

Assignment Project for Candidate



71-75 Shelton Street, Covent Garden
WC2H 9JQ, London, UK

Index

About Bion	3
Technology Stack	4
How we help	4
Some of our Previous Happy Customers	4
Purpose	5
Tasks	5
Duration	6
Success Criteria	6
Additional Credits	6

About Bion

We are an engineering-led, fully hands-on UK based technical consultancy in London that have a passion for new technologies and best practices provided in the securest way possible.

Our roots are coming from a startup, and we worked with multiple startups for years. Whether their business is just an idea or they already have their investment, we are here to help. We know every pain point of their journey, and we like to focus on their technology concerns to make them focus on their business.

"Trusted partner for your Startup that ticks all the boxes."

We specialise in

- ✓ DevSecOps
- ✓ Kubernetes
- ✓ AWS
- ✓ DevOps



Technology Stack

Here are many, but not all, of the technologies we like to use every day.



How we help

- ✓ Follow and apply the latest technologies.
- ✓ Continuously learn best practices.
- ✓ Implement automation wherever possible.
- ✓ Maintain a security-first mindset.
- ✓ Create visibility.
- ✓ Log everything.
- ✓ Offer you a smooth and reliable journey.

"We work to make a difference."

Some of our Previous Happy Customers



Purpose

The purpose of this assignment is to understand the technical skills and the current mindset of the candidate. It is not about what you've experienced so far but how you use your skills based on your existing knowledge.

Tasks

We kindly ask you to complete the following tasks (use Terraform wherever possible);

1. Create a new AWS account.¹
2. Create a new VPC with public and private subnets in the region you'd prefer.
3. Provision an EC2 instance and install a Kubernetes cluster inside this instance using kubeadm or RKE.
4. Fork "example-voting-app" to your GitHub/Gitlab/Bitbucket account²
5. Run a Jenkins instance inside the Kubernetes cluster
6. Create a Jenkins pipeline
7. Build the "example-voting-app" application in the pipeline
8. Push the built images to AWS ECR from the pipeline
9. Perform a dependency scan and an image scan using the tool "Snyk" in pipeline³
10. If security scans break the pipeline, fix it
11. Deploy the application (and related services) to the Kubernetes cluster using the pipeline
12. Make a change you want in the application and commit your changes to your repository.
13. Show us that the pipeline you've created in the 6th task automatically starts, builds, runs security checks and deploys the new version to the Kubernetes cluster.

¹ We ask you to create a new AWS account to let you use AWS Free Tier so you won't pay anything to the AWS for this assignment.

² <https://github.com/docker-samples/example-voting-app>

³ <https://snyk.io>

Duration

You have 2 days to complete the project. Even if you cannot finish all the tasks, we will again ask you to explain to us what you've done so far with reasons. Your timer will start when we send you this document. If you need additional time, please contact us as soon as you can.

Success Criteria

1. We expect you to explain to us in detail what you've done successfully.
2. Timing is essential; you should finish all the tasks on time.

Additional Credits

If you comply with the following items, each of the items listed below would give you additional credit.

1. Finishing sooner than expected
2. Deploying the application and/or related services using Helm Charts
3. Performing additional security checks other than asked in the tasks
4. Creating a diagram that shows all the components in the AWS account related to this assignment.