Keycloak SPI

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SPI Functionality:

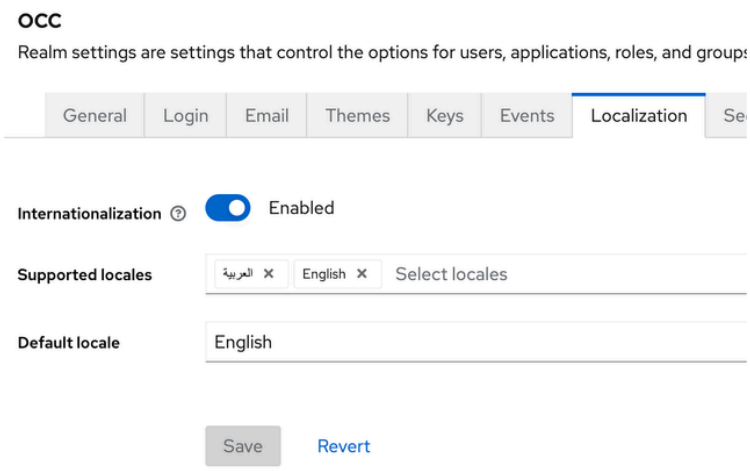
- Phone support like e-mail
- One Time Password (OTP) by phone | email
- Login by phone | email
- Register with phone | email
- Authentication by phone | email

Phone registration support

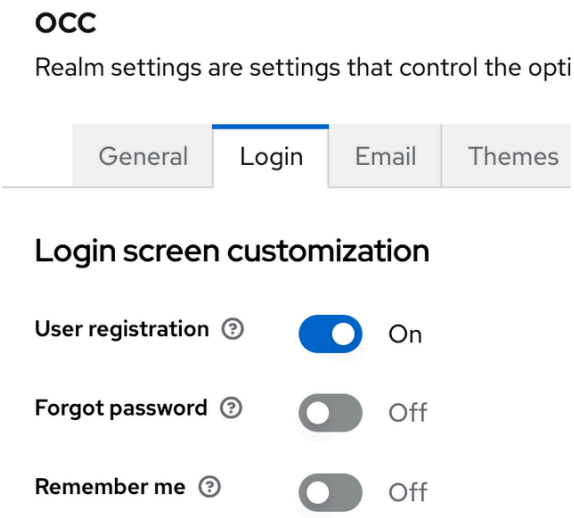
Two user attributes are going to be used by this provider: `phoneNumberVerified` (bool) and `phoneNumber|email` (str). Multiple users can have the same `phoneNumber|email`, but only one of them will have `phoneNumberVerified = true` at the end of a verification process. This accommodates the use case of pre-paid numbers that get recycled if inactive for too much time.

Under `Authentication` > `Flows`:

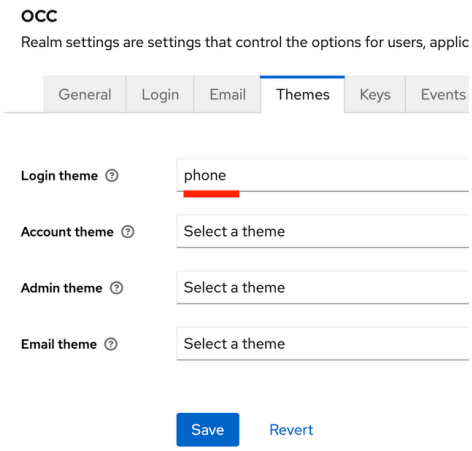
1. Enable the `Internationalization` option with the support of `Arabic` language under `Realm Settings` > `Localization`



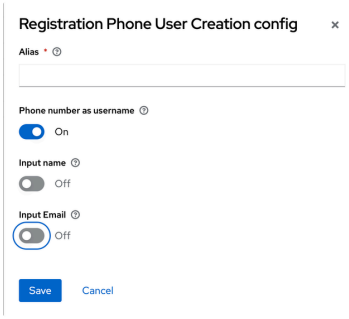
2. Enable the `User registration` option under `Realm Settings` > `Login`



3. Under `Realm Settings` > `Themes` Set `Login Theme` to `phone`

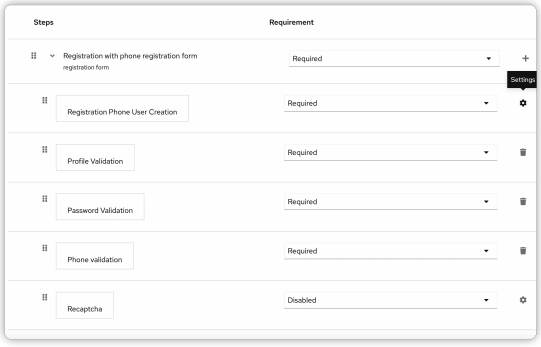


4. Duplicate the `Registration` flow to `Registration with phone | email` flow through the menu button on the right of the `registration` flow
5. Bind the newly created `Registration with phone | email` flow by clicking on actions on the top right
6. Replace `Registration User Profile Creation` by deleting it and adding a step named `Registration Phone User Creation`
7. Once `Registration Phone User Creation` step is added, move it to the top
8. Set `Registration Phone User Creation` step requirement to Required
9. Click on settings for `Registration Phone User Creation` to disable input email and input name



10. Enable phone verification, click on `Registration with phone registration Form` > `Add` `Phone validation` if you want to verify phone.
11. (Optional) Read query parameter add to user attribute:
    Click on `Registration with phone registration Form` > `Actions` > `Add execution` on the `Query Parameter Reader` line
    Click on `Registration with phone registration Form` > `Actions` > `configure` add accept param name in to
12. (Optional) Hidden password field:
    Delete or disable `Password Validation`.
13. (Optional) if not any user profile:
    Delete or disable `Profile Validation`

Tip: If Realm parameter `Email as username` is true, then config `Phone number as username` and `hide email` is invalid!
If parameter `duplicate-phone` is true then `Phone number as username` is invalid!



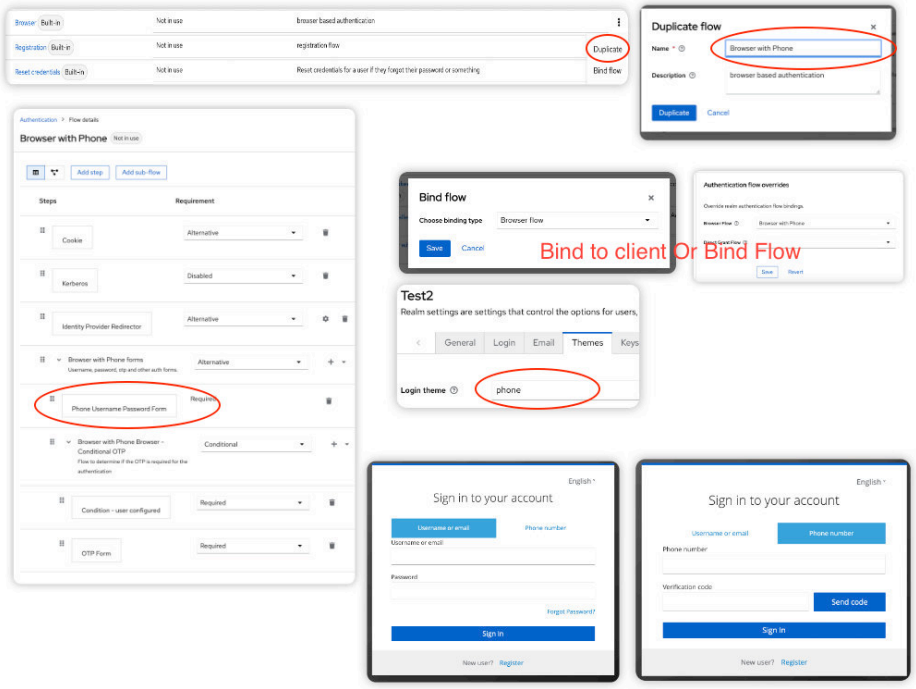
Registration URL:

<http://<domain>>/realms/<realm name>/protocol/openid-connect/registrations?client_id=<client id>&response_type=code&scope=openid%20email&redirect_uri=<redirect_uri>

Login by phone

Under `Authentication` > `Flows`:

1. Duplicate the `Browser` flow to `Browser with phone` flow
2. Set Bind `Browser with phone` to `Browser flow` On the `Authentication` page, bind `Browser with phone` to `Browser flow`
3. Replace `Username Password Form` with `Phone Username Password Form`
4. Click on the settings icon next to `Phone Username Password Form` to configure.
5. If theme not updated, under `Realm Settings` > `Themes` Set Login Theme as `phone`

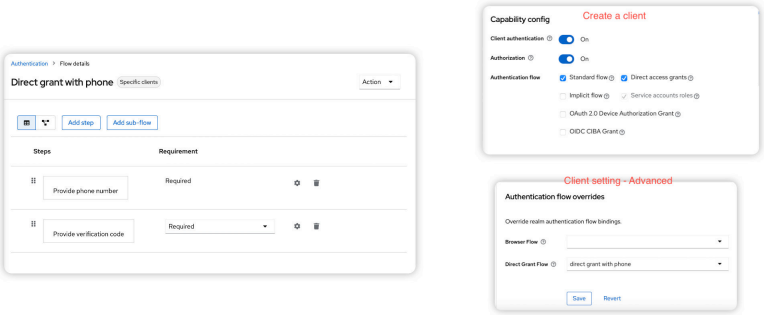


Only use phone login or get Access token use endpoints:

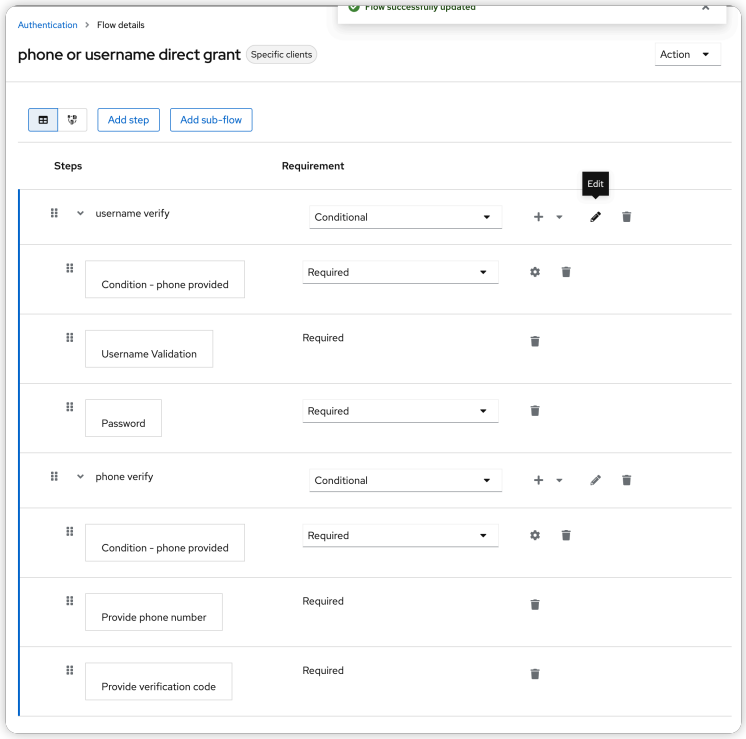
Under `Authentication` > `Flows` :

- Copy the `Direct Grant` flow to `Direct grant with phone` flow
- Click on `Add step` on the `Provide Phone Number` line
- Click on `Add step` on the `Provide Verification Code` line
- Delete or disable other
- Set both of `Provide Phone Number` and `Provide Verification Code` to `REQUIRED`

Under `Clients` > `$YOUR_CLIENT` > `Advanced` > `Authentication Flow Overrides` Bind `Direct Grant Flow` to `Direct grant with phone`



Either Phone/OTP or Username/Password :



Android client example

Everybody phone number (if not exists create user by phone number) get Access token use endpoints:

Under `Authentication` > `Flows` :

- Copy the `Direct Grant` flow to `Direct grant everybody with phone` flow
- Click on `Actions` > `Add step` on the `Authentication Everybody By Phone` line and move to first
- Delete or disable other
- Set `Authentication Everybody By Phone` to `REQUIRED`

Under `Clients` > `$YOUR_CLIENT` > `Advanced` > `Authentication Flow Overrides` Set Direct Grant Flow to `Direct grant everybody with phone`

About the API endpoints:

You'll get 2 extra endpoints that are useful to do the verification from a custom application.

- `GET /realms/{realmName}/sms/verification-code?phoneNumber=+5534990001234` (To request a number verification. No auth required.)
- `POST /realms/{realmName}/sms/verification-code?phoneNumber=+5534990001234&code=123456` (To verify the process. User must be authenticated.)

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- `GET /realms/{realmName}/sms/authentication-code?phoneNumber=+5534990001234` (To request a number verification. No auth required.)
- `POST /realms/{realmName}/protocol/openid-connect/token` `Content-Type: application/x-www-form-urlencoded`
  `grant_type=password&phone_number=$PHONE_NUMBER&code=$VERIFICATION_CODE&client_id=$CLIENT_ID&client_secret=$CLIENT_SECRECT`

And then use Verification Code authentication flow with the code to obtain an access code.

To test the Token we can use the following API:

POST /realms/ `{realmName}` /protocol/openid-connect/token

Params:

1- Authorization: Bearer token.

2- content-type: application/json