THE PERFECT PAIR

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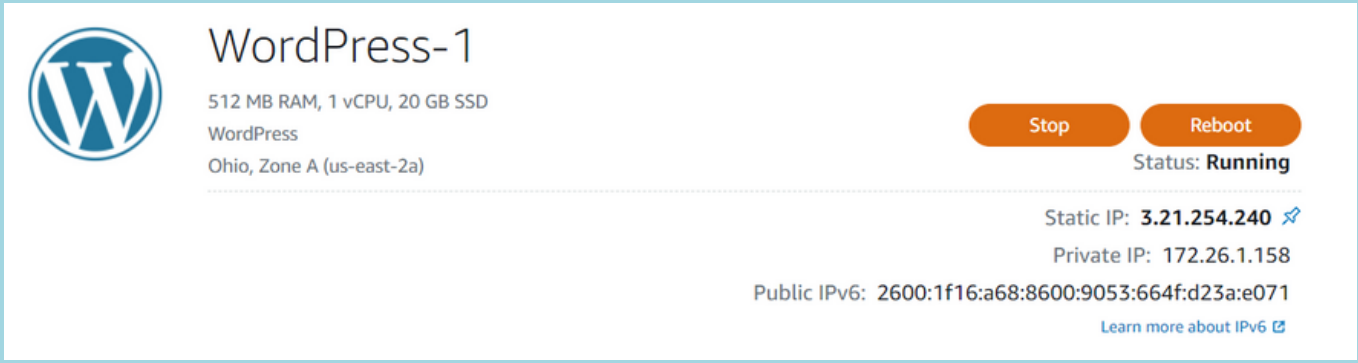
In this project we created a load-balanced WordPress website that sells socks. Our website uses different cloud services such as an Amazon S3 bucket and a MySQL database.

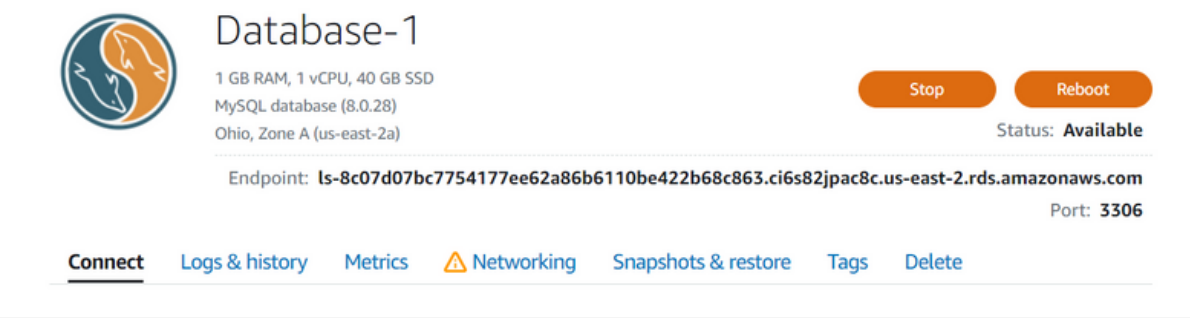
- fast
- simple to use
- easy to manage
- cheap
- scalable

In Amazon lightsail we launched and configured our wordpress instance. This involved selecting the aws region and availability zone (Ohio and us-east-2a), choosing an instance image (Linux for the platform, wordpress for the blueprint), choosing a plan, and naming it. Then we signed in to the administration dashboard of our wordpress website, and created a lightsail static IP address and attached it to our wordpress instance. Then we created a lightsail DNS zone and mapped a domain to our wordpress instance.

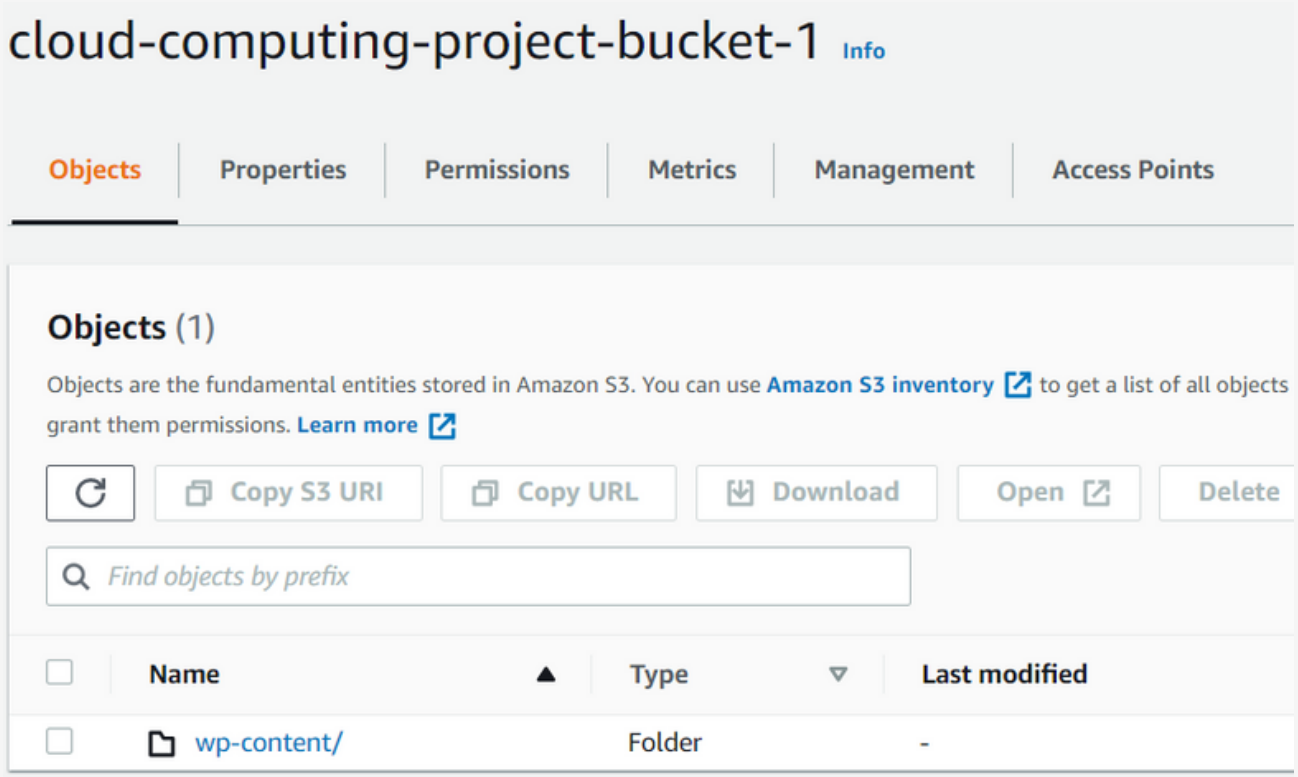


Creating a MySQL Managed Database

Next we had to create a MySQL managed database. From lightsail, we went to the database section and created a new database. First, we pick the region and availability zone and make them the same as the WordPress (us-east-2a). Then we chose MySQL 8.0.17 and the price plan. Then we marked down the database DNS name, username, and password. The MySQL managed database will serve as the central database for all of the WordPress instances that will be load balanced.



We created an amazon S3 bucket to store the media from our wordpress website. First we went into the amazon S3 console and blocked public access through access control lists (ACL's). Then we clicked create bucket, which was only a couple steps.

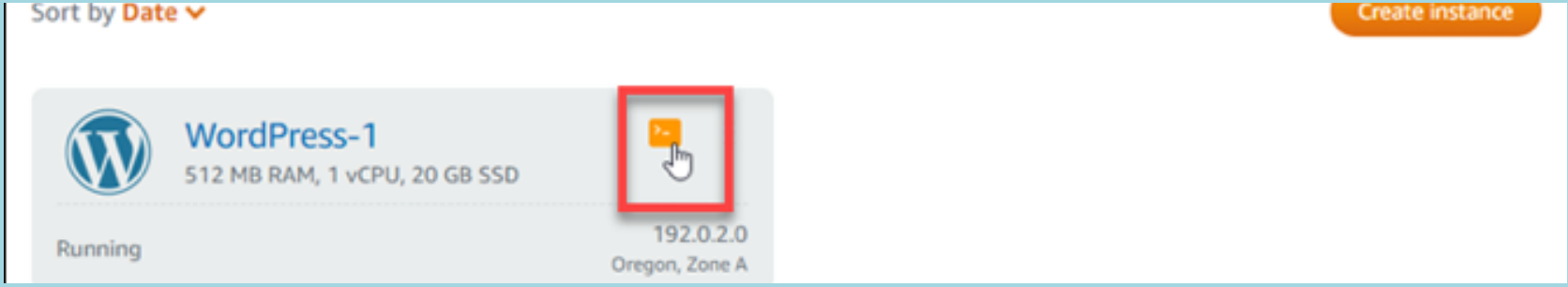


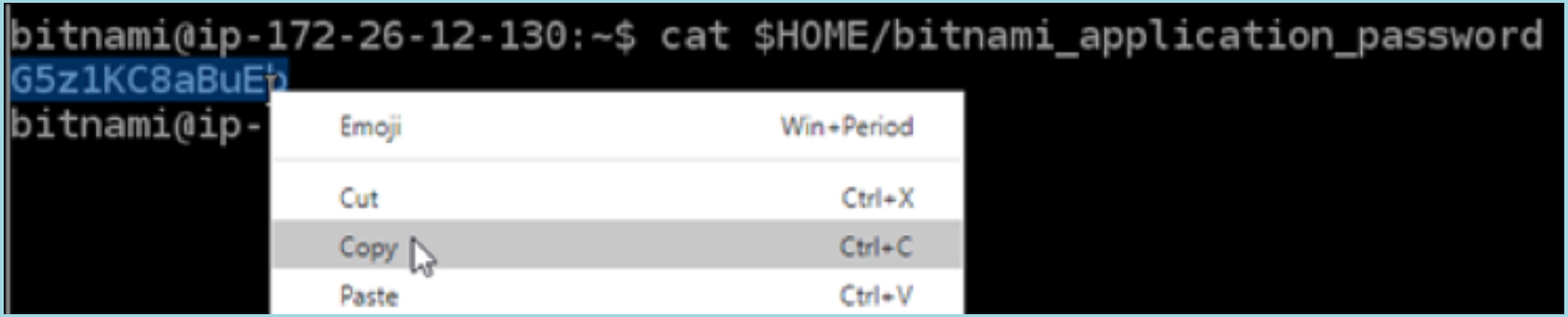
JSON

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Sid": "VisualEditor0",
            "Effect": "Allow",
            "Action": [
                "s3:PutObject",
                "s3:GetObjectAcl",
                "s3:GetObject",
                "s3:PutBucketAcl",
                "s3:ListBucket",
                "s3:DeleteObject",
                "s3:GetBucketAcl",
                "s3:GetBucketLocation",
                "s3:PutObjectAcl"
            ],
            "Resource": [
                "arn:aws:s3:::<your bucket name>",
                "arn:aws:s3:::<your bucket name>/*"
            ]
        }
    ]
}
```

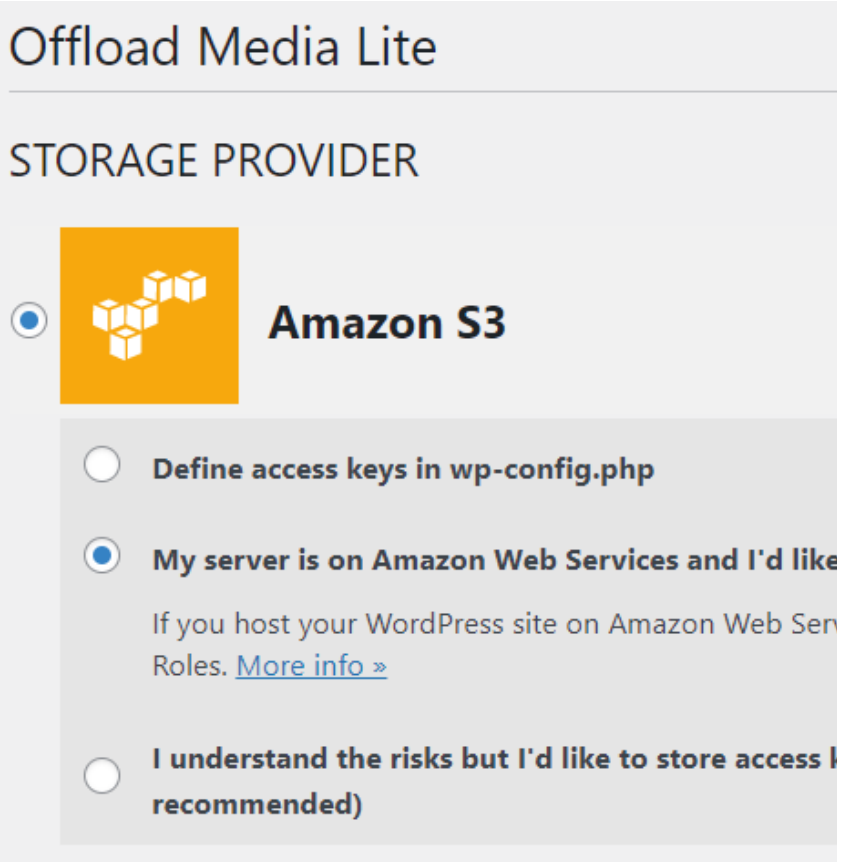
We created an IAM user and a policy to give the user access to the S3 bucket.

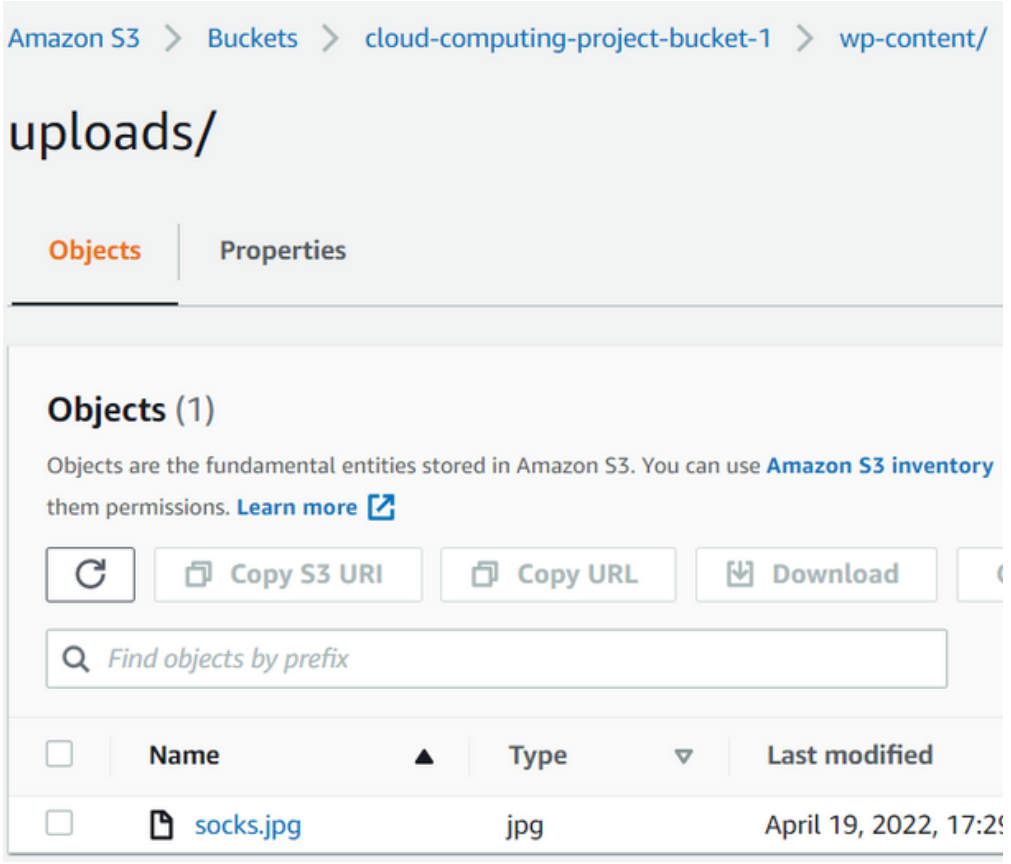
Through a series of commands using Bitnami WordPress, we exported the data from the MySQL database on our wordpress instance and imported it to the MySQL managed database in lightsail. Then we configured our WordPress instance to connect to the MySQL database and configured the IAM user credentials.



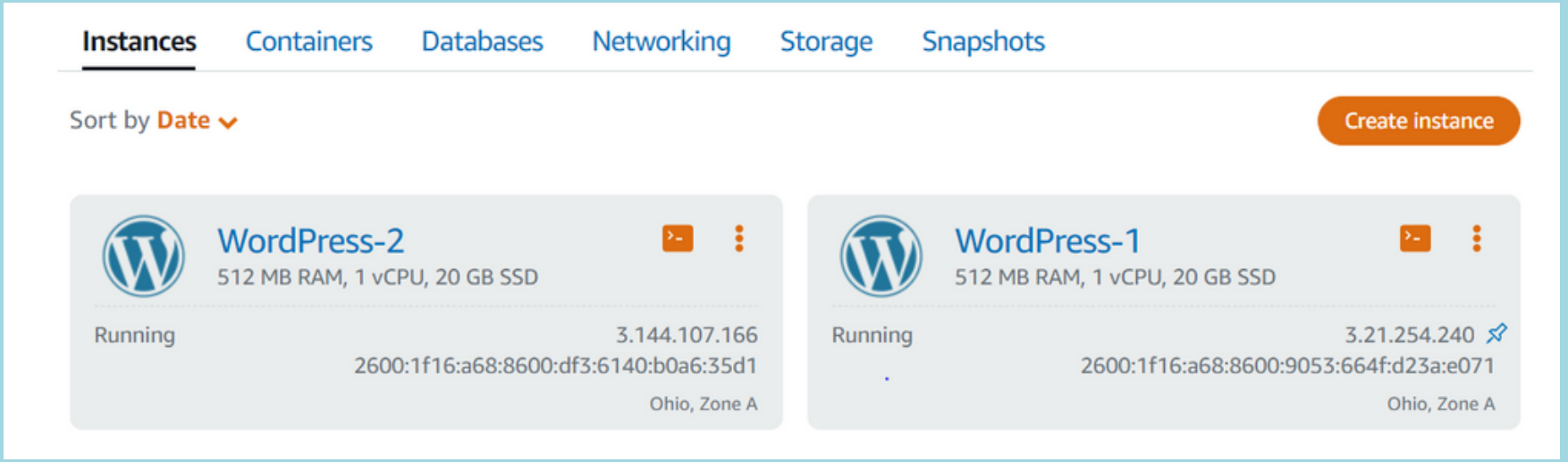


Installed the WP Offload Media Lite plugin to connect to the S3 bucket. Our website can upload media files to the Amazon S3 bucket. The S3 bucket serves as the central media files location for all of the WordPress instances that are load balanced.

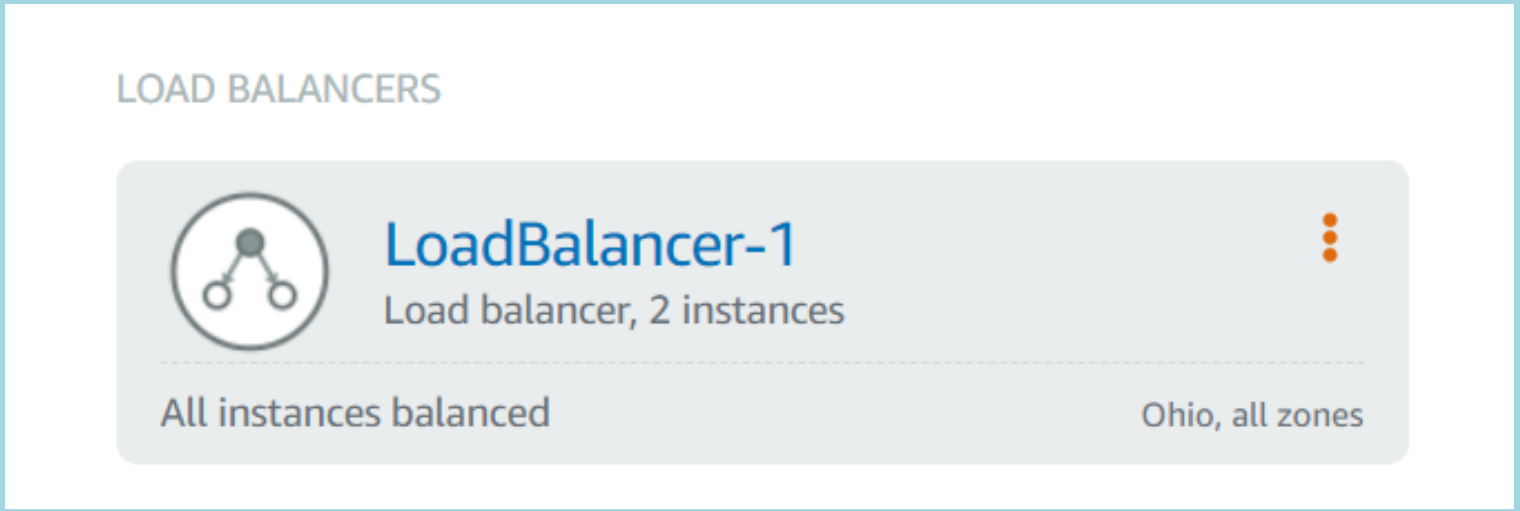




Took a snapshot and then used the snapshot to duplicate our WordPress Instance.



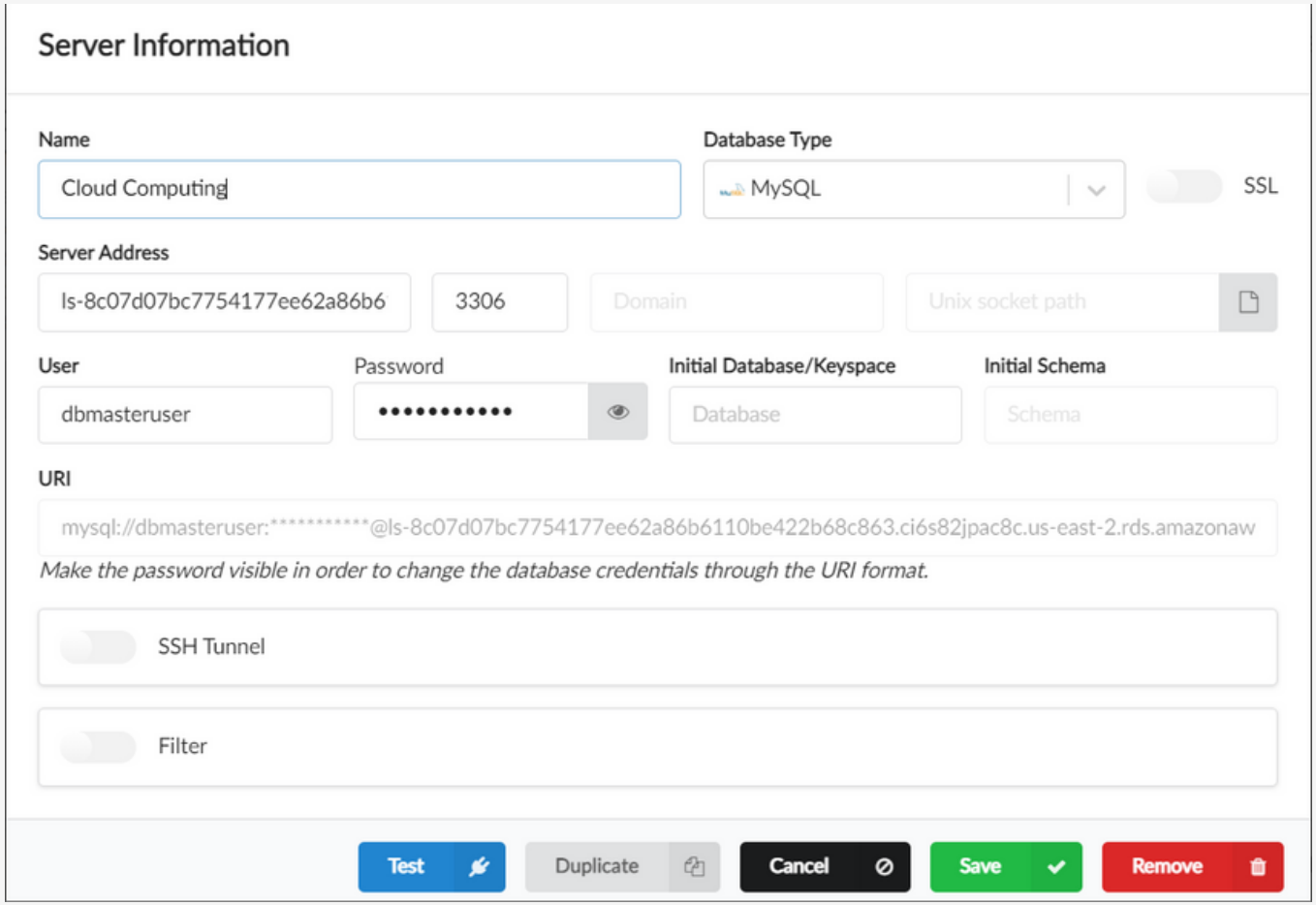
Created a LoadBalancer in Lightsail and attached our WordPress Instances



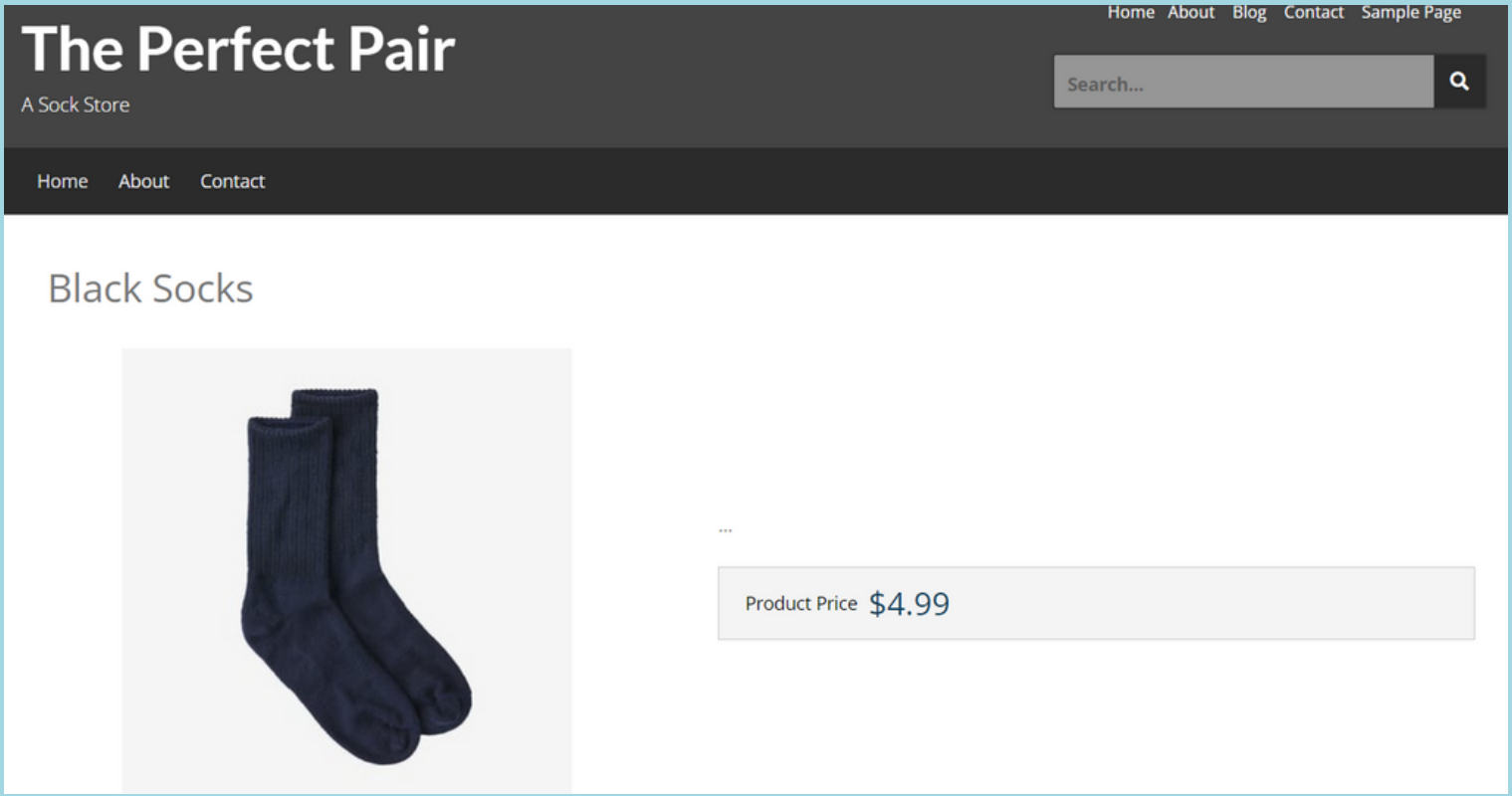
Why load-balanced?

We decided to use Amazon Lightsail to create a load-balanced wordpress website. The load balancer distributes network traffic over a pool of servers, which improves the number of concurrent users our website can handle. This is important because we expect this sock business to really take off.

Connected to the MySQL database using Sqlectron.



We customized our website and were able to view and edit the information from our website in our MySQL database.



THANKS FOR YOUR TIME!