Project 1

Creating a blog using Kubernetes

1. Create the namespace Called Blog through a Yaml file

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1. Frontend Deployment, Service, and Ingress using frontend yaml file which contains:
   1. Deployment of Nginx alpine image:

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* 1. Creating a Service and Selecting Cluster IP:

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* 1. Creating and Exposing an Ingress Source:

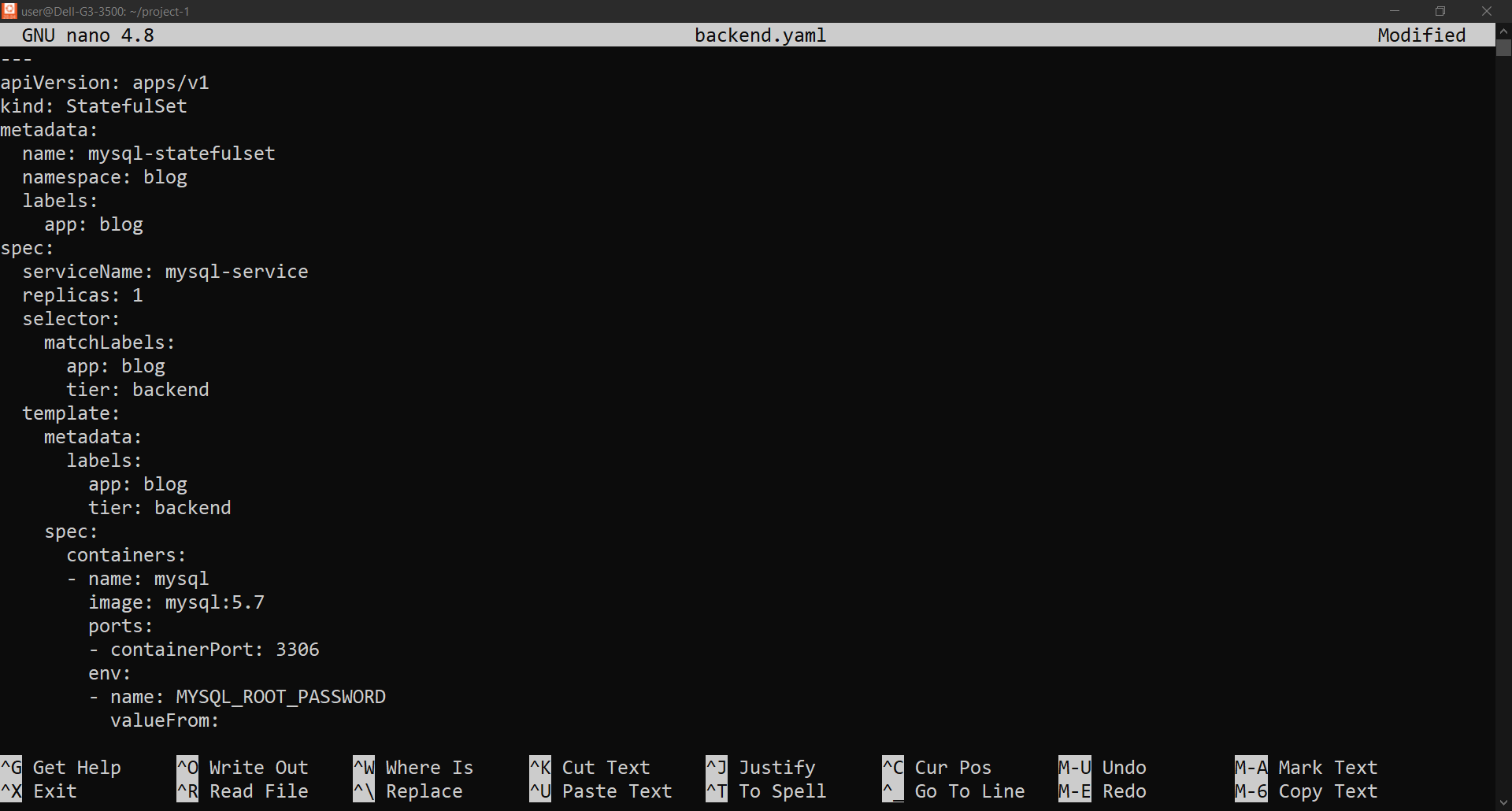
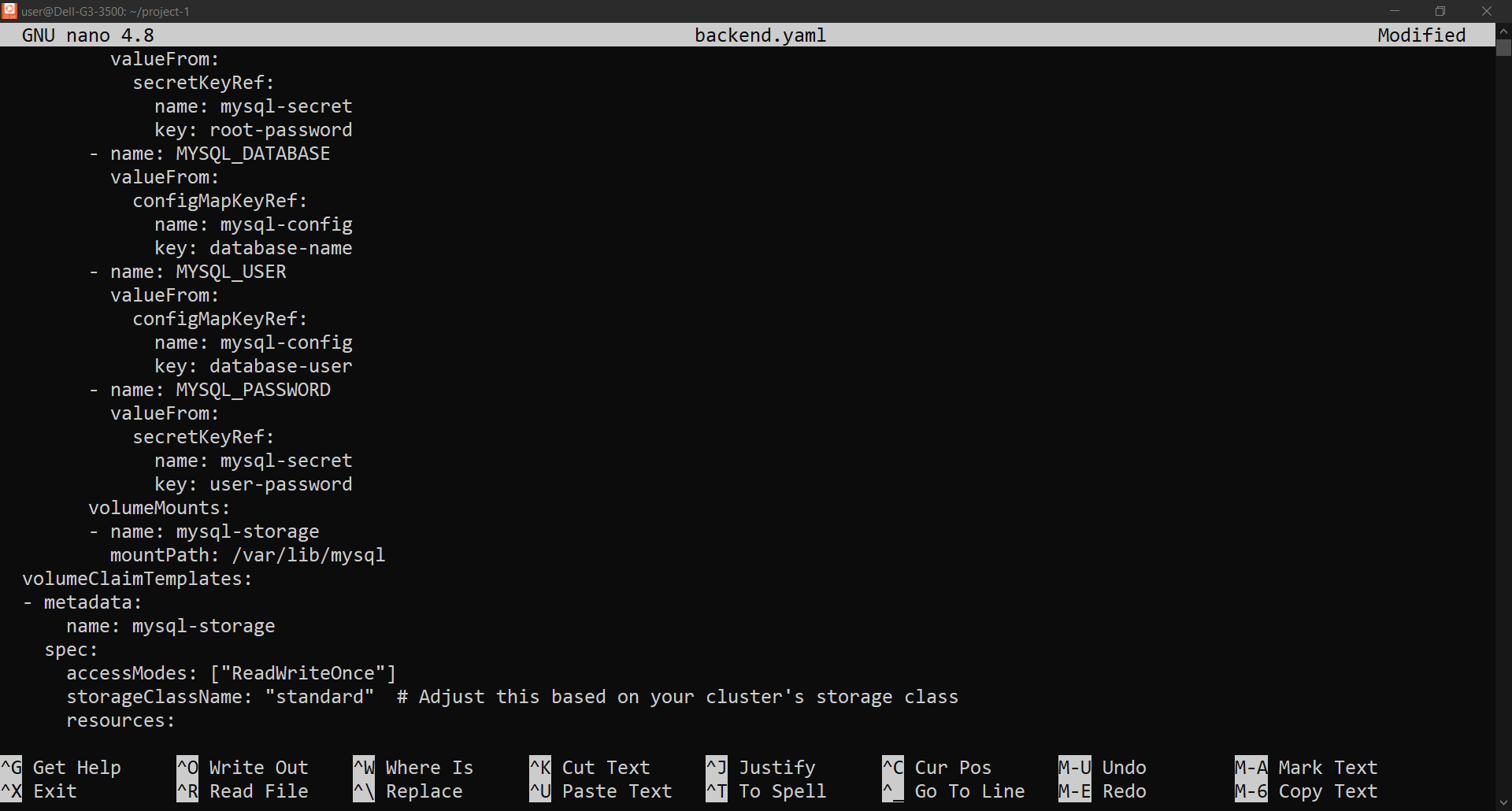
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     Description automatically generatedApplying the Frontend.yaml file:

1. Creating and Setting Backend Part:
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      Description automatically generatedDeploying MySQL image and Creating a PVC of 1Gi:

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* 1. Exposing the Service used By Backend:

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     Description automatically generatedApplying Backend yaml file:

1. Creating a Horizontal Pod Autoscaler:
   1. Creating Yaml file Setting min and max replicas and CPU utilization to 50%:

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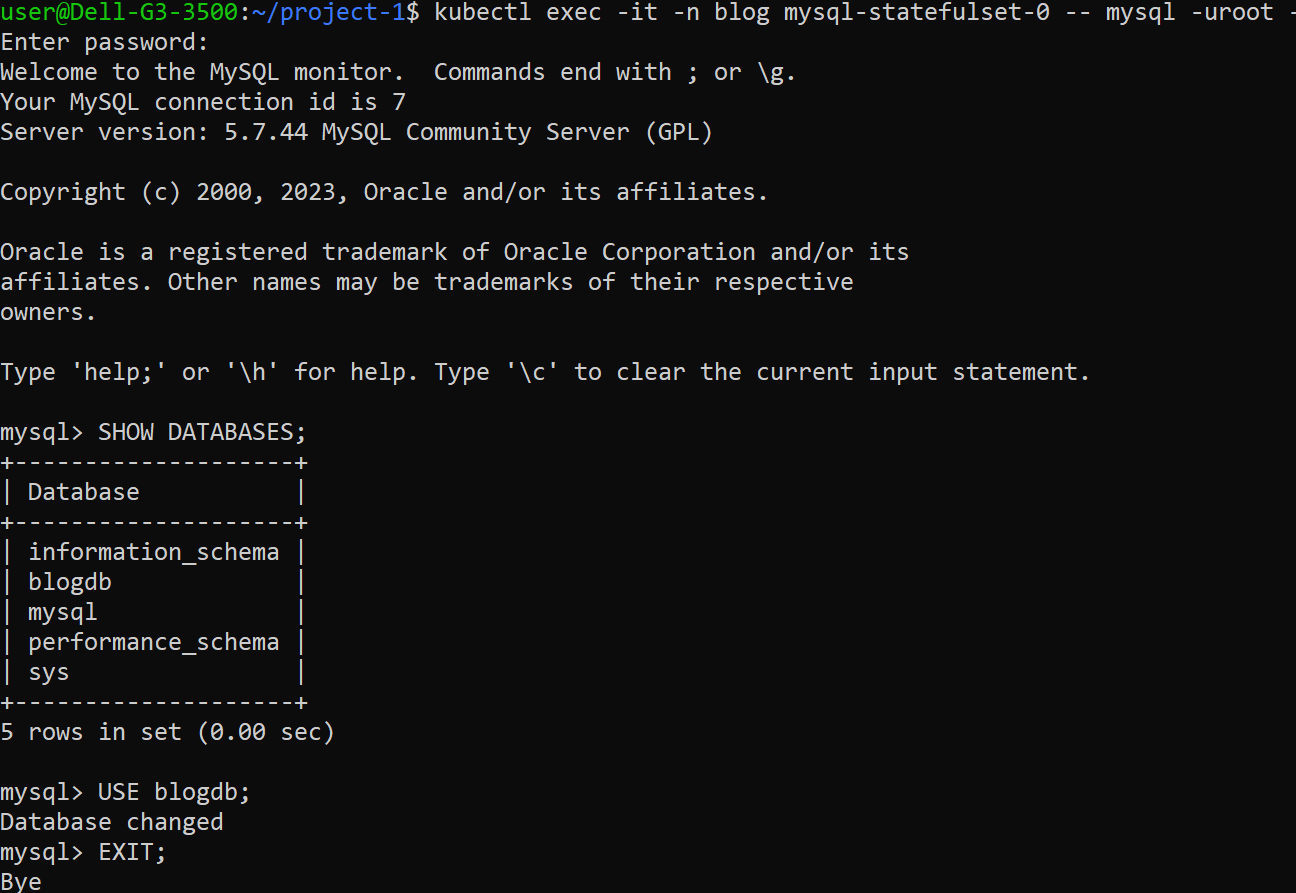
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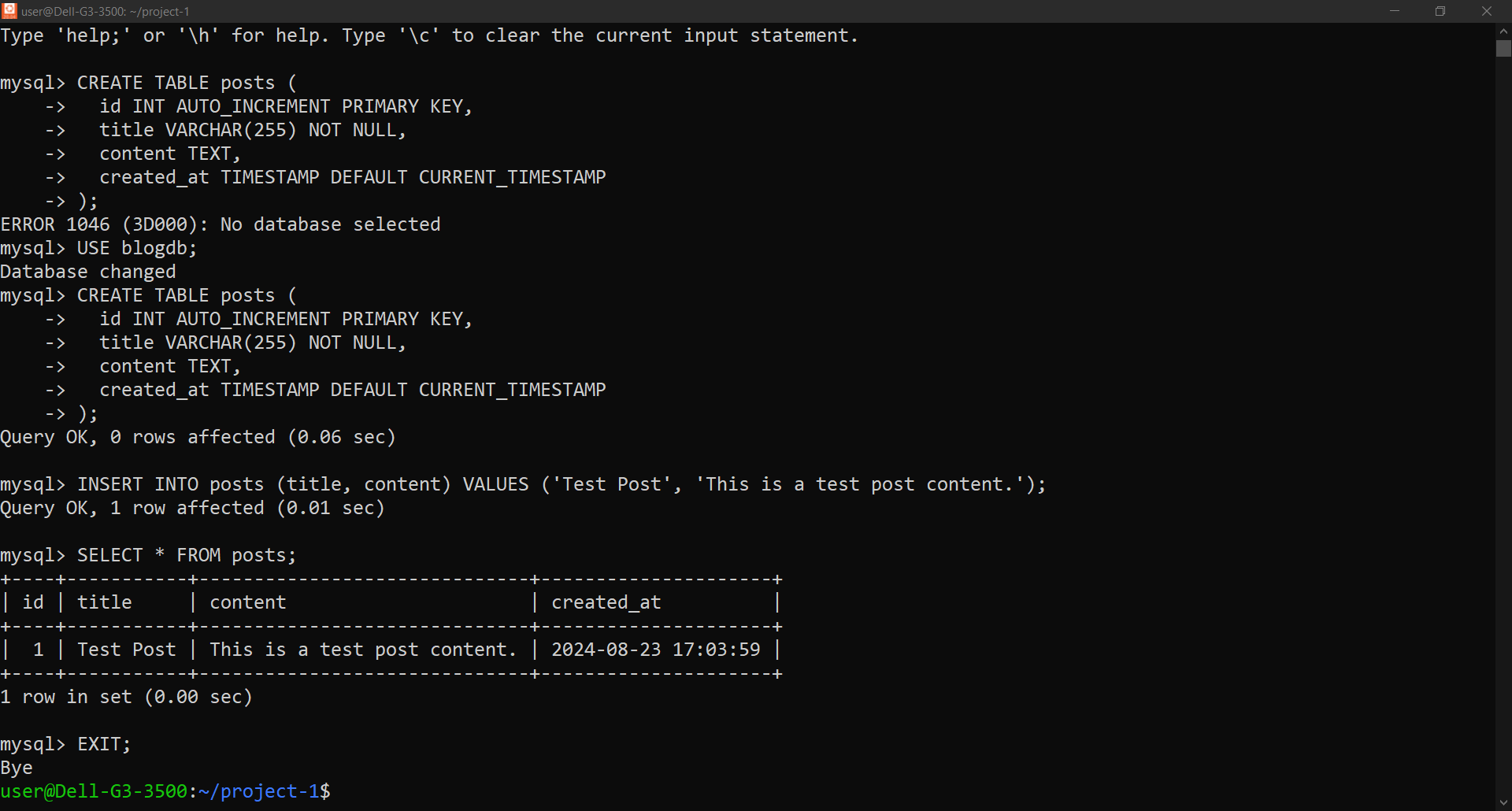
   Description automatically generatedCreating Config Map and Secret:
2. Project Verification:
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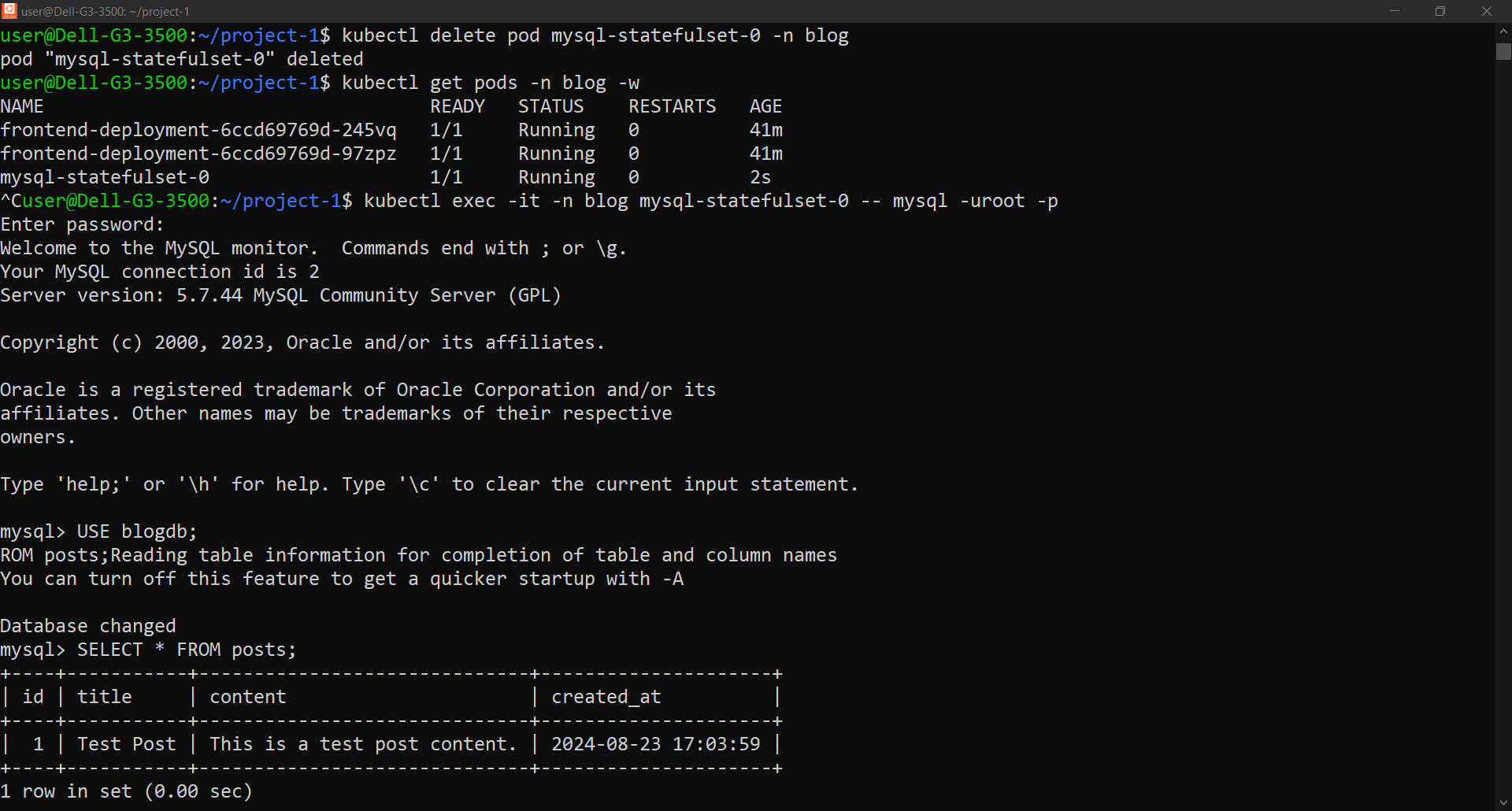
      Description automatically generatedAccess the blog frontend through Browser:

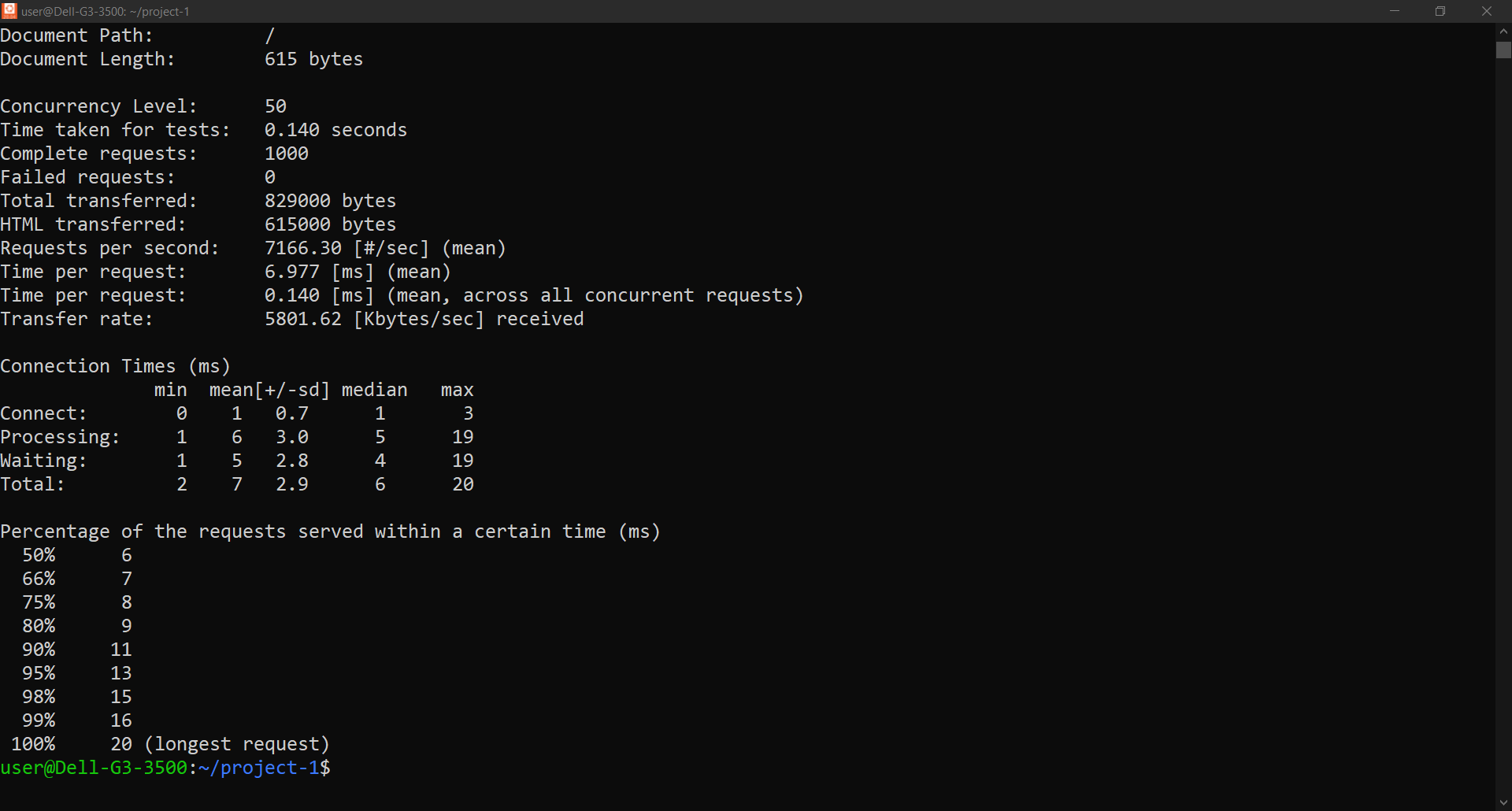
We need to get the ip first then we use it through browser to access the webpage

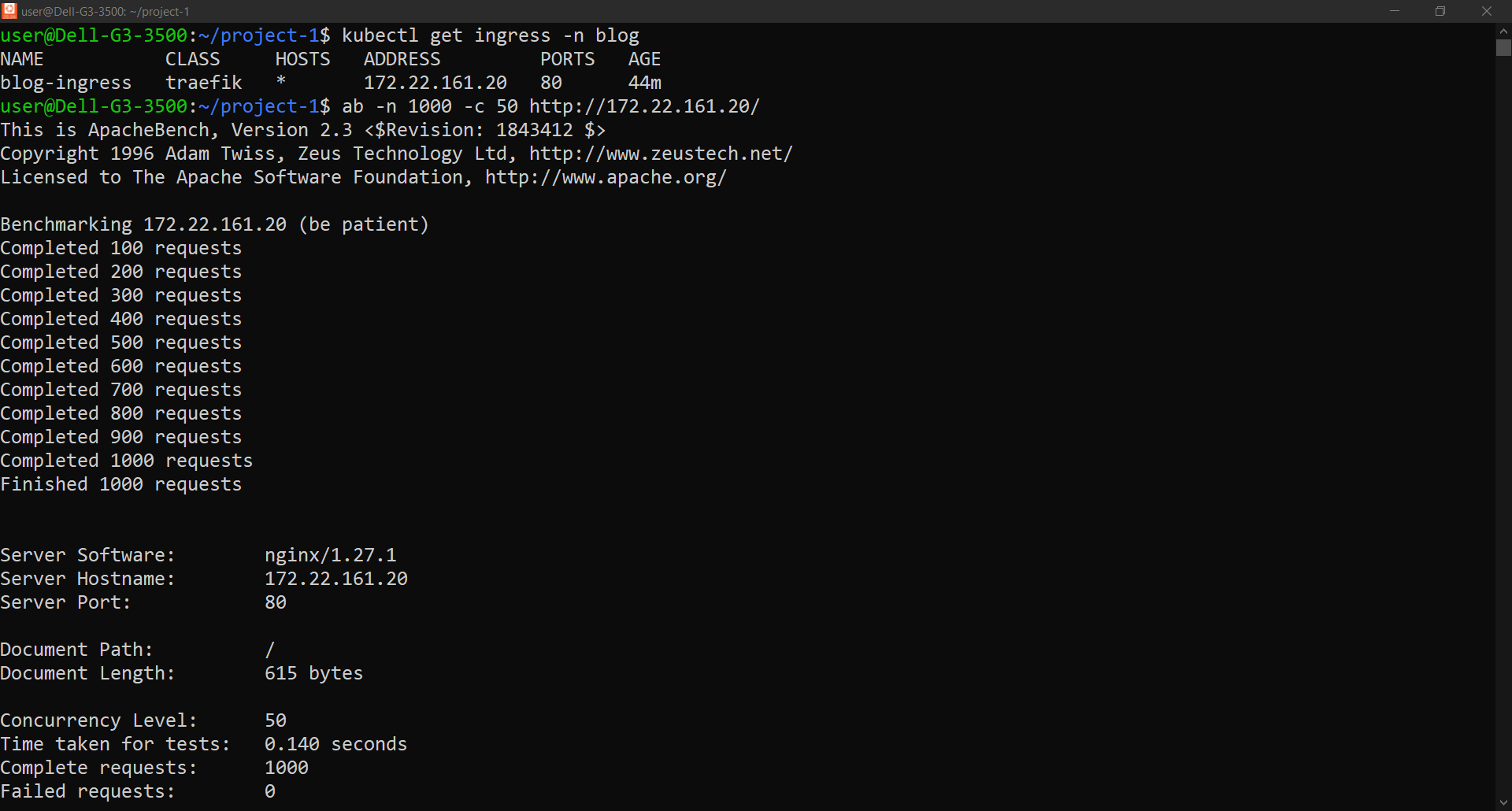
* 1. A screenshot of a computer

     Description automatically generatedTesting the SQL database:



We Created a simple table to test if we deleted the pod containing the database and creating it the data will persist:

1. Testing HPA:



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   Description automatically generatedChanging the Image version from alpine to latest to test data persistent and system recovery speed:

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