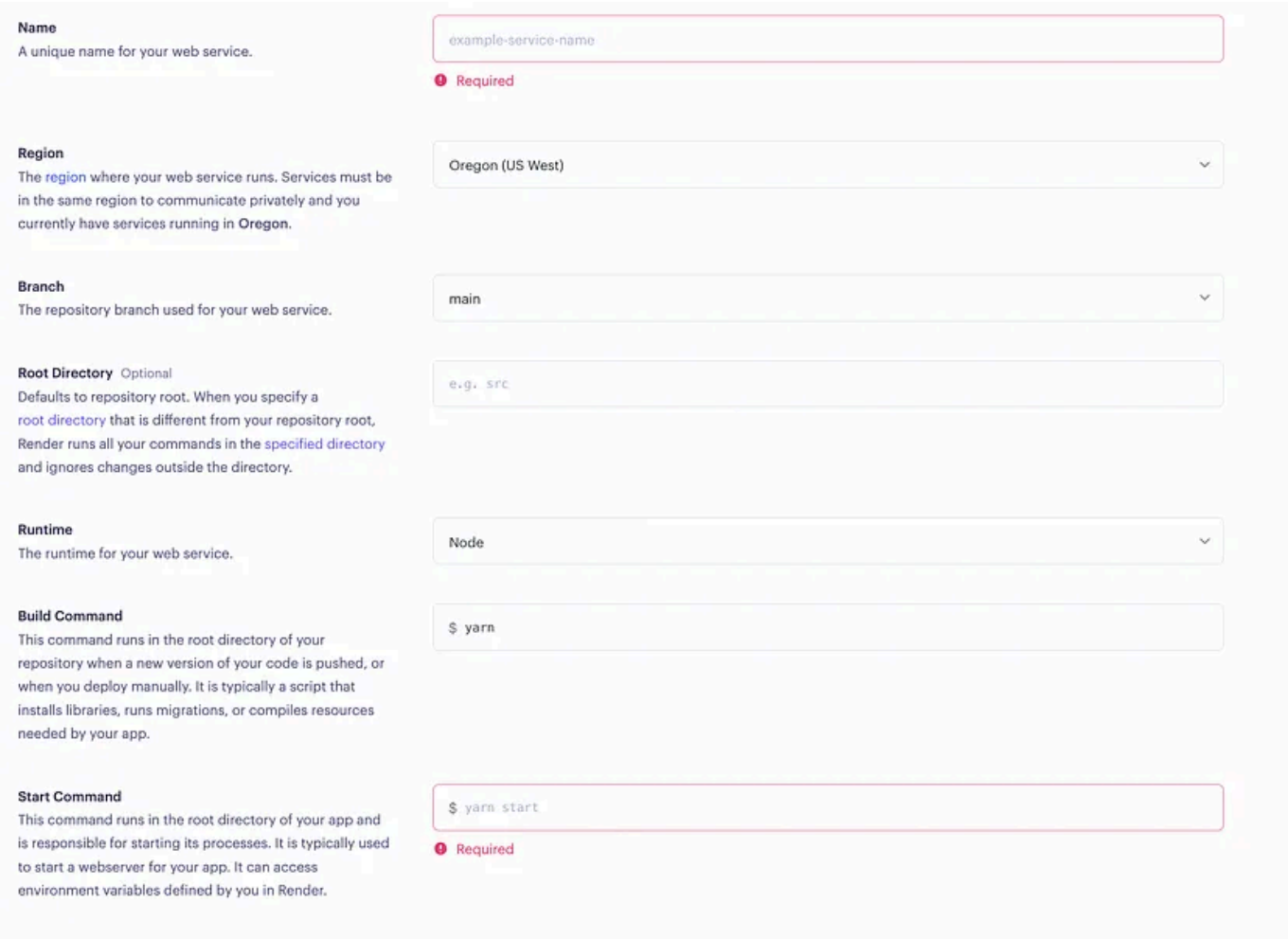
For backend:

1. Click on new and select Web Service



Click on 'New' and click 'Web Service' from dropdown

2. Select your repo you want to deploy. Then the next steps will occur with the page below.



3. Identify a unique name for your web service.

4. We can leave ‘Region’ alone

5. Leave ‘Branch’ as ‘main’.

6. For ‘Root Directory’, I specified ‘server’ since all of my backend information is located in this folder.

7. Leave Runtime to Node since that is what we used for our backend.

8. Build command, you can leave it as ‘yarn’.

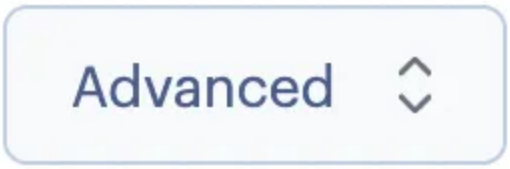
9. The Start command, you can put ‘npm start’.

10. Then, **make sure to chose free for the Instance Type.**

Instance Type	RAM	CPU	Price
Free	512 MB	0.1 CPU	$0 / month
Starter	512 MB	0.5 CPU	$7 / month
Standard	2 GB	1 CPU	$25 / month
Pro	4 GB	2 CPU	$85 / month
Pro Plus	8 GB	4 CPU	$175 / month
Pro Max	16 GB	4 CPU	$225 / month
Pro Ultra	32 GB	8 CPU	$450 / month

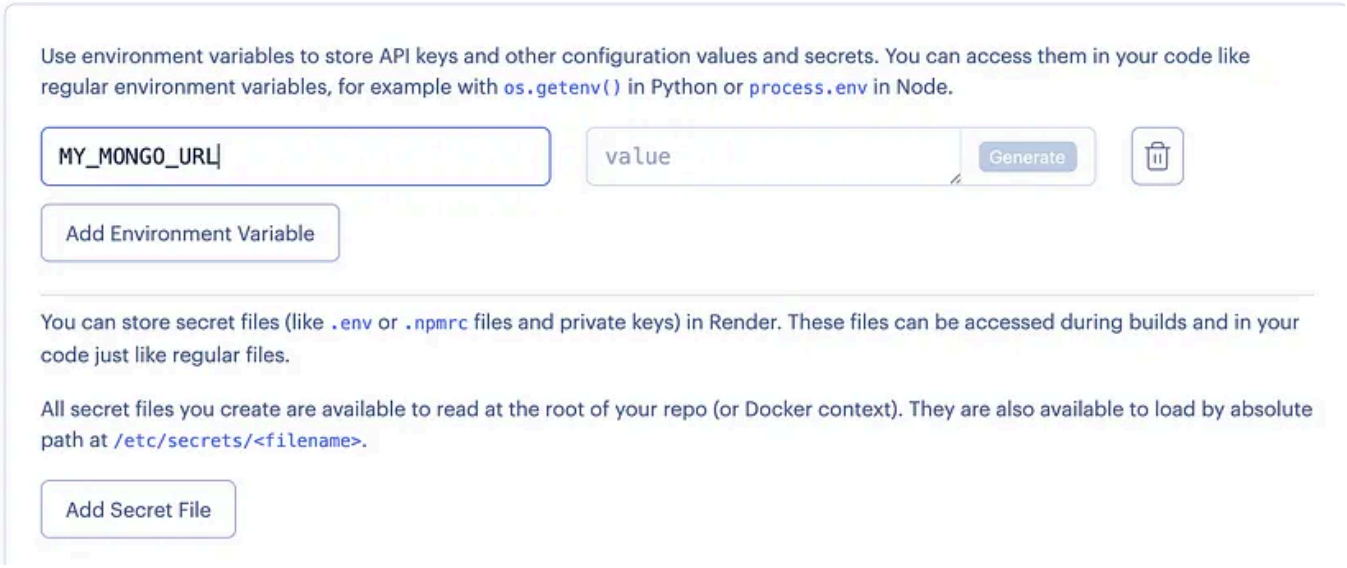
Always choose free for the instance type

11. Afterwards, click the ‘advanced’ button:



After clicking on the button, you will get more choices populated at the bottom of the page.

12. Click on ‘Add Environment Variable’:



Click on Add Envrionment Variable

Add an envrionment variable called 'MY_MONGO_URL' and paste in your MongoDB connection URL to the value.

This step is telling Render how to connect to your MongoDB database.

13. Then click on 'Create Web Service'.

Then a console log should populate telling you it is starting to clone from your GitHub file.

After a couple of runs, the log should state it is “connected to db && listening on port ###”.

Testing if Backend works:

The way to test if you know if your backend is deployed is click on the hyperlink it provided in the top upper right. It will show an error similar to this:

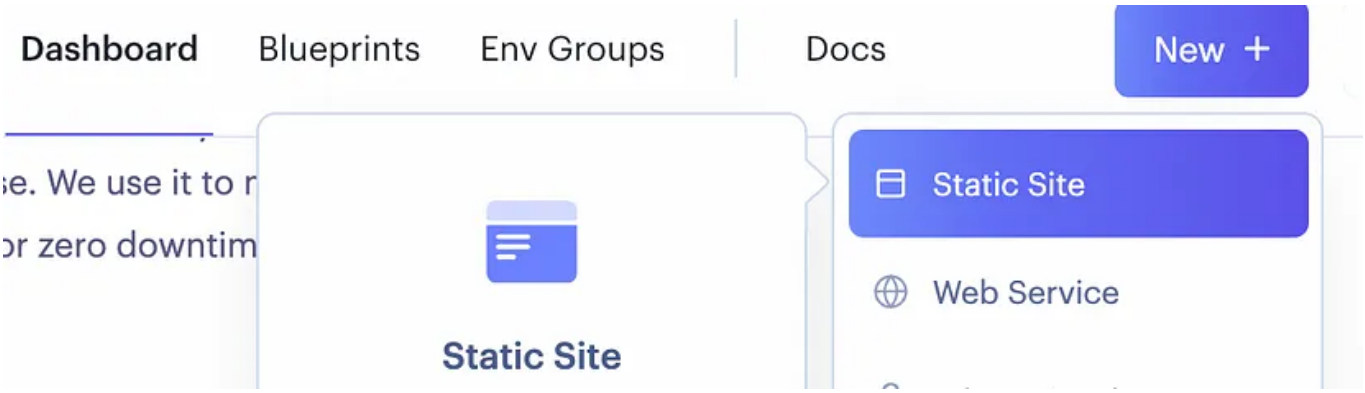
If you go to the hyperlink at the end, add in ‘api/(the end point for your route)’ to the query string, then you should see your database information in a JSON format.

Et voila, our backend has been deployed. Now to finish everything, let’s deploy our frontend.

Frontend:

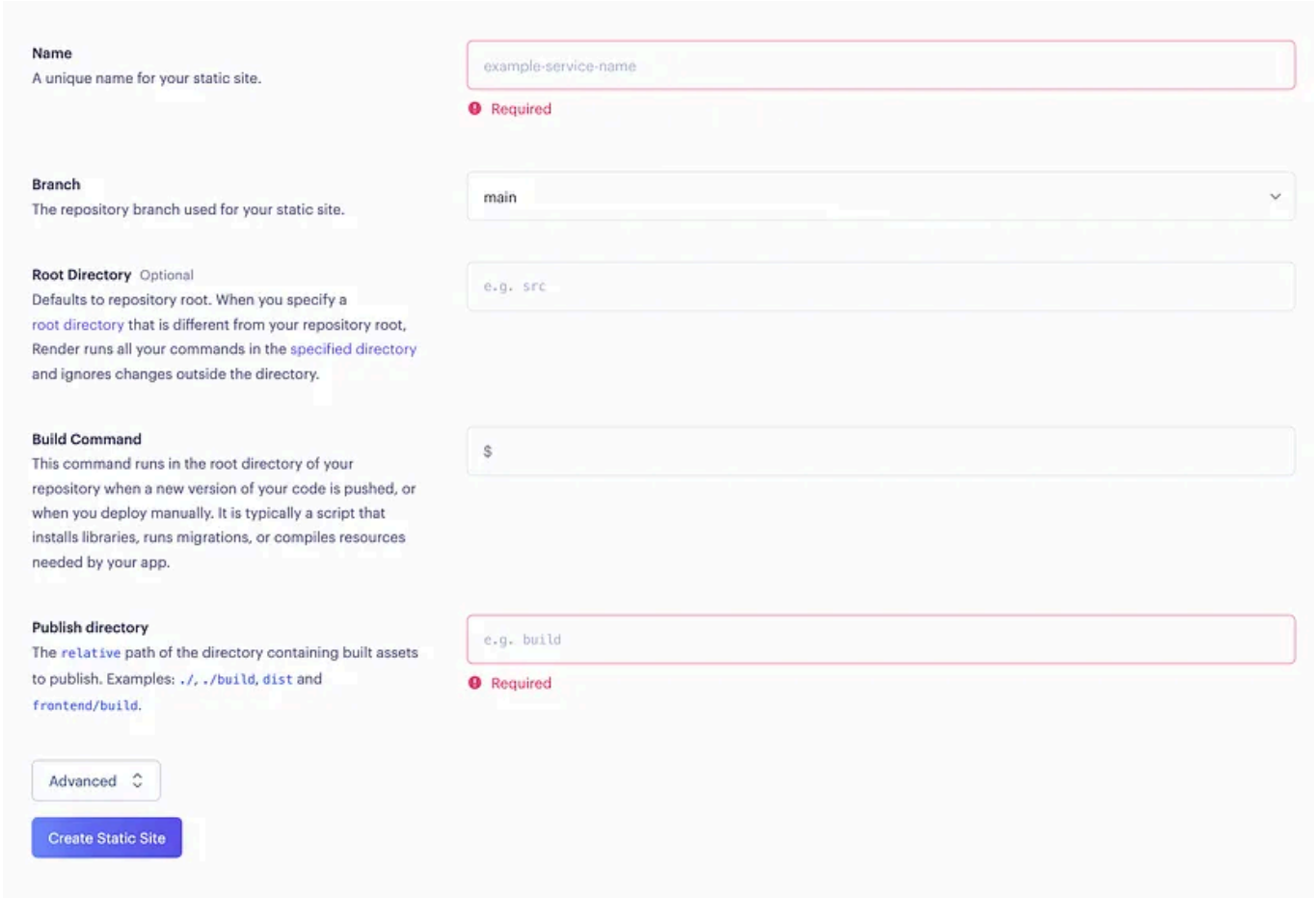
For frontend:

1. Click on ‘New’ and select ‘Static Site’ from the dropdown.



Click on 'New' and select 'Static Site' from the dropdown.

2. Select the GitHub repo you want to deploy. Then you will be directed to the next page and it should look like the following below.



4. Identify a unique name for it

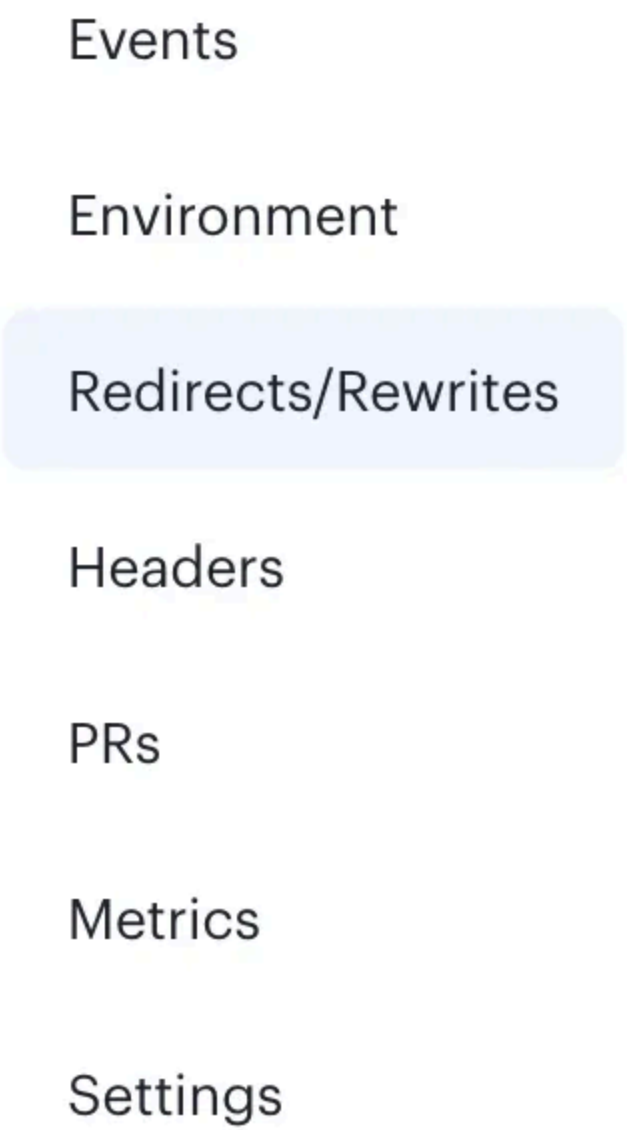
5. Leave Branch as ‘main’.

6. For ‘Root Directory’, type out ‘client’.

7. Build command — yarn build

8. For ‘Publish directory’, type in ‘build’.

9. Click ‘Create Static Site’ and a new page should appear with the console log. On the left side, look for ‘Redirects/Rewrites”.

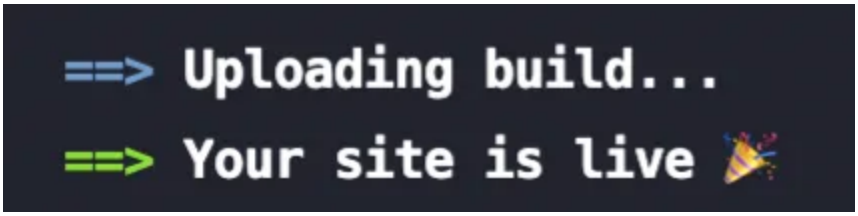


10. Afterwards, create two rule.

The first rule that goes on top is to rewrite the '/api/*' in your code to your new deployed backend.

The second rule is to rewrite '/*' to the 'index.html' file.

Afterwards, it should try to deploy again and the messsage should state "uploading build..." and "your site is live".



What other ways can you deploy full-stack MERN app?

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Please feel free to contact me on LinkedIn:
https://www.linkedin.com/in/mai-vang-software-engineer/

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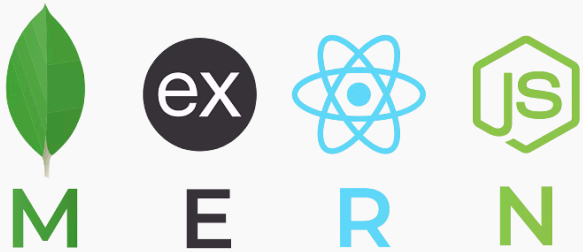

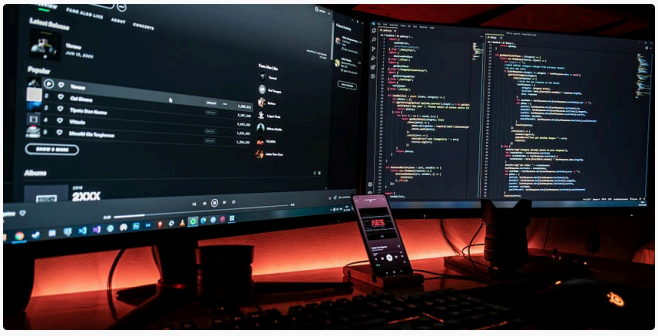

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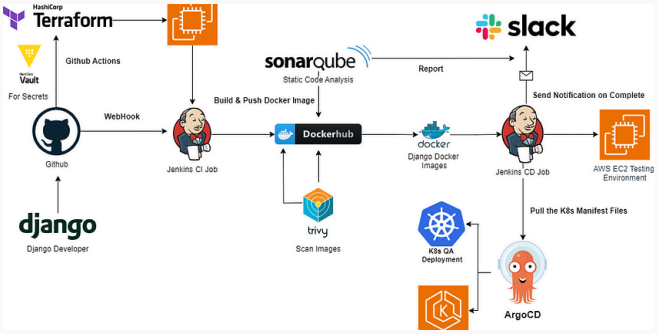

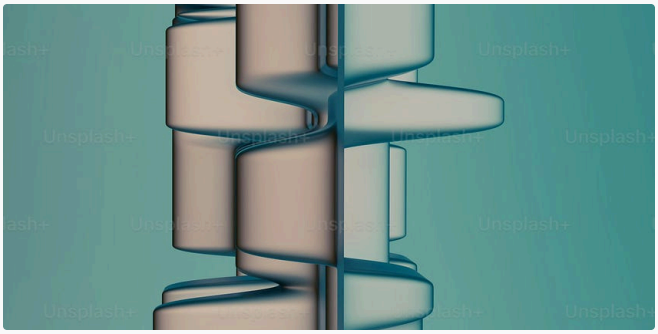

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