

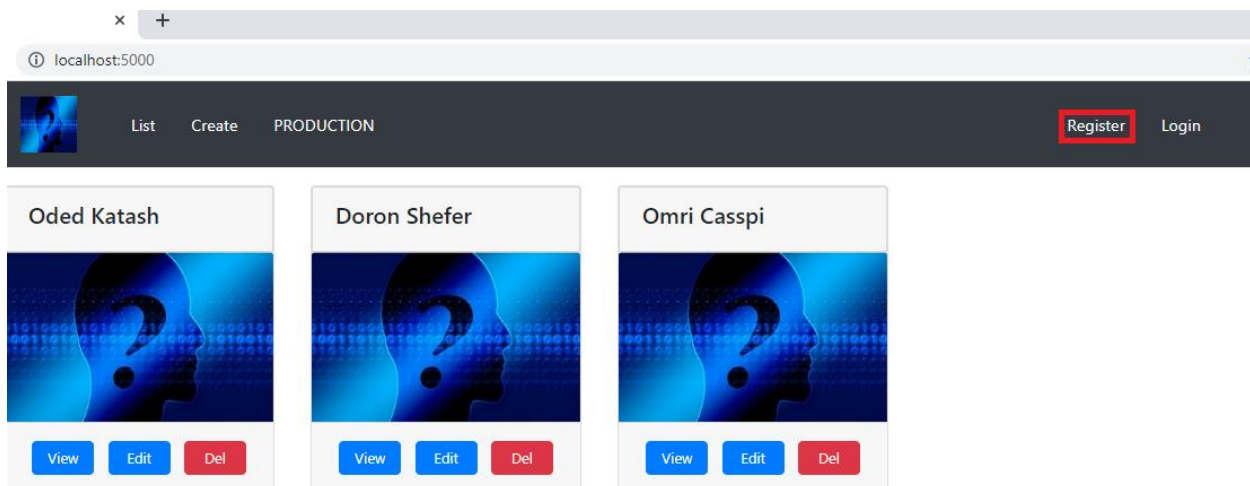
Lesson4 – Stateless and database problem

In Lesson3 we deployed MSSQL with secret to Kubernetes to solve the plain text password.

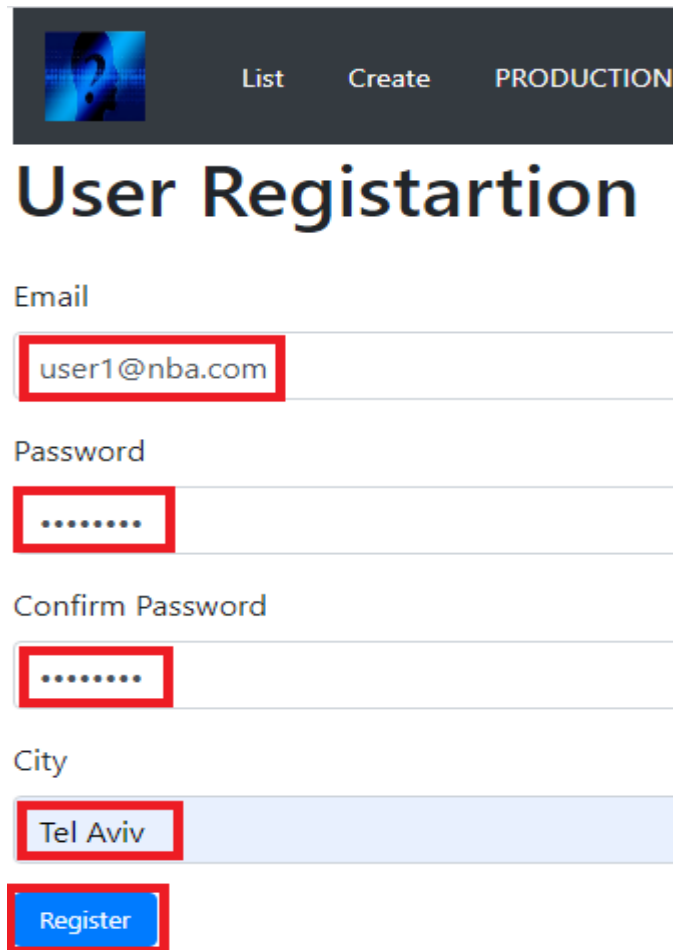
Now we are facing another problem with **high availability** data which is stored in the MSSQL because the pod that contains the MSSQL is **Stateless** i.e.: once the pod is failed a new pod is created automatically but the database and its data are gone. Currently, it is not possible to use **Statefulset** with number of pods running MSSQL with data synchronization since MSSQL does not support it, so we can use only **Deployment** with one pod running MSSQL.

The scenario that shows the problem is below:

Open chrome – <http://localhost:5000> and click **Register**.



Enter the user details in the screen below and click **Register**.



The registration form has a dark header with a profile icon, 'List', 'Create', and 'PRODUCTION' tabs. The main title is 'User Registartion'. It contains four input fields: 'Email' with 'user1@nba.com', 'Password' with masked characters, 'Confirm Password' with masked characters, and 'City' with 'Tel Aviv'. A blue 'Register' button is at the bottom.

Email

user1@nba.com

Password

.....

Confirm Password

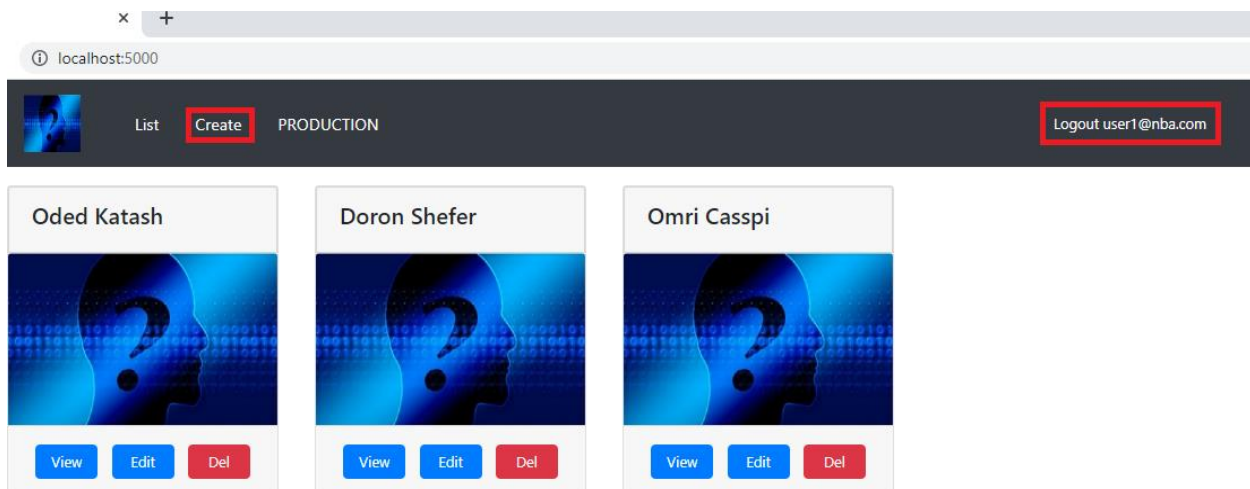
.....

City

Tel Aviv

Register

The user is logged in. Click **Create** in order to create new employee.



The dashboard shows a header with 'List', 'Create', and 'PRODUCTION' tabs, and a 'Logout user1@nba.com' link. Below are three employee cards for 'Oded Katash', 'Doron Shefer', and 'Omri Casspi', each with a profile icon and 'View', 'Edit', and 'Del' buttons.

localhost:5000

List **Create** PRODUCTION Logout user1@nba.com

Oded Katash

Doron Shefer

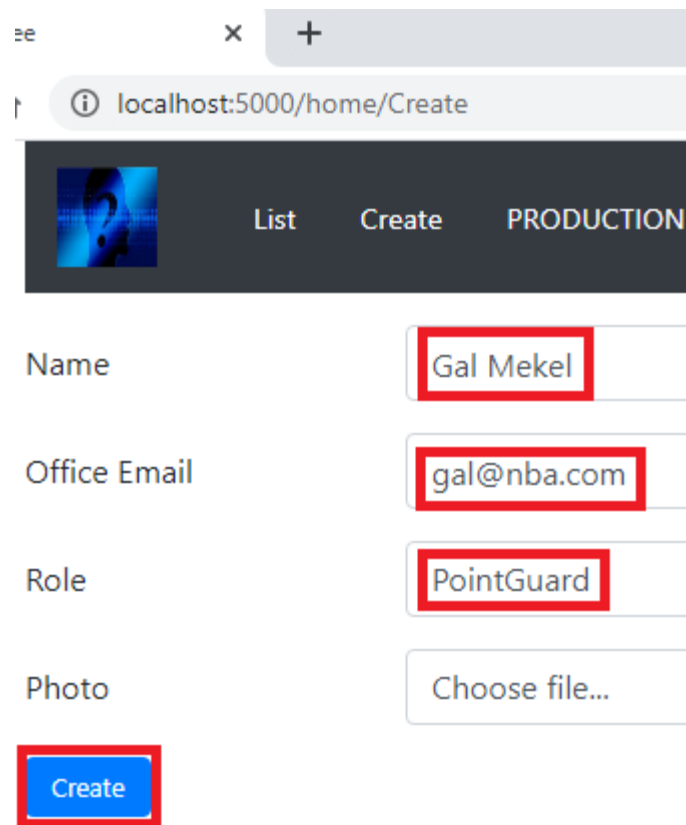
Omri Casspi

View Edit Del

View Edit Del

View Edit Del

Enter the employee details and click **Create**.

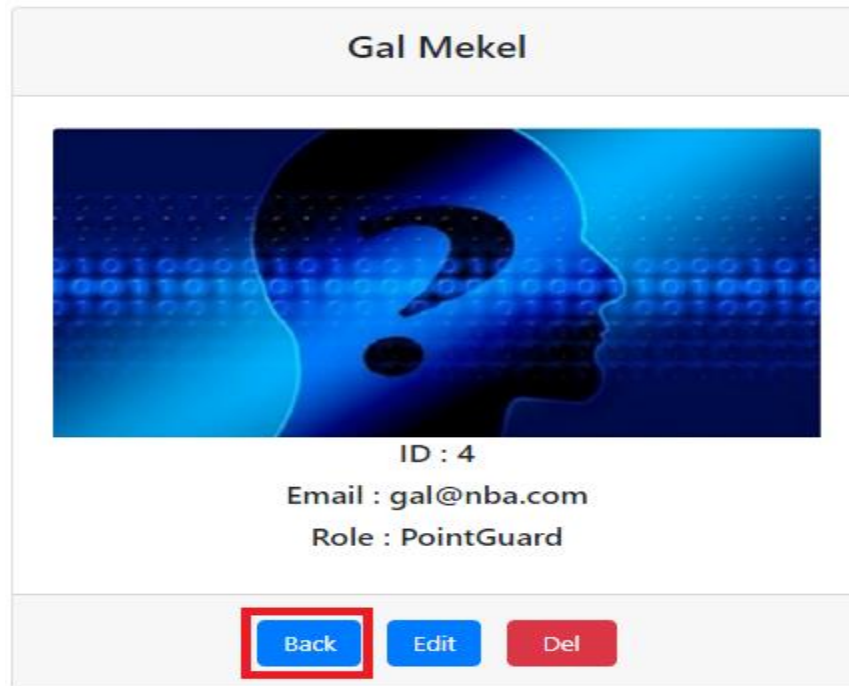


The screenshot shows a web browser window with the address bar displaying `localhost:5000/home/Create`. The page has a dark header with a logo on the left and navigation links `List`, `Create`, and `PRODUCTION` on the right. Below the header, there is a form with the following fields:

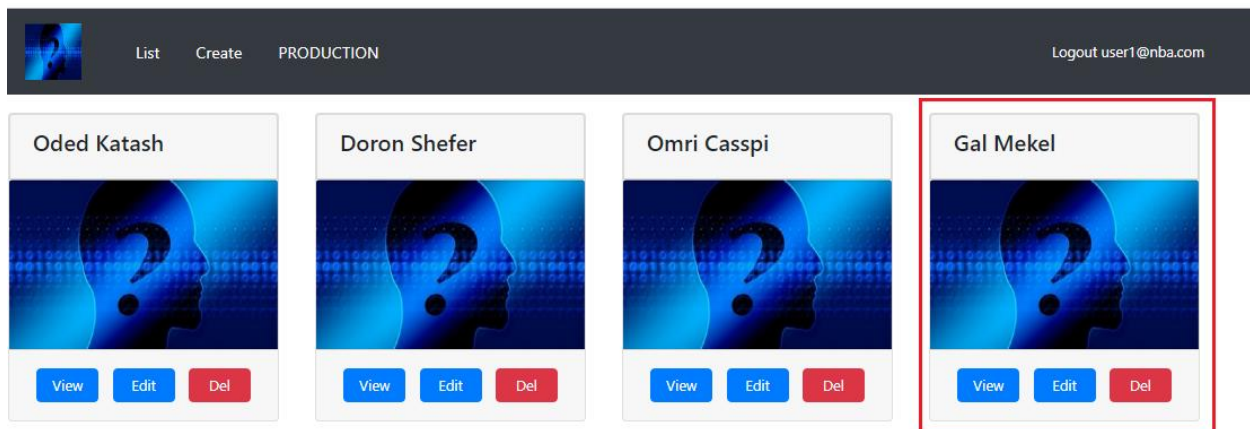
- Name:**
- Office Email:**
- Role:**
- Photo:**

At the bottom of the form, there is a blue **Create** button.

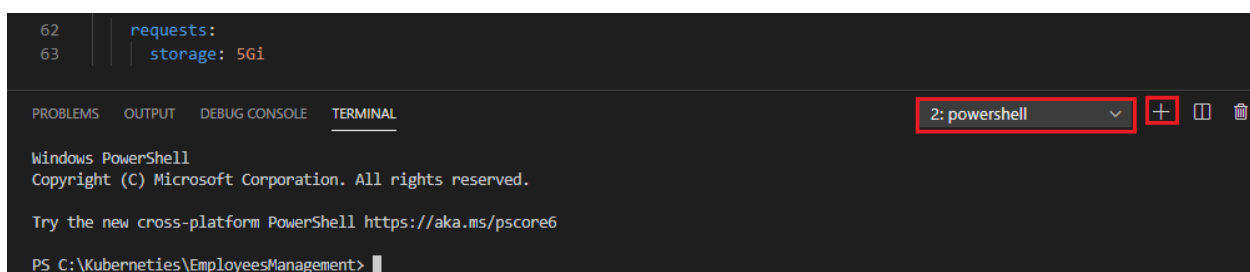
Click **Back**.



The user is created.



Click "+" in the terminal in order to open another PowerShell command prompt



kubectl get all -n employee

```

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

PS C:\Kubernetes\EmployeesManagement> kubectl get all -n employee
NAME                                READY  STATUS   RESTARTS   AGE
pod/mssql-deployment-6bfb754db5-wrsww 1/1    Running   0           20m

NAME                                TYPE             CLUSTER-IP    EXTERNAL-IP  PORT(S)          AGE
service/mssql-service               LoadBalancer    10.102.139.31 localhost     1433:32761/TCP   20m

NAME                                READY  UP-TO-DATE  AVAILABLE   AGE
deployment.apps/mssql-deployment    1/1    1           1           20m

NAME                                DESIRED  CURRENT  READY  AGE
replicaset.apps/mssql-deployment-6bfb754db5 1        1        1      20m
PS C:\Kubernetes\EmployeesManagement>

```

kubectl delete pod/mssql-deployment-6bfb754db5-wrsww -n employee

```

PS C:\Kubernetes\EmployeesManagement> kubectl delete pod/mssql-deployment-6bfb754db5-wrsww -n employee
pod "mssql-deployment-6bfb754db5-wrsww" deleted
PS C:\Kubernetes\EmployeesManagement>

```

kubectl get all -n employee (a new mssql pod was created based on the deployment)

```

PS C:\Kubernetes\EmployeesManagement> kubectl get all -n employee
NAME                                READY  STATUS   RESTARTS   AGE
pod/mssql-deployment-6bfb754db5-5s6qq 1/1    Running   0           89s

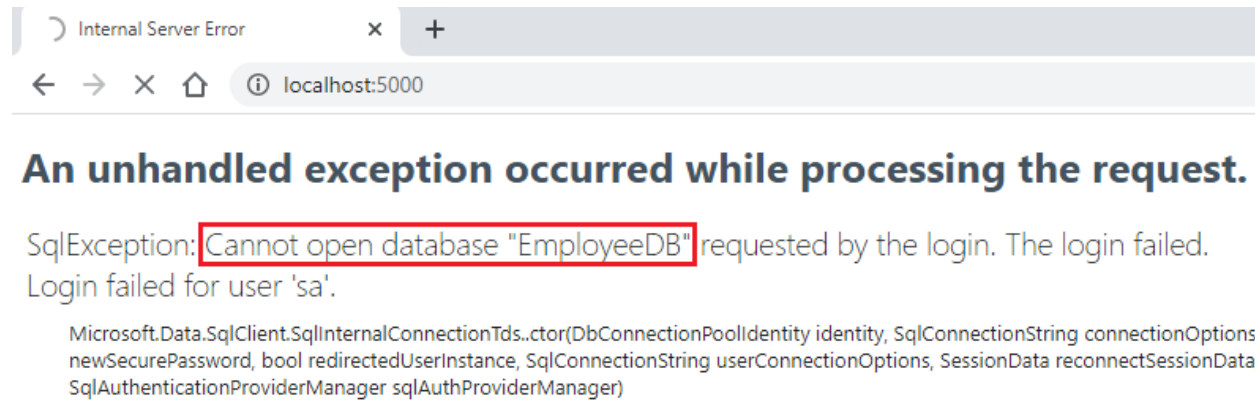
NAME                                TYPE             CLUSTER-IP    EXTERNAL-IP  PORT(S)          AGE
service/mssql-service               LoadBalancer    10.102.139.31 localhost     1433:32761/TCP   23m

NAME                                READY  UP-TO-DATE  AVAILABLE   AGE
deployment.apps/mssql-deployment    1/1    1           1           23m

NAME                                DESIRED  CURRENT  READY  AGE
replicaset.apps/mssql-deployment-6bfb754db5 1        1        1      23m
PS C:\Kubernetes\EmployeesManagement>

```

Refresh the page and see that the database and its data are gone.



kubectI delete ns employee

Done!