🎓 Q1. Configure HTPasswd Identity Provider

Question 1. Manage Identity Providers:

- Configure the Oauth to use **HTPasswd** as the identity provider.

- Secret name should be **ex280-secret** and Identity Provider name should be **ex280-idp-secret**.

Create Users:

- Create user **bob** with password **indionce**

- Create user **jobs** with password **catalog**

- Create user **john** with password **warniak**

- Create user **armstrong** with password **gluengue**

- Create user **natasha** with password **sestiver**

- Create user **alice** with password **thankyou**

🟩 SOLUTION

✅ 1. Create the htpasswd file with all users

```
oc whoami

htpasswd -c -B -b /tmp/htpasswd bob indionce

htpasswd -B -b /tmp/htpasswd jobs catalog

htpasswd -B -b /tmp/htpasswd john warniak

htpasswd -B -b /tmp/htpasswd armstrong gluengue

htpasswd -B -b /tmp/htpasswd natasha sestiver

htpasswd -B -b /tmp/htpasswd alice thankyou
```

Check:

```
cat /tmp/htpasswd
```

✅ 2. Create the secret using the htpasswd file

```
oc create secret generic ex280-secret --from-file htpasswd=/tmp/htpasswd -n openshift-config
```

```
oc get secret -n openshift-config | grep 280
```

✅ 3. Edit the OAuth cluster configuration

```
oc get ouath
```

```
oc edit oauth cluster
```

Add this block under **spec:** (exact indentation matters):

```yaml
spec:
  identityProviders:
  - name: ex280-idp-secret
    mappingMethod: claim
    type: HTPasswd
    htpasswd:
      fileData:
        name: ex280-secret
```

Save & exit.

==(mnemonic you should remember - **I Need My Tea Hot For Now**) 🍵🔥==

✅ **4. Wait for authentication pods to restart**

`oc get pods -n openshift-authentication -w`

Pods will go through Terminating → Running again.

✅ **5. Verify all users can log in**

`oc login -u bob -p indionce`

`oc login -u jobs -p catalog`

`oc login -u john -p warniak`

`oc login -u armstrong -p gluengue`

`oc login -u natasha -p sestiver`

`oc login -u alice -p thankyou`

Successful login = **Identity Provider configured correctly** ✅

✅ **6. List users**

Login back by using cluster/admin user (ex: **kubeadmin** in the exam and **admin** in lab)

`oc get users`

```
Activities   Applications   Terminal                        Dec 12 01:40                                    ℹ  ⚙ ⏻

                                              student@workstation:~                                    ⌕  ☰  ×

[student@workstation ~]$ oc get users | grep -i 280
alice         30f5bd5a-161b-43c1-85bb-08ac81adbf7b            ex280-idp-secret:alice
armstrong     bcf5f320-209b-4e2f-bc09-e4fa9ba56188            ex280-idp-secret:armstrong
bob           051d0339-d756-4f23-aacd-6012ea8a86fb            ex280-idp-secret:bob
jobs          b357ab8f-e739-4cd2-a590-e812258901dd            ex280-idp-secret:jobs
john          ec50782d-5e1f-43cb-8930-d4143155f11d            ex280-idp-secret:john
natasha       9f0c5114-f713-4db8-a206-3ebc94351a16            ex280-idp-secret:natasha
[student@workstation ~]$ ▮
```

🟦 EXPLANATION

🔐 Create HTPasswd file

Stores user data in bcrypt format. Required by OpenShift.

📦 Secret in openshift-config

OAuth can only read secrets from this namespace.

📝 Edit OAuth provider

Adding identityProviders activates new login method.

🔄 Operator restart

Auth pods restart → new provider becomes active.

🧪 Test login

If login works for all users, the setup is correct.

🟨 TECHNICAL EXPLANATION

1. HTPasswd Creation

- -c → create a new file (use only for the first user)

- -B → use bcrypt hashing (OpenShift **requires** bcrypt)

- -b → supply password inline
  This creates the **local user database** that OAuth will consume.

2. Secret in openshift-config

OpenShift authentication pulls htpasswd only from:

Namespace: **openshift-config**

If you put it anywhere else → **OAuth will not find it**.
Secret must be named **ex280-secret**.

A **generic secret** is the default secret type in Kubernetes (type: Opaque) used to store **any file or key-value data**, such as htpasswd files.
We use it because htpasswd is just a normal file and does not belong to special secret types like TLS or docker-registry. **--from-file** simply uploads the file into the secret so OAuth can read it.
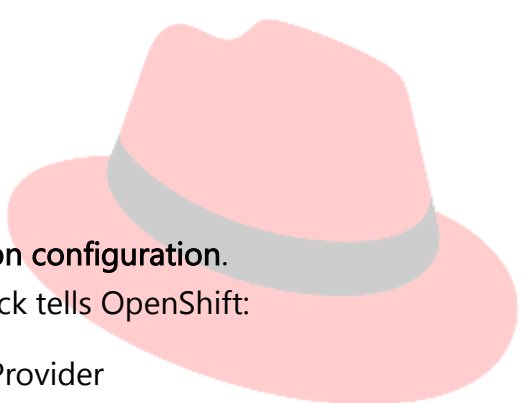
---

3. Editing OAuth

The object:

oauth cluster

is the **global authentication configuration**.
The identityProviders: block tells OpenShift:

- Enable HTPasswd Provider

- Use secret named ex280-secret

- Name this provider ex280-idp-secret

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4. Authentication Operator Restart

After modifying OAuth:

- The **authentication operator** detects changes

- It automatically restarts pods in openshift-authentication & openshift-oauth-apiserver

- Once pods return to Running → new IDP is active

This is **normal and expected**.