

Connecting External Identity Providers

This guide explains how to integrate external identity providers (IdPs) like **Google**, **GitHub**, **Facebook**, or **LDAP/Active Directory** into a Keycloak realm. It walks through the necessary setup, configuration, and execution of a login flow that delegates authentication to the external provider.

Variables

Certain parameters must be provided to integrate an external identity provider into Keycloak. Below is a breakdown of each required variable, its purpose, and where to find it. Here's what each variable represents:

Variable	Description	Purpose
<code>IDP_ALIAS</code>	Unique alias name for the identity provider in Keycloak	Used to identify and manage the identity provider internally
<code>CLIENT_ID</code>	OAuth2/OpenID Connect Client ID provided by the external IdP	Authenticates Keycloak with the external provider
<code>CLIENT_SECRET</code>	Client secret provided by the external IdP	Used for secure communication with the IdP
<code>AUTH_URL</code>	Authorization endpoint of the external provider	Used to start the OAuth2 login flow
<code>TOKEN_URL</code>	Token endpoint of the external provider	Used to exchange authorization code for access token
<code>USERINFO_URL</code>	User info endpoint of the external provider (for OIDC)	Fetches profile info for the logged-in user

These values are available from the external identity provider's developer console (e.g., Google Cloud Console, GitHub Developer Settings, Facebook for Developers, or LDAP configuration).

Prerequisites

Keycloak Admin Access

Make sure you are logged into the Keycloak Admin Console with sufficient permissions to:

- Modify identity providers

- Configure clients and mappers
- Assign default roles or groups (optional)

External Provider Setup

You must first register your Keycloak app with the external identity provider (e.g., Google, GitHub, etc.) and obtain the **client ID** and **client secret**, along with **redirect URI**.

Example (Google):

- Go to <https://console.cloud.google.com>
- Register a new OAuth2 Client under **APIs & Services > Credentials**
- Set redirect URI to:

```
https://<keycloak-domain>/realms/<your-realm>/broker/google/endpoint
```

Code-Free Setup (via Keycloak Admin UI)

1. Go to your realm > Identity Providers
2. Click "Add provider" → Choose from list (e.g., Google, GitHub, Facebook, etc.)

The screenshot shows the 'Identity providers' configuration page in the Keycloak Admin UI. At the top, it says 'Identity providers are social networks or identity brokers that allow users to authenticate to Keycloak.' Below this, there is a section for 'User-defined' providers with three options: 'Keycloak OpenID Connect', 'OpenID Connect v1.0', and 'SAML v2.0'. A 'Social' section follows, displaying a grid of social media and service providers including BitBucket, Facebook, GitHub, GitLab, Google, Instagram, LinkedIn, Microsoft, Openshift v4, PayPal, StackOverflow, and Twitter.

3. Enter the required fields:
 - **Alias:** google, github, etc.

- **Client ID:** From the external IdP
- **Client Secret:** From the external IdP

4. Configure **Default Scopes** and any user attribute mappers (e.g., email, name)
5. Enable the provider by checking **“Enabled”**
6. Save

You'll now see the provider appear on your login page as a social button or link.

LDAP / Active Directory Integration

For enterprise identity backends like **LDAP** or **Active Directory**, follow these steps:

- Go to **User Federation > Add Provider → LDAP**
- Fill in the following fields:

Field	Example
Connection URL	ldap://ldap.mycompany.com
Users DN	ou=users,dc=mycompany,dc=com
Bind DN	cn=admin,dc=mycompany,dc=com
Bind Credential	Your LDAP admin password
Vendor	Choose from Active Directory, Novell, Red Hat, etc.

- Set Edit Mode to `READ_ONLY` or `WRITABLE` based on your use case
- Enable periodic sync if needed under **Sync Settings**
- Save and test the connection

Execution

Once saved, test the login by:

1. Navigating to the Keycloak login page
2. You will now see **“Login with Google”**, **“Login with GitHub”**, etc.
3. Click the button to initiate the external login
4. Upon successful authentication, you will be redirected back to Keycloak with a valid session

You can manage the linked identity in the Keycloak Admin Console under:

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