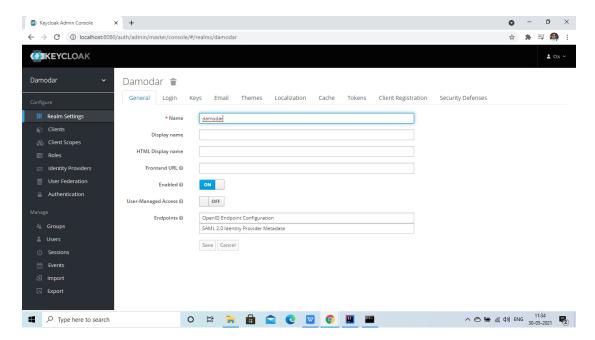
Keycloak Integration With Spring Boot

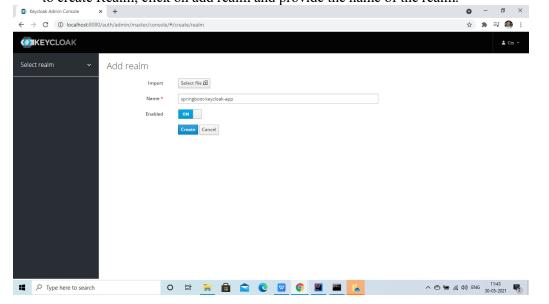
Keycloak is a identity and access management tool that provide easy way to secure modern microservices based application. Primary focus of this document is to provide an overview to secure Spring Boot Rest Api's.

First we need to configure our keycloak application. Please follow steps that are given below.

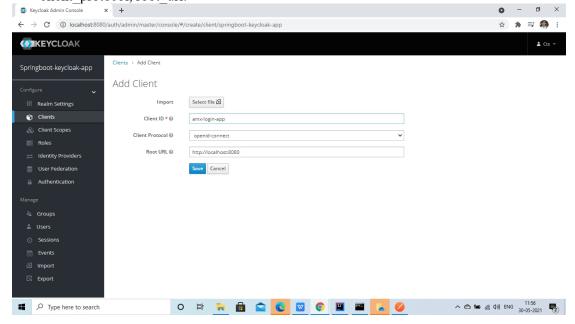
- Go to keycloak download page (https://www.keycloak.org/downloads) and downloads zip version. Exact the folder under C:// and inside C:\keycloak-13.0.1\bin folder just run standalone.bat file. It will automatically run keycloak server.
- After running of keycloak server, we need to login keycloak server auth url (http://localhost:8080/auth/) and need to set up username and password for the first time.
- After successful login, a page below will open.



• Now, we need to create a realm, **Realm**: is a set of users, roles, credentials, groups etc. to create Realm, click on add realm and provide the name of the realm.



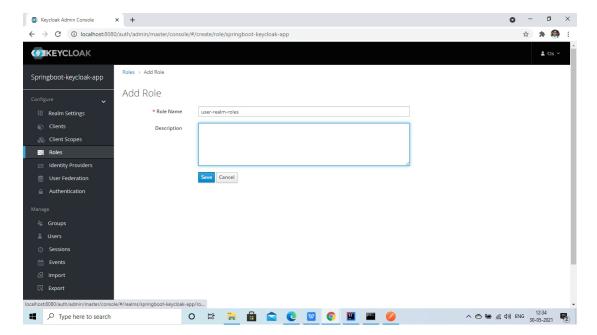
 Now we have to create clients, CLIENT is a application or service that tolds keycloak to authenticate users for creating keycloak client we need to pass three values, client_id, client_protocol, root_url.

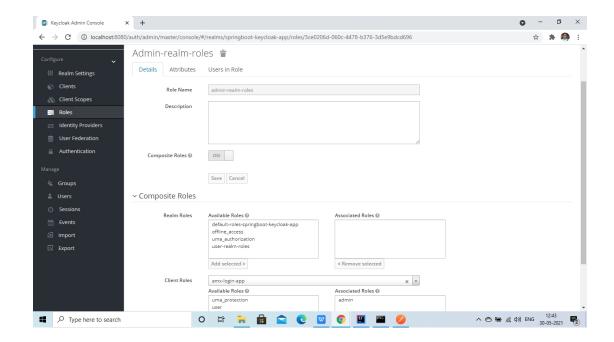


• Now we have to set access_type to **confidential**, service accounts enabled to **ON**, authorization enabled to **ON**.

After creating client we need to create user level roles. We will create two roles, admin and user role. To create role click on roles button and then provide role name to create.

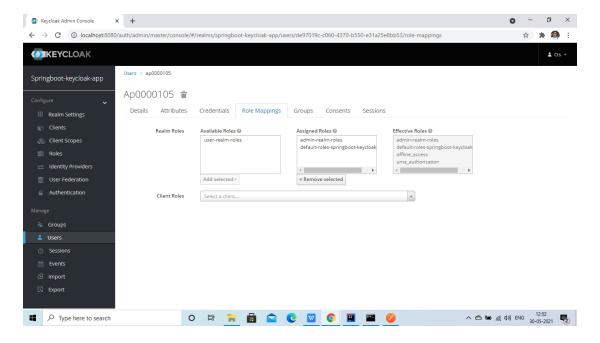
Assume that some API will be accessible by user role and some by admin role. Most often application will access realm roles rather than client role. We have to assign client role in realm roles as composite roles.

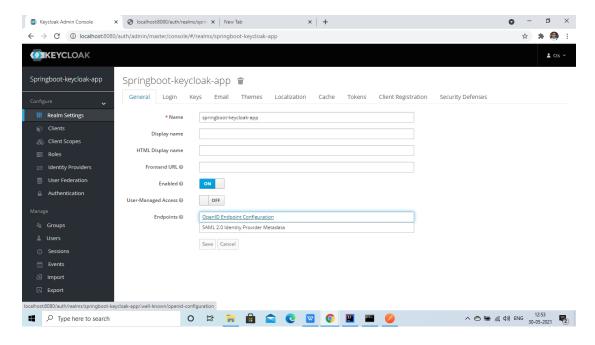




Create users:

We will create users AP0000103 for user-app roles and AP0000105 for admin roles.

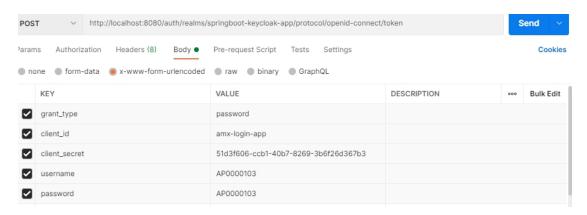




Now click on OpenID Endpoint Configuration link to get below details.

```
"issuer": "http://localhost:8888/auth/realms/springboot-keycloak-app/"
"authorization_endosint": "http://localhost:8888/auth/realms/springboot-keycloak-app/protocol/openid-connect/auth",
"token_endosint": "http://localhost:8888/auth/realms/springboot-keycloak-app/protocol/openid-connect/token",
"introspection_endosint": "http://localhost:8888/auth/realms/springboot-keycloak-app/protocol/openid-connect/token/introspect",
"userinfo_endosint": "http://localhost:8888/auth/realms/springboot-keycloak-app/protocol/openid-connect/connect/gout",
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```

Open postman and call service like below.



```
Response:
```

{ "access token": "eyJhbGciOiJSUzI1NiIsInR5cCIgOiAiSldUIiwia2lkIiA6ICJsYWtibzFXcj NBNUFoYzlNRThhMjE5TzM5UzVJVzgwWUFLZDVTNzRZdGVZIn0.eyJleHAiOjE2MjIzNjA2MjAsImlhdCI6M TYyMjM2MDMyMCwianRpIjoiMDY3NjhhYzgtYzk2MS00N2IyLWI1ZGEtZTdm0TUyZjY4MDYyIiwiaXNzIjoi aHR0cDovL2xvY2FsaG9zdDo4MDgwL2F1dGgvcmVhbG1zL3NwcmluZ2Jvb3Qta2V5Y2xvYWstYXBwIiwiYXV kIjoiYWNjb3VudCIsInN1YiI6IjFjNmM2MWE3LTJjODQtNDlhMS1hM2Y1LTE5MWNiMDZmZjk4YSIsInR5cC I6IkJlYXJlciIsImF6cCI6ImFteC1sb2dpbi1hcHAiLCJzZXNzaW9uX3N0YXR1IjoiZTEwYzNhMjItNjdlM S00ZjkwLTk2YTAtYWR1Mjk5ZGU1ZDlkIiwiYWNyIjoiMSIsImFsbG93ZWQtb3JpZ2lucyI6WyJodHRwOi8v bG9jYWxob3N00jgwODAiXSwicmVhbG1fYWNjZXNzIjp7InJvbGVzIjpbInVzZXItcmVhbG0tcm9sZXMiLCJ vZmZsaW51X2FjY2VzcyIsInVtYV9hdXRob3JpemF0aW9uIiwiZGVmYXVsdC1yb2xlcy1zcHJpbmdib290LW tleWNsb2FrLWFwcCJdfSwicmVzb3VyY2VfYWNjZXNzIjp7ImFteC1sb2dpbi1hcHAiOnsicm9sZXMiOlsid XNlciJdfSwiYWNjb3VudCI6eyJyb2xlcyI6WyJtYW5hZ2UtYWNjb3VudCIsIm1hbmFnZS1hY2NvdW50LWxp bmtzIiwidmlldy1wcm9maWxlIl19fSwic2NvcGUiOiJlbWFpbCBwcm9maWxlIiwiZW1haWxfdmVyaWZpZWQ iOnRydWUsInByZWZlcnJlZF91c2VybmFtZSI6ImFwMDAwMDEwMyJ9.0kJdhlH4FksDYUXol37CEKPodXGt6 VV84qKCsYtgmZ7-EllJOxbTVpHl50xcPVUrooe1ZN4IWfqidl7XIXehpuCdPBEJSppPvl6Eq2LHqIvhjIimq1vd1hIinjHh1Cl CBIm2yq5ws4Qf0M38YfS2Ch7uV29gvvt7zAu6d1Wv3jde5o2nPKNBWZ2V8iBEG5SfNmoPcY98zEBJ-XXeYHFIFR4h28ymRjjEdLP3zN22Q7Jn9eNECAcmAFyi38WtFFS15t432 fYvRUzsZLPRqUyrQz-

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"refresh_expires_in": 1800,
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"token_type": "Bearer",
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   "scope": "email profile"
}
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