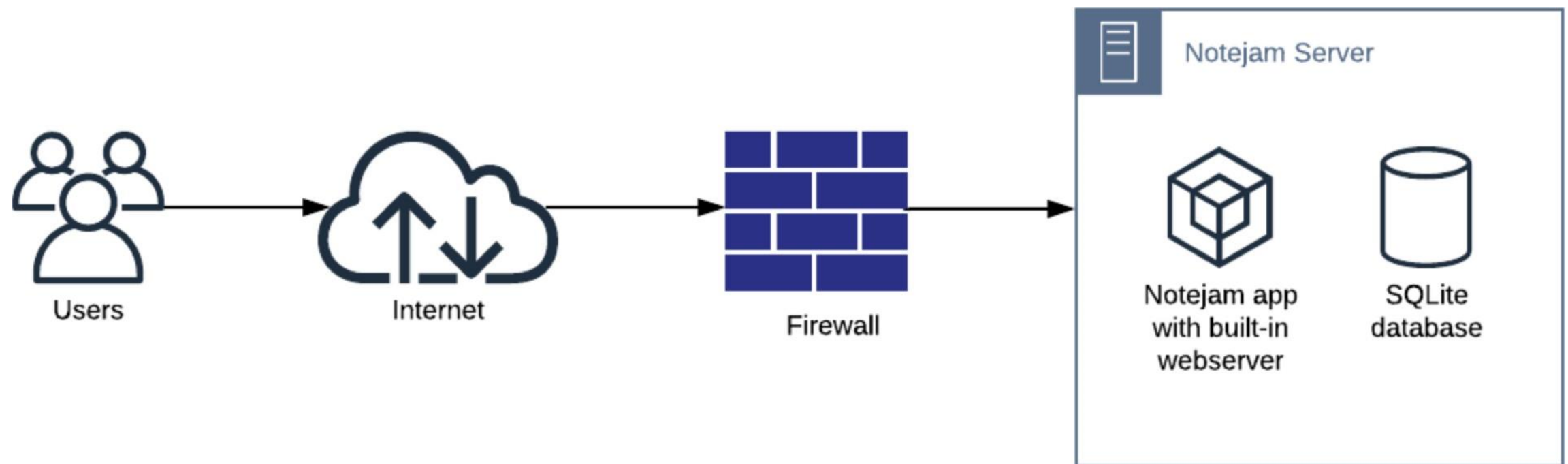




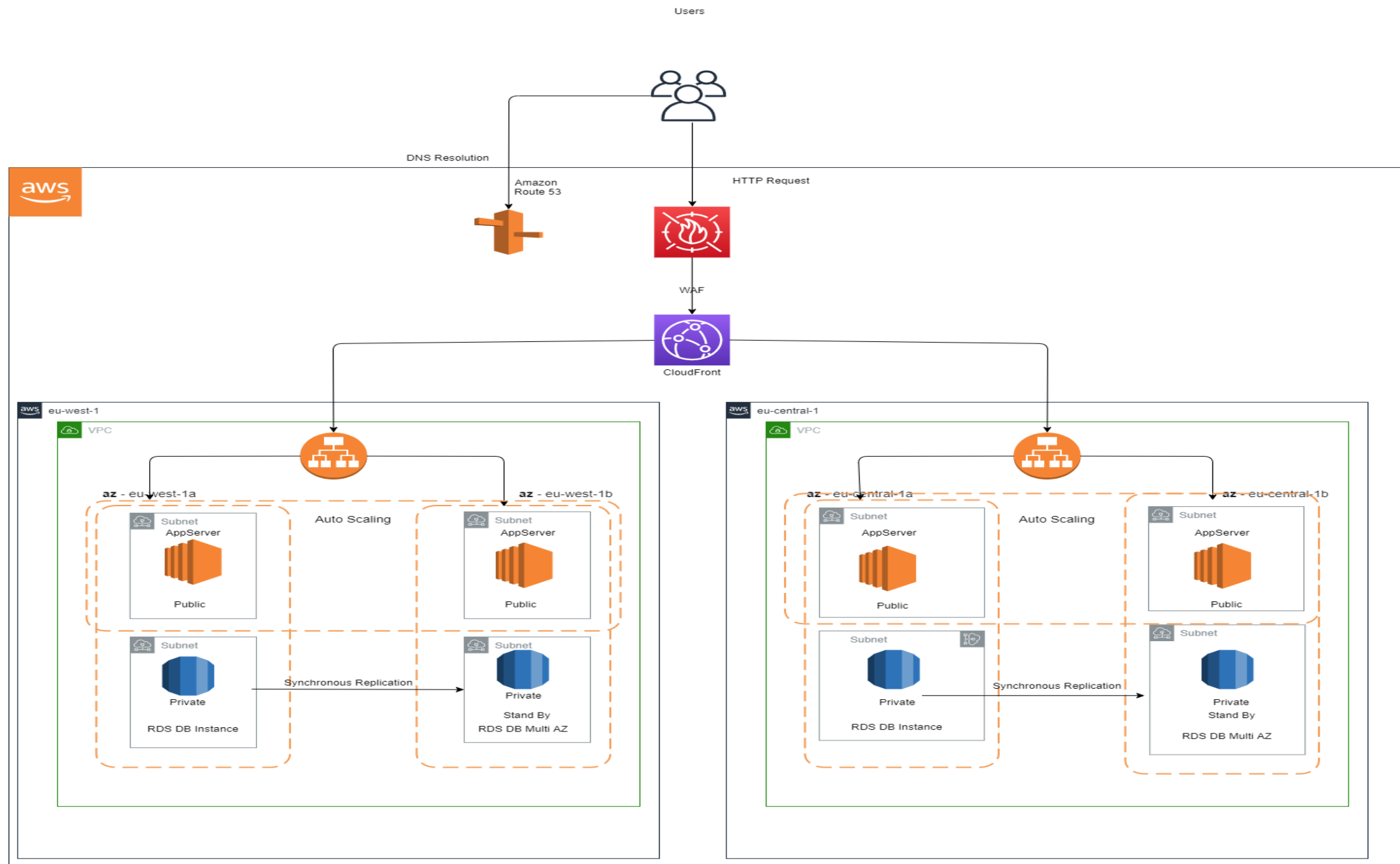
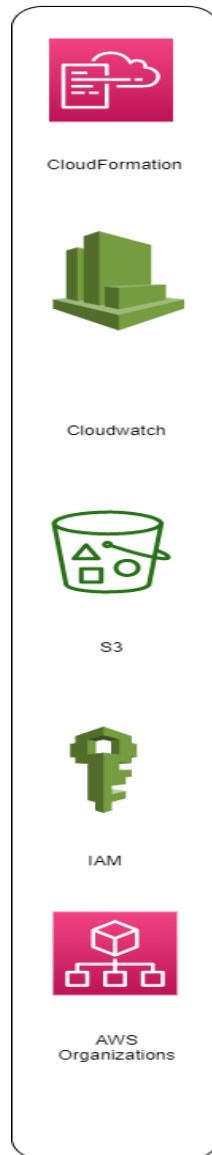
Notejam – Migration to AWS

Antonio Redondo

On-Prem Architecture



AWS – Architecture





Advantages of the new Architecture:

- **Security**
- **High Availability**
- **Fault Tolerance**
- **Cost Optimization**
- **Automatic deployment**
- **Scalability**
- **Environments & Stages**
- **Backups & Disaster Recovery**
- **CI-/CD integration**
- **Monitoring & Operations**
- **IAC (Infrastructure As Code)**



How to use it:

1. Login into your AWS Account.
2. Go to CloudFormation service
3. Click Create Stack
4. Select Upload Template File
5. Select the CloudFormation template from :
 - <https://github.com/Antonio-Redondo/notejam-aws/blob/main/cloudformation/notejam-infrastructure.yml>
6. Take in mind KeyName will be required to connect to EC2.

The screenshot shows a portion of the AWS CloudFormation console. It features two input fields. The first field contains the text 't2.small'. The second field is labeled 'KeyName' in bold, with a yellow highlight, and has a subtitle 'The EC2 Key Pair to allow SSH access to the instances' in a smaller, lighter blue font. Below the subtitle is an empty text input box.

7. Click “Create Stack” and after sometime your infrastructure should be ready.



Further Improvements :

1- Database

- Analyze pros and cons of the different Databases on AWS.
- For high availability and reliability the Multi-AZ configuration with one read replica can be used
- For backups automatic snapshots once a day with 1 month retention period can be use

2- Cache:

- Add in-memory data store (Memcache, Redis)

3- Security:

- To provide secure access to instances located in the private and public subnets, bastion host could be provisioned
- The alternative connection without bastion host - SSM Session Manager
- SSL/TLS connections could be used to encrypt data in transit
- Amazon RDS database storage and backups at rest could be encrypted using Amazon Key Management Service (KMS)

4- Observability:

- We could incorporate Splunk to get consistent and well defined logs and dashboards.

5- Use Terraform (IAC):

- Consider using Terraform to avoid to be linked to any cloud provider, Terraform can be used with any cloud provider.

6- Automation:

- Build CI/CD pipeline to have “one click” build & deployment. (Jenkins, AWS CodeCommit, AWS CodeBuild, AWS CodeDeploy, and AWS CodePipeline)