

#### 2.4.2.8 Create `handleKeycloakCallback` Function

In the **LoginController.php** file, create a `handleKeycloakCallback` function. This function processes the Keycloak callback by exchanging the authorization code for an access token, enabling secure user authentication and access to protected resources.

```
public function handleKeycloakCallback(Request $request)
{
    $code = $request->input('code');

    if (!$code) {
        return redirect('/login')->withErrors(['error' => 'Authorization code not received.']);
    }

    $token = $this->getAccessTokenFromKeycloak($code);

    if (!$token) {
        return redirect('/login')->withErrors(['error' => 'Failed to retrieve access token from Keycloak.']);
    }
}
```

**Figure 21: `handleKeycloakCallback` Function**

Retrieve the user information using the access token by querying the Keycloak User Info endpoint. Extract the IC number and name from the response to securely access and utilize these details within the application for user identification and processing.

```
$userInfo = $this->getUserInfoFromKeycloak($token);

$nrhc = $userInfo->nrhc ?? null;

$name = $userInfo->nama ?? 'New User';

session(['nrhc' => $nrhc, 'name' => $name]);
```

**Figure 22: Retrieve User Information**

Verify if the IC number exists in the users table by checking for a matching record. Ensure that the provided IC number is properly hashed and matches the stored hashed value for accurate user identification and secure authentication.

```
$user = User::whereNotNull('ic_number')->get()->filter(function ($user) use ($nrhc) {
    return Hash::check($nrhc, $user->ic_number);
})->first();
```

**Figure 23: Verify IC Number**

Verify if the provided IC number matches the hashed value stored in the database. If a match is found, proceed to log the user in. If the IC number is not found or does not match, handle the necessary steps for linking the user's account or initiating the registration process.

```
if ($user && Hash::check($nric, $user->ic_number)) {  
    Auth::login($user);  
    session()->regenerate();  
    return redirect()->intended('dashboard');  
} else {  
    if (!$user) {  
        return redirect()->route('icnumber.notfound');  
    } else {  
        return redirect()->route('icnumber.link');  
    }  
}
```

**Figure 24: Verify IC Number with The Hashed Value Stored in The Database**