



# Shem veNer Case Study: Scaling site availability to improve Traffic Capacity



Cloudride is by far our service provider of choice. From the beginning of the relationship to contract negotiation to implementation - they are fair, flexible, technically competent, & communicate all along the way

Nora Siperman  
CEO Shem veNer



## Results

- The AWS-based infrastructure is flexible to grow and decrease on the infrastructure side according to the load created across the site.
- Improving the user experience by implementing the CI/CD process to upgrade and deploy the site in real-time without compromising user experience
- Using AWS, Shem veNer was able to transform its technology to be efficient, reliable, flexible, and fast.



**350%**

Increase in system  
traffic capacity scaling



**60%**

Improvement in User  
Experience

## CHALLENGES



Year round, the Shem veNer website sees low traffic volume. However, in national / international Holocaust Commemoration days, such as International Holocaust Remembrance Day and Israeli Holocaust Remembrance Day, the site sees 200,000 - 500,000 site entrees, causing a a load on the system and slowing down the site. The system was hosted on a physical server to deal with the loads that duplicated the site to additional servers, creating duplicates of names and problems of DNS security credentials. In order to support such traffic peaks, the infrastructure must be large enough but this incurs more costs which don't make sense year round.

## GOAL



In order to improve the traffic capacity, we needed to design a flexible architecture that allows scaling out the infrastructure during traffic peaks and scaling in to reduce infrastructure costs for the remainder of the year.



Flexibility



Scale



The end result was good and surprising. The collaboration of Cloudride and AWS in building the system eased the congestion on the site and we were even surprised by the amount of traffic entering the system without any glitches. With the Cloudride solution, we were able to provide continuous fast traffic to a larger number of users.

Nora Siperman  
CEO Shem veNer





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## BACKGROUND

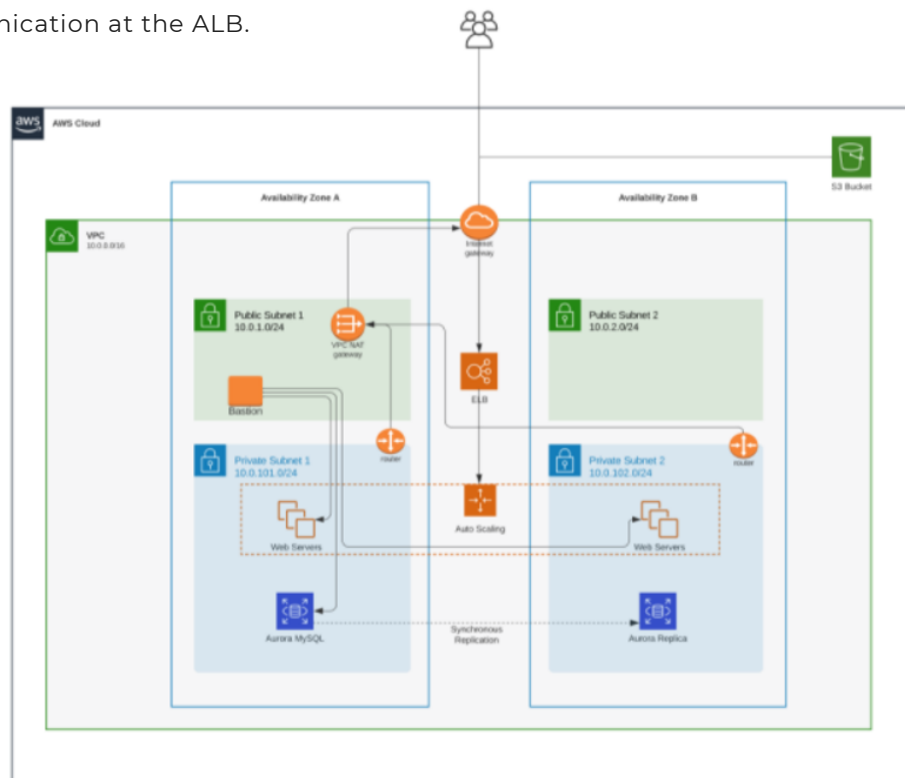
Shem veNer was founded in collaboration with the Ministry of Education in order to commemorate those who perished in the Holocaust by combining schools and students, with each student lighting a virtual candle on site and together with a barcode that presents the story of his life before the Holocaust.

The site is active during the year, but its highest traffic days are the International Holocaust Remembrance Day and Holocaust Remembrance Day in Israel. The site is an operational site and anyone who is interested in lighting a candle can do it on their own, add details to the download page, and add people who do not exist in the database.

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## SOLUTION

The website was developed and maintained by a third-party development company on a single EC2 instance that runs the WordPress website and its MySQL database. Firstly, we wanted to separate the database from the compute resource, which will alleviate some of the load from the website server. We then decided to use an EC2 Auto Scaling group to enable the elasticity explained above. In order to load-balance the incoming traffic, we used an Application Load Balancer. Using an ALB enabled us to further alleviate compute load from the web instances by terminating SSL/TLS communication at the ALB.





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## SOLUTION CONT. ▼

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Shem veNer is now using Amazon Elastic Compute Cloud (Amazon EC2) and Amazon RDS Aurora to host its website and added capabilities including Elastic Load Balancing and Auto Scaling, from its website to its core business processes thus saving money while improving performance.

### VPC

Logically isolated virtual network inside the AWS account.

### Elastic Load Balancer

ELB allows us to distribute the load over several instances.

We've created an Application Load Balancer for the Auto Scaling Group and configured health checks.

### Security Group

Security Group is similar to a firewall service for instances inside the VPC.

### Compute

#### Auto Scaling Group

Auto Scaling groups allow us to scale out and scale in our EC2 infrastructure based on the load on the servers. We've created the following instances under an Auto Scaling group named shem-ec2-asg with the following settings:

- Target-tracking scaling policy - maintain average CPU utilization at 70%
- Scheduled scaling policy - scale-out on April 1st, 2021, and scale in on April 22nd
- Load balancing - the Auto Scaling group shem-alb-target-group is set as the target group for the load balancer

### Launch Template

Each launch template contains all the instance preferences.

### Storage

S3:

S3 is an elastic object storage service over API.





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## SOLUTION CONT. ✓

### Database

Aurora MySQL

A web service that makes it easier to set up, operate, and scale a relational database in the AWS Cloud. It provides cost-efficient, resizable capacity for an industry-standard relational database and manages common database administration tasks.

We've deployed Aurora MySQL with the following settings:

- Engine - Aurora (MySQL-compatible)
- Availability - Multi-AZ

### CI/CD

GitHub Actions

We're using the GitHub action as our CD pipeline.

On a new release, the following takes place automatically:

- Get the new version from the release
- Update the value of RELEASE\_VERSION in the parameter store
- Trigger an Instance Refresh action which re-deploys all instances in the Auto Scaling group

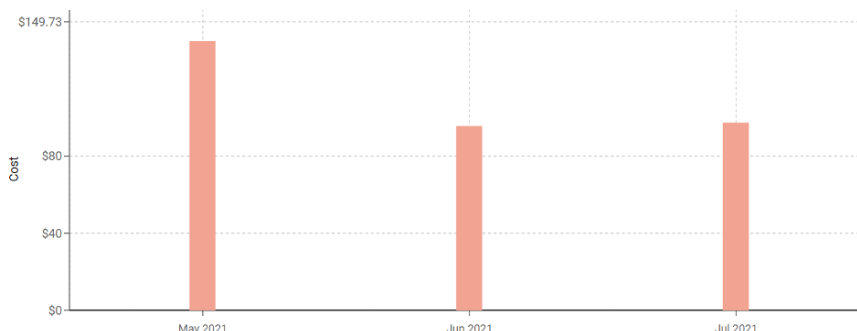
### Cost Optimization

Shem Vener was facing high EC2 compute charges. We offered them to buy a 1-year reserved EC2 instance and stop paying On-Demand rates for their t3 machines.

They decided to buy the RI and as a result:

**compute charges went down by 41%.**

Please find below a screenshot of EC2 charges May-July 2021.



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As a certified Amazon partner, and with the importance of carrying out an optimal migration, within a short timeframe and accurate budget, while the platform is in peak demand, we worked closely with the Shem veNer team from the very beginning, in close collaboration.

The mutual effort, detailed planning, full transparency and control enabled the successful on-time & budget deployment

Danny Lev Ran,  
Cloudrize CEO

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