Chaos Testing Experiment

Pre-req(setup Minikube)

- Open terminal wo and execute the below commands

minikube start

- The Kubernetes engine should get installed successfully

```
* Verifying Kubernetes components...
* Enabled addons: default-storageclass, storage-provisioner
* Done! kubectl is now configured to use "minikube" cluster and "default" namespace by default
```

Pre-req(setup Application 1 of 2)

- On the Command window, execute the below commands

kubectl apply -f https://raw.githubusercontent.com/cncf/podtato-head/main/delivery/kubectl/manifest.yaml

kubectl get pods --namespace podtato-kubectl

- Verify that images were retrieved and pods started successfully

```
NAME                                    READY   STATUS    RESTARTS   AGE
podtato-head-entry-5df757845d-klrc4     1/1     Running   0          16s
podtato-head-hat-758f4584fd-qdshs       1/1     Running   0          15s
podtato-head-left-arm-77bf56b75b-wb877  1/1     Running   0          15s
podtato-head-left-leg-58fddfb784-d5lrg  1/1     Running   0          15s
podtato-head-right-arm-7476dc95cd-9nbrx 1/1     Running   0          14s
podtato-head-right-leg-7d88594bb-w5qxm  1/1     Running   0          15s
```

- Execute the below command to expose the port outside the container

kubectl port-forward --namespace podtato-kubectl --address 127.0.0.1 svc/podtato-head-entry 9000:9000 &

Pre-req(setup Application 2 of 2)

- Access the below link on any browser window

http://localhost:9000/

- Verify that application is up and running

Pre-req(setup Litmus Chaos 1 of 2)

- On the Cloud Shell window,open another command window execute the below commands

kubectl apply -f https://litmuschaos.github.io/litmus/3.0.0-beta7/litmus-3.0.0-beta7.yaml

kubectl get svc -n litmus

- Verify that images were retrieved and pods started successfully. Note down the port Number for litmusportal-frontend-service. In this case it is **9091**

NAME	TYPE	CLUSTER-IP	EXTERNAL-IP	PORT(S)	AGE
litmusportal-auth-server-service	NodePort	10.104.3.209	<none>	9003:31228/TCP,3030:32596/TCP	21s
litmusportal-frontend-service	NodePort	10.102.132.184	<none>	9091:31162/TCP	21s
litmusportal-server-service	NodePort	10.98.204.13	<none>	9002:31285/TCP,8000:30331/TCP	21s
mongo-headless-service	ClusterIP	None	<none>	27017/TCP	20s

- Execute the below command to expose the port outside the container

kubectl port-forward --namespace litmus --address 127.0.0.1 svc/litmusportal-frontend-service 9091:9091 &

Pre-req(setup Application 2 of 2)

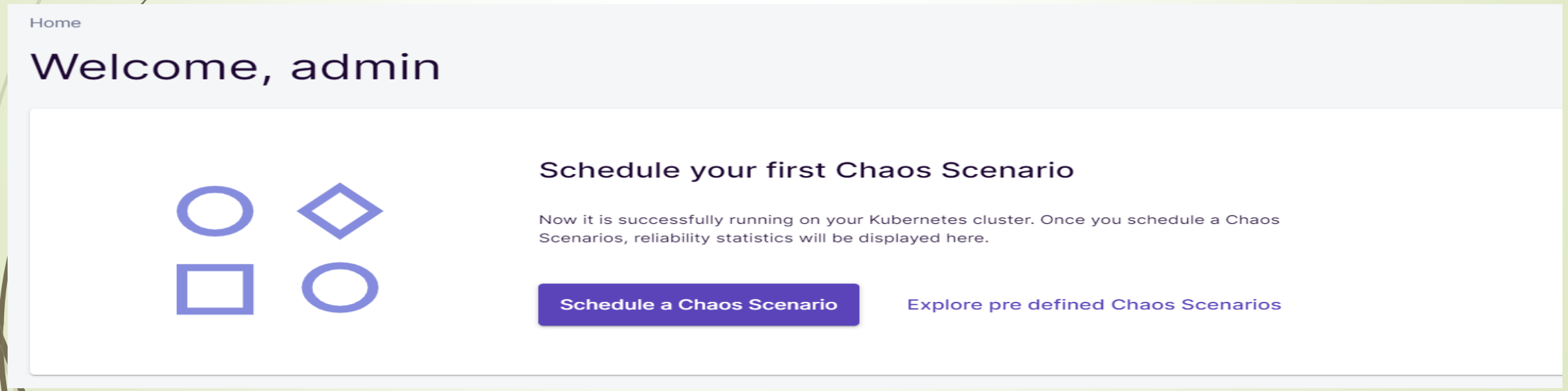
- Access the link and enter the below credentials

http://localhost:9091/

Username : admin

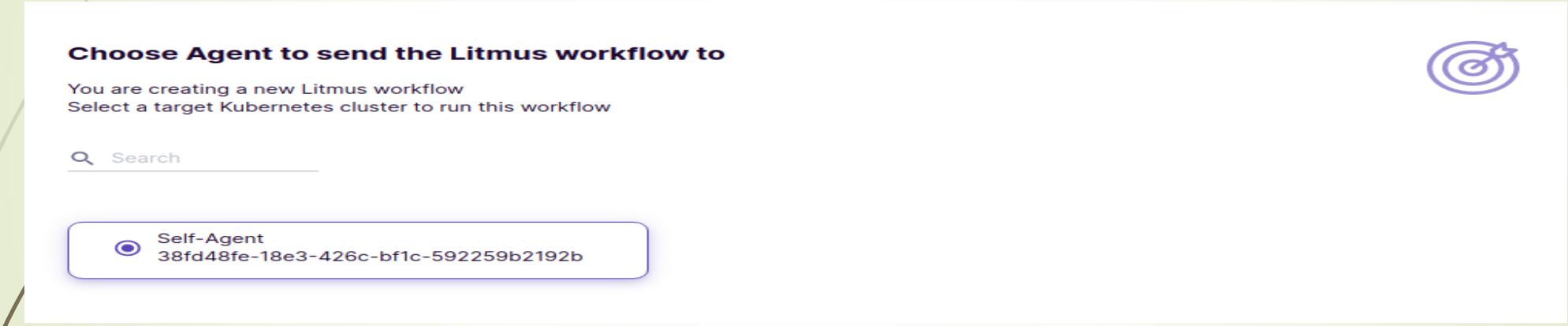
password : litmus

- Verify that you are able to access the application



Running Chaos Experiments

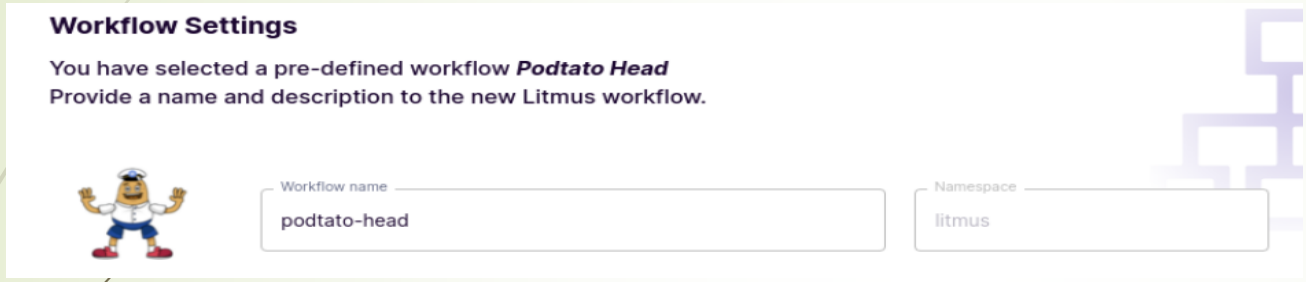
- Click on Schedule a Chaos Scenario from the ChaosCenter Homepage
- Select Self Chaos Delegate as the target Chaos Delegate for Chaos Injection. This is where we'll select which Chaos Delegate to choose as the Chaos Delegate.



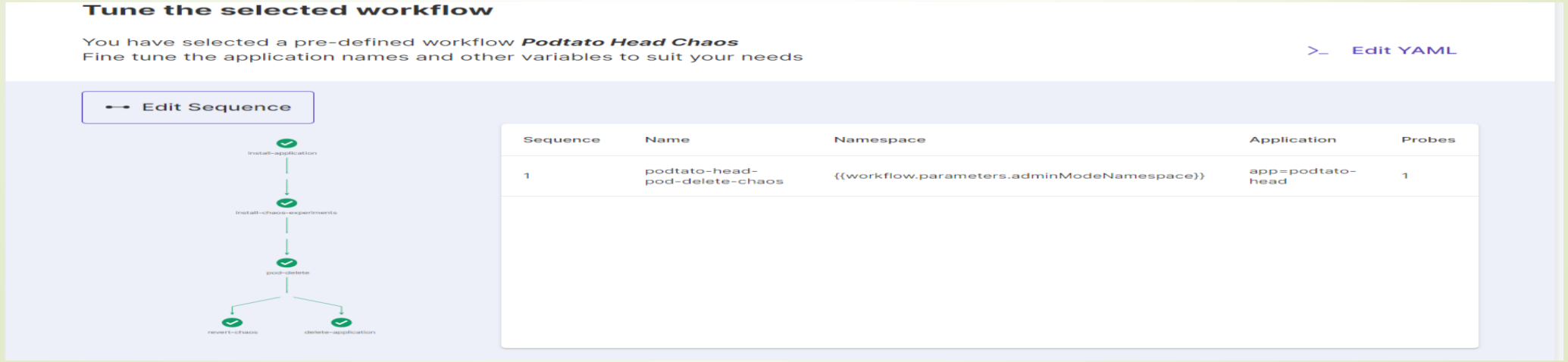
- Expand the first radio button and select **podtato-head** from the list of Predefined Chaos Scenarios.

Running Chaos Experiments

- View the Chaos Scenario details in the Chaos Scenario Settings, you can modify the name and description of the Chaos Scenario to suit your needs.

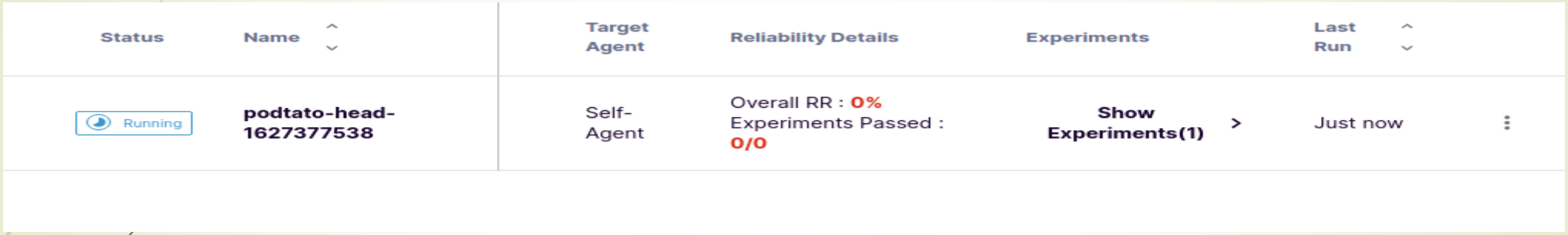


- View the visualization of the Litmus Chaos Scenario you are about to execute. Stick to Default

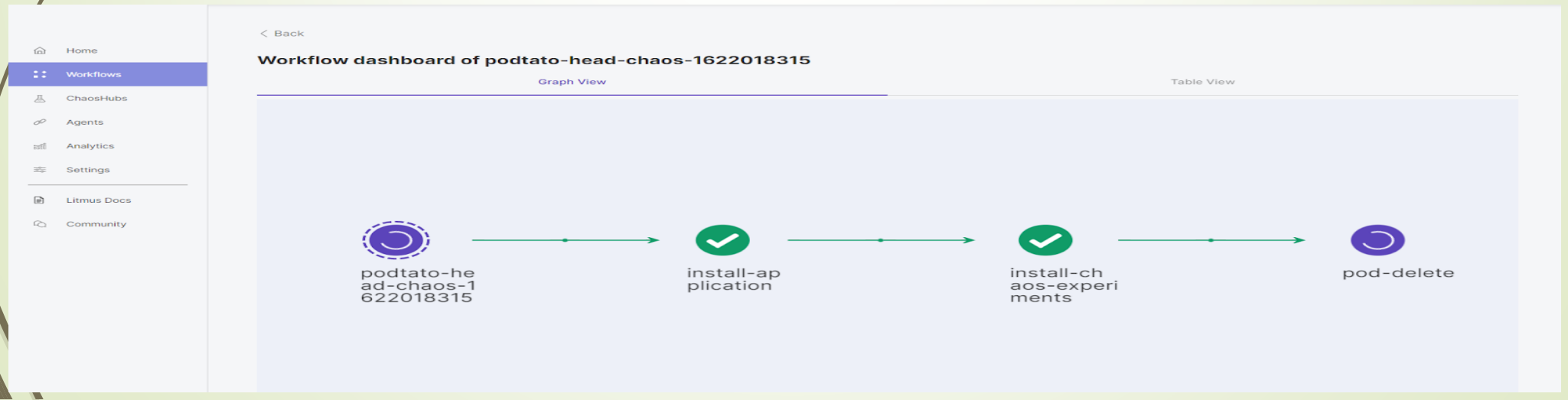


Running Chaos Experiments

- To check the current progress of the Podtato-Head Chaos Scenario, view the status of the Chaos Scenario from the **Litmus Chaos Scenarios** Tab.



- To see all these steps live in action on the chaos scenario name from the **Runs** Tab or select **Show the Chaos Scenario** from the three dot menu.



Running Chaos Experiments

- To see them in action on the terminal itself watch the pods in the namespace where ChaosCenter is installed.

```
NAME                                          READY   STATUS              RESTARTS   AGE
chaos-exporter-547b59d887-4dm58               1/1     Running             0          6h16m
chaos-operator-ce-84ddc8f5d7-l8c6d            1/1     Running             0          6h16m
event-tracker-5bc478cbd7-xlflb                1/1     Running             0          6h16m
litmusportal-frontend-698bcb686f-xm4q5        1/1     Running             0          6h26m
litmusportal-server-5bb94f65d7-llzng          2/2     Running             1          6h26m
mongo-0                                       1/1     Running             0          6h26m
pod-delete-llu29u-vh8w9                       1/1     Running             0          21s
podtato-5554584d7-68bts                       1/1     Running             0          94s
podtato-5554584d7-cjmv6                       0/1     ContainerCreating   0          2s
podtato-5554584d7-z4cwl                       0/1     Terminating         0          94s
podtato-head-chaos-1622018315-1170130526      0/2     Completed           0          112s
podtato-head-chaos-1622018315-3739956689      2/2     Running             0          31s
podtato-head-chaos-1622018315-80657052        0/2     Completed           0          79s
podtato-head-pod-delete-chaosx55vh-runner     1/1     Running             0          25s
subscriber-958948965-qbx29                    1/1     Running             0          6h16m
workflow-controller-78fc7b6c6-w82m7           1/1     Running             0          6h16m
```