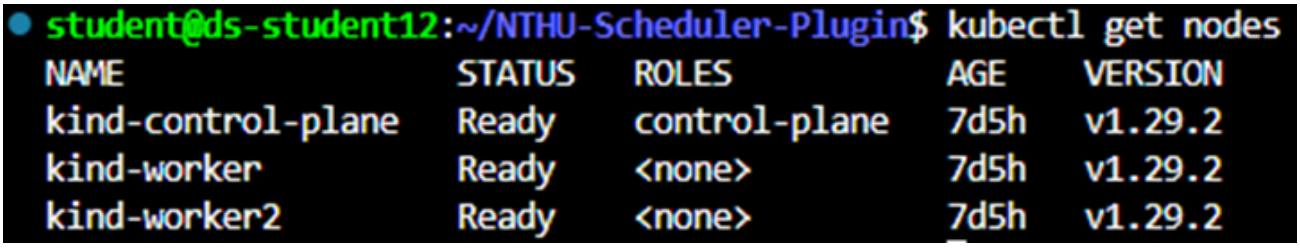
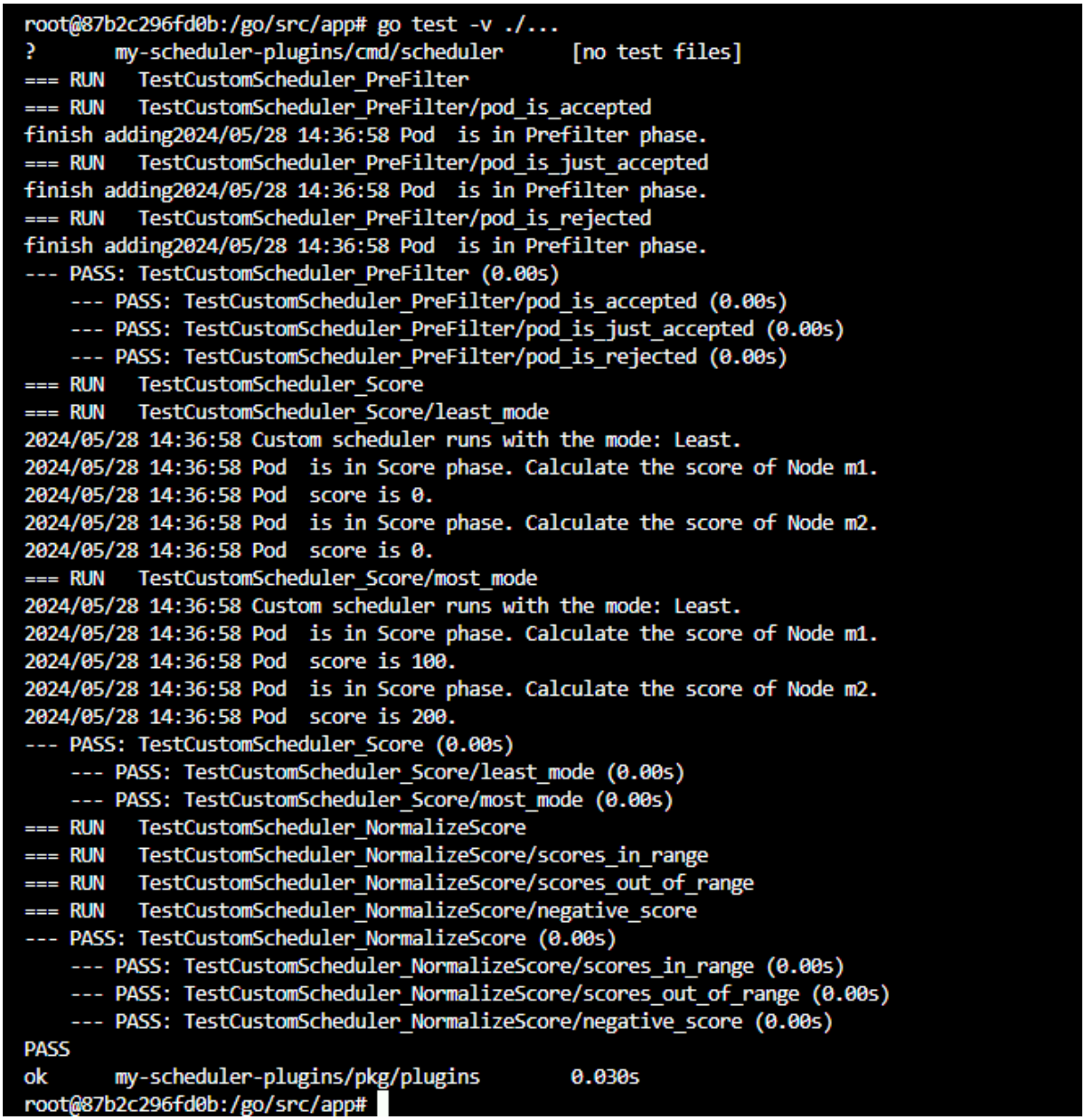
k8s report

The screenshot of kubectl get nodes



The screenshot of passing all the unit tests



3 scenarios

scenario 1

3個pod

1. pod nginx:
    - podGroup: "A"
    - minAvailable: "2"
    - requests & limits memory :100Mi
2. pod nginx-2:
    - podGroup: "B"
    - minAvailable: "2"
    - requests & limits memory :100Mi
3. pod nginx-3:
    - podGroup: "A"
    - minAvailable: "2"
    - requests & limits memory :100Mi

這邊主要是檢查prefilter正確性預期是nginx和nginx-2第一次檢查時無法通過prefilter，因為沒有達到minAvailable，nginx-3則是第一次就能通過prefilter被schedule。之後下一round(這邊看是5分鐘後)nginx因為nginx-3的加入滿足minAvailable的條件，會被schedule，而nginx-2還是無法被schedule。
下面是最後每個pod被assign到哪一個node的結果。

```
student@ds-student12:~/NTHU-Scheduler-Plugin$ kubectl get po -o wide
NAME                            READY   STATUS    RESTARTS   AGE   IP            NODE           NOMINATED NODE   READINESS GATES
my-scheduler-69cfc986c7-n5q6x   1/1     Running   0          32m   10.244.2.8    kind-worker2   <none>           <none>
nginx                           1/1     Running   0          31m   10.244.2.10   kind-worker2   <none>           <none>
nginx-2                         0/1     Pending   0          31m   <none>        <none>         <none>           <none>
nginx-3                         1/1     Running   0          31m   10.244.2.9    kind-worker2   <none>           <none>
student@ds-student12:~/NTHU-Scheduler-Plugin$
```

scenario 2

3個pod

1. pod nginx:
    - podGroup: "A"
    - minAvailable: "1"
    - requests & limits memory :1000Mi
2. pod nginx-2:
    - podGroup: "A"
    - minAvailable: "1"
    - requests & limits memory :1000Mi
3. pod nginx-3:

- podGroup: "A"
- minAvailable: "1"
- requests & limits memory :500Mi

這邊主要是測試most mode正確性，預期是nginx會被schedule給原先可分配的memory就比較大的kind-worker2，nginx-2會被schedule給目前可分配的memory比較大的kind-worker(kind-worker2被分配1000Mi給nginx後，剩餘可分配的memory小於kind-worker)，最後nginx-3會分配給kind-worker2，因為kind-worker和kind-worker2都各被分配1000Mi給其他pod，此時kind-worker2剩餘可分配的memory比較大。
下面是最後每個pod被assign到哪一個node的結果。

```
student@ds-student12:~/NTHU-Scheduler-Plugin$ kubectl get po -o wide
NAME                           READY   STATUS    RESTARTS   AGE   IP            NODE           NOMINATED NODE   READINESS GATES
my-scheduler-69cfc986c7-n5q6x  1/1     Running   0          51m   10.244.2.8    kind-worker2   <none>           <none>
nginx                          1/1     Running   0          4s    10.244.2.11   kind-worker2   <none>           <none>
nginx-2                        1/1     Running   0          4s    10.244.1.2    kind-worker    <none>           <none>
nginx-3                        1/1     Running   0          4s    10.244.2.12   kind-worker2   <none>           <none>
student@ds-student12:~/NTHU-Scheduler-Plugin$
```

scenario 3

3個pod

1. pod nginx:
   - podGroup: "A"
   - minAvailable: "1"
   - requests & limits memory :500Mi
2. pod nginx-2:
   - podGroup: "A"
   - minAvailable: "1"
   - requests & limits memory :1000Mi
3. pod nginx-3:
   - podGroup: "A"
   - minAvailable: "1"
   - requests & limits memory :500Mi

這邊主要是測試least mode正確性，預期是nginx會被schedule給原先可分配的memory就比較小的kind-worker，此時可分配memory較小的node應該是kind-worker，但nginx-2會被schedule給kind-worker2，因為kind-worker剩餘可分配的記憶體已經不夠分配1000Mi給nginx-2，最後nginx-3會分配給kind-worker，因為目前剩餘可分配的memory是kind-worker比較小。
下面是最後每個pod被assign到哪一個node的結果。

```
student@ds-student12:~/NTHU-Scheduler-Plugin$ kubectl get po -o wide
NAME                           READY   STATUS    RESTARTS   AGE     IP            NODE           NOMINATED NODE   READINESS GATES
my-scheduler-69cfc986c7-j2kxh  1/1     Running   0          5m51s   10.244.2.15   kind-worker2   <none>           <none>
nginx                          1/1     Running   0          3s      10.244.1.5    kind-worker    <none>           <none>
nginx-2                        1/1     Running   0          3s      10.244.2.17   kind-worker2   <none>           <none>
nginx-3                        1/1     Running   0          3s      10.244.1.6    kind-worker    <none>           <none>
student@ds-student12:~/NTHU-Scheduler-Plugin$
```