



# Overview

Casdoor is a UI-first [Identity Access Management \(IAM\)](#) / [Single-Sign-On \(SSO\)](#) platform based on OAuth 2.0, OIDC, SAML, and CAS.

You need to enable JavaScript to run this app.

Casdoor serves both the web UI and the login requests from application users.

# Casdoor features

1. Casdoor follows a front-end and back-end separate architecture, developed by Golang. It supports high concurrency, provides a web-based UI for management, and supports localization in 10+ languages.
2. Casdoor supports third-party application login, such as GitHub, Google, QQ, and WeChat, and it supports extending third-party login with plugins.
3. Casdoor supports authorization management based on [Casbin](#). It supports ACL, RBAC, ABAC, and RESTful access control models.
4. Casdoor provides phone verification code, email verification code, and password retrieval functions.
5. Casdoor supports auditing and recording of accessing logs.
6. Casdoor integrates with Alibaba Cloud, Tencent Cloud, and Qiniu Cloud image CDN cloud storage.
7. Casdoor allows customization of registration, login, and password retrieval pages.
8. Casdoor supports integration with existing systems by database synchronization, enabling smooth transition to Casdoor.
9. Casdoor supports mainstream databases such as MySQL, PostgreSQL, and SQL Server, and it supports the extension of new databases with plugins.

# How it works



## Step 0 (Pre-knowledge)

1. Casdoor follows the authorization process built upon the OAuth 2.0 protocol. It is highly recommended to have a brief understanding of how OAuth 2.0 works. You can refer to this [introduction](#) to OAuth 2.0.

## Abstract Protocol Flow



## Step 1 (Authorization Request)

Your Application (which could be a website or any other application) should compose a URL in the following format: `endpoint/login/oauth/authorize?client_id=xxx&response_type=code&redirect_uri=xxx&scope=read&state=xxx`. Replace `endpoint` with your Casdoor's host URL and `xxx` with your own information.

### ⓘ HINTS

How to fill out the `xxx` parts?

- For `client_id`: you can find this under each individual Application
- For `redirect_uri`: you should set this to your own Application's callback URL. Casdoor will use this information to send the response back after authorization.
- For `state`: you should fill this out with your Application name.

The Application will prompt the user: *"Hey, I need some resources and I need your permission to access these resources. Can you go to this URL and enter your username and password for me?"*

With the correctly composed URL, your Application will make the user launch a request to this URL, and the `Authorization Request` is completed.

## Step 2 (Authorization Grant)

This step is straightforward: the user is redirected to the URL composed in Step 1, and the user will see the login page from Casdoor. By entering the correct username and credentials into the login page, Casdoor now knows the identity of the user and is about to send two pieces of information back to the callback URL set in Step 1: `code` and `state`.

The user opens the URL and provides the credentials to Casdoor. Casdoor will say: "*Looking good ~ this is the user who is authorizing the Application to get the `code` and `state`. I know this user in my database, and I will send the `code` and `state` back to the Application using the callback URL (`redirect_uri`)*"

With these two pieces of information sent back to your Application, the authorization is granted to the app, and the `Authorization Grant` is completed.



### TIP

Casdoor also provides third-party logins. In this case, instead of seeing the credential entry page, you will see a list of third-party providers. You can log in to your app using these providers, with Casdoor acting as a middle layer (middleware).

## Step 3 (Authorization Grant)

In this step, your Application already has the code from Step 2, and it will speak to Casdoor: "*Hey, the user agreed to give me the `code`. Can you verify this `code` and give me the `access_token`?*"

## Step 4 (Access Token)

Casdoor responds to your Application: "*You know what, this `code` seems legit. You must be the right Application. Here's the `access_token` for you.*" With this `code`, Casdoor confirms that it is an authorized Application (authorized by the correct user in Step 2) trying to obtain the `access_token` (which will be used later to access more resources).

## Step 5 (Access Token)

In this step, your Application says: "Nice! I just got the fresh-and-tasty `access_token`. Now I can use it to access something more valuable from the `Resource Server`!"

Your Application then turns to the `Resource Server` and says: "Hey buddy, can you check out this `access_token`? I received it from Casdoor. Do you want to verify if this is the correct token you issued to Casdoor?"

## Step 6 (Protected Resource)

The `Resource Server` responds to your Application: "Not bad. It seems just like the one I issued to Casdoor, and Casdoor says whoever holds this `access_token` can access these `Protected Resources`. So go ahead and take it!"

And that's basically how Casdoor works with your Application.

### HINT

Casdoor can act as both an `Authorization Server` and a `Resource Server`. In other words, Casdoor authorizes your Application to access resources, usually the currently logged-in user's information, from Casdoor's database.

## Online demo

### Casdoor

Here is an online demo deployed by Casbin.

- [Casdoor official demo](#)

Global admin login:

- Username: `admin`
- Password: `123`

## Casbin-OA

Casbin-OA is one of the Casbin web apps. It uses Casdoor for authentication.

- [Casbin-OA](#)
- Source code: <https://github.com/casbin/casbin-oa>

## Casnnode

Casnnode is the official forum developed by the Casbin community.

It uses Casdoor as the authentication platform and manages members.

- [Casnnode](#)
- Source code: <https://github.com/casbin/casnnode>

## Architecture

Casdoor consists of two parts:

Name	Description	Language	Source code
Frontend	Web frontend UI for Casdoor	JavaScript + React	<a href="https://github.com/casdoor/casdoor/tree/master/web">https://github.com/casdoor/casdoor/tree/master/web</a>
Backend	RESTful API backend for Casdoor	Golang + Beego + SQL	<a href="https://github.com/casdoor/casdoor">https://github.com/casdoor/casdoor</a>

# Core Concepts

As a Casdoor administrator, you should be familiar with at least four core concepts: `Organization`, `User`, `Application`, and `Provider`.



TIP

In the following parts, we will use the demo site <https://door.casdoor.com> as an example.

## Organization

In Casdoor, an organization is a container for users and applications. For example, all the employees of a company or all the customers of a business can be abstracted as one organization. The `Organization` class definition is shown below:

```
type Organization struct {
    Owner      string `xorm:"varchar(100) notnull pk" json:"owner"`
    Name       string `xorm:"varchar(100) notnull pk" json:"name"`
    CreatedTime string `xorm:"varchar(100)" json:"createdTime"`

    DisplayName     string `xorm:"varchar(100)" json:"displayName"`
    WebsiteUrl    string `xorm:"varchar(100)" json:"websiteUrl"`
    Favicon        string `xorm:"varchar(100)" json:"favicon"`
    PasswordType   string `xorm:"varchar(100)" json:"passwordType"`
    PasswordSalt   string `xorm:"varchar(100)" json:"passwordSalt"`
    PhonePrefix    string `xorm:"varchar(10)" json:"phonePrefix"`
    DefaultAvatar  string `xorm:"varchar(100)" json:"defaultAvatar"`
    Tags          []string `xorm:"mediumtext" json:"tags"`
    MasterPassword string `xorm:"varchar(100)" json:"masterPassword"`
    EnableSoftDeletion bool `json:"enableSoftDeletion"`
    IsProfilePublic bool `json:"isProfilePublic"`

    AccountItems []*AccountItem `xorm:"varchar(2000)" json:"accountItems"`
}
```

## User

In Casdoor, a user can log into an application. Each user can belong to only one organization but can log into multiple applications owned by the organization. Currently, there are two types of users in Casdoor:

- `built-in` organization users, such as `built-in/admin`: global administrators who have full administrative power on the Casdoor platform.
- Other organizations' users, such as `my-company/alice`: normal users who can sign up, sign in, sign out, change their own profile, etc.

In the Casdoor API, a user is typically identified as `<organization_name>/<username>`. For example, the default administrator of Casdoor is denoted as `built-in/admin`. Additionally, the `User` class definition includes an `id` property, which is a UUID like `d835a48f-2e88-4c1f-b907-60ac6b6c1b40` and can be chosen as a user's ID by an application.



TIP

For applications that are only for one organization, it's possible to use `<username>` instead of `<organization_name>/<username>` as the user ID across the application for simplicity.

Here's the `User` class definition:

```
type User struct {
    Owner      string `xorm:"varchar(100) notnull pk" json:"owner"`
    Name       string `xorm:"varchar(100) notnull pk" json:"name"
```

# Application

An application represents a web service that needs to be protected by Casdoor, such as a forum site, an OA system, or a CRM system.

```
type Application struct {
    Owner          string      `xorm:"varchar(100) notnull pk" json:"owner"`
    Name           string      `xorm:"varchar(100) notnull pk" json:"name"`
    CreatedTime    string      `xorm:"varchar(100)" json:"createdTime"`
    DisplayName    string      `xorm:"varchar(100)" json:"displayName"`
    Logo            string      `xorm:"varchar(100)" json:"logo"`
    HomepageUrl   string      `xorm:"varchar(100)" json:"homepageUrl"`
    Description    string      `xorm:"varchar(100)" json:"description"`
    Organization   string      `xorm:"varchar(100)" json:"organization"`
    Cert           string      `xorm:"varchar(100)" json:"cert"`
    EnablePassword bool        `json:"enablePassword"`
    EnableSignUp   bool        `json:"enableSignUp"`
    EnableSigninSession bool     `json:"enableSigninSession"`
    EnableCodeSignin bool      `json:"enableCodeSignin"`
    Providers      []*ProviderItem `xorm:"mediumtext" json:"providers"`
    SignupItems    []*SignupItem  `xorm:"varchar(1000)" json:"signupItems"`
    OrganizationObj *Organization `xorm:"-"`
    ClientId       string      `xorm:"varchar(100)" json:"clientId"`
    ClientSecret   string      `xorm:"varchar(100)" json:"clientSecret"`
    RedirectUris   []string    `xorm:"varchar(1000)" json:"redirectUris"`
    TokenFormat    string      `xorm:"varchar(100)" json:"tokenFormat"`
    ExpireInHours  int         `json:"expireInHours"`
    RefreshExpireInHours int      `json:"refreshExpireInHours"`
    SignupUrl      string      `xorm:"varchar(200)" json:"signupUrl"`
    SigninUrl      string      `xorm:"varchar(200)" json:"signinUrl"`
    ForgetUrl      string      `xorm:"varchar(200)" json:"forgetUrl"`
    AffiliationUrl string      `xorm:"varchar(100)" json:"affiliationUrl"`
    TermsOfUse      string      `xorm:"varchar(100)" json:"termsOfUse"`
    SignupHtml      string      `xorm:"mediumtext" json:"signupHtml"`
    SigninHtml      string      `xorm:"mediumtext" json:"signinHtml"`
}
```

Each application can have its own customized sign-up page, sign-in page, and more. The root login page `/login` (e.g., <https://door.casdoor.com/login>) is the sign-in page only for Casdoor's built-in application: `app-built-in`.

An application is a "portal" or "interface" for a user to log into Casdoor. A user must go through one application's sign-in page to log into Casdoor.

Application	Sign-up page URL	Sign-in page URL
app-built-in	<a href="https://door.casdoor.com/signup">https://door.casdoor.com/signup</a>	<a href="https://door.casdoor.com/login">https://door.casdoor.com/login</a>
app-casnode	<a href="https://door.casdoor.com/signup/app-casnode">https://door.casdoor.com/signup/app-casnode</a>	<a href="https://door.casdoor.com/login/oauth/authorize?client_id=014ae4bd048734ca2dea&amp;response_type=code&amp;redirect_uri=http://localhost:9000/callback&amp;scope=read&amp;state=casdoor">https://door.casdoor.com/login/oauth/authorize?client_id=014ae4bd048734ca2dea&amp;response_type=code&amp;redirect_uri=http://localhost:9000/callback&amp;scope=read&amp;state=casdoor</a>
app-casbin-oa	<a href="https://door.casdoor.com/signup/app-casbin-oa">https://door.casdoor.com/signup/app-casbin-oa</a>	<a href="https://door.casdoor.com/login/oauth/authorize?client_id=0ba528121ea87b3eb54d&amp;response_type=code&amp;redirect_uri=http://localhost:9000/callback&amp;scope=read&amp;state=casdoor">https://door.casdoor.com/login/oauth/authorize?client_id=0ba528121ea87b3eb54d&amp;response_type=code&amp;redirect_uri=http://localhost:9000/callback&amp;scope=read&amp;state=casdoor</a>

## Login URLs

It's very easy to log into Casdoor via Casdoor's built-in application; simply visit Casdoor server homepage (e.g., <https://door.casdoor.com> for

demo site) and it will automatically redirect you to `/login`. But how do you get the URLs for other applications in frontend and backend code? You can either concatenate strings manually or call some utility functions provided by Casdoor SDKs to get the URLs:

## 1. Manually concatenating strings

- Sign-up page URL
  - Signup for the specified application: `<your-casdoor-hostname>/signup/<your-application-name>`
  - Signup by OAuth: `<your-casdoor-hostname>/signup/oauth/authorize?client_id=<client-id-for-your-application>&response_type=code&redirect_uri=<redirect-uri-for-your-application>&&scope=read&state=casdoor`
  - Signup automatically: `<your-casdoor-hostname>/auto-signup/oauth/authorize?client_id=<client-id-for-your-application>&response_type=code&redirect_uri=<redirect-uri-for-your-application>&&scope=read&state=casdoor`
- Sign-in page URL
  - Sign-in for the specified organization: `<your-casdoor-hostname>/login/<your-organization-name>`
  - Sign-in by OAuth: `<your-casdoor-hostname>/login/oauth/authorize?client_id=<client-id-for-your-application>&response_type=code&redirect_uri=<redirect-uri-for-your-application>&&scope=read&state=casdoor`

## 2. Using frontend SDK (for frontend JavaScript code using React, Vue, or Angular)

`getSignupUrl()` and `getSigninUrl()`: [casdoor-js-sdk](#)

## 3. Using backend SDK (for backend code using Go, Java, etc.)

`GetSignupUrl()` and `GetSigninUrl()`: [casdoor-go-sdk](#)

# Provider

Casdoor is a federated single sign-on system that supports multiple identity providers via OIDC, OAuth, and SAML. Casdoor can also send verification codes or other notifications to users via email or SMS. Casdoor uses the concept of `Provider` to manage all these third-party connectors.

A list of all providers supported by Casdoor can be found at [provider/overview](#).

```
type Provider struct {
    Owner      string `xorm:"varchar(100) notnull pk" json:"owner"`
    Name       string `xorm:"varchar(100) notnull pk" json:"name"`
    CreatedTime string `xorm:"varchar(100)" json:"createdTime"`

    DisplayName  string `xorm:"varchar(100)" json:"displayName"`
    Category    string `xorm:"varchar(100)" json:"category"`
    Type        string `xorm:"varchar(100)" json:"type"`
    Method      string `xorm:"varchar(100)" json:"method"`
    ClientId   string `xorm:"varchar(100)" json:"clientId"`
    ClientSecret string `xorm:"varchar(100)" json:"clientSecret"`
    ClientId2  string `xorm:"varchar(100)" json:"clientId2"`
    ClientSecret2 string `xorm:"varchar(100)" json:"clientSecret2"`

    Host     string `xorm:"varchar(100)" json:"host"`
    Port     int     `json:"port"`
    Title    string `xorm:"varchar(100)" json:"title"`
    Content  string `xorm:"varchar(1000)" json:"content"`

    RegionId   string `xorm:"varchar(100)" json:"regionId"`
    SignName   string `xorm:"varchar(100)" json:"signName"`
    TemplateCode string `xorm:"varchar(100)" json:"templateCode"`
    AppId      string `xorm:"varchar(100)" json:"appId"`

    Endpoint      string `xorm:"varchar(1000)" json:"endpoint"`
    IntranetEndpoint string `xorm:"varchar(100)" json:"intranetEndpoint"`
    Domain        string `xorm:"varchar(100)" json:"domain"`
    Bucket        string `xorm:"varchar(100)" json:"bucket"`
}
```

## How does Casdoor manage itself?

Upon running Casdoor for the first time, some built-in objects are created to facilitate its management:

- A built-in organization named `built-in`.
- A user named `admin` in the `built-in` organization.
- A built-in application named `app-built-in`, administered by the `built-in` organization, representing Casdoor itself.

All users under the `built-in` organization, including `admin`, will have full administrator privileges on the Casdoor platform. Therefore, if there are multiple administrators, it is advisable to create new accounts under the `built-in` organization. Alternatively, the sign-up channel for the `app-built-in` application should be closed to prevent unwanted access.

 CAUTION

It is not possible to rename or delete the built-in objects via both the web UI or the RESTful API. Casdoor has hardcoded these reserved names in many places; attempting to rename or delete them by modifying the DB may cause the entire system to crash.



# Server Installation

## Requirements

### Operating System

All major operating systems, including Windows, Linux, and macOS, are supported.

### Environment

- Go 1.17+
- Node.js LTS (18)
- Yarn 1.x

 INFO

We strongly suggest using [Yarn 1.x](#) to run and build Casdoor frontend. Using NPM might cause UI styling issues. For more details, see: [casdoor#294](#).

 CAUTION

If your network fails to directly sync the Go dependency packages successfully, you need to use a Go proxy by configuring the GOPROXY environment variable. We strongly recommend using: <https://goproxy.cn/>

# Database

Casdoor uses **XORM** to communicate with the database. Based on **Xorm Drivers Support**, Casdoor currently provides support for the following databases:

- MySQL
- MariaDB
- PostgreSQL
- CockroachDB
- SQL Server
- Oracle
- SQLite 3
- TiDB

# Download

The source code of Casdoor is hosted on GitHub: <https://github.com/casdoor/casdoor>. Both the Go backend code and React frontend code are contained in a single repository.

Name	Description	Language	Source code
Frontend	Web frontend UI for Casdoor	JavaScript + React	<a href="https://github.com/casdoor/casdoor/tree/master/web">https://github.com/casdoor/casdoor/tree/master/web</a>
Backend	RESTful API backend for	Golang + Beego +	<a href="https://github.com/casdoor/casdoor">https://github.com/casdoor/casdoor</a>

Name	Description	Language	Source code
	Casdoor	XORM	

Casdoor supports [Go Modules](#). To download the code, simply clone the code using git:

```
cd path/to/folder  
git clone https://github.com/casdoor/casdoor
```

# Configuration

## Configure Database

Casdoor supports MySQL, MSSQL, SQLite3, and PostgreSQL. By default, Casdoor uses MySQL.

### MySQL

Casdoor stores user, node, and topic information in a MySQL database named [casdoor](#). If the database does not exist, it must be created manually. The DB connection string can be specified at: <https://github.com/casdoor/casdoor/blob/master/conf/app.conf>

```
driverName = mysql  
dataSourceName = root:123456@tcp(localhost:3306)/  
dbName = casdoor
```

## PostgreSQL

Before running Casdoor, you need to manually prepare a database for PostgreSQL, as Casdoor requires selecting a database when opening Postgres with xorm.

Assuming you have already prepared a database called `casdoor`, you should specify `app.conf` like this:

```
driverName = postgres
dataSourceName = "user=postgres password=postgres host=localhost
port=5432 sslmode=disable dbname=casdoor"
dbName =
```

 INFO

For PostgreSQL, ensure that `dataSourceName` has a non-empty `dbName`, and leave the standalone `dbName` field empty as shown in the example above.

## CockroachDB

CockroachDB can also be used with the PostgreSQL driver and has the same configuration as PostgreSQL.

```
driverName = postgres
dataSourceName = "user=postgres password=postgres host=localhost
port=5432 sslmode=disable dbname=casdoor
serial_normalization=virtual_sequence"
dbName =
```

### (!) INFO

For CockroachDB, remember to add

`serial_normalization=virtual_sequence` to the `dataSourceName` as shown in the example above. Otherwise, you will get an error regarding an existing database whenever the service starts or restarts. Note that this must be added before the database is created.

## SQLite3

To configure SQLite3, you should specify `app.conf` like this:

```
driverName = sqlite
dataSourceName = "file:casdoor.db?cache=shared"
dbName = casdoor
```

## Via Ini file

Casdoor can be configured via a single file: [conf/app.conf](#), which by default contains the following content:

```
appname = casdoor
httpport = 8000
runmode = dev
SessionOn = true
copyrequestbody = true
driverName = mysql
dataSourceName = root:123456@tcp(localhost:3306)/
dbName = casdoor
tableNamePrefix =
showSql = false
redisEndpoint =
```

- `appname` is the application name, which currently has no practical use.
- `httpport` is the port that your backend application is listening on.
- `runmode` can be set to `dev` or `prod`.
- `SessionOn` determines whether to enable session and is enabled by default.
- `driverName`, `dataSourceName`, and `dbName` were introduced earlier. Please see [Configure Database](#) for details.
- `verificationCodeTimeout` sets the expiration time of the verification code. After expiration, the user needs to obtain it again.

As a beginner, you only need to modify two items: `driverName` and `dataSourceName` based on your database. This database will be used by Casdoor to store all data, including users, organizations, and applications.

- `tableNamePrefix` is the prefix of the table when using an adapter.
- `showSql` determines whether to show SQL statements on the logger if the log level is greater than INFO.
- `redisEndpoint` is the Redis endpoint used by Beego session storage. If this parameter is empty, the session data will be stored locally as files in the `./tmp` folder. To use Redis as Beego session storage, the value would be something like: `redis.example.com:6379`. If Redis is deployed locally, you can use `localhost:6379`. If Redis password is enabled, use `redis.example.com:6379, db, password`. See more details at: <https://github.com/beego/beedoc/blob/master/en-US/module/session.md#saving-provider-config>.
- `defaultStorageProvider` is the default file storage service name. If you need to use file storage services such as avatar upload, you need to set up a storage provider and apply it in your application. See [storage](#) for details.
- `isCloudIntranet` is used to identify whether your provider endpoint is an intranet endpoint.
- `authState` is the authorization application name. This parameter will be

checked when logging in.

- `socks5Proxy` is the SOCKS proxy server IP address. Set the proxy port because we have Google-related services or use `Google`, `Github`, `Facebook`, `LinkedIn`, or `Steam` as OAuth Providers, which may be restricted by the network in some areas.
- `initScore` is the initial score of each user. Each user has a `score` attribute. The score is used by `Casnode` and does not control anything in Casdoor.
- `logPostOnly` is used to determine whether only the `post` method is used to add a record.
- `origin` is the origin backend domain name.
- `staticBaseUrl` is the address of the static image used when the system initializes the database.
- `enableGzip` will accept and respond with gzip encoding if the request header includes `Accept-Encoding=gzip`.

## Via Environment Variables

All configuration items defined by Casdoor in the ini file mentioned above can be configured via environment variables, as well as some of the beego configurations items (`httpport`, `appname`).

For example, when you try to start Casdoor, you can use something like this to pass the configuration via environment variables:

```
appname=casbin go run main.go
```

In addition, `export` derivatives are also a possible method. The names of environmental variables should exactly match the names you want to use in the ini file.

Note: configurations in environmental variables can override the configurations in the ini file.

# Run

There are currently two methods to start, and you can choose one according to your situation.

## Development Mode

### Backend

Casdoor's Go backend runs on port 8000 by default. You can start the Go backend with the following command:

```
go run main.go
```

After the server is successfully running, you can start the frontend part.

### Frontend

Casdoor's frontend is a very classic [Create-React-App \(CRA\)](#) project. It runs on port `7001` by default. Use the following commands to run the frontend:

```
cd web
yarn install
yarn start
```

Visit <http://localhost:7001> in your browser. Log into the Casdoor dashboard with the default global admin account: `built-in/admin`.

```
admin  
123
```

## Production Mode

### Backend

Build the Casdoor Go backend code into an executable and start it.

For Linux:

```
go build  
.casdoor
```

For Windows:

```
go build  
casdoor.exe
```

### Frontend

Build the Casdoor frontend code into static resources (.html, .js, .css files):

```
cd web  
yarn install  
yarn build
```

Visit <http://localhost:8000> in your browser. Log into the Casdoor dashboard with the default global admin account: `built-in/admin`.

admin

123



TIP

To use another port, please edit `conf/app.conf` and modify `httpport`, then restart the Go backend.

### ❗ CASDOOR PORT DETAILS

In the **dev** environment, the frontend is run by `yarn run` on port 7001, so if you want to go to the Casdoor login page, you need to set the Casdoor link as <http://localhost:7001>.

In the **prod** environment, the frontend files are first built by `yarn build` and served on port 8000, so if you want to go to the Casdoor login page, you need to set the Casdoor link as <https://your-casdoor-url.com:8000> (If you are using a reverse proxy, you need to set the link as your domain).

Take Our Official Forum Casnode as an Example

Casnnode uses Casdoor to handle authentication.

When we are testing Casnode in the **dev** environment, we set the `serverUrl` as <http://localhost:7001>, so when we test the signin and signup functionality using Casdoor, it will go to localhost 7001, which is the Casdoor port.

And when we put Casnode into the **prod** environment, we set the `serverUrl` as <https://door.casdoor.com>, so users can sign in or sign up using Casdoor.

```
|4 import * as ConfBackend from "./backend/ConfBackend.js"
|5
|6 export const AuthConfig = {
|7   // serverUrl: "https://door.casbin.com",
|8   serverUrl: "http://localhost:7001",
|9   clientId: "014ae4bd048734ca2dea",
|10  ...
|11}
```

# (Optional) Try with Docker

## Requirements

### Hardware

If you want to build the Docker image yourself, please ensure that your machine has at least 2GB of memory. Casdoor's frontend is an NPM project of React. Building the frontend requires at least 2GB of memory. Having less than 2GB of memory may result in a frontend build failure.

If you only need to run the pre-built image, please ensure that your machine has at least 100MB of memory.

### OS

All operating systems (Linux, Windows, and macOS) are supported.

### Docker

You can use Docker (docker-engine version  $\geq$  17.05) in Linux or Docker Desktop in Windows and macOS.

- [Docker](#)

Regardless of the operating system, users must ensure that they have docker-engine version  $\geq$  17.05. This is because we utilize the multi-stage build feature in the docker-compose.yml, which is supported in versions 17.05 and above. For more information, see <https://docs.docker.com/develop/develop-images/multistage-build/>.

If you are also using docker-compose, please ensure that you have **docker-compose version >= 2.2**. For Linux users, you also need to make sure that docker-compose is installed, as it is separate from docker-engine.

## Get the image

We have provided two DockerHub images:

Name	Description	Suggestion
<code>casdoor-all-in-one</code>	Both Casdoor and a MySQL database are included in the image	This image already includes a toy database and is only for testing purposes
<code>casdoor</code>	Only Casdoor is included in the image	This image can be connected to your own database and used in production

1. `casbin/casdoor-all-in-one`: This image includes the casdoor binary, a MySQL database, and all the necessary configurations. It is designed for new users who want to try Casdoor quickly. With this image, you can start Casdoor immediately with just one or two commands, without any complex configuration. However, please note that we **do not recommend** using this image in a production environment.

### Option-1: Use the toy database

Run the container with port `8000` exposed to the host. The image will be automatically pulled if it doesn't exist on the local host.

```
docker run -p 8000:8000 casbin/casdoor-all-in-one
```

### CAUTION

Some users in areas like China usually use Docker image mirror services like [Alibaba Cloud Image Booster \(English\)](#) to achieve higher download speeds compared to DockerHub. However, these services have a known issue where the `latest` tag provided by them is not up-to-date. As a result, fetching the `latest` tag may result in a very old image. To mitigate this issue, you can specify the image version number explicitly using the following command:

```
docker pull casbin/casdoor-all-in-one:$(`curl -sS "https://hub.docker.com/v2/repositories/casbin/casdoor-all-in-one/tags/?page_size=1&page=2" | sed 's/,/,\\n/g' | grep '"name"' | awk -F '"' '{print $4}'`)
```

Note: The above command utilizes Linux tools like `curl`, `sed`, `grep`, and `awk`. If you are using Windows, make sure you run it in a Linux-style shell like `Git Shell` or `Cygwin`. `CMD` or `PowerShell` won't work.

Visit <http://localhost:8000> in your browser. Log into the Casdoor dashboard with the default global admin account: `built-in/admin`

```
admin  
123
```

## Option-2: Try with docker-compose

### ⚠ CAUTION

Some users in areas like China usually use Docker image mirror services like [Alibaba Cloud Image Booster \(English\)](#) to achieve higher download speeds compared to DockerHub. However, these services have a known issue where the `latest` tag provided by them is not up-to-date. As a result, fetching the `latest` tag may result in a very old image. To mitigate this issue, you can specify the image version number explicitly using the following command:

```
docker pull casbin/casdoor:$(curl -sS "https://hub.docker.com/v2/repositories/casbin/casdoor/tags/?page_size=1&page=2" | sed 's/,/,\\n/g' | grep '"name"' | awk -F '"' '{print $4}')
```

Note: The above command utilizes Linux tools like `curl`, `sed`, `grep`, and `awk`. If you are using Windows, make sure you run it in a Linux-style shell like `Git Shell` or `Cygwin`. `CMD` or `PowerShell` won't work.

Create a `conf/app.conf` directory in the same directory level as the `docker-compose.yml` file. Then, copy `app.conf` from Casdoor. For more details about `app.conf`, you can see [Via Ini file](#).

Create a separate database using docker-compose:

```
docker-compose up
```

That's it! ✨

Visit <http://localhost:8000> in your browser. Log into the Casdoor dashboard with the default global admin account: `built-in/admin`

```
admin  
123
```

*Note: If you dig deeper into the docker-compose.yml file, you may be puzzled by the environment variable we created called "RUNNING\_IN\_DOCKER". When the database 'db' is created via docker-compose, it is available on your PC's localhost but not the localhost of the Casdoor container. To prevent you from running into troubles caused by modifying app.conf, which can be quite difficult for a new user, we provided this environment variable and pre-assigned it in the docker-compose.yml. When this environment variable is set to true, localhost will be replaced with host.docker.internal so that Casdoor can access the database.*

## Option-3: Try directly with the standard image

### **⚠ CAUTION**

Some users in areas like China usually use Docker image mirror services like [Alibaba Cloud Image Booster \(English\)](#) to achieve higher download speeds compared to DockerHub. However, these services have a known issue where the `latest` tag provided by them is not up-to-date. As a result, fetching the `latest` tag may result in a very old image. To mitigate this issue, you can specify the image version number explicitly using the following command:

```
docker pull casbin/casdoor:$(  
curl -sS  
"https://hub.docker.com/v2/repositories/casbin/casdoor/  
tags/?page_size=1&page=2" | sed 's/,/,\\n/g' | grep '"name"'
```

Note: The above command utilizes Linux tools like `curl`, `sed`, `grep`, and `awk`. If you are using Windows, make sure you run it in a Linux-style shell like `Git Shell` or `Cygwin`. `CMD` or `PowerShell` won't work.

### TIP

If it is not convenient to mount the configuration file to a container, using environment variables is also a possible solution.

#### example

```
docker run \
-e driverName=mysql \
-e dataSourceName='user:password@tcp(x.x.x.x:3306)/*' \
-p 8000:8000 \
casbin/casdoor:latest
```

Create `conf/app.conf`. You can copy it from `conf/app.conf` in Casdoor. For more details about `app.conf`, you can see [Via Ini file](#).

Then run

```
docker run -p 8000:8000 -v /folder/of/app.conf:/conf casbin/
casdoor:latest
```

Anyway, just mount the `app.conf` to `/conf/app.conf` and start the container.

Visit <http://localhost:8000> in your browser. Log into the Casdoor dashboard with the default global admin account: `built-in/admin`

admin

123

# Casdoor Public API

Casdoor is developed using a frontend and backend separated approach, as opposed to JSP or PHP. The Go backend exposes its functionalities solely through a RESTful API. The React frontend code consumes this API to render the web UI and perform various actions. This RESTful API is referred to as the `Casdoor Public API`. The API can be utilized by the following:

- Casdoor's frontend
- Casdoor client SDKs
- Any other customized code from the application side

The full reference for the `Casdoor Public API` can be found on Swagger: <https://door.casdoor.com/swagger>. These Swagger docs are automatically generated using Beego's Bee tool.

# Tutorials

## Product Documentation

Product	Technologies	Docs
Dashboard of PingCAP TiDB	React + TypeScript + Go + Gin	Use Casdoor for TiDB Dashboard SSO sign-in (other languages: <a href="#">Chinese</a> , <a href="#">Japanese</a> )
GitLab	Vue + Ruby + Rails	OpenID Connect OmniAuth provider
Apache Shenyu	Java	Casdoor Plugin (other languages: <a href="#">Chinese</a> )
Alist	TypeScript + SolidJS + Go + Gin	Casdoor SSO (other languages: <a href="#">Chinese</a> )
BookStack	jQuery + Bootstrap + Go + Beego	Casdoor integrates registration and login

# Articles

Technologies	Language	Title
ASP.NET Core 6	English	ASP.NET Core .NET 6 Demo Authentication Project using local Casdoor Docker Container on Windows Subsystem for Linux
OAuth2 Proxy (Go)	Chinese	Use Casdoor + OAuth-Proxy to protect web applications on public networks
Casnnode (JavaScript + React + Go + Beego)	Chinese	Use Lighthouse to set up a forum like V2ex
Cloudreve (Go)	Chinese	Modify Cloudreve to support Casdoor
KodExplorer (PHP)	Chinese	Modify KodExplorer to support Casdoor

# Deployment

## Data Initialization

How to initialize Casdoor data from files

## Hosting Static Files in a CDN

Hosting frontend static files in a CDN

## Hosting Static Files in an Intranet

How to deploy Casdoor static resources

## DB Migration

Handling DB Migration in Casdoor

# Data Initialization

If you are deploying Casdoor with other services as a complete application, you may want to provide an out-of-the-box feature for users. This means that users can directly use the application without any configuration.

In such a situation, you can use data initialization to register your service in Casdoor through a configuration file. This file can be pre-defined or dynamically generated by your own service.

## How to use

If there is a configuration file named `init_data.json` at the root directory of Casdoor, it will be used to initialize data in Casdoor. All you have to do is place this file in the root directory where Casdoor will run.

If you are using the official Docker image of Casdoor, here are some scripts that can help you to mount `init_data.json` into the container.

### Docker

If you deploy Casdoor with Docker, you can use the `volume` command to mount `init_data.json` into the container.

```
docker run ... -v /path/to/init_data.json:/init_data.json
```

### Kubernetes

If you deploy Casdoor with Kubernetes, you can use the `configmap` to store

`init_data.json`.

```
apiVersion: v1
kind: ConfigMap
metadata:
  name: casdoor-init-data
data:
  init_data.json:
```

You can mount the data into Casdoor `pods` by mounting the `configmap`. You can modify your `deployment` as follows:

```
apiVersion: apps/v1
kind: Deployment
...
spec:
  template:
    ...
      spec:
        containers:
          ...
            volumeMounts:
              - mountPath: /init_data.json
                name: casdoor-init-data-volume
                subPath: init_data.json
            volumes:
              - configMap:
                  name: casdoor-init-data
                  name: casdoor-init-data-volume
```

## File details

There is already a template named `init_data.json.template` in the root

directory of Casdoor repository. You can refer to this file to customize your initialization.

The following is the Go struct of each part and their documentation:

Object	Go Struct	Documentation
organizations	<a href="#">struct</a>	<a href="#">doc</a>
applications	<a href="#">struct</a>	<a href="#">doc</a>
users	<a href="#">struct</a>	<a href="#">doc</a>
providers	<a href="#">struct</a>	<a href="#">doc</a>
certs	<a href="#">struct</a>	
Idaps	<a href="#">struct</a>	<a href="#">doc</a>

If you still feel confused about filling out this template, you can call the RESTful API or use the debug mode of your browser to see the response of `GetXXX` to these objects. The responses are in the same format as `init_data.json`.

# Hosting Static Files in a CDN

Frontend static resources, such as .js and .css files, are located in `web/build/static/`. If you wish to deploy these files in a public cloud's CDN service, Casdoor provides a script that simplifies the deployment process. Please follow the steps below.

 NOTE

We assume that you have already built the frontend code of Casdoor. If you have not, please refer to the [documentation](#).

## Preparation

First, you need to create a valid [Storage Provider](#) in the Casdoor UI. You can refer to the [example](#).

 CAUTION

When filling in the `Domain` field, be sure to end it with a '/'.

Domain  :

<https://cdn.casbin.com/casdoor/>

# Usage

The script can be found at [deployment/deploy\\_test.go](#).

In [deploy\\_test.go](#), you need to modify the `id` parameter in `GetProvider()`. The format of the provider `id` is `<owner>/<name>`.

```
func TestDeployStaticFiles(t *testing.T) {
    provider := object.GetProvider("admin/
provider_storage_aliyun_oss")
    deployStaticFiles(provider)
}
```

After making the necessary modification, use the following commands to run the script:

```
cd deployment
go test
```

If the execution is successful, you will see:

```
PASS
ok      github.com/casdoor/casdoor/deployment  2.951s
```

# How it works

The script will:

- Upload all the files in the `css/` and `js/` folders to the CDN service specified

by the storage provider.

- Replace all the URLs of the `.css` and `.js` files in `web/build/index.html` with the URLs hosted in the CDN.

You still need to keep the `index.html` file. After the static files are uploaded to the CDN, `index.html` will still be requested by users through Casdoor's Go backend, and the static files in the CDN will be requested through the URLs provided in `index.html`.

# Hosting Static Files in an Intranet

If you are deploying Casdoor on an [intranet](#), you may not be able to access the static resources directly over the internet. You need to deploy the static resources where you can access them, and then modify the configuration in Casdoor in three places.

## Deploy static resources

All static resources in Casdoor, including images, logos, CSS, etc., are stored in the [casbin/static repository](#).

Clone the repository and deploy it on a web server. Make sure you can access the resources.

## Modify in Casdoor

You can simply modify the configuration file to set the static resource address to where you deployed it. Go to [conf/app.conf](#) and set `staticBaseUrl` to your deployed address.

```
staticBaseUrl = "https://cdn.casbin.org"
```

# DB Migration

When upgrading the database, there is a risk of data loss, such as when deleting an old field. Luckily, Casdoor utilizes [xorm](#), which assists with many database migration problems. However, some schema and data migrations must still be handled manually, such as when a field name is changed.

 NOTE

Refer to the [xorm docs](#) for a better understanding of xorm's schema operations.

## How it Works

As mentioned earlier, xorm is unable to handle field name changes. To address this, xorm provides a [migrate](#) package that can assist with this problem.

To handle field renaming, you can write code like this:

```
migrations := []*migrate.Migration{
    {
        ID: "CasbinRule--fill ptype field with p",
        Migrate: func(tx *xorm.Engine) error {
            _, err :=
            tx.Cols("ptype").Update(&xormadapter.CasbinRule{
                Ptype: "p",
            })
            return err
        },
        Rollback: func(tx *xorm.Engine) error {
            return tx.DropTable(&xormadapter.CasbinRule{})
        }
    }
}
```

Our objective is to rename `p_type` to `ptype`. However, since xorm does not support field renaming, we must resort to a more intricate approach: assigning the value of `p_type` to `ptype`, and subsequently deleting the `p_type` field.

The `ID` field uniquely identifies the migration being performed. After `m.Migrate()` runs, the value of `ID` will be added to the migrations table of the database.

Upon starting the project again, the database will check for any existing `ID` field in the table and refrain from performing any operations associated with the same `ID`.

# How to Connect to Casdoor

## Overview

Connect your app to Casdoor

## Standard OIDC Client

Using OIDC discovery to migrate to Casdoor

## Casdoor SDKs

Using Casdoor SDKs instead of standard OIDC protocol

## How to Enable Single Sign-On

Enable Single Sign-On

## Vue SDK

Casdoor Vue SDK



## Desktop SDKs

4 items



## Casdoor Plugin

Using Casdoor plugins or middlewares in other frameworks like Spring Boot, WordPress, Odoo, etc.



## OAuth 2.0

Using Access Token to authenticate clients



## Using Casdoor as a CAS Server

How to use Casdoor as a CAS server



## SAML

5 items



## WebAuthn

Use WebAuthn in Casdoor

# Overview

In this section, we will show you how to connect your application to Casdoor.

As a Service Provider (SP), Casdoor supports two authentication protocols:

- OAuth 2.0 (OIDC)
- SAML

As an Identity Provider (IdP), Casdoor supports four authentication protocols:

- OAuth 2.0
- OIDC
- SAML
- CAS 1.0, 2.0, 3.0

## OAuth 2.0 (OIDC)

What is OAuth 2.0?

OAuth 2 is an authorization framework that enables applications—such as Facebook, GitHub, and Casdoor—to obtain limited access to user accounts on an HTTP service. It works by delegating user authentication to the service that hosts a user account and authorizing third-party applications to access that user account. OAuth 2 provides authorization flows for web and desktop applications, as well as mobile devices.

Casdoor's authorization process is built upon the OAuth 2.0 protocol. We

recommend using the OAuth 2.0 protocol for the following reasons:

1. The protocol is simple and easy to implement, and can solve many scenarios.
2. It has a high maturity level and extensive community support.

Therefore, your application will communicate with Casdoor via OAuth 2.0 (OIDC). There are three ways to connect to Casdoor:

## Standard OIDC client

**Standard OIDC client:** Use a standard OIDC client implementation, which is widely provided in any programming language or framework.

What is OIDC?

OpenID Connect (OIDC) is an open authentication protocol that works on top of the OAuth 2.0 framework. Targeted toward consumers, OIDC allows individuals to use single sign-on (SSO) to access relying party sites using OpenID Providers (OPs), such as an email provider or social network, to authenticate their identities. It provides the application or service with information about the user, the context of their authentication, and access to their profile information.

Casdoor fully supports the OIDC protocol. If your application is already using another OAuth 2.0 (OIDC) identity provider via a **standard OIDC client library**, and you want to migrate to Casdoor, using OIDC discovery will make it very easy to switch to Casdoor.

## Casdoor SDKs

**Casdoor SDKs:** For most programming languages, Casdoor provides easy-to-use

- SDK libraries on top of OIDC, with extended functionality that is only available in Casdoor.

Compared to the standard OIDC protocol, Casdoor's SDK provides more functionalities, like user management and resource uploading, among others. Connecting to Casdoor via the Casdoor SDK requires more time than using a standard OIDC client library, but it offers the best **flexibility** and the most **powerful** API.

## Casdoor plugin

**Casdoor plugin:** If your application is built on top of a popular platform (like Spring Boot, WordPress, etc.) and Casdoor (or a third party) has already provided a plugin or middleware for it, you should use it. Using a plugin is much easier than manually invoking the Casdoor SDK because the former is specially made for the platform.

Plugins:

- [Jenkins plugin](#)
- [APISIX plugin](#)

Middleware:

- [Spring Boot plugin](#)
- [Django plugin](#)

## SAML

What is SAML?

Security Assertion Markup Language (SAML) is an open standard that allows identity providers (IdP) to pass authorization credentials to service providers (SP). What this jargon means is that you can use one set of credentials to log into many different websites. It's much simpler to manage one login per user than it is to manage separate logins to email, customer relationship management (CRM) software, Active Directory, etc.

SAML transactions use Extensible Markup Language (XML) for standardized communications between the identity provider and service providers. SAML is the link between the authentication of a user's identity and the authorization to use a service.

Casdoor can be used as an SAML IdP. Currently, Casdoor supports the main features of SAML 2.0. For more details, see [SAML](#).

Example:

[Casdoor as a SAML IdP in Keycloak](#)

Suggestions:

1. The protocol is **powerful** and covers many scenarios, making it one of the most comprehensive SSO protocols.
2. The protocol is **large**, with many optional parameters, so it is difficult to cover all application scenarios 100% in the actual implementation.
3. If the application is **newly** developed, SAML is **not** recommended due to its high technical complexity.

# CAS

What is CAS?

The Central Authentication Service (CAS) is a single sign-on protocol for the web. Its purpose is to allow a user to access multiple applications while providing their credentials (such as user ID and password) only once. It also allows web applications to authenticate users without gaining access to a user's security credentials, such as a password.

Casdoor has implemented CAS 1.0, 2.0, and 3.0 features. For more details, see [CAS](#).

Suggestions:

1. The protocol itself is relatively lightweight and easy to implement, but it can only solve a single scenario.
2. The mutual trust between the CAS Client and the CAS Server is established through interface invocation without any encryption or signature mechanism to ensure further security.
3. The CAS protocol has no advantage over other protocols.

## Integrations table

Some applications already have examples that connect to Casdoor. You can follow the documentation to quickly connect to Casdoor. You can see all applications in the [Integrations table](#).

# Standard OIDC Client

## OIDC Discovery

Casdoor has fully implemented the OIDC protocol. If your application is already using a standard OIDC client library to connect to another OAuth 2.0 identity provider, and you want to migrate to Casdoor, using OIDC discovery will make it very easy for you to switch. Casdoor's OIDC discovery URL is:

```
<your-casdoor-backend-host>/.well-known/openid-configuration
```

For example, the OIDC discovery URL for the demo site is:

<https://door.casdoor.com/.well-known/openid-configuration>, and it contains the following information:

```
{
  "issuer": "https://door.casdoor.com",
  "authorization_endpoint": "https://door.casdoor.com/login/oauth/authorize",
  "token_endpoint": "https://door.casdoor.com/api/login/oauth/access_token",
  "userinfo_endpoint": "https://door.casdoor.com/api/userinfo",
  "jwks_uri": "https://door.casdoor.com/.well-known/jwks",
  "introspection_endpoint": "https://door.casdoor.com/api/login/oauth/introspect",
  "response_types_supported": [
    "code",
    "token",
    "id_token",
    "code token",
    "code id_token",
    "token id_token",
  ]}
```

# List of OIDC Client Libraries

Here is a list of some OIDC client libraries for languages like Go and Java:

OIDC client library	Language	Link
go-oidc	Go	<a href="https://github.com/coreos/go-oidc">https://github.com/coreos/go-oidc</a>
pac4j-oidc	Java	<a href="https://www.pac4j.org/docs/clients/openid-connect.html">https://www.pac4j.org/docs/clients/openid-connect.html</a>

Please note that the above table is not exhaustive. For a full list of OIDC client libraries, you can find more details at:

1. <https://oauth.net/code/>
2. <https://openid.net/certified-open-id-developer-tools/>

## OIDC UserInfo Fields

The following table illustrates how OIDC UserInfo fields (via the `/api/userinfo` API) are mapped from properties of Casdoor's User table:

Casdoor User Field	OIDC UserInfo Field
Id	sub

Casdoor User Field	OIDC UserInfo Field
originBackend	iss
Aud	aud
Name	preferred_username
DisplayName	name
Email	email
Avatar	picture
Location	address
Phone	phone

You can see the definition of UserInfo [here](#).



# Casdoor SDKs

## Introduction

Compared to the standard OIDC protocol, Casdoor provides more functionalities in its SDK, like user management, resource uploading, etc. Connecting to Casdoor via Casdoor SDK costs more time than using a standard OIDC client library but will provide the best flexibility and the most powerful API.

Casdoor SDKs can be divided into two categories:

1. **Frontend SDK:** Like Javascript SDK, Vue SDK for websites, Android or iOS SDKs for Apps, etc. Casdoor supports providing authentication for both websites and mobile Apps.
2. **Backend SDK:** SDKs for backend languages like Go, Java, Node.js, Python, PHP, etc.

### TIP

If your website is developed in a frontend and backend separated manner, then you can use the Javascript SDK: [casdoor-js-sdk](#) or React SDK: [casdoor-react-sdk](#) or Vue SDK: [casdoor-vue-sdk](#) to integrate Casdoor in frontend. If your web application is a traditional website developed by JSP or PHP, you can just use the backend SDKs only. See an example: [casdoor-python-vue-sdk-example](#)

Mobile SDK	Description	SDK code	Example code
Android SDK	For Android apps	<a href="#">casdoor-android-sdk</a>	<a href="#">casdoor-android-example</a>
iOS SDK	For iOS apps	<a href="#">casdoor-ios-sdk</a>	<a href="#">casdoor-ios-example</a>
Unity Games SDK	For Unity 2D/3D PC/Mobile games	<a href="#">casdoor-dotnet-sdk</a>	<a href="#">casdoor-unity-example</a>
Flutter SDK	For Flutter apps	<a href="#">casdoor-flutter-sdk</a>	<a href="#">casdoor-flutter-example</a>
uni-app SDK	For uni-app apps	<a href="#">casdoor-uniapp-sdk</a>	<a href="#">casdoor-uniapp-example</a>

Desktop SDK	Description	SDK code	Example code
Electron SDK	For Electron apps	<a href="#">casdoor-js-sdk</a>	<a href="#">casdoor-electron-example</a>
.NET Desktop SDK	For .NET desktop apps	<a href="#">casdoor-dotnet-sdk</a>	WPF: <a href="#">casdoor-dotnet-desktop-example</a> WinForms: <a href="#">casdoor-dotnet-winform-example</a> Avalonia UI: <a href="#">casdoor-dotnet-avalonia-example</a>
C/C++ SDK	For C/C++ desktop apps	<a href="#">casdoor-cpp-sdk</a>	<a href="#">casdoor-cpp-qt-example</a>

Web frontend SDK	Description	SDK code	Example code
Javascript SDK	For traditional non-SPA websites	<a href="#">casdoor-js-sdk</a>	Small example: <a href="#">casdoor-raw-js-example</a> Large examples: <a href="#">Casnode</a> , <a href="#">Casbin-OA</a> , <a href="#">Confita</a>
React SDK	For SPA React websites	<a href="#">casdoor-react-sdk</a>	Nodejs backend: <a href="#">casdoor-nodejs-react-example</a> Java backend: <a href="#">casdoor-spring-security-react-example</a>

Web frontend SDK	Description	SDK code	Example code
			example
Vue SDK	For SPA Vue websites	casdoor-vue-sdk	casdoor-python-vue-sdk-example
Angular SDK	For SPA Angular 1.x, 2.x websites	casdoor-angular-sdk	casdoor-nodejs-angular-example
Flutter SDK	For Flutter websites	casdoor-flutter-sdk	casdoor-flutter-example
.NET SDK	Open ID Connect for Blazor WASM	Blazor.BFF.OpenIDConnect.Template	casdoor-dotnet-blazorwasm-oidc-example

Next, use one of the following backend SDKs based on the language of your backend:

Web backend SDK	Description	Sdk code	Example code
Go SDK	For Go backends	casdoor-go-sdk	Casnode, Casbin-OA, Confita
Java SDK	For Java backends	casdoor-java-sdk	casdoor-spring-boot-starter, casdoor-spring-boot-example, casdoor-spring-security-react-example
Node.js SDK	For Node.js backends	casdoor-nodejs-sdk	casdoor-nodejs-react-example
Python SDK	For Python backends	casdoor-python-sdk	Flask: casdoor-python-vue-sdk-example FastAPI: casdoor-fastapi-js-sdk-example
PHP SDK	For PHP backends	casdoor-php-sdk	wordpress-casdoor-plugin
.NET SDK	For ASP.NET backends	casdoor-dotnet-sdk	casdoor-dotnet-sdk-example
Rust SDK	For Rust backends	casdoor-rust-sdk	casdoor-rust-example
C/C++ SDK	For C/C++ backends	casdoor-cpp-sdk	casdoor-cpp-qt-example
Dart SDK	For Dart backends	casdoor-dart-sdk	
Ruby SDK	For Ruby backends	casdoor-ruby-sdk	

For a full list of the official Casdoor SDKs, please see: <https://github.com/orgs/casdoor/repositories?q=sdk&type=all&language=&sort=>

# How to use Casdoor SDK?

## 1. Backend SDK configuration

When your application starts up, you need to initialize the Casdoor SDK config by calling the `InitConfig()` function with required parameters.

Take casdoor-go-sdk as example: <https://github.com/casbin/casnode/blob/6d4c55f5c9a3c4bd8c85f2493abad3553b9c7ac0/controllers/account.go#L51-L64>

```
var CasdoorEndpoint = "https://door.casdoor.com"
var ClientId = "541738959670d221d59d"
var ClientSecret = "66863369a64a5863827cf949bab70ed560ba24bf"
var CasdoorOrganization = "casbin"
var CasdoorApplication = "app-casnode"

//go:embed token_jwt_key.pem
var JwtPublicKey string

func init() {
    auth.InitConfig(CasdoorEndpoint, ClientId, ClientSecret, JwtPublicKey, CasdoorOrganization, CasdoorApplication)
}
```

All the parameters for `InitConfig()` are explained as follows:

Parameter	Must	Description
endpoint	Yes	Casdoor Server URL, like <code>https://door.casdoor.com</code> or <code>http://localhost:8000</code>
clientId	Yes	Client ID for the Casdoor application
clientSecret	Yes	Client secret for the Casdoor application
jwtPublicKey	Yes	The public key for the Casdoor application's cert
organizationName	Yes	The name for the Casdoor organization
applicationName	No	The name for the Casdoor application



The `jwtPublicKey` can be managed in the `Certs` page as below.

Certs <a href="#">Add</a>							
Name	Created time	Display name	Scope	Type	Crypto algorithm	Bit size	Expire in years
cert_rjeegc	2022-02-16 11:04:10	New Cert - rjeegc	JWT	x509	RSA	4096	20
cert-built-in	2022-02-15 12:31:46	Built-in Cert	JWT	x509	RSA	4096	20

You can find the public key in the cert edit page, copy it or download it for the sdk.

Public key [Copy public key](#) [Download public key](#)

```
-----BEGIN CERTIFICATE-----
MIIEvTCzAuGgAwIBAgDAlEAM0GCSqGSlb3dQEcwUAMADyHtAbBgNVBAoTFeNH
c2Bvb3lgT3InW5pemf0aW9uMURlJwIwDVQQDEwxDXNkb29yENlcnQuhNCMjEx
MDxEIMDgxMTUyWhCNDE1MDgxMTUyJwA2MR0wGwYDVQKExRDXNkb29yElJ4e5ej
Z2FuaXphdGlvbjlVMBMGATUEAMQZQFZG9vcBDZXJ0MlICjAnBqkhkG9w0B
AQEEAACAgAAMIIcCcKAgEaslpbSE1ym0f1RfSDSSE8IR7y+lw+RJ74e5ejrq4b8z
r9qBz2Myk7HeCyz/rJmNeEVxnhxu1P0mBeQ5yp/OGovgEmjATNmzklNjOQjCjYwUr
CjCywUraso/JMr1C0j13x6mV1k1h2jSrKsmhY1vaxTEP3+VB8Hjg3MH-FWrb07
uvfMCje5W8+0krEr2CKTR8+9V8janeBz//zePFvh79bFZate/hLpK0G9nP1g
OvwloC1AsarHTP4qmLzR0tH4ZfbydpwWAQvhNaF7emTSRSBd/wlNUCUBDPTSLvjC0
PTSLyC4Wb3dQf07KmPstj+btvcqsRAgtvdsB9h62Kptj1Yn7GAuo
I3qT4zokb1URyxQjXlwCQsEftUk5ewzuPSDRlLoByQTlxoqlAFNFW3/g/
pzSDjd/60d61TmvbZn45mjdyfxCDb1Kn7N+xTojnfahkrep2RE+RMcf0xGu
h5nsmkUnUDeyfZ9b19qj11YEQJM2/ZGe+RVTUx+wB4/8k/D1bcY+ffG5fbpw
IDpS262obq4RSVb3Z7bbDwZxvOfI/vLVRlfpblf0bfhr/AeZMhpIKOXvz4
y+hpz628wdfP0V9rxY/RbsAf73230sYnjigEhURohnRgCpjlk/MZ2K84k0
wn8CAwEAaaMQMA4wDAYDVR0TAQhBAiAwADANbqkhkG9w0BAQsFAOCAGeAn2f
DKkLX+F1vKRO/Sgj+Pl8PSNKuQkmwH97b8C52gS1phDyNgc4/Lsdzu4Aw6ve
C06VdWtis8UPUPdjmT2uMPSNfjwLxG3csnmMURNvFLITRem/heJ02gu91M
8baawhdJlH2rgnDf0E2e8rNVRflhR8Knc01dTJKs1N0/irh21W4jt4rxzcv
2nR42Fybab3Dgj179b19qj11YEQJM2/ZGe+RVTUx+wB4/8k/D1bcY+ffG5fbpw
omKNNNcc8h1FCEkj/nbMghodnFWKDtsbImcOPNhoizqMyHQc+mWYy7GR4L7XVLG
Jtevs3ggM2Z8P9QzrHpUc63ZYWDY/xoPisuKhtOpZgtH979XC4ndf0WPnOBQL
2D1zaBmjijGolvb7XNVKcUDIXYw8ZT2Q5b9cl4e+6bmwyWqQltwt+At/uFEV
XzC7084AL6xau1Lep9v01GERzYrZ5P9NJA7ko5AVMp9wDDTkt+LbxznE
HHnWky8xjQKZ9sR7VPLGLs/c6cviv5U15Qg/dlRZ/veyfGoz2z1+hKVUS
nCIH8cAyFnn1hvdwdEdh3jBjN6cinc1Zfrf3VvalVsalaDosHagHMWxIwP+h
8XXkmzlxuHbTMQy1ZP0sgsaaK+54Q9wb8RAYo=
-----END CERTIFICATE-----
```

Private key [Copy private key](#) [Download private key](#)

```
-----BEGIN PRIVATE KEY-----
MIUKQIBAAKCAGAslrbpbSE1ym0f1RfSDSSE8IR7y+lw+RJ74e5ejrq4b8zMY
k7HeHcYzr/hmNewEVxnhxu1P0mBeQ5yp/OGovgEmjATNmzklNjOQjCjYwUr
sOf/1Mn1C0j13x6mV1k1h2jSrKsmhY1vaxTEP3+VB8Hjg3MH-FWrb07u7vFCj5
W8+0rkEr2CKTR8+9V8janeBz//zePFvh79bFZate/hLpK0G9nP1gOvwloC1A
3sarHTP4qmLzR0tH4ZfbydpwWAQvhNaF7emTSRSBd/wlNUCUBDPTSLvjC0
4Wl5f6nk027KmPstj+btvcqsRAgtvdsB9h62Kptj1Yn7GAuo3qt4zo
KbUlrYxQjXlwCQsEftUk5ewzuPSDRlLoByQTlxoqlAFNFW3/g/pzSDjd/
60d61TmvbZn45mjdyfxCDb1Kn7N+xTojnfahkrep2RE+RMcf0xGuhRsnLsmk
muDey9z4BLs9j1YEQM2/ZI2Eq+RVTUx+wB4/8k/D1bcY+lnfs5BpwDps262b
oqd45Rsvs3Z7bbDwZxvOfI/vLVRlfpblf0bfhr/AeZMhpIKOXvz4yE+hzq6
BwfD0V9r9YcRbsAf73230sYnjigEhURohnRgCpjlk/MZ2K84k0bvn8CawEA
AQKCAgAHPTxhVNRuYdCf21P1Ytd+MIMlJmpQH9wv0R18604Jpxulelpbx1CpOYu
npr7x9lTzIc0/u6FLDq82k67kGOT7TkFyvmy4+2Wkn7gTgw5roMqTrbwxxd
Aftxpq4ZVM8tIS3W7zMVhhabHAu50s0RvbVn-znTa7/vM5w5ka3h3fLQW
aYEltQVn3WkR/pZAbWDF94HkaVtgSUk40EccpAc1L6CC01fnnSb6v/BBBG
khaTdAkooGvVkc3EmldkR2uuax48g8s7dzIkav/BJWt+k5JrwFpHmy5AYLah
bu9Mrr6dIhEzlxHbimDahoTwEfmc8kbU26gaEhufo4YIMk+84bEGQsnNsNR9
Msau9qkSpriYo6Mjg1Q/y1q3shf8SuZba3XkohbYbz97jkj+Dbtq2zakQWzDG
JLEtbGgdeYUMS2yc/C/FUVUN/YPCdn769kw/lmOr2K56wpbFrwR9jYgnqzb3j
4AOQrs3AdevxDv0t1071c8e334WusvxNCVrUzvBY/DK0/W7jxjdxvEvhGrh
1Gc+FkkBeinFnfqDzdlkx6N80nyZuLyvnmRiavn9bVcrarb5h5S1CfEOHOw0gH
5GdesqMuqTS0eve1R1UnfC1CWVm/wPeushW9jbl3BBh4wflsLQKAQEay4x+c+F8
icbaKtsmPRMfYUJw9e39tOvDtxm/3sx0yfEux1LsqagQz7nolJf7xJf0j+
vc0G6A0qjwA6+QdeEf8fe04t56uMac3fWP4J00vHCvrga9gCZ2h0c940/y
6EqjWqg2zAxU15R6A3P/XetgsixVCFCi2pFyfbzqB71Yb9h5c2zz6G3K8+PvZ
dp+DyFjHb0f1.RuWxdkXk/QglXv7fR7zFqvkGhmS7qvKXfqrWspw4H71kQAUfQ
cj8LwqguTouIopjD6DB10Pj/1Btg59a+jsnXxcpcj9XyhgjSj1d2sM0dQ
ha/kY4NdHhY20KCAQEa3gkrRoPdgcooamednlwplrxryk5MhEAg1BeJidp
98HhNc10wra5xsuM56ZC7R0xkIsQlp4gt22W59lq/nQ7PN5PdN2RzOlrmHcS
```

[Save](#)
[Save & Exit](#)

Then you can select the cert in the application edit page.

Edit Application [Save](#) [Save & Exit](#)

Name <a href="#">:</a>	app-built-in
Display name <a href="#">:</a>	Casdoor
Logo <a href="#">:</a>	<a href="https://cdn.casbin.com/logo/logo_1024x256.png">https://cdn.casbin.com/logo/logo_1024x256.png</a>
Preview:	
Home <a href="#">:</a>	<a href="https://casdoor.org">https://casdoor.org</a>
Description <a href="#">:</a>	
Organization <a href="#">:</a>	built-in
Client ID <a href="#">:</a>	c2ab05e8460fd3ff9dde
Client secret <a href="#">:</a>	c9199f102508f089d253638f1a72b4c3e926d05
Cert <a href="#">:</a>	<input style="width: 100%; border: 1px solid #ccc; padding: 2px; border-radius: 4px;" type="text" value="cert-built-in"/> <span style="color: red; font-size: 1.5em;">←</span>
Redirect URLs <a href="#">:</a>	<a href="#">cert_rjeegc</a> <a href="#">cert-built-in</a> <a href="#">Redirect URL</a>

[Action](#)

## 2. Frontend configuration

First, install `casdoor-js-sdk` via NPM or Yarn:

```
npm install casdoor-js-sdk
```

Or:

```
yarn add casdoor-js-sdk
```

Then define the following utility functions (better in a global JS file like `Setting.js`):

```

import Sdk from "casdoor-js-sdk";

export function initCasdoorSdk(config) {
  CasdoorSdk = new Sdk(config);
}

export function getSignupUrl() {
  return CasdoorSdk.getSignupUrl();
}

export function getSigninUrl() {
  return CasdoorSdk.getSigninUrl();
}

export function getUserProfileUrl(userName, account) {
  return CasdoorSdk.getUserProfileUrl(userName, account);
}

export function getMyProfileUrl(account) {
  return CasdoorSdk.getMyProfileUrl(account);
}

export function getMyResourcesUrl(account) {
  return CasdoorSdk.getMyProfileUrl(account).replace("/account?", "/resources?");
}

export function signin() {
  return CasdoorSdk.signin(ServerUrl);
}

export function showMessage(type, text) {
  if (type === "") {
    return;
  } else if (type === "success") {
    message.success(text);
  } else if (type === "error") {
    message.error(text);
  }
}

export function goToLink(link) {
  window.location.href = link;
}

```

In the entrance file of your frontend code (like `index.js` or `app.js` in React), you need to initialize the `casdoor-js-sdk` by calling the `InitConfig()` function with required parameters. The first 4 parameters should use the same value as the Casdoor backend SDK. The last parameter `redirectPath` is relative path for the redirected URL, returned from Casdoor's login page.

```

const config = {
  serverUrl: "https://door.casdoor.com",
  clientId: "014ae4bd048734ca2dea",
  organizationName: "casbin",
  appName: "app-casnode",
  redirectPath: "/callback",
};

xxx.initCasdoorSdk(config);

```

(Optional) Because we are using React as example, our `/callback` path is hitting the React route. We use the following React component to receive the `/callback` call and send to the backend. You can ignore this step if you are redirecting to backend directly (like in JSP or PHP).

```

import React from "react";
import {Button, Result, Spin} from "antd";

```

### 3. Get login URLs

Next you can show the "Sign up" and "Sign in" buttons or links to your users. The URLs can either be retrieved in the frontend or backend. See more details at: [/docs/basic/core-concepts#login-urls](#)

### 4. Get and verify access token

Here are the steps:

1. The user clicks the login URL and is redirected to Casdoor's login page, like: `https://door.casdoor.com/login/oauth/authorize?client_id=014ae4bd048734ca2dea&response_type=code&redirect_uri=https%3A%2F%2Fforum.casbin.com%2Fcallback&scope=read&state=app-casnode`
2. The user enters username & password and clicks `Sign In` (or just click the third-party login button like `Sign in with GitHub`).
3. The user is redirected back to your application with the authorization code issued by Casdoor ( like: `https://forum.casbin.com?code=xxx&state=yyy`), your application's backend needs to exchange the authorization code with the access token and verify that the access token is valid and issued by Casdoor. The functions `GetOAuthToken()` and `ParseJwtToken()` are provided by Casdoor backend SDK.

The following code shows how to get and verify the access token. For a real example of Casnode (a forum website written in Go), see: [https://github.com/casbin/casnode/blob/6d4c55f5c9a3c4bd8c85f2493abad3553b9c7ac0/controllers/account.go#L51-L64](#)

```
// get code and state from the GET parameters of the redirected URL
code := c.Input().Get("code")
state := c.Input().Get("state")

// exchange the access token with code and state
token, err := auth.GetOAuthToken(code, state)
if err != nil {
    panic(err)
}

// verify the access token
claims, err := auth.ParseJwtToken(token.AccessToken)
if err != nil {
    panic(err)
}
```

If `ParseJwtToken()` finishes with no error, then the user has successfully logged into the application. The returned `claims` can be used to identify the user later.

### 4. Identify user with access token



#### INFO

This part is actually your application's own business logic and not part of OIDC, OAuth or Casdoor. We just provide good practices as a lot of people don't know what to do for the next step.

In Casdoor, access token is usually identical as ID token. They are the same thing. So the access token contains all information for the logged-in user.

The variable `claims` returned by `ParseJwtToken()` is defined as:

```
type Claims struct {
    User
    AccessToken string `json:"accessToken"`
    jwt.RegisteredClaims
}
```

1. `User`: the User object, containing all information for the logged-in user, see definition at: [/docs/basic/core-concepts#user](#)
2. `AccessToken`: the access token string.
3. `jwt.RegisteredClaims`: some other values required by JWT.

At this moment, the application usually has two ways to remember the user session: `session` and `JWT`.

## Session

The Method to set session varies greatly depending on the language and web framework. E.g., Casnode uses [Beego web framework](#) and set session by calling: `c.SetSessionUser()`.

```
token, err := auth.GetOAuthToken(code, state)
if err != nil {
    panic(err)
}

claims, err := auth.ParseJwtToken(token.AccessToken)
if err != nil {
    panic(err)
}

claims.AccessToken = token.AccessToken
c.SessionUser(claims) // set session
```

## JWT

The `accessToken` returned by Casdoor is actually a JWT. So if your application uses JWT to keep user session, just use the access token directly for it:

1. Send the access token to frontend, save it in places like localStorage of the browser.
2. Let the browser send the access token to backend for every request.
3. Call `ParseJwtToken()` or your own function to verify the access token and get logged-in user information in your backend.

## 5. (Optional) Interact with the User table



INFO

This part is provided by [Casdoor Public API](#) and not part of the OIDC or OAuth.

Casdoor Backend SDK provides a lot of helper functions, not limited to:

- `GetUser(name string)`: get a user by username.
- `GetUsers()`: get all users.
- `AddUser()`: add a user.
- `UpdateUser()`: update a user.
- `DeleteUser()`: delete a user.
- `CheckUserPassword(auth.User)`: check user's password.

These functions are implemented by making RESTful calls against [Casdoor Public API](#). If a function is not provided in Casdoor Backend SDK, you can make RESTful calls by yourself.



# How to Enable Single Sign-On

## Introduction

You have connected Casdoor and configured more than one application in an organization. You want users to sign in once to any app in the organization and then be able to sign in when they go to another app without any extra clicks.

We offer this single sign-on feature. To enable it, you just need to:

- Enable the Auto Sign-In button.
- Fill in the URL for the home page.
- Add a Silent Sign-In function to the application home page.

### NOTE

The basic sign-in process provided by Casdoor allows users to log in to other applications in the organization by selecting the user who is currently logged in or using another account.

After enabling auto sign-in, the selection box will not be displayed, and the logged-in user will log in directly.

## Configuration

1. Fill in the "home" field. It can be the application's home page or the login page.

**Casdoor** Home Organizations Users Roles Permissions Models Adapters Providers Applications

Edit Application

Name [?](#) : app-casbin-oa

Display name [?](#) : Casbin OA

Logo [?](#) : URL [?](#) [https://cdn.casbin.org/img/casbin\\_logo\\_1024x256.png](https://cdn.casbin.org/img/casbin_logo_1024x256.png)

Preview: 

Home [?](#) : <https://oa.casbin.com>

Description [?](#) : OA system for Casbin

## 2. Enable the Auto Sign-In button.

Password ON [?](#) :

Enable signup [?](#) :

Signin session [?](#) :

Auto signin [?](#) :

Enable code signin [?](#) :

Enable WebAuthn signin [?](#) :

# Add Silent Sign-In

In fact, we implement auto login by carrying parameters in the URL. Therefore, your applications need to have a method to trigger the login after jumping to the URL. We provide the [casdoor-react-sdk](#) to help you quickly implement this feature. You can see the details in [use-in-react](#).



INFO

How it works

1. In the URL to the application home page, we will carry the `silentSignin` parameter.
2. In your home page, determine whether you need to log in silently (automatically) by checking the `silentSignin` parameter. If `silentSignin === 1`, the function should return the `SilentSignin` component, which will help you initiate a login request. Since you have auto-login enabled, users will log in automatically without clicking.

# Add Popup Sign-In

The "popup sign-in" feature will open a small window. After logging in to Casdoor in the child window, it will send authentication information to the main window and then close automatically. We implement this feature by carrying parameters in the URL.



INFO

## How to use

Use the `popupSignin()` method in the [casdoor-js-sdk](#) to quickly implement this feature. You can see a demo in [casdoor-nodejs-react-example](#).

## How it works

1. In the URL to the application home page, we will carry the `popup` parameter.
2. When `popup=1` is in the login parameters, Casdoor will send `code` and `state` as a message to the main window and finish getting the `token` in the main window using the SDK.

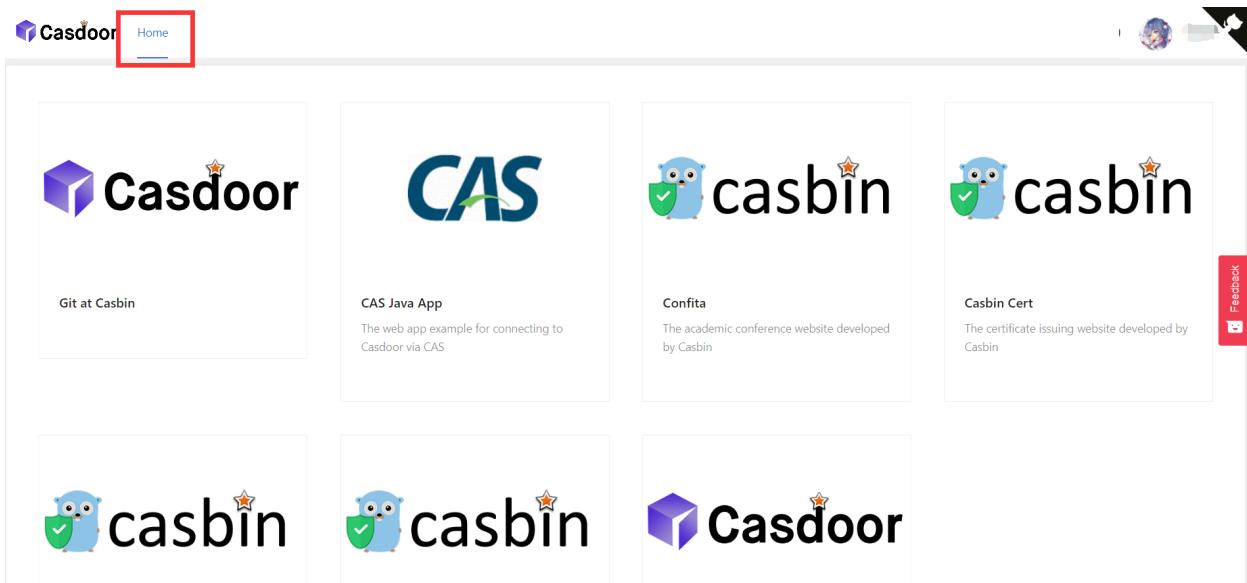
# Using SSO

The configuration is complete. Below, we will show you how to use auto login.

### INFO

Make sure your application can redirect to the user's profile page. The [getMyProfileUrl\(account, returnUrl\)](#) API is provided in our SDK for each language.

Open the profile page and go to the "Home" page (/ URL path). You will see the application list provided by the organization. It's worth noting that only users in organizations other than "built-in" can see the application list on the "Home" page. All the global administrators (those in the "built-in" organization) cannot see it.



Click on a tile in the application list, and it will jump to the homepage URL of that application with the GET parameter `?silentSignin=1`. It will automatically log into the application if the application has integrated with Casdoor SSO (so it will recognize the `?silentSignin=1` parameter and perform a silent login in the background).

# Vue SDK

The Casdoor Vue SDK is designed for Vue 2 and Vue 3, making it very convenient to use.

The Vue SDK is based on casdoor-js-sdk. You can also use the casdoor-js-sdk directly, which will allow for more customization.

Please note that this plugin is still in development. If you have any questions or suggestions, please feel free to contact us by opening an [issue](#).

We will now show you the necessary steps below.

If you are still unsure how to use it after reading the README.md, you can refer to the example: [casdoor-python-vue-sdk-example](#) for more details.

The example's front-end is built with casdoor-vue-sdk, while the back-end is built with casdoor-python-sdk. You can view the source code in the example.

## Installation

```
# NPM
npm install casdoor-vue-sdk

# Yarn
yarn add casdoor-vue-sdk
```

# Initializing the SDK

To initialize the SDK, you will need to provide 5 string parameters in the following order:

Name	Required	Description
serverUrl	Yes	The URL of your Casdoor server.
clientId	Yes	The Client ID of your Casdoor application.
appName	Yes	The name of your Casdoor application.
organizationName	Yes	The name of the Casdoor organization linked to your Casdoor application.
redirectPath	No	The path of the redirect URL for your Casdoor application. If not provided, it will default to <code>/callback</code> .

For Vue 3:

```
// in main.js
import Casdoor from 'casdoor-vue-sdk'

const config = {
  serverUrl: "http://localhost:8000",
  clientId: "4262bea2b293539fe45e",
  organizationName: "casbin",
```

For Vue 2:

```
// in main.js
import Casdoor from 'casdoor-vue-sdk'
import VueCompositionAPI from '@vue/composition-api'

const config = {
  serverUrl: "http://localhost:8000",
  clientId: "4262bea2b293539fe45e",
  organizationName: "casbin",
  appName: "app-casnnode",
  redirectPath: "/callback",
};

Vue.use(VueCompositionAPI)
Vue.use(Casdoor, config)

new Vue({
  render: h => h(App),
}).$mount('#app')
```

## Example

```
// in app.vue
<script>
export default {
  name: 'App',
  methods: {
    login() {
      window.location.href = this.getSigninUrl();
    },
    signup() {
      window.location.href = this.getSignupUrl();
    }
}
```

## Auto Fix

If the `postinstall` hook does not get triggered or if you have updated the Vue version, try running the following command to resolve the redirecting issue:

```
npx vue-demi-fix
```

For more information about switching Vue versions, please refer to the [vue-demi docs](#).

# Desktop SDKs

## Electron App Example for Casdoor

This is an Electron app example that demonstrates Casdoor's integration capabilities.

## dotNET Desktop App

A dotNET desktop app example for Casdoor

## Mobile SDKs .NET MAUI App

A .NET MAUI App example for Casdoor

## Qt Desktop App

A Qt desktop app example for Casdoor

# Electron App Example for Casdoor

An [Electron app example](#) that demonstrates Casdoor's integration capabilities.

## How to Run the Example

### Initialization

You need to initialize 6 parameters, all of which are string type:

Name	Description	Path
serverUrl	Your Casdoor server URL	<code>src/App.js</code>
clientId	The Client ID of your Casdoor application	<code>src/App.js</code>
appName	The name of your Casdoor application	<code>src/App.js</code>
redirectPath	The path of the redirect URL for your Casdoor application, will be <code>/callback</code> if not provided	<code>src/App.js</code>
clientSecret	The Client Secret of your Casdoor application	<code>src/App.js</code>
casdoorServiceDomain	Your Casdoor server URL	<code>public/electron.js</code>

If you don't set these parameters, this project will use the [Casdoor online demo](#) as the default Casdoor server and use the [Casnode](#) as the default Casdoor application.

### Available Commands

In the project directory, you can run:

`npm run dev` or `yarn dev`

Builds the electron app and runs this app.

`npm run make` or `yarn make`

Packages and distributes your application. It will create the `out` folder where your package will be located:

```
// Example for macOS out/
├── out/make/zip/darwin/x64/casdoor-electron-example-darwin-x64-1.0.0.zip
└── ...
└── out/casdoor-electron-example-darwin-x64/casdoor-electron-example.app/Contents/MacOS/casdoor-electron-example
```

### Preview

Once you run this Electron application, a new window will appear on your desktop.



If you click the `Login with Casdoor` button, your default browser will automatically open and display the login page.



Made with ❤ by [Casdoor](#)

Following a successful login, your Electron application will open, and your user name will be displayed on your application.



You can preview the entire process in the gif image below.



## Integration Steps

### Set the custom protocol

Firstly, you need to set the custom protocol called `casdoor`.

```
const protocol = "casdoor";

if (process.defaultApp) {
  if (process.argv.length >= 2) {
    app.setAsDefaultProtocolClient(protocol, process.execPath, [
      path.resolve(process.argv[1]),
    ]);
  }
} else {
  app.setAsDefaultProtocolClient(protocol);
}
```

This will allow the browser to open your electron application and send the login info to the electron application.

### Open the login URL in the browser

```
const serverUrl = "https://door.casdoor.com";
const appName = "app-casnode";
const redirectPath = "/callback";
const clientId = "014ae4bd048734ca2dea";
const clientSecret = "f26a4115725867b7bb7b668c81e1f8f7fae1544d";

const redirectUrl = "casdoor://localhost:3000" + redirectPath;
```

You can change the first five parameters.

## Listen to the open application event

Once you successfully log in through the browser, the browser will open your Electron application. Therefore, you must listen to the open application event.

```
const gotTheLock = app.requestSingleInstanceLock();
const ProtocolRegExp = new RegExp(`^${protocol}://`);

if (!gotTheLock) {
  app.quit();
} else {
  app.on("second-instance", (event, commandLine, workingDirectory) => {
    if (mainWindow) {
      if (mainWindow.isMinimized()) mainWindow.restore();
      mainWindow.focus();
      commandLine.forEach((str) => {
        if (ProtocolRegExp.test(str)) {
          const params = url.parse(str, true).query;
          if (params && params.code) {
            store.set("casdoor_code", params.code);
            mainWindow.webContents.send("receiveCode", params.code);
          }
        }
      });
    }
  });
app.whenReady().then(createWindow);

app.on("open-url", (event, openUrl) => {
  const isProtocol = ProtocolRegExp.test(openUrl);
  if (isProtocol) {
    const params = url.parse(openUrl, true).query;
    if (params && params.code) {
      store.set("casdoor_code", params.code);
      mainWindow.webContents.send("receiveCode", params.code);
    }
  }
});
}
```

You can get the code from the browser, which is `casdoor_code` or `params.code`.

## Parse the code and get the user info

```
async function getUserInfo(clientId, clientSecret, code) {
  const { data } = await axios({
    method: "post",
    url: authCodeUrl,
    headers: {
      "content-type": "application/json",
    },
    data: JSON.stringify({
      grant_type: "authorization_code",
      client_id: clientId,
      client_secret: clientSecret,
      code: code,
    }),
  });
  const resp = await axios({
    method: "get",
    url: `${getUserInfoUrl}?accessToken=${data.access_token}`,
  });
  return resp.data;
}
```

Finally, you can parse the code and get the user info following the [OAuth docs page](#).

# dotNET Desktop App

A Dotnet desktop app example for Casdoor.

## How to Run the Example

### Prerequisites

- [dotNET 6 SDK](#)
- [WebView2 Runtime](#) (It is usually preinstalled on Windows)

### Initialization

The initialization requires 5 parameters, all of which are of type string:

Name	Description	File
Domain	The host/domain of your Casdoor server	<a href="#">CasdoorVariables.cs</a>
ClientId	The Client ID of your Casdoor application	<a href="#">CasdoorVariables.cs</a>
AppName	The name of your Casdoor application	<a href="#">CasdoorVariables.cs</a>
CallbackUrl	The path of the callback URL for your Casdoor application. If not	<a href="#">CasdoorVariables.cs</a>

Name	Description	File
	provided, it will be <code>casdoor://callback</code>	
ClientSecret	The Client Secret of your Casdoor application	<code>CasdoorVariables.cs</code>

If you do not set these parameters, the project will default to using the [Casdoor online demo](#) as the Casdoor server and the [Casnode](#) as the Casdoor application.

## Running

### Visual Studio

1. Open `casdoor-dotnet-desktop-example.sln`
2. Press `Ctrl + F5` to start

### Command Line

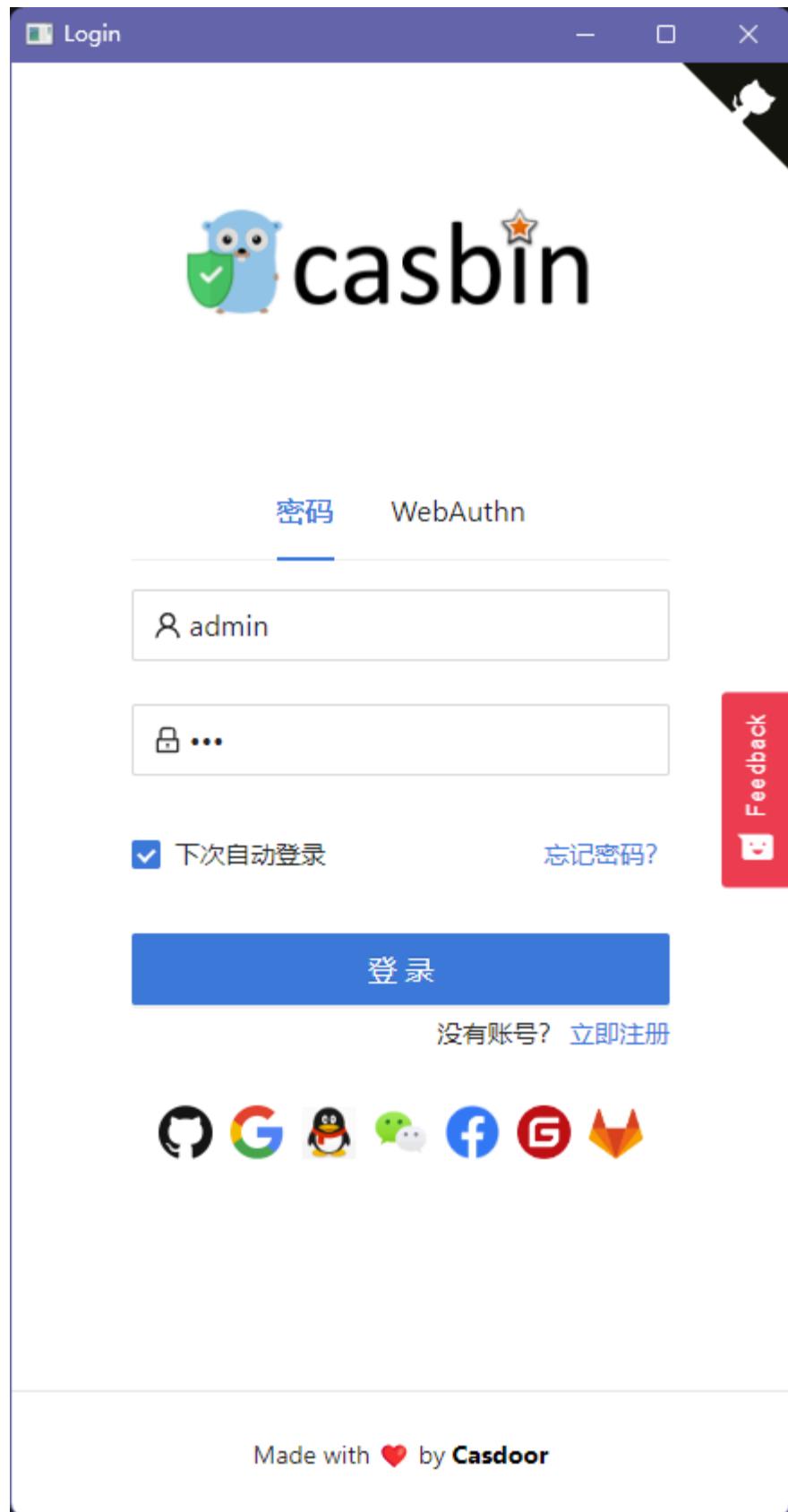
1. `cd src/DesktopApp`
2. `dotnet run`

## Preview

After running the dotNET desktop application, a new window will appear on your desktop.

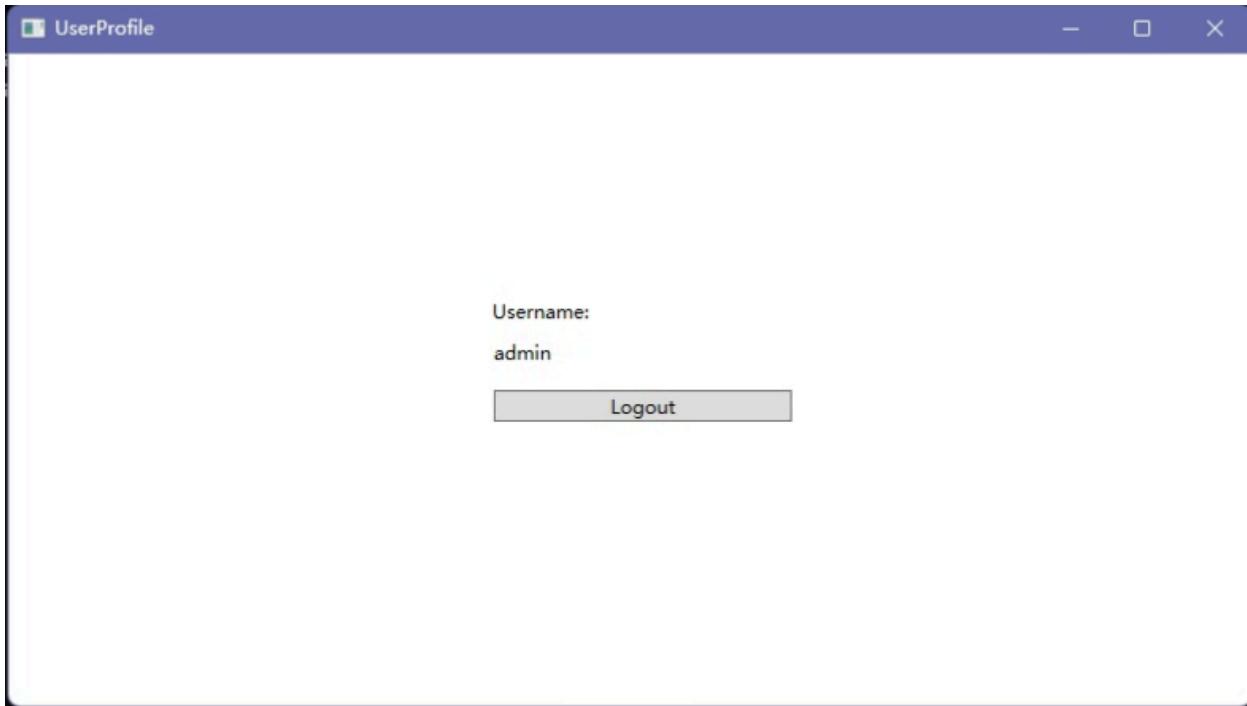


If you click the `Casdoor Login` button, a login window will appear on your

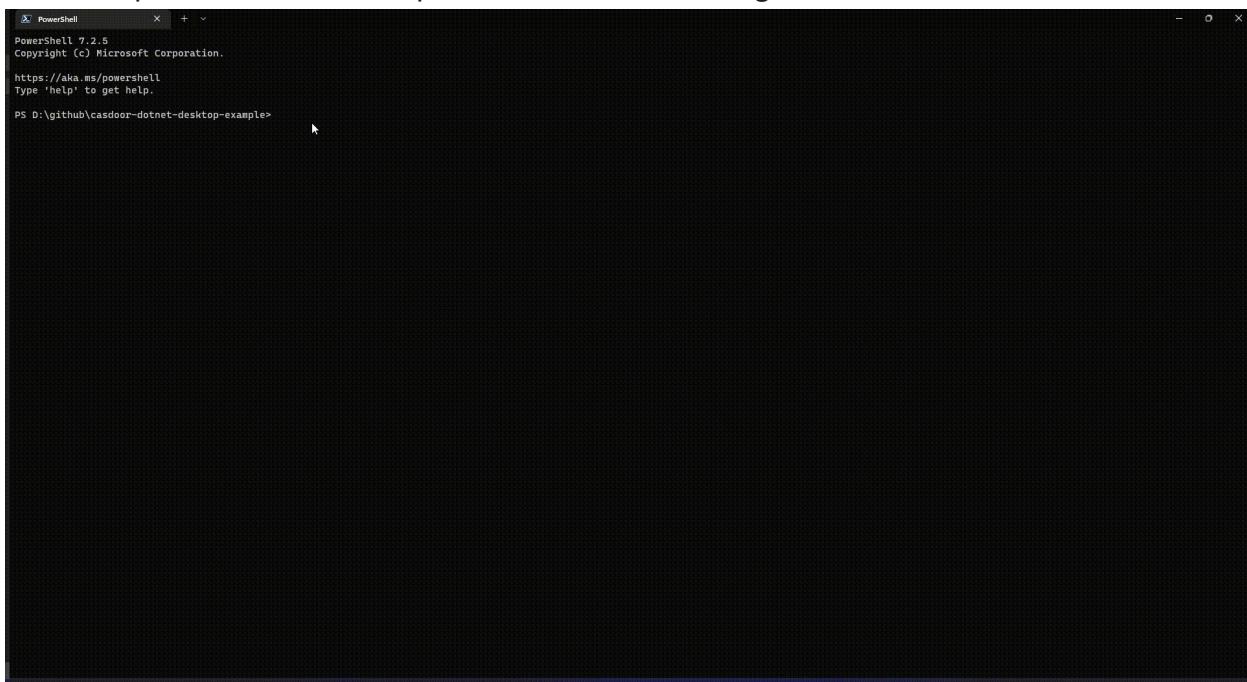


desktop.

After successfully logging in, a user profile window will appear on your desktop, displaying your username.



You can preview the entire process in the GIF image below.



# How to Integrate

## Opening the Login Window

```
var login = new Login();
// Triggered when login succeeds, you will receive an auth code in
// the event handler
login.CodeReceived += Login_CodeReceived;
login.ShowDialog();
```

## Using the Auth Code to Get User Info

```
public async Task<string?> RequestToken(string clientId, string
clientSecret, string code)
{
    var body = new
    {
        grant_type = "authorization_code",
        client_id = clientId,
        client_secret = clientSecret,
        code
    };

    var req = new RestRequest(_requestTokenUrl).AddJsonBody(body);
    var token = await _client.PostAsync<TokenDto>(req);

    return token?.AccessToken;
}

public async Task<UserDto?> GetUserInfo(string token)
{
    var req = new
    RestRequest(_getUserInfoUrl).AddQueryParameter("accessToken",
```



# Mobile SDKs .NET MAUI App

This repository contains a [.NET MAUI app](#) and [.NET MAUI library](#) for demonstrating Casdoor authentication by OpenID Connect.

# Demonstration

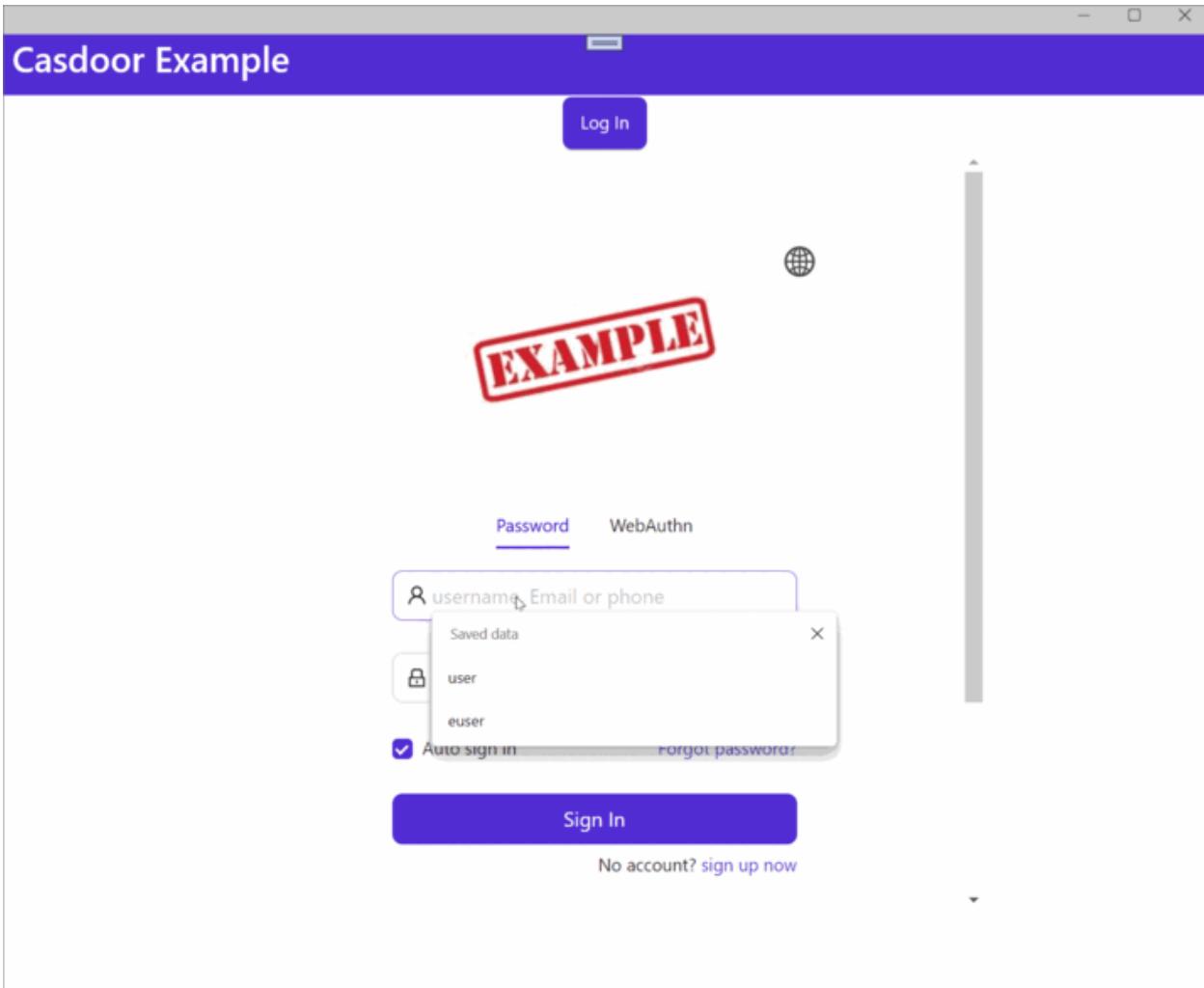
Android

21:06



.NET

# Windows



# Requirements

- [.NET 7 SDK](#) installed on your machine
- The required assets needed for your target platform(s), as described [here](#)
- Visual Studio 2022 for Windows 17.3 or Visual Studio 2022 for Mac 17.4 (optional)

# Getting Started

## Step 1: Create a MAUI Application

Create your [MAUI Application](#).

## Step 2: Add a Reference

Add a reference to the `Casdoor.MauiOidcClient` in your project.

## Step 3: Add the Casdoor Client

Add `CasdoorClient` as a singleton in the services.

```
builder.Services.AddSingleton(new CasdoorClient(new()
{
    Domain = "<your domain>",
    ClientId = "<your client>",
    Scope = "openid profile email",

#if WINDOWS
    RedirectUri = "http://localhost/callback"
#else
    RedirectUri = "casdoor://callback"
#endif
}));
```

## Step 4: Design the UI

Add code to the `MainPage` file.

## MainPage.xaml

```
<?xml version="1.0" encoding="utf-8" ?>
<ContentPage xmlns="http://schemas.microsoft.com/dotnet/2021/maui"
    xmlns:x="http://schemas.microsoft.com/winfx/2009/xaml"
    x:Class="Casdoor.MauiOidcClient.Example.MainPage">

    <ScrollView>
        <VerticalStackLayout>

            <StackLayout
                x:Name="LoginView">
                <Button
                    x:Name="LoginBtn"
                    Text="Log In"
                    SemanticProperties.Hint="Click to log in"
                    Clicked="OnLoginClicked"
                    HorizontalOptions="Center" />

                <WebView x:Name="WebViewInstance" />
            </StackLayout>

            <StackLayout
                x:Name="HomeView"
                IsVisible="false">

                <Label
                    Text="Welcome to .NET Multi-platform App UI"
                    SemanticProperties.HeadingLevel="Level2"
                    SemanticProperties.Description="Welcome to dot net
Multi-platform App UI"
                    FontSize="18"
                    HorizontalOptions="Center" />

                <Button
                    x:Name="CounterBtn"
                    Text="Click me"
```

## MainPage.cs

```
namespace Casdoor.MauiOidcClient.Example
{
    public partial class MainPage : ContentPage
    {
        int count = 0;
        private readonly CasdoorClient client;
        private string accessToken;
        public MainPage(CasdoorClient client)
        {
            InitializeComponent();
            this.client = client;

#if WINDOWS
            client.Browser = new
WebViewBrowserAuthenticator(WebViewInstance);
#endif
        }

        private void OnCounterClicked(object sender, EventArgs e)
        {
            count++;

            if (count == 1)
                CounterBtn.Text = $"Clicked {count} time";
            else
                CounterBtn.Text = $"Clicked {count} times";

            SemanticScreenReader.Announce(CounterBtn.Text);
        }

        private async void OnLoginClicked(object sender, EventArgs e)
        {
            var loginResult = await client.LoginAsync();
            accessToken = loginResult.AccessToken;
```

## Step 5: Support the Android Platform

Modify the `AndroidManifest.xml` file.

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/
    android">
    <application android:allowBackup="true" android:icon="@mipmap/
        appicon" android:roundIcon="@mipmap/appicon_round"
        android:supportsRtl="true"></application>
    <uses-permission
        android:name="android.permission.ACCESS_NETWORK_STATE" />
    <uses-permission android:name="android.permission.INTERNET" />
    <queries>
        <intent>
            <action
                android:name="android.support.customtabs.action.CustomTabsService"
            />
            </intent>
        </queries>
    </manifest>
```

## Step 6: Launch the Application

Visual Studio: Press Ctrl + F5 to start.

# Qt Desktop App

A [Qt desktop app example](#) for Casdoor.

## How to Run the Example

### Prerequisites

- [Qt6 SDK](#)
- [OpenSSL toolkit](#)

### Initialization

You need to initialize 7 string parameters:

Name	Description	File
endpoint	Your Casdoor server host/domain	<code>mainwindow.h</code>
client_id	The Client ID of your Casdoor application	<code>mainwindow.h</code>
client_secret	The Client Secret of your Casdoor application	<code>mainwindow.h</code>
certificate	The public key for the Casdoor application's cert	<code>mainwindow.h</code>
org_name	The name of your Casdoor organization	<code>mainwindow.h</code>

Name	Description	File
app_name	The name of your Casdoor application	mainwindow.h
redirect_url	The path of the callback URL for your Casdoor application, will be <code>http://localhost:8080/callback</code> if not provided	mainwindow.h

If you don't set the `endpoint` parameter, this project will use `http://localhost:8000` as the default Casdoor server.

## Running the Application

### Using Qt Creator

1. Open `casdoor-cpp-qt-example.pro`
2. Set the `INCLUDEPATH` of OpenSSL in `casdoor-cpp-qt-example.pro`
3. Press `Ctrl + R` to start

## Preview

After running this Qt desktop application, a new window will be shown on your desktop.



If you click the `Sign In` button, a login window will be shown on your desktop.



After a successful login, a user profile window will be shown on your desktop, displaying your user information.



You can preview the entire process in the following GIF image.



# How to Integrate

## Opening the Login Window

```
// Load and display the login page of Casdoor
m_webview->page()->load(*m_signin_url);
m_webview->show();
```

## Listening to the Open Application Event

```
// Initialize the TcpServer object and listen on port 8080
m_tcpserver = new QTcpServer(this);
if (!m_tcpserver->listen(QHostAddress::LocalHost, 8080)) {
    qDebug() << m_tcpserver->errorString();
    close();
}
connect(m_tcpserver, SIGNAL(newConnection()), this,
SLOT(on_tcp_connected()));
```

## Using Auth Code to Get the User Info

```
// Get the token and parse it with the JWT library
std::string token = m_casdoor->GetOAuthToken(code.toStdString());
auto decoded = m_casdoor->ParseJwtToken(token);
```

# Casdoor Plugin

Casdoor also provides plugins or middlewares for some very popular platforms, such as Java's Spring Boot, PHP's WordPress, and Python's Odoo, among others.

Casdoor plugin	Language	Source code
Spring Boot plugin	Java	<a href="https://github.com/casdoor/casdoor-spring-boot-starter">https://github.com/casdoor/casdoor-spring-boot-starter</a>
Spring Boot example	Java	<a href="https://github.com/casdoor/casdoor-spring-boot-example">https://github.com/casdoor/casdoor-spring-boot-example</a>
WordPress plugin	PHP	<a href="https://github.com/casdoor/wordpress-casdoor-plugin">https://github.com/casdoor/wordpress-casdoor-plugin</a>
Odoo plugin	Python	<a href="https://github.com/casdoor/odoo-casdoor-oauth">https://github.com/casdoor/odoo-casdoor-oauth</a>
Django plugin	Python	<a href="https://github.com/casdoor/django-casdoor-auth">https://github.com/casdoor/django-casdoor-auth</a>

For a complete list of the official Casdoor plugins, please visit the [Casdoor repositories](#).

# OAuth 2.0

## Introduction

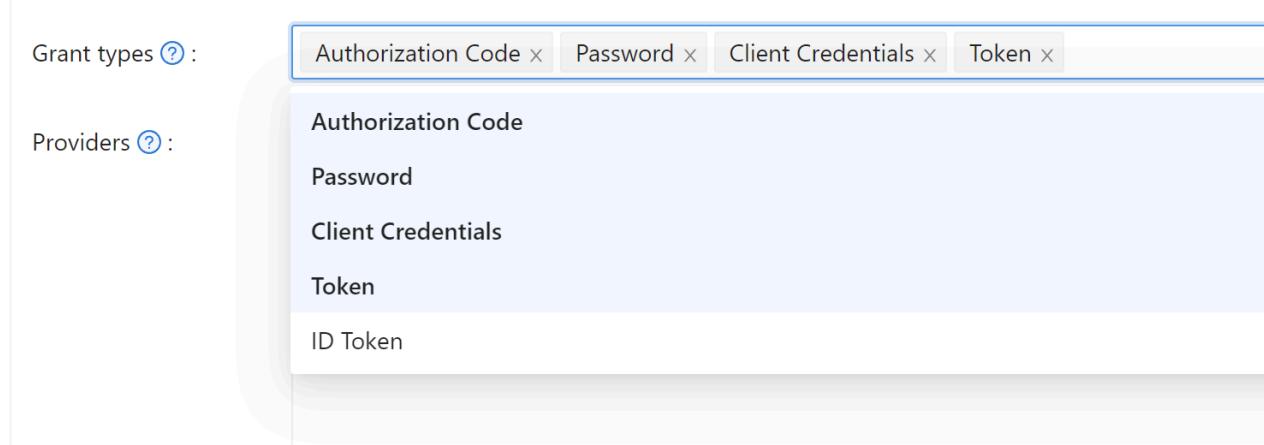
Casdoor supports using Access Token to authenticate clients. In this section, we will show you how to obtain an Access Token, how to verify an Access Token, and how to use an Access Token.

## How to Get an Access Token

There are two ways to obtain an Access Token: you can use the [Casdoor SDKs](#). For detailed information, please refer to the SDK documentation. Here, we will mainly show you how to use the API to get the Access Token.

Casdoor supports four OAuth grant types: [Authorization Code Grant](#), [Implicit Grant](#), [Resource Owner Password Credentials Grant](#), and [Client Credentials Grant](#).

For security reasons, the Casdoor app has the authorization code mode turned on by default. If you need to use other modes, please go to the appropriate app to set it.



### Authorization Code Grant

First, redirect your users to:

```
https://<CASDOOR_HOST>/login/oauth/authorize?  
client_id=CLIENT_ID&  
redirect_uri=REDIRECT_URI&  
response_type=code&  
scope=openid&  
state=STATE
```

## Available scopes

Name	Description
openid (no scope)	sub (user's id), iss (issuer), and aud (audience)
profile	user profile info, including name, displayName, and avatar
email	user's email address
address	user's address
phone	user's phone number

### INFO

Your OAuth Application can request the scopes in the initial redirection. You can specify multiple scopes by separating them with a space using %20:

```
https://<CASDOOR_HOST>/login/oauth/authorize?  
client_id=...&  
scope=openid%20email
```

For more details, please see the [OIDC standard](#)

After your user has authenticated with Casdoor, Casdoor will redirect them to:

```
https://REDIRECT_URI?code=CODE&state=STATE
```

Now that you have obtained the authorization code, make a POST request to:

```
https://<CASDOOR_HOST>/api/login/oauth/access_token
```

in your backend application:

```
{  
  "grant_type": "authorization_code",  
  "client_id": ClientId,  
  "client_secret": ClientSecret,  
  "code": Code,  
}
```

You will get the following response:

```
{  
    "access_token": "eyJhb...","  
    "id_token": "eyJhb...","  
    "refresh_token": "eyJhb...","  
    "token_type": "Bearer",  
    "expires_in": 10080,  
    "scope": "openid"  
}
```

 NOTE

Casdoor also supports the [PKCE](#) feature. When getting the authorization code, you can add two parameters to enable PKCE:

```
&code_challenge_method=S256&code_challenge=YOUR_CHANNELLENCE
```

When getting the token, you need to pass the `code_verifier` parameter to verify PKCE. It is worth mentioning that with PKCE enabled, `Client_Secret` is not required, but if you pass it, it must be the correct value.

## Implicit Grant

Maybe your application doesn't have a backend, and you need to use Implicit Grant. First, you need to make sure you have Implicit Grant enabled, then redirect your users to:

```
https://<CASDOOR_HOST>/login/oauth/  
authorize?client_id=CLIENT_ID&redirect_uri=REDIRECT_URI&response_type=token&scope=openid&state=STATE
```

After your user has authenticated with Casdoor, Casdoor will redirect them to:

```
https://REDIRECT_URI/#access_token=ACCESS_TOKEN
```

Casdoor also supports the `id_token` as `response_type`, which is a feature of OpenID.

## Resource Owner Password Credentials Grant

If your application doesn't have a frontend that redirects users to Casdoor, then you may need this.

First, you need to make sure you have Password Credentials Grant enabled and send a POST request to:

```
https://<CASDOOR_HOST>/api/login/oauth/access_token
```

```
{  
    "grant_type": "password",  
    "client_id": ClientId,
```

You will get the following response:

```
{  
    "access_token": "eyJhb... ",  
    "id_token": "eyJhb... ",  
    "refresh_token": "eyJhb... ",  
    "token_type": "Bearer",  
    "expires_in": 10080,  
    "scope": "openid"  
}
```

## Client Credentials Grant

You can also use Client Credentials Grant when your application does not have a frontend.

First, you need to make sure you have Client Credentials Grant enabled and send a POST request to

[https://<CASDOOR\\_HOST>/api/login/oauth/access\\_token](https://<CASDOOR_HOST>/api/login/oauth/access_token):

```
{  
    "grant_type": "client_credentials",  
    "client_id": ClientId,  
    "client_secret": ClientSecret,  
}
```

You will get the following response:

```
{  
    "access_token": "eyJhb... ",  
    "id_token": "eyJhb... ",  
    "refresh_token": "eyJhb... ",  
    "token_type": "Bearer",  
    "expires_in": 10080,  
    "scope": "openid"  
}
```

It is important to note that the AccessToken obtained in this way differs from the first three in that it corresponds to the application rather than to the user.

## Refresh Token

Maybe you want to update your Access Token, then you can use the `refreshToken` you obtained above.

First, you need to set the expiration time of the Refresh Token in the application (default is 0 hours), and send a POST request to [https://<CASDOOR\\_HOST>/api/login/oauth/refresh\\_token](https://<CASDOOR_HOST>/api/login/oauth/refresh_token)

```
{  
    "grant_type": "refresh_token",  
    "refresh_token": REFRESH_TOKEN,
```

You will get a response like this:

```
{  
    "access_token": "eyJhb... ",  
    "id_token": "eyJhb... ",  
    "refresh_token": "eyJhb... ",  
    "token_type": "Bearer",  
    "expires_in": 10080,  
    "scope": "openid"  
}
```

## How to Verify Access Token

Casdoor currently supports the [token introspection](#) endpoint. This endpoint is protected by Basic Authentication (ClientId:ClientSecret).

```
POST /api/login/oauth/introspect HTTP/1.1  
Host: CASDOOR_HOST  
Accept: application/json  
Content-Type: application/x-www-form-urlencoded  
Authorization: Basic Y2xpZW50X2lkOmNsawVudF9zZWNyZXQ=  
  
token=ACCESS_TOKEN&token_type_hint=access_token
```

You will receive the following response:

```
{  
    "active": true,  
    "client_id": "c58c... ",  
    "username": "admin",  
    "token_type": "Bearer",  
    "exp": 1647138242,  
    "iat": 1646533442,  
    "nbf": 1646533442,  
    "sub": "7a6b4a8a-b731-48da-bc44-36ae27338817",  
    "aud": [  
        "c58c... "  
    ],  
    "iss": "http://localhost:8000"  
}
```

## How to Use AccessToken

You can use AccessToken to access Casdoor APIs that require authentication.

For example, there are two different ways to request [/api/userinfo](#).

Type 1: Query parameter

```
https://<CASDOOR\_HOST>/api/userinfo?accessToken=<your\_access\_token>
```

Type 2: HTTP Bearer token

```
https://<CASDOOR\_HOST>/api/userinfo with the header: "Authorization: Bearer <your_access_token>"
```

Casdoor will parse the access\_token and return corresponding user information according to the scope. You will receive the same response, which looks like this:

```
{  
  "sub": "7a6b4a8a-b731-48da-bc44-36ae27338817",  
  "iss": "http://localhost:8000",  
  "aud": "c58c..."  
}
```

If you expect more user information, add scope when obtaining the AccessToken in step [Authorization Code Grant](#).

## Differences between the `userinfo` and `get-account` APIs

- `/api/userinfo`: This API returns user information as part of the OIDC protocol. It provides limited information, including only the basic information defined in OIDC standards. For a list of available scopes supported by Casdoor, please refer to the [available scopes](#) section.
- `/api/get-account`: This API retrieves the user object for the currently logged-in account. It is a Casdoor-specific API that allows you to obtain all the information of the user in Casdoor.

# Using Casdoor as a CAS Server

## Using Casdoor as a CAS Server

Casdoor can now be used as a CAS server. It currently supports CAS 3.0.

### Overview

The CAS endpoint prefix in Casdoor is `<casdoor endpoint>/cas/<organization name>/<application name>`. Here is an example using the endpoint `https://door.casdoor.com` with an application named `cas-java-app` under the organization `casbin`:

- `/login` endpoint: `https://door.casdoor.com/cas/casbin/cas-java-app/login`
- `/logout` endpoint: `https://door.casdoor.com/cas/casbin/cas-java-app/logout`
- `/serviceValidate` endpoint: `https://door.casdoor.com/cas/casbin/cas-java-app/serviceValidate`
- `/proxyValidate` endpoint: `https://door.casdoor.com/cas/casbin/cas-java-app/proxyValidate`
- `/proxy` endpoint: `https://door.casdoor.com/cas/casbin/cas-java-app/proxy`
- `/validate` endpoint: `https://door.casdoor.com/cas/casbin/cas-java-app/validate`
- `/p3/serviceValidate` endpoint: `https://door.casdoor.com/cas/casbin/cas-java-app/p3/serviceValidate`
- `/p3/proxyValidate` endpoint: `https://door.casdoor.com/cas/casbin/cas-java-app/p3/proxyValidate`
- `/samlValidate` endpoint: `https://door.casdoor.com/cas/casbin/cas-java-app/samlValidate`

For more information about CAS, its different versions, and parameters for these endpoints, refer to the [CAS Protocol Specification](#).

### An Example

Here is an official example [GitHub Repository](#) that contains a web app and utilizes the official CAS Java client [GitHub Repository](#). By going through this example, you can learn how to connect to Casdoor via CAS.

 NOTE

Note: Currently, Casdoor only supports all three versions of CAS: CAS 1.0, 2.0, and 3.0.

The CAS configuration is located in `src/main/webapp/WEB-INF/web.yml`.

By default, this app uses CAS 3.0, which is specified by the following configurations:

```
<filter-name>CAS Validation Filter</filter-name>
<filter-
class>org.jasig.cas.client.validation.Cas30ProxyReceivingTicketValidationFilter</filter-
class>
```

If you want to protect this web app using CAS 2.0, change the CAS Validation Filter to the following:

```
<filter-name>CAS Validation Filter</filter-name>
<filter-
class>org.jasig.cas.client.validation.Cas20ProxyReceivingTicketValidationFilter</filter-
class>
```

For CAS 1.0, use the following:

```
<filter-name>CAS Validation Filter</filter-name>
<filter-class>org.jasig.cas.client.validation.Cas10TicketValidationFilter</filter-class>
```

For all instances of the `casServerUrlPrefix` parameter, change them to:

```
<param-name>casServerUrlPrefix</param-name>
<param-value>http://door.casdoor.com/cas/casbin/cas-java-app</param-value>
```

For all instances of the `casServerLoginUrl` parameter, change them to:

```
<param-name>casServerLoginUrl</param-name>
<param-value>http://door.casdoor.com/cas/casbin/cas-java-app/login</param-value>
```

If you need to customize more configurations, see the [Java CAS client GitHub Repository](#) for detailed information.

# SAML

## Overview

Using Casdoor as SAML IdP

## AWS Client VPN

Using Casdoor as a SAML IdP

## Keycloak

Using Casdoor as a SAML IdP

## Google Workspace

Using Casdoor as a SAML IdP

## Appgate (POST)

How to Use Casdoor as SAML IdP for Appgate



# Overview

Casdoor can now be used as a SAML IdP. Up to this point, Casdoor has supported the main features of SAML 2.0.

# Configuration in SP

In general, the SP requires three required fields: `Single Sign-On`, `Issuer`, and `Public Certificate`. Most SPs can obtain these fields by uploading the XML Metadata file or the XML Metadata URL for autocompletion.

The metadata of the SAML endpoint in Casdoor is `<Endpoint of casdoor>/api/saml/metadata?application=admin/<application name>`. Suppose the endpoint of Casdoor is `https://door.casdoor.com`, and it contains an application called `app-built-in`. The XML Metadata endpoint will be:

<https://door.casdoor.com/api/saml/metadata?application=admin/app-built-in>

You can also find the metadata in the application edit page. Click the button to copy the URL and paste it into the browser to download the XML Metadata.

```
SAML metadata ⓘ <EntityDescriptor xmlns:ds="http://www.w3.org/2000/09/xmldsig#" xmlns="urn:oasis:names:tc:SAML:2.0:metadata" xmlns:md="urn:oasis:names:tc:SAML:2.0:metadata" entityID="https://door.casdoor.com/saml2/metadata" protocolSupportEnumeration="urn:oasis:names:tc:SAML:2.0:protocol">
    <KeyDescriptor use="signing">
        <KeyInfo xmlns="http://www.w3.org/2000/09/xmldsig#">
            <X509Data xmlns="http://www.w3.org/2000/09/xmldsig#">
                <X509Certificate xmlns="http://www.w3.org/2000/09/xmldsig#">MIIE+TCACuGgAwIBAgIDAjAMA0CCsqGSIb3DQEBCwUAMDYxHTAbBgNVBAoTTFNh2Rvb3IgT3JnYW5pemF0aW9uMRUwEwYDVQQDEwxDYXNkb2NhdGUsIQCQHkZzLc&lt;/X509Certificate>
            </X509Data>
        </KeyInfo>
    </KeyDescriptor>
</NameIDFormat>
<NameIDFormat xmlns="urn:oasis:names:tc:SAML:2.0:nameid-format:persistent"></NameIDFormat>
<NameIDFormat xmlns="urn:oasis:names:tc:SAML:2.0:nameid-format:transient"></NameIDFormat>
<SingleSignOnService Binding="urn:oasis:names:tc:SAML:2.0:bindings:HTTP-Redirect" location="https://door.casdoor.com/login/saml/authorize/admin/ann-built-in"></SingleSignOnService>
```

# Configuration in Casdoor IdP

Casdoor supports both GET and POST `SAMLResponse`. Casdoor needs to know what types of requests the SP supports when Casdoor sends the `SAMLResponse` to the SP. You need to configure the application in Casdoor based on the `SAMLResponse` type supported by your SP.

## INFO

If you fill in the `Reply URL`, Casdoor will send the `SAMLResponse` by POST Request. If the Reply URL is empty, Casdoor will use GET request. You might wonder how Casdoor knows the `Reply URL` of the SP if the `Reply URL` is empty. Actually, Casdoor can get the URL called `AssertionConsumerServiceURL` by parsing the `SAMLRequest` and send the request with `SAMLResponse` to `AssertionConsumerServiceURL`. The `Reply URL` will overwrite the `AssertionConsumerServiceURL` in `SAMLRequest`.

- **Reply URL:** Type in the URL of the ACS verifying the SAML response.

The screenshot shows the Casdoor configuration interface for a specific application. The 'Grant types' section includes 'Authorization Code' and 'Password'. The 'SAML Reply URL' field is highlighted with a red border and contains the value `https://mycontroller.mycompany.com/admin/saml`. Below it, the 'Enable SAML compress' toggle switch is turned on. The entire configuration section is enclosed in a light blue rounded rectangle.

Grant types	Authorization Code	Password
SAML Reply URL	🔗 https://mycontroller.mycompany.com/admin/saml	
Enable SAML compress	<input checked="" type="checkbox"/>	

- **Redirect URL:** Type in a unique name. This may be called `Audience` or `Entity ID` in your SP. Make sure you fill the same `Redirect URL` here as in your SP.

Redirect URLs [?](#) :

The screenshot shows a list of redirect URLs. At the top is a header with 'Redirect URLs' and an 'Add' button. Below is a table with three rows. The first row has a 'Redirect URL' column containing 'appgate'. The second row has a 'Redirect URL' column containing 'https://git.casbin.com/user/oauth2/casdoor/callback'. The third row has a 'Redirect URL' column containing 'http://localhost:3000/callback'.

Redirect URL
appgate
https://git.casbin.com/user/oauth2/casdoor/callback
http://localhost:3000/callback

## User profile

After successfully logging in, the user profile in the returned [SAMLResponse](#) from Casdoor has three fields. The attributes in the XML and the attributes of the user in Casdoor are mapped as follows:

XML Attribute Name	User field
Email	email
DisplayName	displayName
Name	name

See [https://en.wikipedia.org/wiki/SAML\\_2.0](https://en.wikipedia.org/wiki/SAML_2.0) for more information about SAML and its different versions.

## An example

[gosaml2](#) is a SAML 2.0 implementation for Service Providers based on etree and goxmlsig, a pure Go implementation of XML digital signatures. We use this library to test the SAML 2.0 in Casdoor as shown below.

Suppose you can access Casdoor through `http://localhost:7001/`, and your Casdoor contains an application called `app-built-in`, which belongs to an organization called `built-in`. The URLs, `http://localhost:6900/acs/example` and `http://localhost:6900/saml/acs/example`, should be added to the Redirect URLs in `app-built-in`.

```
import (
    "crypto/x509"
    "fmt"
    "net/http"

    "io/ioutil"

    "encoding/base64"
    "encoding/xml"

    saml2 "github.com/russellhaering/gosaml2"
    "github.com/russellhaering/gosaml2/types"
    dsig "github.com/russellhaering/goxmldsig"
)

func main() {
    res, err := http.Get("http://localhost:7001/api/saml/
metadata?application=admin/app-built-in")
    if err != nil {
        panic(err)
    }

    rawMetadata, err := ioutil.ReadAll(res.Body)
    if err != nil {
        panic(err)
    }

    metadata := &types.EntityDescriptor{}
    err = xml.Unmarshal(rawMetadata, metadata)
    if err != nil {
```

Run the above code, and the console will display the following message.

Visit this URL To Authenticate:

<http://localhost:7001/login/saml/authorize/admin/app-built-in?SAMLRequest=lFVbk6K8Fv0rFvNo2QR...>

Supply:

SP ACS URL : [http://localhost:6900/v1/\\_saml\\_callback](http://localhost:6900/v1/_saml_callback)

Click the URL to authenticate, and the login page of Casdoor will be displayed.





Continue with :



Or sign in with another account :

Auto sign in [Forgot password?](#)

[Sign In](#)

[Sign in with code](#) [No account? sign up now](#)



After authenticating, you will receive the response messages as shown below.



```
NameID: admin@example.com
Assertion:
  Email: [{XMLName: 'Space:urn:oasis:names:tc:SAML:2.0:assertion Local:Attribute} FriendlyName: Name>Email NameFormat:urn:oasis:names:tc:SAML:2.0:attributeName-format:basic Values:[{XMLName: 'Space:urn:oasis:names:tc:SAML:2.0:assertion Local:AttributeValue} Type: Value:admin@example.com}]
  Name: [{XMLName: 'Space:urn:oasis:names:tc:SAML:2.0:assertion Local:Attribute} FriendlyName: Name>Name NameFormat:urn:oasis:names:tc:SAML:2.0:attributeName-format:basic Values:[{XMLName: 'Space:urn:oasis:names:tc:SAML:2.0:assertion Local:AttributeValue} Type: Value:admin]]
  DisplayName: [{XMLName: 'Space:urn:oasis:names:tc:SAML:2.0:assertion Local:Attribute} FriendlyName: Name>DisplayName NameFormat:urn:oasis:names:tc:SAML:2.0:attributeName-format:basic Values:[{XMLName: 'Space:urn:oasis:names:tc:SAML:2.0:assertion Local:AttributeValue} Type: Value:Admin]}
Warnings:
&{OneTimeUse:false ProxyRestriction:<nil> NotInAudience:false InvalidTime:false}
```







# AWS Client VPN

## Casdoor as a SAML IdP in AWS Client VPN

This guide will show you how to configure Casdoor and AWS Client VPN to add Casdoor as a SAML IdP in AWS Client VPN.

### Prerequisites

To complete this setup, you will need:

- An AWS Account with administrative rights to access configuration settings of the service provider.
- An Amazon VPC with an EC2 instance
  - [Setting up the VPC](#)
  - [Launching an EC2 instance](#)
    - In the instance Security Group, allow ICMP traffic from the VPC CIDR range - this is needed for testing.
- A private certificate imported into [AWS Certificate Manager \(ACM\)](#)
  - [Generating and importing a certificate to ACM](#)
- A Windows or Mac system running the latest AWS Client VPN software.
  - [Download the software](#)

# Configure SAML Application

- In the Casdoor Application, set the `Redirect URL` to `urn:amazon:webservices:clientvpn`.

Tags [?](#) :

Client ID [?](#) : 235aca38d69a868ae432

Client secret [?](#) : d8942f2181908041106f3b2b56c2f91fd2ad13de

Cert [?](#) : cert-built-in

Redirect URLs [?](#) :

Redirect URLs	Add
Redirect URL	
<code>urn:amazon:webservices:clientvpn</code>	

Token format [?](#) :

Token expire [?](#) : 168 Hours

Refresh token expire [?](#) : 0 Hours

Enable password  [?](#):

- Set the `SAML reply URL` to `http://127.0.0.1:35001`.

Signup HTML [?](#) :

Signin HTML [?](#) :

Grant types [?](#) : Authorization Code x

SAML reply URL [?](#) : `http://127.0.0.1:35001`

Enable SAML compression [?](#) :

SAML metadata [?](#) :

```
<EntityDescriptor xmlns:ds="http://www.w3.org/2000/09/xmldsig#" xmlns="urn:urn:oasis:names:tc:SAML:2.0:metadata" protocolSupportEnumeration="urn:oasis:names:tc:SAML:2.0:protocol">
  <IDPSSODescriptor xmlns="urn:oasis:names:tc:SAML:2.0:metadata" protocol="urn:oasis:names:tc:SAML:2.0:bindings:HTTP-Redirect">
    <KeyDescriptor use="signing">
      <KeyInfo xmlns="http://www.w3.org/2000/09/xmldsig#">
        <X509Data xmlns="http://www.w3.org/2000/09/xmldsig#">
```

- Save the content in the `SAML metadata` as an XML file.

SAML metadata [?](#) :

```
<EntityDescriptor xmlns:ds="http://www.w3.org/2000/09/xmldsig#" xmlns="urn:urn:oasis:names:tc:SAML:2.0:metadata" xmlns:md="urn:oasis:names:tc:SAML:2.0:metadata" protocolSupportEnumeration="urn:oasis:names:tc:SAML:2.0:protocol">
  <IDPSSODescriptor xmlns="urn:oasis:names:tc:SAML:2.0:metadata" protocol="urn:oasis:names:tc:SAML:2.0:bindings:HTTP-Redirect">
    <KeyDescriptor use="signing">
      <KeyInfo xmlns="http://www.w3.org/2000/09/xmldsig#">
        <X509Data xmlns="http://www.w3.org/2000/09/xmldsig#">
          <X509Certificate xmlns="http://www.w3.org/2000/09/xmldsig#">MIIE+TC CAuGgAwIBAgIDAeJAMA0GCSqGSIb3DQEBCwUAMDYxHTAbBgNVBAoTFENhc2Rvb3IgT3JnYW50QData</X509Certificate>
        </X509Data>
      </KeyInfo>
    </KeyDescriptor>
    <NameIDFormat>urn:oasis:names:tc:SAML:1.1:nameid-format:emailAddress</NameIDFormat>
    <NameIDFormat>urn:oasis:names:tc:SAML:2.0:nameid-format:persistent</NameIDFormat>
    <NameIDFormat>urn:oasis:names:tc:SAML:2.0:nameid-format:transient</NameIDFormat>
    <SingleSignOnService Binding="urn:oasis:names:tc:SAML:2.0:bindings:HTTP-Redirect" Location="https://test.v2tl.com/login/saml/authorize/admin/app">
```

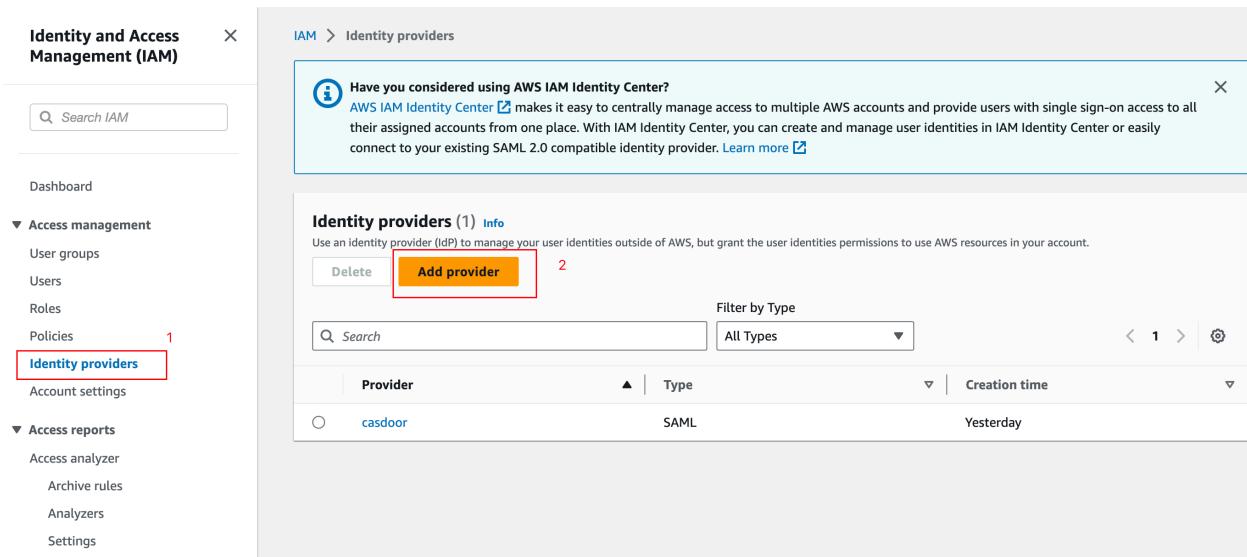
[Copy SAML metadata URL](#)

## Configure AWS

### Configure Casdoor as an AWS Identity Provider

1. Open the IAM console and select Identity providers from the navigation bar.
2. Click Create a Provider.

3. Specify SAML for the Provider Type, add a unique name for this provider, and upload the metadata document - the same file you saved from the Casdoor Application in the previous section.
  
4. Click Next Step. On the next screen, click Create.



The screenshot shows the AWS IAM Identity providers page. On the left, there's a navigation sidebar with options like Dashboard, Access management (with Identity providers selected), and Access reports. The main area shows a single identity provider named 'casdoor' (Type: SAML, Created Yesterday). A prominent orange 'Add provider' button is highlighted with a red box and the number '2'. A tooltip at the top right encourages using AWS IAM Identity Center.

Provider	Type	Creation time
casdoor	SAML	Yesterday

## Add an Identity provider Info

### Configure provider

Provider type Info

**SAML**  
Establish trust between your AWS account and a SAML 2.0 compatible Identity Provider such as Shibboleth or Active Directory Federation Services.

**OpenID Connect**  
Establish trust between your AWS account and Identity Provider services, such as Google or Salesforce.

Provider name  
Enter a meaningful name to identify this provider  
  
Maximum 128 characters. Use alphanumeric or '-' characters.

Metadata document Info  
 3  
File needs to be a valid UTF-8 XML document.

## Create an AWS Client VPN Endpoint

1. Open the Amazon VPC console in an AWS Region of your choice.
2. On the left-hand side navigation, select Client VPN Endpoints under Virtual Private Network (VPN).
3. Click Create Client VPN Endpoint.
4. Enter the IP range for your remote users in the Client IPv4 CIDR field to allocate an IP range.
5. For Server Certificate ARN, select the certificate you created.
6. For Authentication Options, select Use user-based authentication, then Federated authentication.

7. For SAML provider ARN, select the identity provider you created.

8. Click Create Client VPN Endpoint.

The screenshot shows the AWS Client VPN endpoint creation process across two pages. The first page (steps 2-3) lists existing endpoints and allows creating a new one. The second page (steps 4-8) configures the new endpoint.

**Client VPN endpoints (1/1)**

- Client IPv4 CIDR:** 172.31.32.0/20
- Authentication information:**
  - Server certificate ARN:** arn:aws:acm:ap-southeast-1:580652580210:certificate/f028f870-16ee-41b7-8...
  - Authentication options:** Use user-based authentication (selected)
  - User-based authentication options:** Federated authentication (selected)
- SAML provider ARN:** arn:aws:iam::580652580210:saml-provider/casdoor
- Self-service SAML provider ARN - optional:** Select self-service SAML provider ARN

# Associate a Client VPN with a Target VPC

1. Select Target network associations in the Client VPN options, then click Associate target network.
2. From the drop-down menu, select the target VPC and subnet you want to associate your endpoint with.

The screenshot shows the AWS CloudFormation console interface. On the left, there's a navigation sidebar with sections like Virtual private network (VPN), Customer gateways, Virtual private gateways, Site-to-Site VPN connections, Client VPN endpoints (which is selected and highlighted in blue), Transit gateways, Traffic Mirroring, and others. The main area displays the 'Client VPN endpoints' page for a single endpoint named 'cvpn-endpoint-06e947f15ddf5687c'. This endpoint is listed as 'Available' with a CIDR range of '172.31.32.0/20'. Below the main table, there's a detailed view for this specific endpoint. The 'Target network associations' tab is selected, showing one association entry. A red box highlights the 'Associate target network' button, which is used to link the endpoint to a target VPC and subnet.

# Configure SAML Group-Specific Authorization

1. Choose the Authorization rules tab in your Client VPN options and click Add Authorize rule.
2. For Destination network to enable, specify the IP address of your EC2 instance created in the prerequisites. For example, `172.31.16.0/20`.
3. Under Grant access to, select Allow access to users in a specific access group. For example, `casdoor`.
4. Provide an optional description and click Add authorization rule.

## Add authorization rule Info

Add authorization rules to grant clients access to the networks.

Details	
Client VPN endpoint ID	<input type="text" value="cvpn-endpoint-06e947f15ddf5687c"/>
Destination network to enable access	<input type="text" value="172.31.16.0/20"/> 2 <input type="button" value="X"/>
Grant access to:	<input checked="" type="radio"/> Allow access to all users <input checked="" type="radio"/> Allow access to users in a specific access group
Access group ID	<input type="text" value="casdoor"/> 3
Description - optional	<input type="text" value="description"/> 4
<input type="button" value="Cancel"/> <input type="button" value="Add authorization rule"/>	

# Connect to Client VPN

1. Select the Client VPN endpoint you just created. It should now be in the Available state.
2. Click Download Client Configuration to download the configuration profile to your desktop.
3. Open the AWS Client VPN desktop app on your machine.
4. In the top menu, select File and Manage Profiles.
5. Click Add Profile and point to the recently downloaded file.

6. You should now see the profile in the list on the AWS Client VPN software.

Select it and click Connect.

The screenshot shows the AWS VPC console interface. On the left, there's a sidebar with navigation links like 'VPC dashboard', 'EC2 Global View', 'Filter by VPC', 'Virtual private cloud' (with 'Your VPCs' and 'Subnets' options), 'Endpoint services', 'NAT gateways', 'Peerings connections', and 'Security'. The main area is titled 'Client VPN endpoints (1/1)' and shows a single endpoint named 'cvpn-endpoint-06e947f15ddf5687c'. The endpoint is listed as 'Available' with a CIDR range of '172.31.32.0/20'. A red box highlights the 'Download client configuration' button. Below the list is a detailed view of the endpoint, with tabs for 'Details', 'Target network associations', 'Security groups', 'Authorization rules', 'Route table', 'Connections', and 'Tags'. The 'Details' tab is selected, displaying information such as Client VPN endpoint ID ('cvpn-endpoint-06e947f15ddf5687c'), Server certificate ARN ('arn:aws:acm:ap-southeast-1:580652580210:certificate/f028f870-16ee-41b7-8b4e-66a2a0ebfe33'), Connection log ('false'), Transport protocol ('udp'), and Cloudwatch log group ('-').

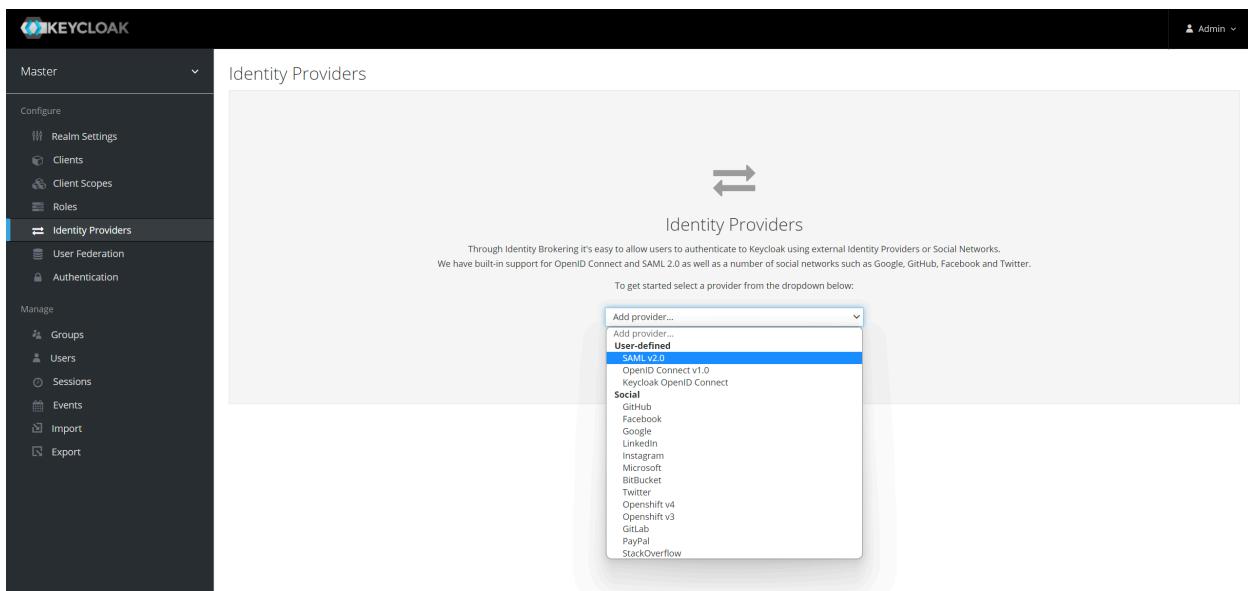
# Keycloak

## Casdoor as a SAML IdP in Keycloak

This guide will show you how to configure Casdoor and Keycloak to add Casdoor as a SAML IdP in Keycloak.

### Adding SAML IdP in Keycloak

Open the Keycloak admin page, click on **Identity Providers**, and select **SAML v2.0** from the list of providers.



#### ⓘ INFO

You can visit the Keycloak SAML Identity Providers [documentation](#) to get more detailed information.

Enter the **Alias** and the **Import from URL** in the Keycloak IdP edit page. The

content of the Import from URL can be found on the Casdoor application edit page. Click Import and the SAML config will be filled automatically.

Import External IDP Config 

---

Import from URL 

**Import**

Import from file

**Save** **Cancel**

Remember the Service Provider Entity ID and save the configuration.

## Configuring the SAML application in Casdoor

In the application edit page, add a redirect URL which contains the Service Provider Entity ID from Keycloak. Also, make sure to enable SAML compress for Keycloak.

Enable SAML compress :

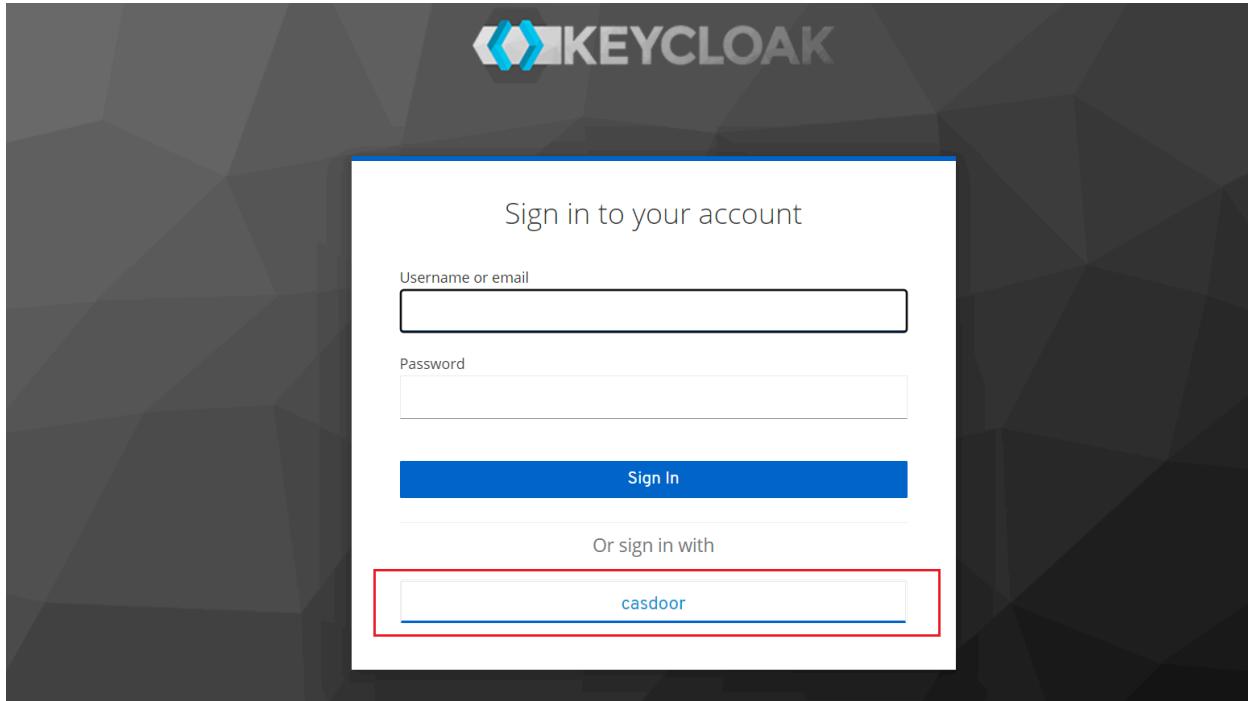
SAML metadata  :

```
<EntityDescriptor xmlns="http://www.w3.org/2000/09/xmldsig#" xmlns="urn:oasis:names:tc:SAML:2.0:metadata" xmlns:md="urn:oasis:names:tc:SAML:2.0:metadata" entityID="http://localhost:8000">
  <IDPSSODescriptor xmlns="urn:oasis:names:tc:SAML:2.0:metadata" protocolSupportEnumeration="urn:oasis:names:tc:SAML:2.0:protocol">
    <KeyDescriptor use="signing">
      <KeyInfo xmlns="http://www.w3.org/2000/09/xmldsig#">
        <X509Data xmlns="http://www.w3.org/2000/09/xmldsig#">
          <X509Certificate xmlns="http://www.w3.org/2000/09/xmldsig#">MIIE+TCCAuGgAwIBAgIDAeJAMA0GCSqGStB3DQEBCwUAMDIxHTAbBgNVBAoTFEh2Rvb3IgT3JnYW5peF0aW9oMRUwEwYDVQQDEwxDTXNkb29yIElcnQwHhcNMjExMDExMDgxM
        </X509Data>
      </KeyInfo>
    </KeyDescriptor>
  </IDPSSODescriptor>
  <NameIDFormat>urn:oasis:names:tc:SAML:1.1:nameid-format:emailAddress</NameIDFormat>
  <NameIDFormat>urn:oasis:names:tc:SAML:2.0:nameid-format:persistent</NameIDFormat>
  <NameIDFormat>urn:oasis:names:tc:SAML:2.0:nameid-format:transient</NameIDFormat>
  <SingleSignOnService Bindings="urn:oasis:names:tc:SAML:2.0-bindings:HTTP-Redirect" location="http://localhost:7001/login/saml/authorize/admin/app-built-in"></SingleSignOnService>
```

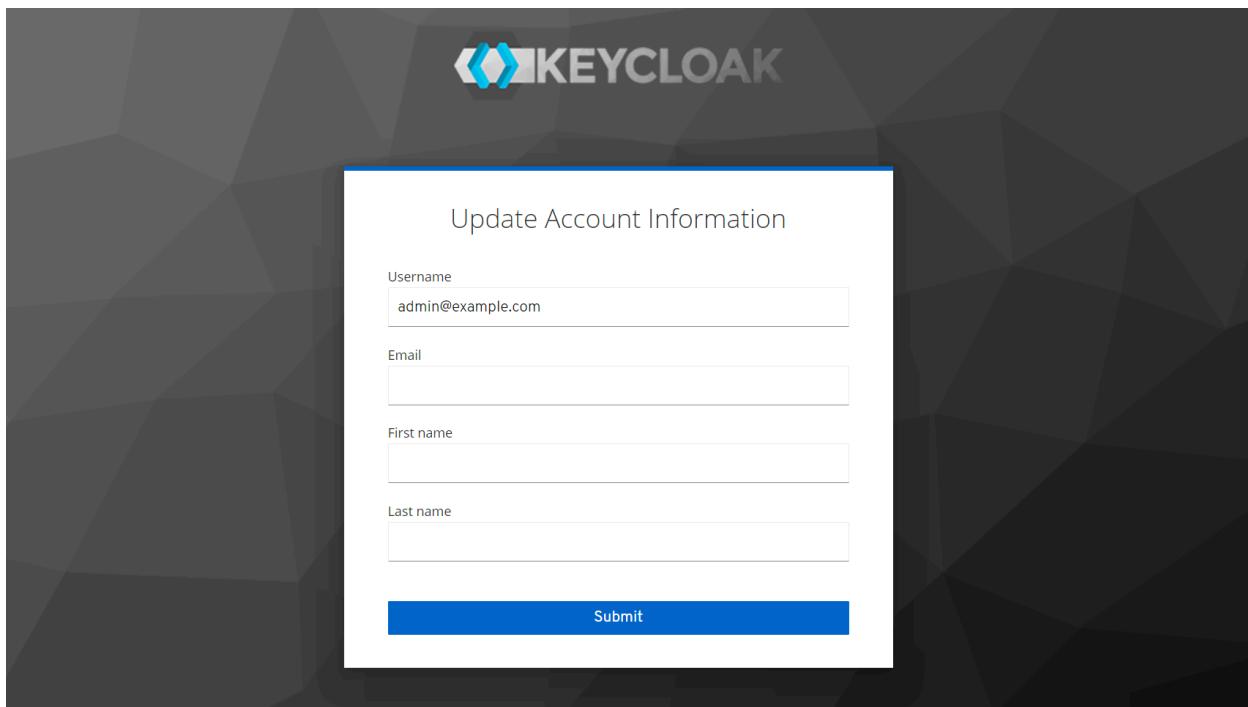
 [Copy SAML metadata URL](#)

## Logging in using Casdoor SAML

Open the Keycloak login page and you will find an additional button that allows you to log in to Keycloak using the Casdoor SAML provider.



Click on the button and you will be redirected to the Casdoor SAML provider for authentication. After successful authentication, you will be redirected back to Keycloak. Then you need to assign users to the application.



We also provide a demo video that demonstrates the entire process, which we hope will be helpful to you.

# Google Workspace

## Casdoor as a SAML IdP in Google Workspace

This guide will show you how to configure Casdoor and Google Workspace to add Casdoor as a SAML IdP in Google Workspace.

### Add Certificate

In Casdoor, add a certificate of type X.509 with RSA crypto algorithm and download it.

The screenshot shows the 'Edit Cert' page in Casdoor. The form fields are as follows:

- Organization: admin (Shared)
- Name: cert-built-in
- Display name: Built-in Cert
- Scope: JWT
- Type: x509 (highlighted with a red box)
- Crypto algorithm: RS256 (highlighted with a red box)
- Bit size: 4096
- Expire in years: 20
- Certificate: Copy certificate, Download certificate (the 'Download certificate' button is highlighted with a red box)
- Private key: Copy private key, Download private key
- Raw certificate content:

```
-----BEGIN CERTIFICATE-----  
MIIE+TCCAuGgAwIBAgIDAeJAMA0GCSqGSIb3DQEBCwUAMDYxHTAbBgN  
VBAoTFENh
```
- Raw private key content:

```
-----BEGIN PRIVATE KEY-----  
MIJKQIBAAKCAgEAslnpb5E1ym0f1RfSDSSE8IR7y+iw+RJi74e5ejrq4b8zM  
Y
```

### Configure SAML Application

On the application edit page, select the certificate you just created. Add the domain name of the Google application you will use in the **Redirect URLs**, such as google.com.

Cert ⓘ: cert-built-in

Redirect URLs ⓘ

Action	Redirect URLs	Add
	google.com	
	gmail.com	

In the SAML reply URL field, enter `https://www.google.com/a/<your domain>/acs`, which is the ACS URL. You can find relevant information about ACS URL here: [SSO assertion requirements](#).

SAML reply URL: `https://www.google.com/a/casbin.com/acs`

Enable SAML compression ⓘ:

```
SAML metadata: <EntityDescriptor xmlns:ds="http://www.w3.org/2000/09/xmldsig#" xmlns="urn:oasis:names:tc:SAML:2.0:metadata" xmlns:md="urn:oasis:names:tc:SAML:2.0:metadata">
  <IDPSSODescriptor xmlns="urn:oasis:names:tc:SAML:2.0:metadata" protocolSupportEnumeration="urn:oasis:names:tc:SAML:2.0:protocol">
    <KeyDescriptor use="signing">
      <KeyInfo xmlns="http://www.w3.org/2000/09/xmldsig#">
        <X509Data xmlns="http://www.w3.org/2000/09/xmldsig#">
          <X509Certificate xmlns="http://www.w3.org/2000/09/xmldsig#">MIIE+TCCAuGgAwIBAgIDAeJAMA0GCSqGSib3DQEBCwUAMDYxHTAbBgNVBAoTFENhc2Rvb3IgT3JnYWY=
        </X509Data>
      </KeyInfo>
    </KeyDescriptor>
    <NameIDFormat>urn:oasis:names:tc:SAML:1.1:nameid-format:emailAddress</NameIDFormat>
    <NameIDFormat>urn:oasis:names:tc:SAML:2.0:nameid-format:persistent</NameIDFormat>
    <NameIDFormat>urn:oasis:names:tc:SAML:2.0:nameid-format:transient</NameIDFormat>
    <SingleSignOnService Binding="urn:oasis:names:tc:SAML:2.0:bindings:HTTP-Redirect" Location="http://localhost:7001/login/saml/authorize/admin/wor...>
```

Copy SAML metadata URL

Copy the sign-in page URL. This will be used in the next step.

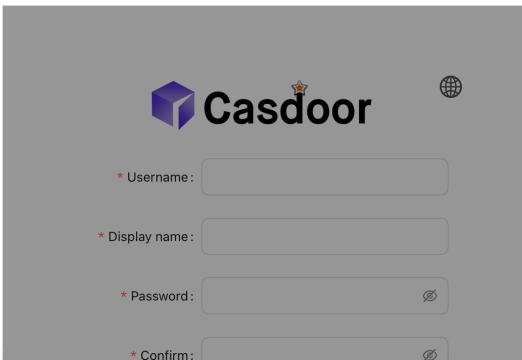
Providers [?](#)

Name	Category	Type	Can signup	Can signin	Can unlink	Prompted	Rule	Action

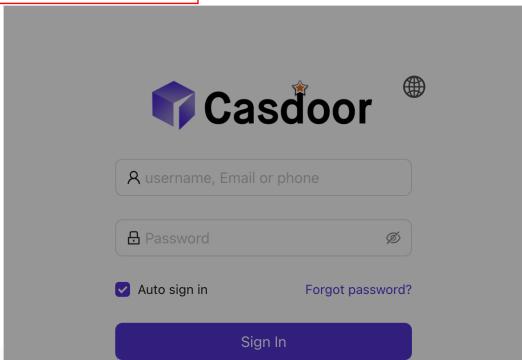
No data

Preview [?](#)

Copy signup page URL



Copy signin page URL



## Add Third-Party SAML IdP for Google Workspace

In the Google Workspace Admin console, navigate to **Security** and then **Overview**. Look for the **SSO with third-party IdP** section. Click on "Add SSO profile" to access the editing page. Check the "Set up SSO with third-party identity provider" checkbox. Paste the copied sign-in page URL into the **Sign-in page URL** and **Sign-out page URL** fields. Upload the certificate downloaded in the previous step. Click "Save" to save the changes.

The screenshot shows the Google Workspace Admin console interface. On the left, there's a sidebar with navigation links like Home, Dashboard, Directory, Devices, Apps, Security, Overview (which is selected), Alert centre, Authentication, 2-step verification, Account recovery, Advanced Protection Programme, Login challenges, Passwordless (BETA), and Password management. The main content area has a header "Search for users, groups or settings" and a breadcrumb path "Security > SSO with third-party IDPs > Third-party SSO profile for your organisation". The main content is titled "Single Sign-On (SSO) with third-party Identity Providers (IDPs)". It includes a section for "Third-party identity provider" with a checked checkbox for "Set up SSO with third-party identity provider". Below this, there are fields for "Sign-in page URL" containing "https://localhost/login/oauth/authorize?client\_id=12" and "Sign-out page URL" containing "https://localhost/login/oauth/authorize?client\_id=12". A "Verification certificate" section shows a message "A certificate file has been uploaded" and a "REPLACE CERTIFICATE" button. A note at the bottom says "The certificate file must contain the public key for Google to verify sign-in requests." with a "Learn more" link.

## Add Users for Testing

In Google Workspace, create a user with the username "test" (you can customize the username, this is just an example).

Your new user can start using Google Workspace within 24 hours. In most cases, it should just take a few minutes.



test test

Username: test@casbin.com

Password: ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ○

[COPY PASSWORD](#) [PRINT](#)

#### Send sign-in instructions

The email will provide a link to set the password and sign in to Google Workspace

[PREVIEW AND SEND](#)



The user will be assigned licences based on your current subscriptions. [View billing](#)

[ADD ANOTHER USER](#)

[DONE](#)

In Casdoor, add a user with the same username as set in Google Workspace. Make sure to select the appropriate organization and enter the user's email address.

Organization [?](#) : built-in

ID [?](#) : 4899cef3-8eeb-485a-8f6d-12b41df0d8d2

Name [?](#) : test

Display name [?](#) : test

Avatar [?](#) :

Preview:



Upload a photo...

User type [?](#) : normal-user

Password [?](#) : [Modify password...](#)

Email [?](#) : test@casbin.com

Phone [?](#) : +1 34086653696

As an example using "google.com," follow these steps:

1. Click on the login button on the Google.com page. Enter the user's email address to initiate the login process.
2. You will be redirected to the Casdoor page. On the Casdoor page, enter the corresponding email address and password.
3. If the login is successful, you will be redirected back to google.com.

Gmail Images ☰ Sign in



Google Search I'm Feeling Lucky

Google offered in: 日本語

Japan

About Advertising Business How Search works

Privacy Terms Settings

# Appgate (POST)

## Casdoor as a SAML IdP in Appgate

Appgate accepts the `SAMLResponse` sent by a POST request. If you use another Service Provider (SP) that also supports a POST request, you can refer to this document.

### Casdoor Configuration

Go to your Casdoor account and add a new application.

Enter basic SAML configuration in the application:

- Redirect URLs – Type in a unique name. This may be called `Audience` or `Entity ID` in your SP. See the table below.

Redirect URLs [?](#) :

Redirect URLs	Add
Redirect URL	
<a href="#">🔗 appgate</a>	
<a href="#">🔗 https://git.casbin.com/user/oauth2/casdoor/callback</a>	
<a href="#">🔗 http://localhost:3000/callback</a>	

- Reply URL – Type in the URL of the ACS (Assertion Consumer Service) that verifies the SAML response. Refer to the table below.

Grant types [?](#) :  Authorization Code  Password

SAML Reply URL [?](#) : <https://mycontroller.mycompany.com/admin/saml>

Enable SAML compress [?](#) :

Administrator Authentication	User Authentication
Redirect URL = "AppGate"	Redirect URL = "AppGate Client"
SAML Reply URL = <a href="https://mycontroller.your-site-url.com/admin/saml">https://mycontroller.your-site-url.com/admin/saml</a>	SAML Reply URL = <a href="https://redirectserver.your-site-url.com/saml">https://redirectserver.your-site-url.com/saml</a>

## Download the XML metadata file

You can copy the URL of the metadata and download the file from your browser.

Enable SAML compress [?](#) :

SAML metadata [?](#) :

```
<KeyDescriptor use="signing">
<KeyInfo xmlns="http://www.w3.org/2000/09/xmldsig#>
<X509Data xmlns="http://www.w3.org/2000/09/xmldsig#>
<X509Certificate xmlns="http://www.w3.org/2000/09/xmldsig#">MIIE+TCCAuGgAwIBAgIDAeJAMA0GCSqGSIb3DQEBCwUAMDYxHTAbBgNVBAoTFENhc2Rvb3IgT3JnYW5pemF0aW9uMRUwEwYDVQQDEwxSYXnkba...</X509Data>
</X509Data>
</KeyInfo>
</KeyDescriptor>
<NameIDFormat>urn:oasis:names:tc:SAML:1.1:nameid-format:emailAddress</NameIDFormat>
<NameIDFormat>urn:oasis:names:tc:SAML:2.0:nameid-format:persistent</NameIDFormat>
<NameIDFormat>urn:oasis:names:tc:SAML:2.0:nameid-format:transient</NameIDFormat>
<SingleSignOnService Binding="urn:oasis:names:tc:SAML:2.0:bindings:HTTP-Redirect" Location="https://door.casdoor.com/login/saml/authorize/admin/app-gitea"><SingleSignOnService>
<Attribute Name="Email" NameFormat="urn:oasis:names:tc:SAML:2.0:attrname-format:basic" FriendlyName="E-Mail" xmlns="urn:oasis:names:tc:SAML:2.0:assertion"></Attribute>
<Attribute Name="DisplayName" NameFormat="urn:oasis:names:tc:SAML:2.0:attrname-format:basic" FriendlyName="displayName" xmlns="urn:oasis:names:tc:SAML:2.0:assertion"></Attribute>
```

# Add SAML IdP in Appgate

In your AppGate SDP console:

- Select System > Identity Providers.
- Create a new Identity Provider.
- Choose the type SAML.
- Start configuring your identity provider following the details in the tables below.

Administrator Authentication	
Name	Enter a unique name, e.g. "Casdoor SAML Admin".
Single Sign-on URL	See below
Issuer	See below
Audience	Type in the Redirect URL from the Casdoor application
Public Certificate	See below

- Upload the XML Metadata file to autocomplete the Single Sign-On, Issuer, and Public Certificate fields.
- Click Choose a file and select the metadata file that you previously downloaded - this will autocomplete the relevant fields.

## Map Attributes

Map the Name to username. Your completed form should look something like this:

The screenshot shows a user interface titled "Map Attributes to User Claims". At the top right is a blue button labeled "Add New" with a plus sign icon. Below the title, there is a single row in a table-like structure. The first column contains the text "Name mapped to claim username". The second column is empty. The entire row is highlighted with a light gray background.

## Test Integration

On your AppGate SDP Controller console:

- Log out of the admin UI.
- Log in using the following information:
  - Identity Provider – choose your Azure IdP from the drop-down list.
  - Click **Sign in with browser** to connect to your authenticator.
- You may see the following message: "You don't have any administration rights" – this confirms that the test user credentials have been successfully authenticated by your Identity Provider.

## Access Policy

You need to modify the access policy to allow administrators to log in to Appgate using the SAML IdP. Enter the Builtin Administrator Policy:

Your completed form should look something like this:

## Editing Policy - Admin

- Enabled  
 Disabled

Assignment - Active when custom logic is met ▾

 Add New

Custom Logic (1 OR 3) AND 2

- 1 Identity Provider is local
- 2 user.username is admin
- 3 Identity Provider is Casdoor SAML Admin



# WebAuthn

## Overview

We are delighted to inform Casdoor's customers that Casdoor now supports logging in with WebAuthn. This means that you can log in using your biological identifications such as fingerprints or facial recognition, or even U-disks, provided that your device supports these cool authorization methods and WebAuthn.

### What is WebAuthn?

WebAuthn is the Web Authentication API, a specification written by the W3C and FIDO in collaboration with Google, Mozilla, Microsoft, Yubico, and others. This API allows servers to register and authenticate users using public key cryptography instead of a password. It enables servers to integrate with strong authenticators built into devices, such as Windows Hello or Apple's Touch ID.

To put it simply, WebAuthn requires users to generate a public key-private key pair and provide the public key to the website. When a user wants to log in to a website, the web generates a random number and asks the user to encrypt it with their private key and send the result back. Upon receiving the result, the website uses the public key to decrypt it. If the decrypted number matches the random number generated earlier, the user is considered a legitimate user and is granted access to log in. The combination of the public key and necessary information, like the username or information about the user's authorizer, is called the WebAuthn Credential, which is stored by the website.

The public key-private key pair is exclusively and uniquely associated with three pieces of information: the user's username, the user's authorizer, and the website's URL. This means that if the combination of (user's username, user's

authorizer, and the website's URL) is the same, the key pair should be identical, and vice versa.

For more detailed information about WebAuthn technology, you can visit <https://webauthn.guide/>.

## How to use WebAuthn in Casdoor?

On the login page, you may have already noticed the option to log in using WebAuthn. However, if you don't have a WebAuthn credential yet (which can be likened to a WebAuth password), this tutorial will show you how to create and manage a credential and then log in using it.

### Step 0: Modify the configurations and enable WebAuthn authentication

In the `conf/app.conf` file, you can find the following configuration:

```
origin = "http://localhost:8000"
```

Please ensure that this configuration exactly matches the URL of your website.

**Note:** Only HTTPS is supported for WebAuthn, unless you are using localhost.

Next, log in as the administrator and go to the edit page of your application. Turn on the "Enable WebAuthn signin" switch. By default, this feature is not enabled.

### Step 1: Go to "My Account" page

Navigate to the account page. On this page, you should see the "Add WebAuthn Credential" button and a list displaying all the WebAuthn credentials you have previously registered.

The screenshot shows the Casdoor application configuration interface. At the top, there's a field for "Signup application" with a placeholder "(empty)". Below it, a section for "3rd-party logins" shows a GitHub icon and the text "(empty)" with a "Link" button. Under "WebAuthn credentials", there's a table with one row. The row has columns for "WebAuthn credentials" (containing "Add" and "WebAuthn credentials"), "Action" (containing a red "Delete" button), and the credential value "OAUzbyDy1SCxNyW3vkNJP1feXhwm/pHBDmMOszRRNvg=". Below the table, sections for "Roles" and "Permissions" are shown, each with several toggle switches. At the bottom are "Save" and "Save & Exit" buttons.

Click the button and follow the instructions of your device to register a new credential in Casdoor. You can remove any credentials using the "delete" button in the list.

## Step 2: Log in using WebAuthn

Before starting this step, make sure you have logged out of Casdoor.

Go to the login page, select the WebAuthn login method, enter your username, and click the login button. Follow the instructions of your device.

(For example, if you are using fingerprint and Windows Hello, you should see something like this)



Windows Security

Making sure it's you

Please sign in as admin to .casdoor.com.

This request comes from Chrome, published by Google LLC.

Auto sign in      [Forgot password?](#)

[Sign in with WebAuthn](#)

[I forgot my PIN](#)

[Cancel](#)



You will then be logged in successfully.

# Developer Guide

## Frontend

Casdoor Frontend Development Guide

## Generating Swagger Files

Generating Swagger Files

# Frontend

The source code for Casdoor's frontend is located inside the `/web` folder:

<https://github.com/casdoor/casdoor/tree/master/web>

It is a [Create-React-App \(CRA\)](#) project, which follows the classic CRA folder structure as outlined below:

File/Directory	Description
public	The root HTML file for React
src	Source code
craco.config.js	The Craco configuration file. You can change the theme color (blue by default) here
crowdin.yml	Crowdin i18n configuration file
package.json	NPM/Yarn dependency file
yarn.lock	Yarn lock file

Inside the `/src` directory, you will find several important files and folders:

File/Directory	Description
account	The "My profile" page for logged-in users
auth	All code related to authentication, such as OAuth,

File/Directory	Description
	SAML, sign up page, sign in page, forget password page, etc.
backend	The SDK for calling the Go backend API. It contains all the <code>fetch()</code> calls
basic	The homepage (dashboard page) for Casdoor, which contains several card widgets
common	Shared UI widgets
locales	i18n translation files in JSON, synced with our Crowdin project: <a href="https://crowdin.com/project/casdoor-site">https://crowdin.com/project/casdoor-site</a>
App.js	The entry JS file containing all the routes
Setting.js	Utility functions used by other code
OrganizationListPage.js	The page for the organization list, similar to all other <code>XXXListPage.js</code> files
OrganizationEditPage.js	The page for editing one organization, similar to all other <code>XXXEditPage.js</code> files

# Generating Swagger Files

## Overview

As we know, the beego framework provides support for generating swagger files to clarify the API via the command line tool called "bee". Casdoor is also built based on beego. However, we found that the swagger files generated by bee failed to categorize the APIs with the "@Tag" label. So, we modified the original bee to implement this function.

## How to write the comment

Most rules are exactly identical to the original bee comment formats. The only discrepancy is that the API shall be divided into different groups according to the "@Tag" label. Therefore, developers are obliged to ensure that this tag is correctly added. Here is an example:

```
// @Title Login
// @Tag Login API
// @Description login
// @Param oAuthParams query string true "oAuth
parameters"
// @Param body body RequestForm true "Login
information"
// @Success 200 {object} controllers.api_controller.Response The
Response object
// @router /login [post]
func (c *ApiController) Login() {
```

APIs with the same "@Tag" labels will be put into the same group.

# How to generate the swagger file

0. Write comments for the API in the correct format.
1. Fetch this repository: <https://github.com/casbin/bee>.
2. Build the modified bee. For example, in the root directory of casbin/bee, run the following command:

```
go build -o mybee .
```

3. Copy mybee to the base directory of casdoor.
4. In that directory, run the following command:

```
mybee generate docs
```

Then you will find that the new swagger files are generated.

# Organizations

## Overview

Casdoor basic unit — organization

## Organization Tree

User groups within an organization

## Password Complexity

Supporting different password complexity options.

## Account Customization

Customizing users' account items



## Customizing Themes

Learn how to customize themes for organizations and applications within an organization



## Manage Multi-Factor Authentication Items

Configure Multi-Factor Authentication Items in Organization

# Overview

An organization is the basic unit of Casdoor, which manages users and applications. If a user signs in to an organization, then they can access all applications belonging to the organization without signing in again.

In the configuration of [applications](#) and [providers](#), choosing an organization is important, as it determines whether a user can access the application using specific providers.

We can also set up LDAP in Casdoor. For more details, please see the [LDAP](#) documentation.

Casdoor provides multiple password storage algorithms that can be selected on the organization edit page.

Name	Algorithm	Description	Scenario
plain	-	The password will be stored in cleartext. (default)	-
salt	<a href="#">SHA-256</a>	<a href="#">SHA-256</a> is a patented cryptographic hash function that outputs a value that is 256 bits long.	-
md5-salt	<a href="#">MD5</a>	The <a href="#">MD5 message-digest algorithm</a> is a cryptographically broken but still widely used hash function producing a 128-bit hash value.	<a href="#">Discuz!</a>

Name	Algorithm	Description	Scenario
bcrypt	bcrypt	bcrypt is a password-hashing function and is used to hash and salt passwords securely.	Spring Boot, WordPress
pbkdf2-salt	SHA-256 and PBKDF2	PBKDF2 is a simple cryptographic key derivation function that is resistant to dictionary attacks and rainbow table attacks. It was originally implemented in Casdoor for the Keycloak syncer. Select this option if you are importing users using the Keycloak syncer.	Keycloak



TIP

In addition to logging into Casdoor via an application (which redirects to Casdoor for SSO), a Casdoor user can also choose to directly log into Casdoor via the organization's login page: `/login/<organization_name>`, e.g., <https://door.casdoor.com/login/casbin> in the demo site.

# Organization Tree

Groups are a collection of users within an organization. A user can belong to multiple groups.

## Group properties

- `Owner`: The organization that owns the group
- `Name`: Unique group name
- `displayName`
- `CreatedTime`
- `UpdatedTime`
- `Type`: Groups can be classified as either `Physical` or `Virtual`. A user can only belong to one `Physical` group but can be in multiple `Virtual` groups.
- `ParentGroup`: The parent group of a group (The parent group of the top-level groups in the organization is the organization itself)

## Managing groups

There are two ways to manage groups:

1. On the groups list page, you can view all the groups within the organization.

Name	Organization	Created time	Updated time	Display name	Type	Parent group	Action
casdoor_virtual	built-in	2023-06-12 12:37:44	2023-06-12 12:37:51	Casdoor Project Virtual Team	Virtual		<button>Edit</button> <button>Delete</button>
casbin_virtual	built-in	2023-06-12 12:37:18	2023-06-12 12:37:36	Casbin Project Virtual Team	Virtual		<button>Edit</button> <button>Delete</button>
dev_frontend	built-in	2023-06-12 09:43:18	2023-06-12 12:35:51	Dev (Frontend)	Physical		<button>Edit</button> <button>Delete</button>
dev_backend	built-in	2023-06-12 09:20:28	2023-06-12 12:35:58	Dev (Backend)	Physical		<button>Edit</button> <button>Delete</button>
dev	built-in	2023-06-09 18:19:06	2023-06-12 12:36:08	R & D	Physical		<button>Edit</button> <button>Delete</button>
sales	built-in	2023-06-09 01:27:19	2023-06-12 12:36:27	Sales	Physical		<button>Edit</button> <button>Delete</button>
marketing	built-in	2023-06-09 01:26:16	2023-06-12 12:36:32	Marketing	Physical		<button>Edit</button> <button>Delete</button>
hr	built-in	2023-06-09 01:25:46	2023-06-12 12:36:43	HR	Physical		<button>Edit</button> <button>Delete</button>
sales_and_marketing	built-in	2023-06-09 01:23:35	2023-06-12 12:36:57	Sales & Marketing	Physical		<button>Edit</button> <button>Delete</button>

9 in total < 1 > 10 / page

## 2. Click the Groups button on the organization list page.

Name	Created time	Display name	Favicon	Website URL	Password type	Password salt	Default	Action
saas	2023-05-31 00:05:42	SaaS Users		<a href="https://saas.casbin.com">https://saas.casbin.com</a>	plain			<button>Groups</button> <button>Users</button> <button>Edit</button> <button>Delete</button>
gsoc	2021-02-11 23:26:20	GSoC Community		<a href="https://gsoc.com.cn">https://gsoc.com.cn</a>	plain			<button>Groups</button> <button>Users</button> <button>Edit</button> <button>Delete</button>
casbin	2021-02-11 23:26:20	Casbin Organization		<a href="https://forum.casbin.com">https://forum.casbin.com</a>	plain			<button>Groups</button> <button>Users</button> <button>Edit</button> <button>Delete</button>
built-in	2021-02-10 00:37:06	Built-in Organization		<a href="https://door.casdoor.com">https://door.casdoor.com</a>	plain			<button>Groups</button> <button>Users</button> <button>Edit</button> <button>Delete</button>

4 in total < 1 > 10 / page

This will display the tree structure of the groups within the organization.

The screenshot shows the Casdoor interface for managing organizations. On the left, there is a sidebar with a tree view of groups:

- Root node: Casdoor Project Virtual Team
- Child node: Casbin Project Virtual Team
- Child node: R & D
  - Child node: Dev (Frontend)
  - Child node: Dev (Backend)
- Child node: HR
- Child node: Sales & Marketing
  - Child node: Sales
  - Child node: Marketing

A red box highlights the R & D group and its children.

To the right of the sidebar is a table listing users:

Organization	Application	Name	Created time	Display name
built-in	app-built-in	牛头	2023-06-16 16:16:35	牛头
built-in	app-built-in	喝咖啡就大蒜	2023-06-15 10:58:48	喝咖啡就大蒜
built-in	app-built-in	danceshow	2023-06-15 10:53:48	街舞show
built-in	app-built-in	TT珍惜	2023-06-15 10:36:46	TT珍惜
built-in	app-built-in	hashjoin	2023-06-15 01:01:17	hashjoin
built-in	app-built-in	zhangyaphet@gmail.com	2023-06-14 15:50:23	pengwei zhang

Here is a video that shows how to manage groups:

The screenshot shows the Casdoor interface for managing groups. The URL in the address bar is `localhost:8000/groups`.

The page displays a list of groups:

Name	Organization	Created time	Updated time	Display name	Type	Parent group	Action
group_smf8bi	built-in	2023-06-13 23:25:31	2023-06-13 23:25:36	总部	Virtual	built-in	<button>Edit</button> <button>Delete</button>
group_zxak7d	built-in	2023-06-11 23:28:45	2023-06-13 23:24:36	New Group - zxak7d	Virtual	New Group - nahuap	<button>Edit</button> <button>Delete</button>
group_1t8lrr	built-in	2023-06-09 09:39:44	2023-06-13 23:24:46	美工	Virtual	研发子部门	<button>Edit</button> <button>Delete</button>
group_nahuap	built-in	2023-06-09 09:27:47	2023-06-12 09:36:45	New Group - nahuap	Virtual		<button>Edit</button> <button>Delete</button>
group_38ii7o	built-in	2023-06-07 21:48:49	2023-06-11 09:49:13	研发子部门	Virtual		<button>Edit</button> <button>Delete</button>
group_gnrtip9	built-in	2023-06-07 20:59:10	2023-06-13 23:24:51	实体组3	Physical	built-in	<button>Edit</button> <button>Delete</button>
group_Sacaox	forum	2023-06-06 08:24:33	2023-06-13 23:25:12	实体组2	Physical	forum	<button>Edit</button> <button>Delete</button>
group_3tt9wf	forum	2023-06-06 08:20:14	2023-06-13 23:25:06	顶级2	Virtual	forum	<button>Edit</button> <button>Delete</button>
group_azpdif	forum	2023-06-06 08:19:32	2023-06-09 10:50:25	顶级1	Virtual		<button>Edit</button> <button>Delete</button>
group_r89hga	built-in	2023-06-05 14:41:41	2023-06-12 09:38:28	研发部1	Virtual		<button>Edit</button> <button>Delete</button>

Groups can also be edited in a user's profile.

Title [?](#) : 1122

Homepage [?](#) :

Bio [?](#) :

Tag [?](#) : 222

Karma [?](#) : 333

Signup application [?](#) : app-built-in

Groups [?](#) : Dev (Frontend)   Casdoor Project Virtual Team 

Roles [?](#) :

Permissions [?](#) :

# Password Complexity

Casdoor supports customizing password complexity options for user passwords in each organization.

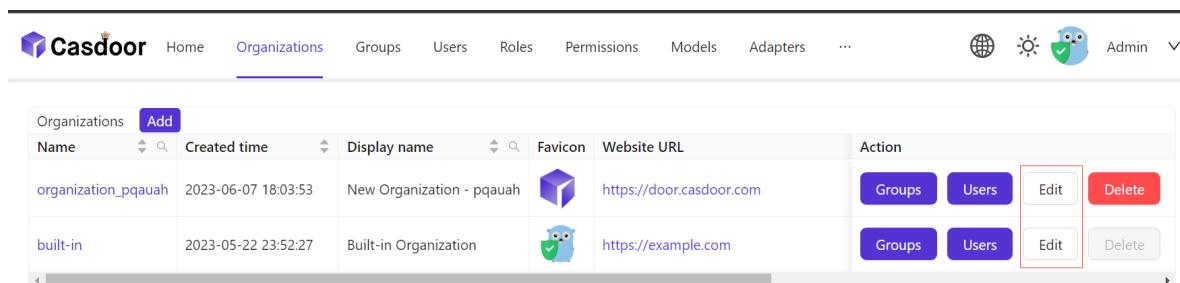
## Supported Complexity Options

We currently support five options:

- `AtLeast6`: The password must have at least six characters.
- `AtLeast8`: The password must have at least eight characters.
- `Aa123`: The password must contain at least one uppercase letter, one lowercase letter, and one digit.
- `SpecialChar`: The password must contain at least one special character.
- `NoRepeat`: The password must not contain any repeated characters.

If you want to use multiple options, you can select them on the organization edit page:

1. Click the `Edit` button on the organization list page.



Name	Created time	Display name	Favicon	Website URL	Action
organization_pqauah	2023-06-07 18:03:53	New Organization - pqauah		<a href="https://door.casdoor.com">https://door.casdoor.com</a>	<button>Groups</button> <button>Users</button> <button>Edit</button> <button>Delete</button>
built-in	2023-05-22 23:52:27	Built-in Organization		<a href="https://example.com">https://example.com</a>	<button>Groups</button> <button>Users</button> <button>Edit</button> <button>Delete</button>

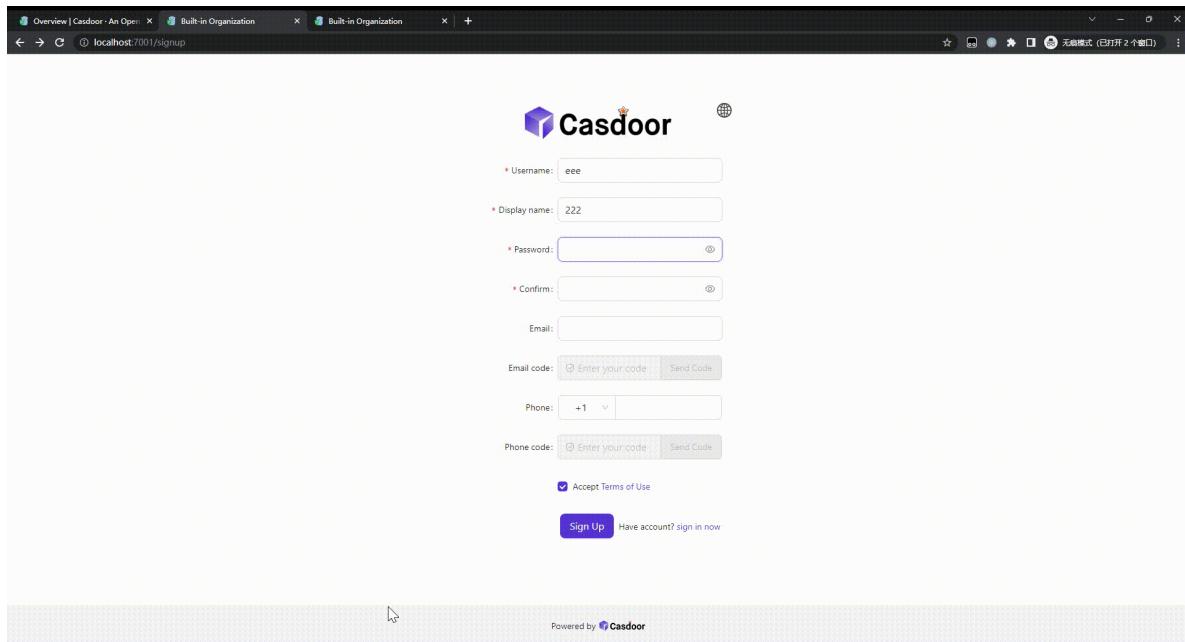
2. Then select the option you need in the `Password complexity options` column.

The screenshot shows the Casdoor web application's 'Edit Organization' page. The organization is named 'built-in' with a display name 'Built-in Organization'. The favicon is a blue owl icon. The website URL is set to 'https://example.com'. The password type is 'plain'. The password salt field is empty. Under 'Password complexity options', there are several validation rules: 'The password must have at least 8 characters', 'The password must contain at least one special character', 'The password must not contain any repeated characters', 'The password must contain at least one uppercase letter, one lowercase letter and one digit', 'The password must contain at least one special character', and 'The password must not contain any repeated characters'. The 'Supported country codes' section lists 'Germany +49', 'United Kingdom +44', and 'India +91'. The 'Languages' section is empty.

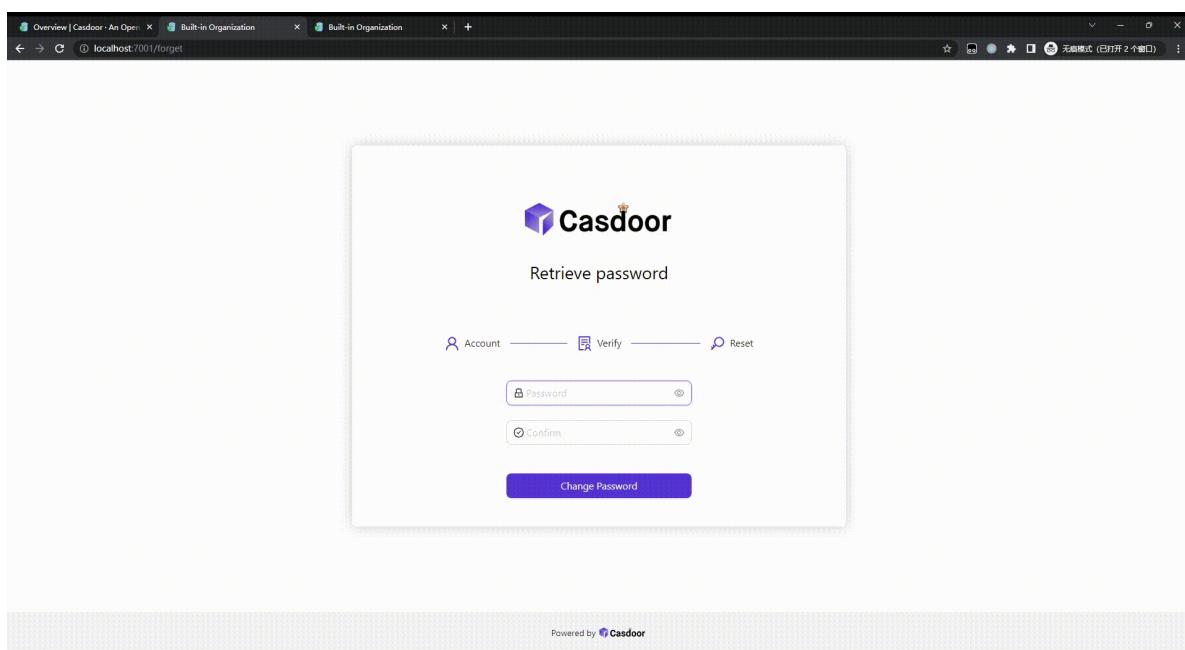
# Password Complexity Validation

We support password complexity validation on the following pages:

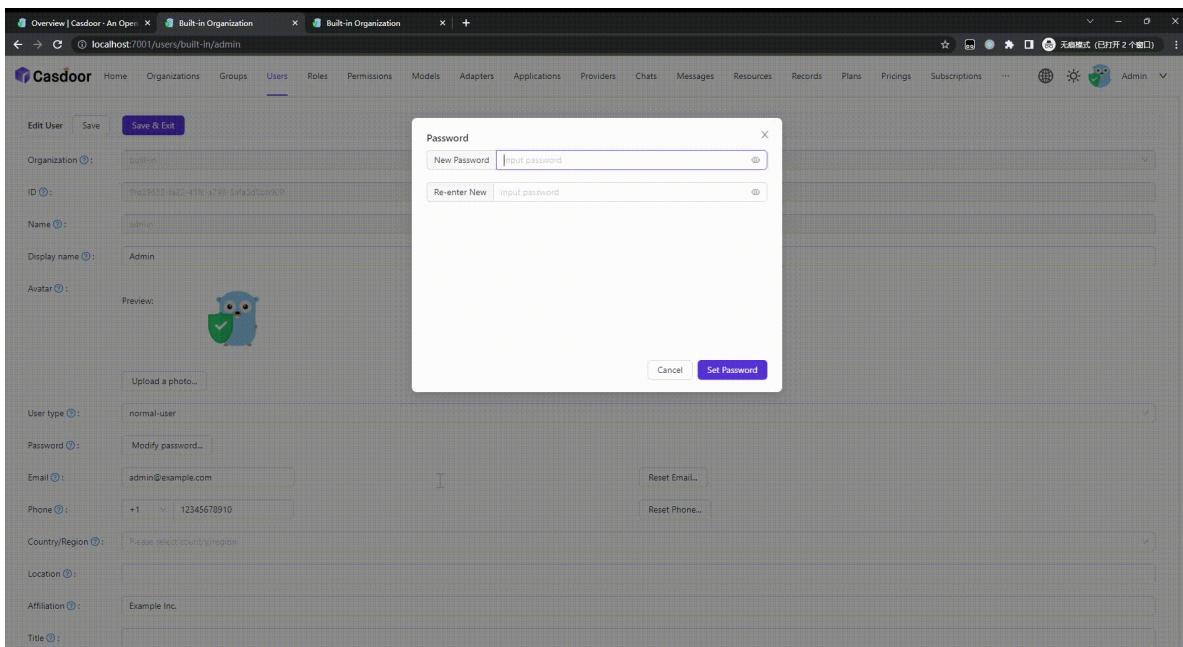
1. Sign up page.



## 2. Forget password page.



## 3. User edit page.



# Account Customization

## Introduction

In an organization, you can customize users' account items. This includes whether each item is visible and its view rule and modify rule.

When you customize account items in an organization, this configuration takes effect on the home page of all members of that organization.

## How to Customize?

Account items have four attributes:

Column Name	Selectable Value	Description
Name	-	Account item name.
Visible	True / False	Select whether this account item is visible on the user home page.
ViewRule	Rule Items	Select a rule to use when viewing the account item.
ModifyRule	Rule Items	Select a rule to use when modifying the account item.

To customize account items, follow these steps:

1. Go to the Organization Edit page.
2. You will find the following options:

Name	visible	viewRule	modifyRule	Action
Organization	<input checked="" type="checkbox"/>	Public	Admin	  
ID	<input checked="" type="checkbox"/>	Public	Immutable	  
Name	<input checked="" type="checkbox"/>	Public	Admin	  
Display name	<input checked="" type="checkbox"/>	Public	Self	  
Avatar	<input checked="" type="checkbox"/>	Public	Self	  
User type	<input checked="" type="checkbox"/>	Public	Admin	  
Password	<input checked="" type="checkbox"/>	Self	Self	  
Email	<input checked="" type="checkbox"/>	Public	Self	  
Phone	<input checked="" type="checkbox"/>	Public	Self	  
Country/Region	<input checked="" type="checkbox"/>	Public	Self	  
Location	<input checked="" type="checkbox"/>	Public	Self	  
Affiliation	<input checked="" type="checkbox"/>	Public	Self	  
Title	<input checked="" type="checkbox"/>	Public	Self	  
Homepage	<input checked="" type="checkbox"/>	Public	Self	  
Bio	<input checked="" type="checkbox"/>	Public	Self	  
Tag	<input checked="" type="checkbox"/>	Public	Admin	  
Signup application	<input checked="" type="checkbox"/>	Public	Admin	  
3rd-party logins	<input checked="" type="checkbox"/>	Self	Self	  

3. Casdoor provides simple operations to configure account items:

- Set the item to be visible or invisible.

Name	visible	viewRule	modifyRule
Organization	<input checked="" type="checkbox"/>	Public	Admin
ID	<input type="checkbox"/>		
Name	<input checked="" type="checkbox"/>	Public	Admin
Display name	<input checked="" type="checkbox"/>	Public	Self
Avatar	<input checked="" type="checkbox"/>	Public	Self
User type	<input checked="" type="checkbox"/>	Public	Admin

- Set viewing and modifying rules.

visible	viewRule	modifyRule	Action
<input checked="" type="checkbox"/>	Public	Admin	<input type="button" value="^"/> <input type="button" value="v"/> <input type="button" value="Delete"/>
<input type="checkbox"/>	Public		<input type="button" value="^"/> <input type="button" value="v"/> <input type="button" value="Delete"/>
<input checked="" type="checkbox"/>	Self	Admin	<input type="button" value="^"/> <input type="button" value="v"/> <input type="button" value="Delete"/>
<input checked="" type="checkbox"/>	Admin	Self	<input type="button" value="^"/> <input type="button" value="v"/> <input type="button" value="Delete"/>

There are 3 rules available:

- `Public`: Everyone has permission.
- `Self`: Each user has their own permission.
- `Admin`: The administrator has permission.

## Account Table

Below are all the fields in the account item. For descriptions, you can refer to [user](#).

- `Organization`
- `ID`
- `Name`
- `Display name`
- `Avatar`
- `User type`
- `Password`
- `Email`
- `Phone`
- `Country/Region`
- `Location`

- `Affiliation`
- `Title`
- `Homepage`
- `Bio`
- `Tag`
- `Signup application`
- `3rd-party logins`
- `Properties`
- `Is admin`
- `Is global admin`
- `Is forbidden`
- `Is deleted`

# Customizing Themes

Casdoor allows you to customize themes to meet the UI diversity requirements of businesses or brands, including primary color and border radius.

Within Casdoor, themes can be customized at the global, organization, and application levels.

1. Global scope: This is the default theme of Casdoor and is applied to any organization that chooses to follow the global theme. Modifications can only be made in the Casdoor source code and cannot be modified in the web UI.
2. Organization scope: The theme for an organization can be customized on the organization edit page. This theme applies to all Casdoor after-login pages for users within the organization, as well as the entry pages (signup, signin, forget password, etc.) of applications that follow the organization theme.
3. Application scope: The theme for an application can be customized on the application edit page. This theme applies to the entry pages (signup, signin, forget password, etc.) of the specific application.

## Customizing the Organization Theme

We provide a demo to demonstrate how to configure the theme for an organization:

The screenshot shows the Casdoor application's configuration interface. At the top, there is a theme editor grid with two columns. The left column lists various organization properties: Roles, Permissions, 3rd-party logins, Properties, Is admin, Is global admin, Is forbidden, Is deleted, WebAuthn credentials, and Managed accounts. The right column shows their corresponding access levels: Public, Immutable, Self, Admin, and various combinations of these. Below the theme editor are two tabs: 'Theme' (selected) and 'Customize theme'. Under the 'Customize theme' tab, there is a preview area showing a table titled 'LDAPs'. The table has columns for 'Server Name', 'Server', 'Base DN', 'Auto Sync', 'Last Sync', and 'Action'. It contains one entry: 'BuildIn LDAP Server' with 'example.com:389' in the server field and 'ou=BuildIn,dc=example,dc=com' in the base DN field. The 'Auto Sync' status is 'Disable'. Below the table are 'Sync', 'Edit', and 'Delete' buttons. At the bottom of the interface are 'Save' and 'Save & Exit' buttons. The footer of the page says 'Powered by Casdoor'.

### ⚠ INFO

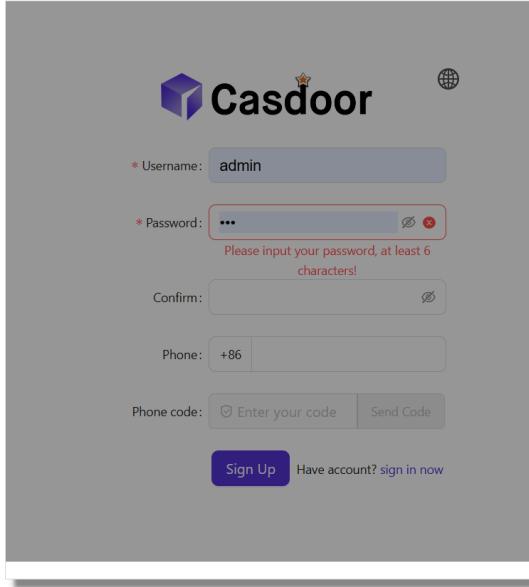
If your account organization is the same as the organization you are editing, the configuration changes will take effect immediately as shown in the video above. However, if they are different, you will need to log in to the organization to see the changes.

## Customizing the Application Theme

Applications can customize themes using the same theme editor as the organization. Additionally, you can preview the theme conveniently in the preview panel.

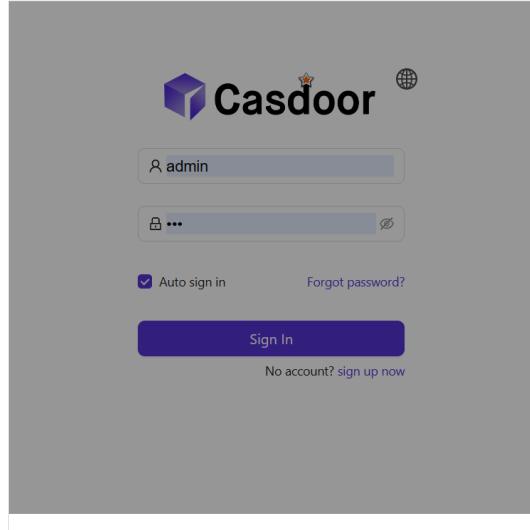
Preview ⓘ

 Copy signup page URL



The screenshot shows the Casdoor Signup page. It features a dark-themed header with the Casdoor logo and a globe icon. Below the header, there are several input fields: a "Username" field containing "admin", a "Password" field with three dots, a "Confirm" field, a "Phone" field with "+86", and a "Phone code" field with a "Send Code" button. There is also a "Sign Up" button and a link to "Have account? sign in now". A red error message at the top right of the password field says "Please input your password, at least 6 characters!".

 Copy signin page URL



The screenshot shows the Casdoor Signin page. It has a similar dark-themed header with the Casdoor logo and a globe icon. The main area contains a "Username" field with "admin" and a "Password" field with three dots. Below these are links for "Auto sign in" and "Forgot password?", and a large blue "Sign In" button. At the bottom, there is a link to "No account? sign up now".

Background URL

# Manage Multi-Factor Authentication Items

## Add Multi-Factor Authentication Item in Organization

In the organization, admins can add Multi-Factor Authentication items to the account settings. This allows users to configure Multi-Factor Authentication on their own profile pages.

The screenshot shows the Casdoor organization settings page at <https://door.casdoor.com/organizations/built-in>. The page includes fields for Master password, Languages, Init score, Soft deletion, and Is profile public. Below these are sections for Account items and Global items. The Account items section has a table with columns: Name, Visible, View rule, Modify rule, and Action. A new row for 'Multi-factor authentication' is being added, indicated by a red border around its row. The 'Visible' column for this row contains a switch that is currently off. The 'View rule' dropdown is set to 'Public'. The 'Modify rule' dropdown is set to 'Admin', which is highlighted in blue. The 'Action' column contains icons for moving rows up and down and deleting them.

Name	Visible	View rule	Modify rule	Action
Organization	<input checked="" type="checkbox"/>	Public	Admin	<span>↑</span> <span>↓</span> <span>trash</span>
ID	<input checked="" type="checkbox"/>	Public	Immutable	<span>↑</span> <span>↓</span> <span>trash</span>
Name	<input checked="" type="checkbox"/>	Public	Admin	<span>↑</span> <span>↓</span> <span>trash</span>
Display name	<input checked="" type="checkbox"/>	Public	Self	<span>↑</span> <span>↓</span> <span>trash</span>
Avatar	<input checked="" type="checkbox"/>	Public	Self	<span>↑</span> <span>↓</span> <span>trash</span>
User type	<input checked="" type="checkbox"/>	Public	Admin	<span>↑</span> <span>↓</span> <span>trash</span>
Password	<input checked="" type="checkbox"/>	Self	Self	<span>↑</span> <span>↓</span> <span>trash</span>
Multi-factor authentication	<input type="checkbox"/>	Self	Self	<span>↑</span> <span>↓</span> <span>trash</span>
Email	<input checked="" type="checkbox"/>	Public	Self	<span>↑</span> <span>↓</span> <span>trash</span>
Phone	<input checked="" type="checkbox"/>	Public	Self	<span>↑</span> <span>↓</span> <span>trash</span>

# Manage Multi-Factor Authentication Items

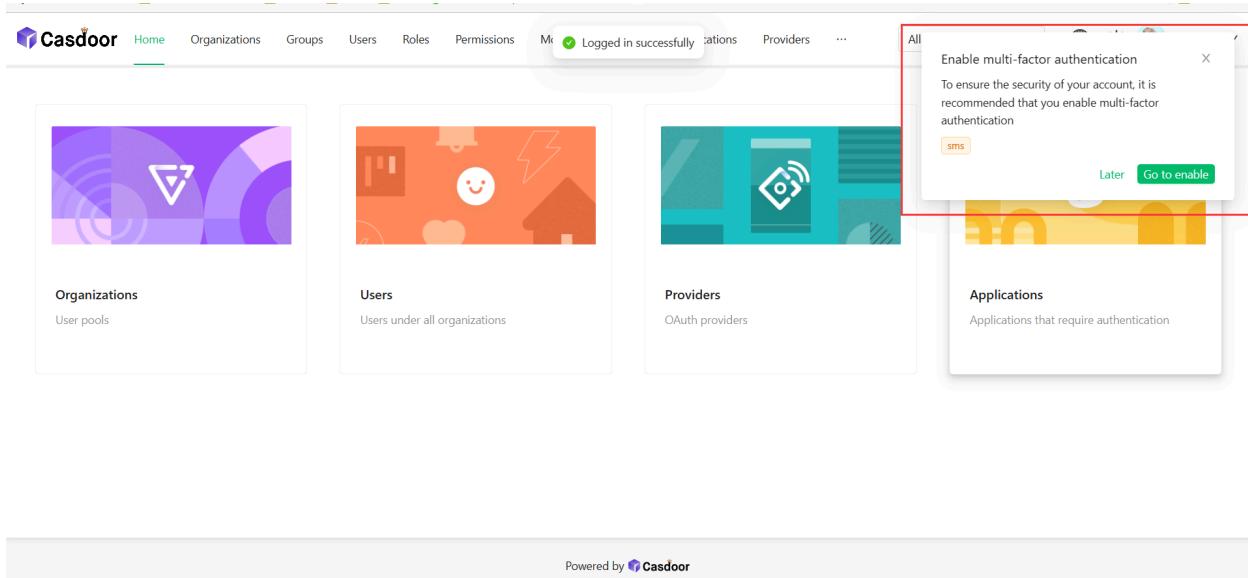
You can manage Multi-Factor Authentication to determine which methods are available to users.

There are two rules for managing Multi-Factor Authentication items:

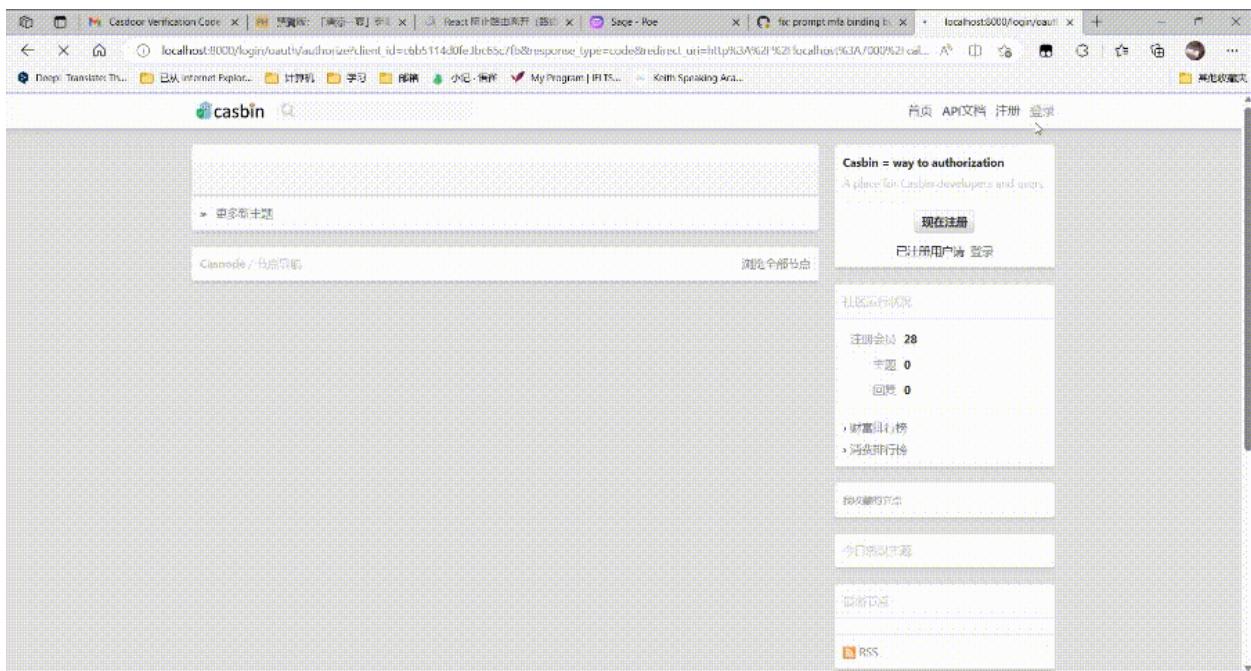
- Optional: Users can choose whether to enable this type of Multi-Factor Authentication.
- Prompt: If the user does not enable this Multi-Factor Authentication mode, they will be prompted to enable it after logging in to Casdoor.
- Required: Users must enable this Multi-Factor Authentication method.

MFA items		Add			
Name		Rule	Action		
Phone	▼	Prompt ▼	▲ ▼	trash	
Email	▼	Optional ▼	▲ ▼	trash	
App	▼	Required ▼	▲ ▼	trash	

The image below shows the notification that prompts users to enable Multi-Factor Authentication.



This video demonstrates that when the Multi-Factor Authentication method is set to required, users need to enable Multi-Factor Authentication before they can complete the login process.



# Applications

## Overview

Casdoor Application Overview

## Terminology Reference

Terminology reference

## Application Config

Configure your application's authentication

## Signup Items Table

Configure the signup items table to create a custom registration page



## Login UI Customization

Customize the login page UI for your application



## Specify Login Organization

Specify the login organization on the login page



## Tags

Configure your application tags



## Application Invitation Code

Restrict application sign up with invitation codes

# Overview

Every application in Casdoor is called an "application". They are not related and do not affect each other, which means you can deploy or stop any application separately, as long as you like.

If you want to use Casdoor to provide login service for your web apps, you can add them as Casdoor applications.

Users can access all applications in their organizations without logging in twice.

The application configuration is very flexible and simple. You can set whether to allow password login or third-party login, configure the third-party applications you want users to log in to, and you can even customize the signup items of the application, etc.

In this chapter, you will learn how to start your own application from scratch.

Let's explore together!

# Terminology Reference

- `Name`: The name of the created app.
- `CreatedTime`: The time when the application is created.
- `DisplayName`: The name which the application displays to the public.
- `Logo`: Application logos will be displayed on the login and sign up pages.
- `HomepageUrl`: The URL of the application's homepage.
- `Description`: Describes the application.
- `Tags`: Only users with tags listed in the application tags can login.
- `Organization`: The organization that the app belongs to.
- `EnablePassword`: If users can login via password.
- `EnableSignUp`: If users can sign up. If not, accounts of the application.
- `SignupItems`: Fields that need to be filled in when users register.
- `Providers`: Provide all kinds of services for the applications (such as OAuth, Email, SMS service).
- `ClientId`: OAuth client ID.
- `ClientSecret`: OAuth client secret.
- `RedirectUris`: Casdoor will navigate to one of the URIs if the user logged in successfully.
- `TokenFormat`: The format of the generated token. It can be either `JWT` (containing all `User` fields) or `JWT-Empty` containing all non-empty values.
- `ExpireInHours`: Login will expire after hours.
- `SigninUrl`:
- `SignupUrl`: If you provide a sign-up service independently outside of Casdoor, please fill in the URL here.
- `ForgotUrl`: Same as `SignupUrl`.
- `AffiliationUrl`:



# Application Config

After you deploy Casdoor on your server and set up your organization, you can now deploy your applications!

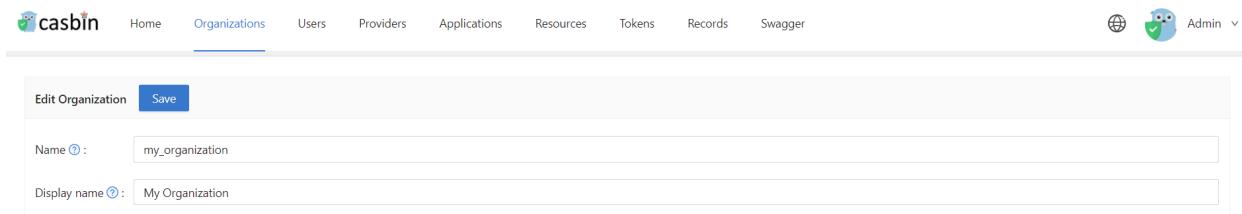
Let's see how to configure your application's authentication using Casdoor!

 NOTE

For example, I want to set up my Forum using [Casnode](#).

I create my application and fill in some necessary configurations.

Select the organization I created so that users in this organization can use this application.



The screenshot shows the Casbin web interface. At the top, there is a navigation bar with links: Home, Organizations (which is highlighted in blue), Users, Providers, Applications, Resources, Tokens, Records, and Swagger. On the far right, there is a user profile icon and the text "Admin". Below the navigation bar, the main content area has a title "Edit Organization" and a "Save" button. There are two input fields: "Name" with the value "my\_organization" and "Display name" with the value "My Organization". A dropdown menu is open, showing "my\_organization" as the selected option.

Since this organization is named `my_organization`, I choose it from the drop-down menu.

Edit Application Save

Name ? : my\_forum

Display name ? : My Forum

Logo ? : URL: [https://cdn.casbin.com/logo/logo\\_1024x256.png](https://cdn.casbin.com/logo/logo_1024x256.png)

Preview: 

Home ? :

Description ? :

Organization ? : built-in

Client ID ? : my\_organization  
built-in

Next, I want my users to be able to use Casdoor for authentication when they sign up. So, I fill in the redirect URL here as <https://your-site-url.com/callback>.

### ⚠ CAUTION

Please note that the `callback URL` in the provider application should be Casdoor's callback URL, and the `Redirect URL` in Casdoor should be your website's callback URL.

### Further Understanding

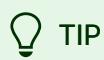
To make the authentication process work, the detailed steps are as follows:

1. Users send a request to Casdoor.
2. Casdoor uses the `Client ID` and `Client Secret` to authenticate with GitHub, Google, or other providers.
3. If the authentication is successful, GitHub calls back to Casdoor to notify Casdoor about the successful authentication. Therefore, the GitHub authorization callback URL should be your Casdoor's callback URL, which is <http://your-casdoor-url.com/callback>.
4. Casdoor then informs the application about the authentication success. This means that the Casdoor callback URL should be your application's callback URL, which is <http://your-site-url.com/callback>.

You can also add third-party apps for sign up by adding providers and setting their properties.

Providers	Add	Name	canSignUp	canSignIn	canUnlink	prompted	Action
		provider_casbin_email					
		provider_casbin_sms					
		provider_storage_aliyun_oss					
		provider_casdoor_github_localhost	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
		provider_casdoor_github	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
		provider_casdoor_google	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
		provider_casdoor_qq	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
		provider_casdoor_wechat	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
		provider_casdoor_facebook	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
		provider_casdoor_gitee	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
		provider_casdoor_gitlab	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

You need to enable JavaScript to run this app.



#### TIP

Note that if you don't want users to access your app using a **username/password**, you can switch off the **Password On** button. This way, users can only access the app using third-party services.

Token expire [?](#) :  Hours

Password ON [?](#) :

Enable signup [?](#) :

# Signup Items Table

On the application configuration page, we can configure the signup items table to create a customized registration page. We can add or delete any signup item on this signup items table.

Signup items :		Add	Visible	Required	Prompted	Rule	Action		
Name	ID	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Random			
	Username	<input checked="" type="checkbox"/>							
	Display name	<input checked="" type="checkbox"/>							
	Password	<input checked="" type="checkbox"/>							
	Confirm	<input checked="" type="checkbox"/>							
	Email	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Normal			
	Phone	<input checked="" type="checkbox"/>							
	Agreement	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	None			

For a detailed explanation of each signup item, please refer to the table below.

Column Name	Selectable Value	Description
Name	-	The name of the signup item.
Visible	True / False	Select whether this signup item is visible on the registration page.
Required	True / False	Select whether this signup item is mandatory.
Prompted	True / False	Select whether to prompt the user when they forget to fill in this signup item.

Column Name	Selectable Value	Description
Rule	Rule Items	Select a rule to customize this signup item. Detailed rules are described in the table below.
Action	-	Users can perform actions such as moving this signup item up, moving it down, or deleting it.

Currently, the signup items that support configuration rules include ID, Display name, Email, and Agreement.

Item Name	Selectable Rules	Description
ID	Random / Incremental	Select whether the user ID should be randomly generated or incremented.
Display name	None / Real name / First, last	Choose how the display name should be presented. Choosing None will display Display name. Choosing Real name will display the user's actual name. Choosing First, last will display the first and last name separately.
Email	Normal / No verification	Select whether to verify the email address with a verification code. Choosing Normal will require email verification. Choosing No verification will allow signup without email

Item Name	Selectable Rules	Description
		verification.
Agreement	<input type="checkbox"/> None / <input type="checkbox"/> Signin / <input type="checkbox"/> Signin <input type="checkbox"/> (Default True)	Select whether the user needs to confirm the terms of use when logging in. Choosing <input type="checkbox"/> None will not display any terms of use, allowing users to log in directly. Choosing <input type="checkbox"/> Signin will require users to confirm the terms before logging in. Choosing <input type="checkbox"/> Signin (Default True) will set the terms as confirmed by default, allowing users to log in directly.

### NOTE

For example, let's say I want to set up my registration page to include an email field, but without requiring email verification.

Firstly, I added some signup items necessary for registration, such as ID, Username, Password, and Email.



Signup items		Add	visible	required	prompted	rule	Action		
Name	ID		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Incremental			
	Username		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				
	Password		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				
	Email		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	No verification			

Then, I selected the email row's rule item as  No verification. As a result, the generated preview registration page will have the desired effect.



\* Username:

\* Password:

\* Email:

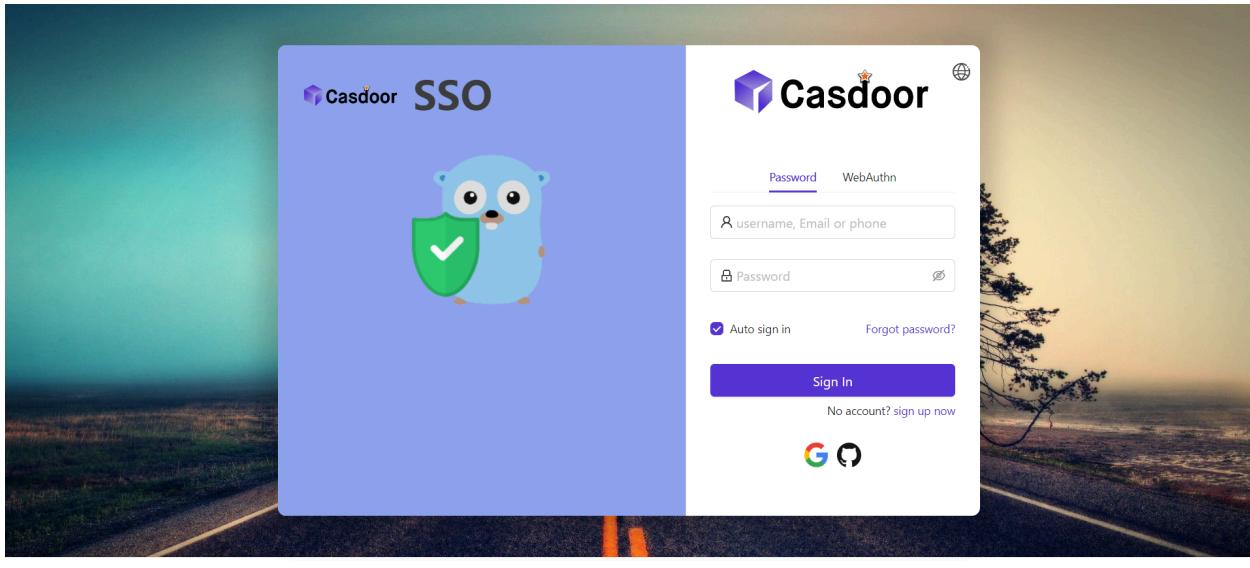
Sign Up

Have account? [sign in](#)

now

# Login UI Customization

You have created the application. Now, let me show you how to customize the login page UI of your application. In this guide, we will create a customized login page for your application.



Let's get started!

## Part 1: Add a background image

First, let's add a background image. The default background is white, which looks very simple.



Password    WebAuthn

Auto sign in      [Forgot password?](#)

No account? [sign up now](#)



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To add a background image, fill in the `Background URL` with the URL of the image you like. The preview area will display the image if the URL is valid.

Background URL ?:	URL ?: <input type="text" value=""/>
Preview:	
Form CSS ?:	<input type="text"/>
Form position ?:	<input type="radio"/> Left <input checked="" type="radio"/> Center <input type="radio"/> Right <input type="radio"/> Enable side panel

## Part 2: Customize the login panel

Here's where you were at the end of the first part:



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To make the panel look nice, you need to add some CSS code to it. Copy the code below and paste it into the `Form CSS` field.

```
<style>
.login-panel{
    padding: 40px 30px 0 30px;
    border-radius: 10px;
    background-color: #ffffff;
    box-shadow: 0 0 30px 20px rgba(0, 0, 0, 0.20);
}
</style>
```

Background URL  
URL : <https://static.runoob.com/images/demo/demo2.jpg>

Preview:



Form CSS :

Form position :

### TIP

When editing the `Form CSS`, if the value is empty, the editor will show the default value. However, you still need to copy the content and paste it into the field.

After filling the `Form CSS`, don't forget to save the configuration at the bottom.

Now, let's see the effect.



## Part 3: Select the panel position

Now, the login page looks much prettier than before. We also provide three buttons for you to decide the position of the panel.

Background URL

?

URL ? :



<https://static.runoob.com/images/demo/demo2.jpg>

Preview:



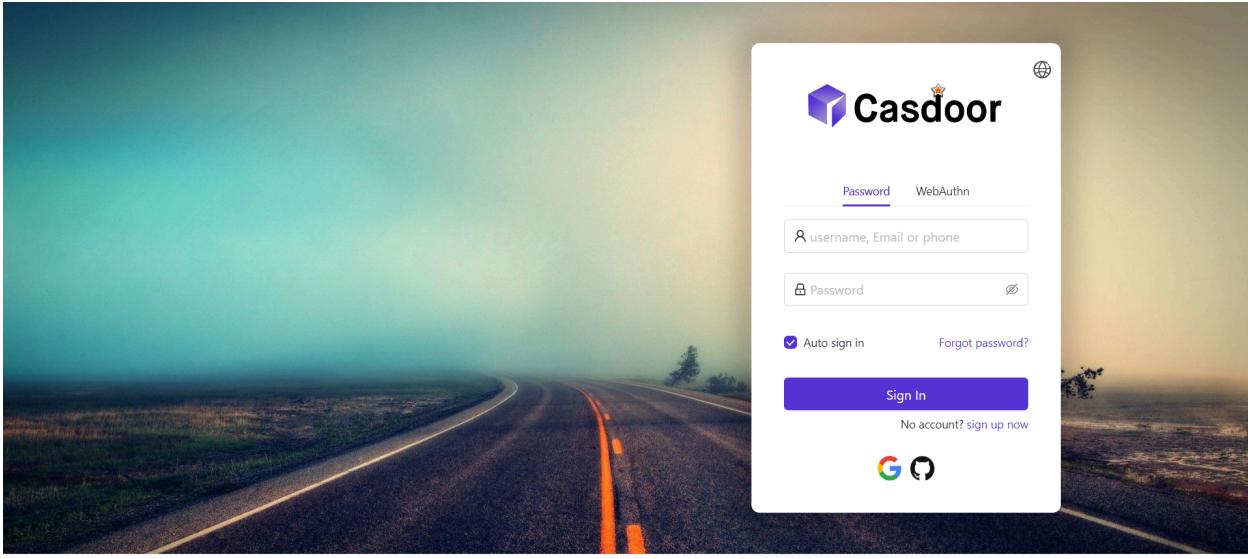
Form CSS ? :

```
<style>.login-panel{ padding: 40px 30px 0 30px; border-radius: 10px; }
```

Form position ? :

Left	Center	Right	Enable side panel
------	--------	-------	-------------------

For example, let's select the Right button:



## Part 4: Enable the side panel

Next, let's see how to enable a side panel and customize its style.

First, select the button. In the Enable Side Panel mode, the panel will be centered.

Form position [?](#) :

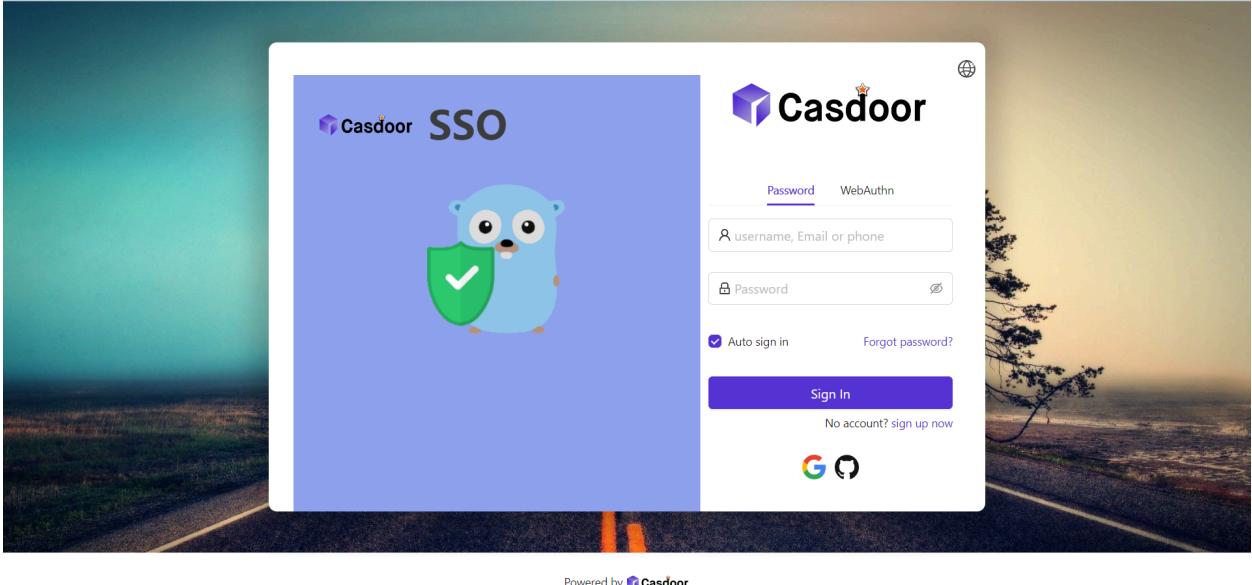
Left	Center	Right	Enable side panel
------	--------	-------	-------------------

Side panel HTML [?](#) :

Then, edit the `Side panel HTML`, which determines the content that will be shown in the side panel. We provide a default template, so you can simply copy and paste it.

```
<style>
  .left-model{
    text-align: center;
    padding: 30px;
    background-color: #8ca0ed;
    position: absolute;
    transform: none;
    width: 100%;
    height: 100%;
  }
  .side-logo{
    display: flex;
    align-items: center;
  }
  .side-logo span {
    font-family: Montserrat, sans-serif;
    font-weight: 900;
    font-size: 2.4rem;
    line-height: 1.3;
    margin-left: 16px;
    color: #404040;
  }
  .img{
    max-width: none;
    margin: 41px 0 13px;
  }
</style>
<div class="left-model">
  <span class="side-logo"> 
    <span>SSO</span>
  </span>
  <div class="img">
    
  </div>
</div>
```

Let's see the effect. The side panel with a logo and image is shown, but the result is not satisfactory.



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To improve the look, you need to modify and add some CSS in the `Form CSS`.

Background URL  
?: URL ?:

Preview:

Form CSS ?:

Form position ?:

Side panel HTML ?:

Signup items ?:

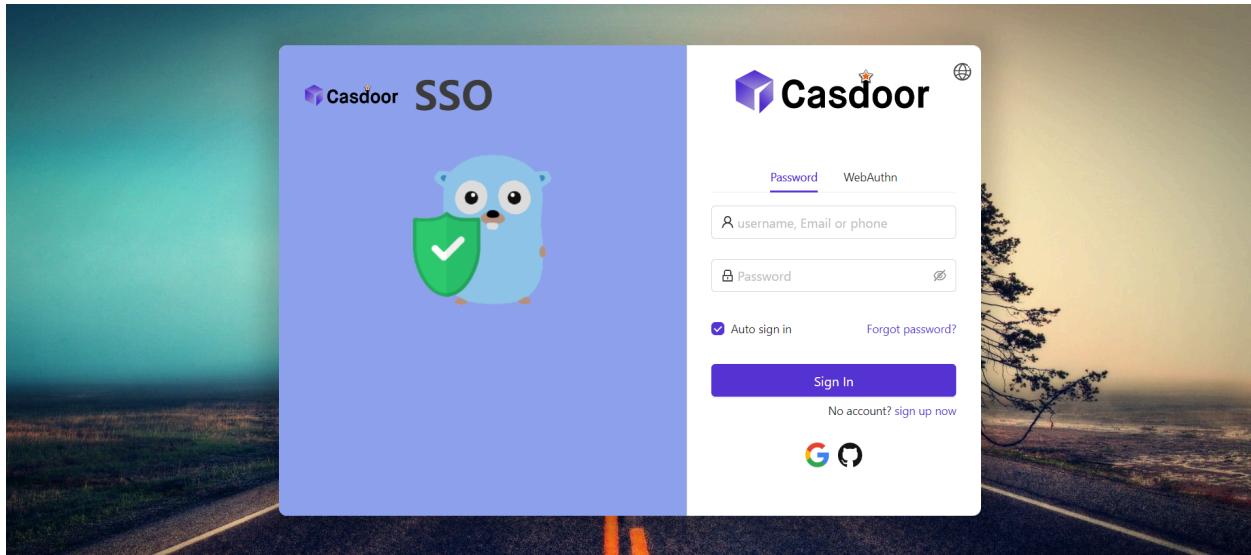
The final code is as follows.

```
<style>
.login-panel{
  border-radius: 10px;
  background-color: #ffffff;
  box-shadow: 0 0 30px 20px rgba(0, 0, 0, 0.20);
}
.login-form {
  padding: 30px;
}
</style>
```

### ⓘ INFO

.login-panel and .login-form are the class names of div elements. They correspond to different areas of the page. If you want to customize the login page further, you can write CSS code here, targeting these class names.

Finally, we have a beautiful login page!



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# Review

To summarize, we have added a background image, customized the login panel style, and enabled the side panel.

Here are some additional resources about application customization in Casdoor:

- [Customize Theme](#): Customize the theme, including the primary color and border radius.
- [Signup Items Table](#)
- [Application Config](#)

Thank you for reading!

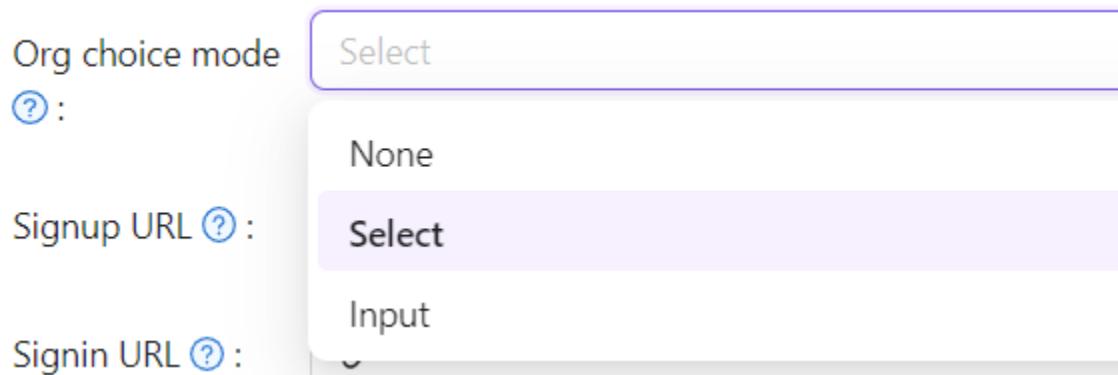
# Specify Login Organization

Here, we will show you how to enable the option to specify the login organization for the application.

For example, the endpoint `/login` is the default sign-in page for accounts belonging to the **built-in** organization. However, you can enable the option to specify the login organization on the **app-built-in** application that belongs to the **built-in** organization. This allows the user to select an organization when logging in. After the user selects the organization, they will be redirected to `/login/<organization>`.

## Configuration

On the application edit page, you can find the `Org select mode` configuration option. You can select the mode from the dropdown list.



- None: The organization select page will not be shown.
- Input: The user can input the organization name in the input box.
- Select: The user can select the organization from the dropdown list.



Please type an organization to sign in

built-in

Confirm



Please select an organization to sign  
in



built-in

forum

test

Star



The organization select page will only be shown when the route is `/login` or `<organization>/login`. This means that the application should be set as the default application in the organization or the app-built-in.

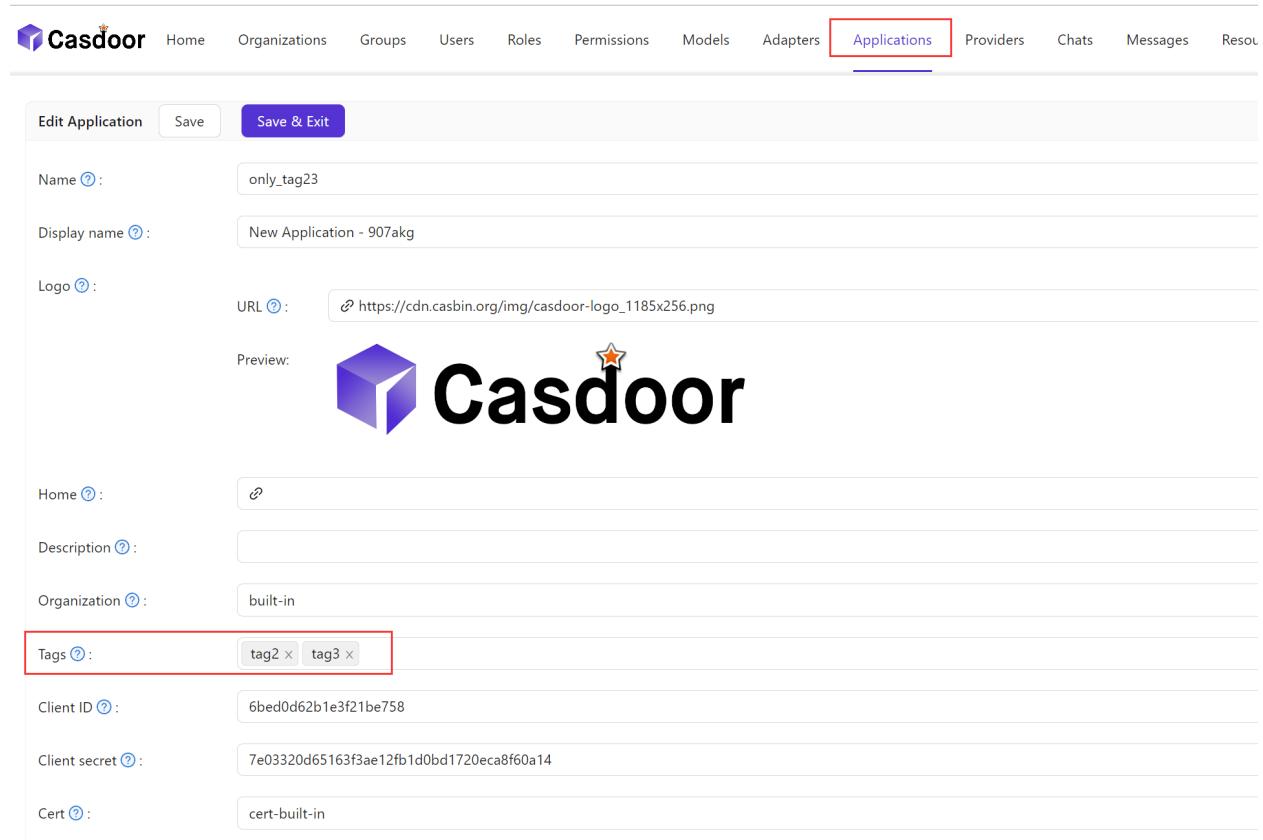


# Tags

The application tags are used to restrict user access to the application.

Specifically, only users with tags listed in the application tags are allowed to log in. For example, the application `dev_app` has tags `dev`, `prd`. Only users with the tag `dev` or `prd` can log in to `dev_app`. Please note that admin and global admin users are not affected by application tags.

On the application edit page, you can find the `Tags` configuration section where you can add tags.



The screenshot shows the Casdoor application edit page. The top navigation bar includes links for Home, Organizations, Groups, Users, Roles, Permissions, Models, Adapters, Applications (which is highlighted with a red box), Providers, Chats, Messages, and Resources. Below the navigation is a form for editing an application. The form fields include:

- Name**: only\_tag23
- Display name**: New Application - 907akg
- Logo**: URL: https://cdn.casbin.org/img/casdoor-logo\_1185x256.png
- Preview**: Shows the Casdoor logo with a star icon.
- Home**: (empty)
- Description**: (empty)
- Organization**: built-in
- Tags**: tag2 × tag3 × (The 'Tags' field and its value are highlighted with a red box.)
- Client ID**: 6bed0d62b1e3f21be758
- Client secret**: 7e03320d65163f3ae12fb1d0bd1720eca8f60a14
- Cert**: cert-built-in

At the top left of the form are 'Edit Application' and 'Save' buttons, and at the top right is a 'Save & Exit' button.

Click [here](#) to download and watch a video demonstrating how application tags work.

# Application Invitation Code

## Introduction

If you want to restrict application sign up, you can use invitation codes. An invitation code is a string that can be used to sign up for the application. It is generated by the administrator and can be used multiple times. An application can have multiple invitation codes.

## Configuration

1. First, add the "Invitation code" signup item to the signup item table.
2. Then, add the invitation code on the application configuration page.

The screenshot shows a table titled 'Signup items' with columns for Name, Visible, Required, Prompted, Rule, and Action. A new row for 'Invitation code' has been added, highlighted with a red box. The 'Visible' and 'Required' checkboxes are checked for this row. The 'Rule' dropdown is set to 'Random'. Below the table, there is a section for 'Invitation code' with an 'Add' button and a text input field containing 'rmy7ab'. There are also 'Copy' and 'Delete' buttons.

Name	Visible	Required	Prompted	Rule	Action
ID				Random	<span>▲</span> <span>▼</span> <span>trash</span>
Username	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		None	<span>▲</span> <span>▼</span> <span>trash</span>
Display name	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<span>▲</span> <span>▼</span> <span>trash</span>
Password	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<span>▲</span> <span>▼</span> <span>trash</span>
ID card	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<span>▲</span> <span>▼</span> <span>trash</span>
Email	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		Normal	<span>▲</span> <span>▼</span> <span>trash</span>
Phone	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		None	<span>▲</span> <span>▼</span> <span>trash</span>
Affiliation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<span>▲</span> <span>▼</span> <span>trash</span>
Country/Region	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<span>▲</span> <span>▼</span> <span>trash</span>
Invitation code	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<span>▲</span> <span>▼</span> <span>trash</span>

Invitation code : Add Copy Delete



Once the application has invitation codes, users can only sign up for the application with a valid invitation code. Regardless of whether the "Invitation code" signup item is visible or not, users must provide the

invitation code during sign up. So, if you want to use invitation codes, you need to add the "Invitation code" signup item to the signup item table.

Here is a demo video that shows how to configure and use the invitation code:

The screenshot shows a web-based application configuration interface. At the top, the URL is `localhost:7001/applications/built-in/app-built-in`. Below the header, there's a toolbar with various icons. The main area is divided into two sections: "Signup Items" and "Invitation code".

**Signup Items:** This section contains a table with columns: Name, Visible, Required, Prompted, Rule, and Action. The rows represent different signup items:

Name	Visible	Required	Prompted	Rule	Action
ID	On	On	Off	Random	Up/Down/Trash
Username	On	On	Off	None	Up/Down/Trash
Display name	On	On	Off	None	Up/Down/Trash
Password	On	On	Off	Normal	Up/Down/Trash
ID card	On	Off	Off	None	Up/Down/Trash
Email	On	Off	Off	Normal	Up/Down/Trash
Phone	On	Off	Off	None	Up/Down/Trash
Affiliation	On	Off	Off	None	Up/Down/Trash
Country/Region	On	Off	Off	None	Up/Down/Trash

**Invitation code:** This section has a single "Add" button.

At the bottom center, there's a message: "No data" with an envelope icon.

# Permissions

## Overview

Using Casbin to manage user access rights in organizations

## Permission Configuration

Using exposed Casbin APIs to manage users' access rights in an organization

## Exposed Casbin APIs

Using exposed Casbin APIs to manage user access rights in organizations

## Adapter

Configure adapter and perform basic CRUD operations on policy

# Overview

## Introduction

All users associated with a single Casdoor organization share access to the organization's applications. However, there may be instances where you want to restrict user access to certain applications or specific resources within an application. In such cases, you can utilize the [Permission](#) feature provided by [Casbin](#).

Before delving deeper into the topic, it is important to have a basic understanding of how Casbin works and its related concepts, such as Models, Policies, and Adapters. In a nutshell, a Model defines the structure of your permission policies and the criteria for matching requests against these policies and their outcomes. A Policy, on the other hand, describes the specific permission rules. Once Casbin has the necessary Model and Policy information, it can enforce permission control on incoming requests. Acting as an abstraction layer, an Adapter shields Casbin's executor from the source of the Policy, allowing the storage of Policies in various locations like files or databases.

Returning to the subject of permission configuration in Casdoor, you can add a Model for your organization in the [Model](#) configuration item within the Casdoor Web UI, and a Policy for your organization in the [Permission](#) configuration item. The [Casbin Online Editor](#) can provide you with Model and Policy files tailored to your specific usage scenarios. You can effortlessly import the Model file into Casdoor through its Web UI for use by the built-in Casbin. However, for the Policy (i.e., the [Permission](#) configuration item in the Casdoor Web UI), further instructions are necessary, which will be discussed later.

Just as your application needs to enforce permission control through Casdoor's built-in Casbin, Casdoor itself utilizes its own Model and Policy to regulate access

permissions for the API interfaces through Casbin. Though Casdoor can call Casbin from internal code, external applications cannot. As a solution, Casdoor exposes an API for external applications to call the built-in Casbin. We will provide definitions of these API interfaces and instructions on how to use them shortly.

Towards the end of this chapter, we will showcase a practical example to demonstrate how Casdoor works in collaboration with external applications for permission control.

Let's get started!

# Permission Configuration

Let's explain each item in the Permission Configuration page.

- **Organization**: The name of the organization to which the policy belongs. An organization can have multiple permission policy files.
- **Name**: The globally unique name of the permission policy in the organization. It is used to identify the policy file.
- **Display name**: Not important.
- **Model**: The name of the model file that describes the structure and matching patterns of the permission policy.
- **Adapter**: Attention! In the current version, this field describes the name of the database table that stores the permission policy, rather than the name of the adapter configured in the Adapter menu item in the Casdoor Web UI. Casdoor uses its own database to store configured permission policies. If this field is empty, the permission policy will be stored in the `permission_rule` table. Otherwise, it will be stored in the specified database table. If the specified table name does not exist in the database used by Casdoor, it will be created automatically. We strongly recommend specifying different adapters for different models, as keeping all policies in the same table may cause conflicts.
- **Sub users**: Which users will the permission policy be applied to.
- **Sub roles**: If the RBAC model is used, which roles will be applied to the permission policy. This will add permission policies such as `g user role` for every user in this role.
- **Sub domains**: Which domains will the permission policy be applied to.
- **Resource type**: In the current version, Casdoor does not use this field for external applications that want to authenticate. You can ignore it for now.
- **Resources**: This field describes the resources for which you wish to enforce

permission control. Note, however, that the resources here are not those configured in the Resources menu item of the Casdoor Web UI. You can add any string you want here, such as a URL or a filename.

- **Actions**: This field describes the actions to operate on resources. Similar to resources, it can be any string you want, such as an HTTP method or other natural language. But please note that Casdoor will convert all these strings to lowercase before storing. Additionally, Casdoor will apply all actions to each resource. You cannot specify that an action only takes effect on certain resources.
- **Effect**: This option takes effect for Casdoor itself to control application access. If you want an external application to enforce permission controls using the interface Casdoor exposes, it won't do anything. You should describe the effect of pattern matching in the Model file.

As you can see, this configuration page is almost tailor-made for the `(sub, obj, act)` model.

# Exposed Casbin APIs

## Introduction

Let's assume that your application's front-end has obtained the `access_token` of the logged-in user and now wants to authenticate the user for some access. You cannot simply place the `access_token` into the HTTP request header to use these APIs because Casdoor uses the `Authorization` field to check the access permission. Like any other APIs provided by Casdoor, the `Authorization` field consists of the application client id and secret, using the [Basic HTTP Authentication Scheme](#). It looks like `Basic XXX`. For this reason, Casbin APIs should be called by the application backend server. Here are the steps on how to do it.

1. The front-end passes the `access_token` to the backend server through the HTTP request header.
2. The backend server retrieves the user id from the `access_token`.

As a note in advance, these interfaces are also designed (for now) for the `(sub, obj, act)` model. The `permissionId` in the URL parameters is the identity of the applied permission policy, which consists of the organization name and the permission policy name (i.e., `organization name/permission name`). The body is the request format defined by the Casbin model of the permission, usually representing `sub`, `obj` and `act` respectively.

In addition to the API interface for requesting enforcement of permission control, Casdoor also provides other interfaces that help external applications obtain permission policy information, which is also listed here.

## Enforce

Request:

```
curl --location --request POST 'http://localhost:8000/api/enforce?permissionId=example-org/example-permission' \
--header 'Content-Type: application/json' \
--header 'Authorization: Basic client_id_and_secret' \
--data-raw '[{"example-org/example-user", "example-resource", "example-action"}'
```

Response:

```
{
  "status": "ok",
  "msg": "",
  "sub": "",
  "name": "",
  "data": [
    true
  ],
  "data2": null
}
```

## BatchEnforce

Request:

```
curl --location --request POST 'http://localhost:8000/api/batch-enforce?permissionId=example-org/example-permission' \
--header 'Content-Type: application/json' \
--header 'Authorization: Basic client_id_and_secret' \
```

Response:

```
{  
    "status": "ok",  
    "msg": "",  
    "sub": "",  
    "name": "",  
    "data": [  
        [  
            true,  
            true,  
            false  
        ]  
    ],  
    "data2": null  
}
```

## GetAllObjects

Request:

```
curl --location --request GET 'http://localhost:8000/api/get-all-objects' \  
--header 'Authorization: Basic client_id_and_secret'
```

Response:

```
[  
    "app-built-in"  
]
```

## GetAllActions

Request:

```
curl --location --request GET 'http://localhost:8000/api/get-all-actions' \
--header 'Authorization: Basic client_id_and_secret'
```

Response:

```
[  
  "read",  
  "write",  
  "admin"  
]
```

## GetAllRoles

Request:

```
curl --location --request GET 'http://localhost:8000/api/get-all-roles' \
--header 'Authorization: Basic client_id_and_secret'
```

Response:

```
[  
  "role_kcx661"  
]
```

# Adapter

Casdoor supports using the UI to connect the adapter and manage policy rules. In Casbin, the storage of policy rules is implemented as an adapter, which acts as middleware for Casbin. A Casbin user can use an adapter to load policy rules from a storage or save policy rules to it.

## Adapter

- `type`: Adapter type. Currently supports database adapter.
- `Host`
- `Port`
- `User`
- `Password`
- `Database type`: Currently supports MySQL, PostgreSQL, SQL Server, Oracle, SQLite 3.
- `Database`: The name of the database.
- `Table`: The name of the table. If the table does not exist, it will be created.

Edit Adapter Save Save & Exit

Organization <small>②</small> :	built-in
Name <small>②</small> :	casdoor_adapter
Type <small>②</small> :	Database
Host <small>②</small> :	localhost
Port <small>②</small> :	3306
User <small>②</small> :	root
Password <small>②</small> :	123456
Database type <small>②</small> :	MySQL
Database <small>②</small> :	casdoor
Table <small>②</small> :	casbin_rule

### ❗ INFO

After filling in all the fields, please remember to **save** the configuration.  
 Then click the **sync** button to load the policy rules. The policy rules will be displayed in the table below.

Policies ②:

Rule Type	V0	V1	V2	V3	V4	V5	Option	
p	built-in	*	*	*	*	*		
p	app	*	*	*	*	*		
p	*	*	POST	/api/signup	*	*		
p	*	*	POST	/api/get-email-and-phone	*	*		
p	*	*	POST	/api/login	*	*		
p	*	*	GET	/api/get-app-login	*	*		
p	*	*	POST	/api/logout	*	*		
p	*	*	GET	/api/logout	*	*		
p	*	*	GET	/api/get-account	*	*		
p	*	*	GET	/api/userinfo	*	*		

< 1 2 3 4 5 >

Is enabled ②:

# Basic CRUD Operations

If you have successfully connected the adapter, you can perform basic CRUD operations on the policy rules.

- Add

Policies ⓘ	Sync	Add	Rule Type	V0	V1	V2	V3	V4	V5	Option
p	built-in	↳	p	*	*	*	*	*	*	edit delete
p	*	*	p	*	*	POST	/api/signup	*	*	edit delete
p	*	*	p	*	*	POST	/api/get-email-and-phone	*	*	edit delete
p	*	*	p	*	*	POST	/api/login	*	*	edit delete
p	*	*	p	*	*	GET	/api/get-app-login	*	*	edit delete
p	*	*	p	*	*	POST	/api/logout	*	*	edit delete
p	*	*	p	*	*	GET	/api/logout	*	*	edit delete
p	*	*	p	*	*	GET	/api/get-account	*	*	edit delete
p	*	*	p	*	*	GET	/api/userinfo	*	*	edit delete
p	*	*	p	*	*	POST	/api/webhook	*	*	edit delete



You can only add one policy at a time. The newly added policy will appear as the first row in the table, but it will actually be saved in the last row. So, when you sync the policies next time, they will appear in the last row of the table.

- Edit

casbin_rule										
Model		casbin_rule								
Policies		Sync	Add	V0	V1	V2	V3	V4	V5	Option
p	built-in	*			*	POST	*	*	*	 
p	app	*		*	*			*	*	 
p	*	*		*	*	POST	/api/signup	*	*	 
p	*	*		*	*	POST	/api/get-email-and-phone	*	*	 
p	*	*		*	*	POST	/api/login	*	*	 
p	*	*		*	*	GET	/api/get-app-login	*	*	 
p	*	*		*	*	POST	/api/logout	*	*	 
p	*	*		*	*	GET	/api/logout	*	*	 
p	*	*		*	*	GET	/api/get-account	*	*	 
p	*	*		*	*	GET	/api/userinfo	*	*	 

- Delete

casbin_rule										
User		root								
Password		123456								
Database type		MySQL								
Database		casdoor								
Table		casbin_rule								
Model		casbin_rule								
Policies		Sync	Add	V0	V1	V2	V3	V4	V5	Option
p	*	*		*	*	GET	/api/get-default-application	*	*	 
p	test	*		*	*	*	*	*	*	 

# Providers

## Overview

Add third-party services to your application

## OAuth

21 items

## Email

2 items

## SMS

5 items

 **Notification**

3 items

 **Storage**

7 items

 **SAML**

3 items

 **Payment**

5 items

 **Captcha**

7 items



Web3

2 items

# Overview

Casdoor utilizes providers to offer third-party services for the platform. In this chapter, you will learn how to add providers to Casdoor.

## What We Have

Currently, we have six types of providers:

- OAuth Providers

Casdoor allows users to sign in through other OAuth applications. You can add GitHub, Google, QQ, and many other OAuth applications to Casdoor. For more details, please refer to the [OAuth](#) section.

- SMS Providers

Casdoor sends SMS to users when they want to verify their phone numbers. SMS providers are used to send SMS in Casdoor.

- Email Providers

Email providers are similar to SMS providers.

- Storage Providers

Casdoor allows users to store files using the local file system or cloud OSS services.

- Payment Providers

Casdoor can add payment providers, which will be used to add payment

methods to products on the product page. Currently, the supported payment providers include Alipay, WeChat Pay, PayPal, and GC.

- **Captcha Providers**

Casdoor supports configurable captcha in user flows. Currently, the supported captcha providers include Default Captcha, reCAPTCHA, hCaptcha, Aliyun Captcha, and Cloudflare Turnstile.

## How to Configure and Use

### Scope

Providers have different scopes, which are determined by the creator. Only Administrators have the permission to add and configure providers. There are two types of Administrators in Casdoor:

- **Global Administrator:** All users under the `built-in` organization and the users who enable `IsGlobalAdmin`. The providers created by the Global Administrator can be used by all applications.
- **Organization Administrator:** Users who enable `IsAdmin`. The providers created by the Organization Administrator can **only** be used by the applications under the organization (under development...).

### Add to Application

Follow the steps below to add providers to your application. Note that you cannot use the provider in your application until you have added it.

1. Go to the application edit page and add a new provider row.

Providers [?](#) :

Name	Category	Type
provider_storage_aliyun_oss	Storage	
provider_casdoor_github	OAuth	
provider_casdoor_google	OAuth	
provider_casdoor_qq	OAuth	
provider_casdoor_wechat	OAuth	
Please select a provider		

2. Select a provider that you want to add to the application. You will see all the providers that the application can use.

Providers [?](#) :

Name	Category	Type	canSignUp
provider_storage_aliyun_oss	Storage		
provider_casdoor_github	OAuth		<input checked="" type="checkbox"/>
provider_casdoor_google	OAuth		<input checked="" type="checkbox"/>
provider_casdoor_qq	OAuth		<input checked="" type="checkbox"/>
provider_casdoor_wechat	OAuth		<input checked="" type="checkbox"/>
Please select a provider			

Preview [?](#) :

- provider\_email\_submail
- provider\_4olfdm
- provider\_casdoor\_bilibili
- provider\_casdoor\_okta
- provider\_casdoor\_alipay
- provider\_casdoor\_slack
- provider\_casdoor\_steam
- provider\_casdoor\_infoflow

[Copy](#)

3. For OAuth and Captcha providers, you can configure their usage. See [OAuth](#)

and [Captcha](#) for more information.

Type	canSignUp	canSignIn	canUnlink	prompted	Rule
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Always ▾
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Finally, [save](#) the configuration. You can now try using the provider in your application.

# OAuth



## Overview

Add OAuth providers to your application



## Custom Provider for Casdoor

Add your custom OAuth provider to Casdoor



## Twitter

Add Twitter OAuth provider to your application



## Weibo

Add Weibo OAuth provider to your application

 **WeChat**

Add WeChat OAuth provider to your application

 **WeCom**

Add WeCom OAuth provider to your application

 **Tencent QQ**

Add Tencent QQ OAuth provider to your application

 **DingTalk**

Add DingTalk OAuth provider to your application

 **Steam**

Add the Steam OAuth provider to your application

 GitHub

Add GitHub OAuth provider to your application

 Gitee

Add Gitee OAuth provider to your application

 LinkedIn

Add LinkedIn OAuth provider to your application

 Facebook

Add the Facebook OAuth provider to your application.

 Google

Add the Google OAuth provider to your application

 **Google One Tap**

Learn how to add Google One Tap support to your application

 **Baidu**

Add Baidu OAuth provider to your application

 **AD FS**

Add AD FS as a third-party service to complete authentication.

 **AzureAD**

Add AzureAD as a third-party service to complete authentication

 **Infoflow**

Add Infoflow OAuth provider to your application



**Okta**

Add Okta OAuth provider to your application



**Lark**

Add Lark OAuth provider to your application

# Overview

Casdoor allows for the use of other OAuth applications as a sign-in method.

Currently, Casdoor supports multiple OAuth application providers. The icons of these providers will be displayed on the login and signup pages once they have been added to Casdoor. The following are the providers that Casdoor supports:

Provider	Logo	Provider	Logo	Provider	Logo	Provider	Logo
Adfs		Alipay		Amazon		Apple	
Auth0		AzureAD		Baidu		Battle.net	
Bilibili		Bitbucket		Box		Casdoor	
Cloud Foundry		Dailymotion		Deezer		DigitalOcean	
DingTalk		Discord		Douyin		Dropbox	
Eve Online		Facebook		Fitbit		Gitea	
Gitee		GitHub		GitLab		Google	
Heroku		InfluxCloud		Infoflow		Instagram	
Intercom		Kakao		Lark		Lastfm	

Provider	Logo	Provider	Logo	Provider	Logo	Provider	Logo
Line		LinkedIn		Mailru		Meetup	
MicrosoftOnline		Naver		Nextcloud		Okta	
OneDrive		Oura		Patreon		Paypal	
QQ		SalesForce		Shopify		Slack	
SoundCloud		Spotify		Steam		Strava	
Stripe		TikTok		Tumblr		Twitch	
Twitter		Typetalk		Uber		VK	
WeChat		WeCom		Weibo		Wepay	
Xero		Yahoo		Yammer		Yandex	
Zoom		Email		SMS			

We will show you how to apply for a third-party service and add it to Casdoor.

## Apply to become a developer

Before this, there are some general concepts you need to understand.

- **RedirectUrl**, Redirect address after authentication, fill in your application address, such as `https://forum.casbin.com/`
- **Scope**, Permission granted to you by the user, such as basic profile, Email address and posts and others.
- **ClientId/AppId, ClientKey/AppSecret**, This is the most important information, and it is what you need to get after you apply for a developer account. You **can not share** the key/secret with anyone.

## Add an OAuth provider

1. Go to your Casdoor index page.
2. Click on `Providers` in the top bar.
3. Click on `Add`, and you will see a new provider added to the list at the top.
4. Click on the new provider to make changes to it.
5. In the `Category` section, select `OAuth`.
6. Choose the specific OAuth provider that you require from the `Type` dropdown.
7. Fill in the necessary information, such as `Client ID` and `Client Secret`.

## Application Setup

1. Click on `Application` in the top bar and select the desired application to edit.
2. Click on the provider add button and choose the newly added provider.
3. Modify the provider's permissions, such as enabling registration, login, and unbinding.
4. You're all set!

# Custom Provider for Casdoor

## NOTE

Casdoor supports custom providers. However, the custom providers must follow the standard process of 3-legged OAuth, and the return values of `Token URL` and `Userinfo URL` must conform to the format specified by Casdoor.

To create a new custom provider, navigate to the provider page of Casdoor, and select “Custom” in the Type field. You will then need to fill in `Client ID`, `Client Secret`, `Auth URL`, `Scope`, `Token URL`, `Userinfo URL`, and `Favicon`.

Type  :

Custom

Auth URL 

<https://door.casdoor.com/login/oauth/authorize>

Scope 

openid profile email

Token URL 

[https://door.casdoor.com/api/login/oauth/access\\_token](https://door.casdoor.com/api/login/oauth/access_token)

Userinfo URL 

<https://door.casdoor.com/api/userinfo>

Favicon  :

URL  :



Preview:

Client ID 



Client secret 



- `Auth URL` is the custom provider's OAuth login page address.

If you fill in `https://door.casdoor.com/login/oauth/authorize` as the `Auth URL`, then, when a user

logs in with this custom provider, the browser will first redirect to

```
https://door.casdoor.com/login/oauth/
authorize?client_id={ClientID}&redirect_uri=https://{{your-casdoor-
hostname}}/callback&state={State_generated_by_Casdoor}&response_type=code&scope={Scope}`
```

After authorization is completed, the custom provider should redirect to

```
https://{{your-casdoor-hostname}}/callback?code={code}
```

After this step, Casdoor will recognize the code parameter in the URL.

- `Scope` is the scope parameter carried when accessing the `Auth URL`, and you should fill it in as per the custom provider's requirements.
- `Token URL` is the API endpoint for obtaining the accessToken.

Once you obtain the code in the previous step, Casdoor should use it to get the accessToken.

If you fill in `https://door.casdoor.com/api/login/oauth/access_token` as the `Token URL`, then Casdoor will access it using the following command

```
curl -X POST -u "{ClientID}:{ClientSecret}" --data-binary
"code={code}&grant_type=authorization_code&redirect_uri=https://{{your-casdoor-
hostname}}/callback" https://door.casdoor.com/api/login/oauth/access_token
```

The custom provider should return at least the following information:

```
{
  "access_token": "eyJhbGciOiJSUzI1NiIsImtpZCI6IxXXXXXXXXXXXX",
  "refresh_token": "eyJhbGciOiJSUzI1NiIsInR5cCI6IxXXXXXXXXXXXX",
  "token_type": "Bearer",
  "expires_in": 10080,
  "scope": "openid profile email"
}
```

- `UserInfo URL` is the API endpoint for obtaining user information via the accessToken.

If you fill in `https://door.casdoor.com/api/userinfo` as the `UserInfo URL`, then Casdoor will access it using the following command

```
curl -X GET -H "Authorization: Bearer {accessToken}" https://door.casdoor.com/api/
```

The custom provider should return at least the following information:

```
{  
  "name": "admin",  
  "preferred_username": "Admin",  
  "email": "admin@example.com",  
  "picture": "https://casbin.org/img/casbin.svg"  
}
```

- `Favicon` is the logo URL of a custom provider.

This logo will be displayed on Casdoor's login page together with other third-party login providers.

# Twitter

## Twitter (Work in Progress

Applying for a developer account on Twitter can be a bit cumbersome due to the strict official restrictions. It may be more challenging compared to other third-party platforms.

To get started, visit the [Developer Portal](#) and create an account if you don't have one. Twitter requires you to provide detailed information about your application for a developer account. Make sure to fill in the information accurately to avoid any issues during the review process.

Once your application is approved, you can proceed to create an application. You need to complete two important tasks in the **Authentication settings** section:

1. Manually enable 3-legged OAuth. This is necessary for features such as "Sign in with Twitter" and posting Tweets on behalf of other accounts.
2. Enable Request email address from users to obtain the user's email address.

Make sure to carefully fill in the callback address and other required information for your application.

# Weibo

## Weibo ✓

Applying for a developer account with Weibo is not difficult, but the process can be slow, taking about 2-3 days.

To get started, visit the [Developer Website](#) and fill in the required basic information. Then, you will need to wait for a thorough review...

Once your application is approved, you will receive the Client Id and Client Secret.

# WeChat

## WeChat ✓

To add WeChat OAuth provider to your application, follow these steps:

1. Visit the [WeChat developer platform](#) and register as a developer.
2. After your web application or mobile application is approved, you will receive your App ID and App Secret.

The screenshot shows a configuration interface for a provider. At the top, there are three buttons: 'Edit Provider' (grey), 'Save' (grey), and 'Save & Exit' (purple). Below these are several input fields and sections:

- Name**: provider\_00bws7
- Display name**: New Provider - 00bws7
- Category**: OAuth
- Type**: WeChat
- Client ID**: (Input field)
- Client secret**: (Input field)
- Client ID 2**: (Input field)
- Client secret 2**: (Input field)
- Enable QR code**: A toggle switch that is off.
- Provider URL**: https://github.com/organizations/xxx/settings/applications/1234567

At the bottom are two buttons: 'Save' (grey) and 'Save & Exit' (purple).

The WeChat provider offers two different sets of keypairs:

- The first keypair (`Client ID`, `Client Secret`) is for the `WeChat Open`

Platform (◇◇◇◇◇) and is designed for the PC login scenario. It allows you to display a QR code in the PC browser, which users can scan using the WeChat app on their mobile phone to sign in.

- The second keypair (Client ID 2, Client Secret 2) is for the WeChat Media Platform (◇◇◇◇◇) and is intended for the inside-WeChat-app login scenario. It enables users to log in with the WeChat built-in browser inside the WeChat mobile app, which will redirect them to your WeChat Official Account (◇◇◇◇◇) to log in. Please note that WeChat does not support logging in outside of the WeChat app in other mobile browsers or apps. This limitation is imposed by WeChat and not by Casdoor.

If you fill in the second keypair (Client ID 2, Client Secret 2) and enable the Enable QR code switch, Casdoor will ask the user to follow the WeChat official account (◇◇◇◇◇) before proceeding with the login process when the user clicks on the WeChat button to log in. It's important to note that this functionality is only available in the PC login scenario because a mobile phone cannot scan the QR code by itself. When used in the mobile scenario (i.e., the WeChat built-in browser inside the WeChat mobile app), Casdoor will automatically skip this step.

#### TIP

We recommend setting both key sets at the same time and linking your WeChat Open Platform (◇◇◇◇◇) account and WeChat Media Platform (◇◇◇◇◇) account together inside the WeChat Open Platform (◇◇◇◇◇). This will allow Casdoor to recognize a WeChat user logged in through both PC and mobile as the same user.

#### NOTE

Due to the limitations of WeChat OAuth, there is currently no way to log in

via WeChat in a third-party mobile app or in a mobile browser other than the WeChat app. The mobile login must happen inside the WeChat app for now.

For more detailed information, please visit the [WeChat Open Platform](#).

# WeCom

## Introduction

WeCom provides an authorized login method using OAuth, which allows you to obtain members' identity information directly from the webpage opened by the WeCom terminal, eliminating the need for a login process.

There are two types of applications: **internal** applications and **third-party** applications.

## Basic Configuration

To configure a WeCom provider, you need to provide the following parameters:

Parameter Description:

Parameter	Description
Sub type	Internal or Third-party
Method	Silent or Normal
Client ID	The enterprise CorpID
Client secret	The enterprise CorpSecret
Agent ID	Application agentid

 INFO

WeCom supports two authorization methods: Silent authorization and normal authorization.

**Silent authorization:** After the user clicks the link, the page is redirected to  
`redirect_URI? code=CODE&state=STATE`

**Normal authorization:** After the user clicks the link, a middle page is displayed for the user to choose whether to authorize or not. After the user confirms the authorization, they are redirected to

`redirect_uri?code=CODE&state=STATE`

For more details, please refer to the [official documentation](#).

## More Information

For more information about internal applications, please refer to the [Internal Application](#) documentation.

For information about third-party applications, please refer to the [Third-Party Application](#) documentation.

# Tencent QQ

## Tencent QQ ✓

To add Tencent QQ OAuth provider to your application, visit the authentication platform of QQ - [Connect QQ](#).

First, you need to apply to [become a developer](#). After your application is approved, follow the instructions of the platform to obtain your Client Id and Client Secret.

# DingTalk

## DingTalk ✓

### Configuring DingTalk

To configure DingTalk, visit the [DingTalk developer platform](#) and log in using your DingTalk account. Once you're on the platform, follow the instructions provided to obtain your `Client Id` and `Client Secret`. The corresponding terms in DingTalk are as follows:

Term	DingTalk Name
Client ID	AppKey
Client secret	AppSecret

In DingTalk, you can find the `Appkey` and `AppSecret` in the App Info.

基础信息

应用信息

开发管理

权限管理

应用功能

机器人与消息推送

事件与回调

登录与分享

酷应用

安全与监控

监控中心

部署与发布

版本管理与发布

## 应用信息



casdoor

document

## 应用凭证

AgentId

2687194261

AppKey

ding6dposo0nm8u4t2g5

AppSecret

hE4cwQ4PjKDSp\_uCHTBTqjAAfZfsNGkxwNg1q1FCiiTRW7apxJhzjFOjw46NfFWn

## 删除应用

删除操作不可逆，该应用所有信息将被删除，请谨慎操作。

删除

Make sure to add the **Redirect Domain**, which should be your Casdoor domain.

基础信息

应用信息

开发管理

权限管理

应用功能

机器人与消息推送

事件与回调

登录与分享

酷应用

安全与监控

监控中心

部署与发布

## 接入登录

添加重定向 URL 作为免登授权码跳转地址。[了解更多](#)

\* 回调域名

请填写 HTTP/HTTPS 开头的 URL

添加

微应用回调的URL

http://localhost:7001

复制

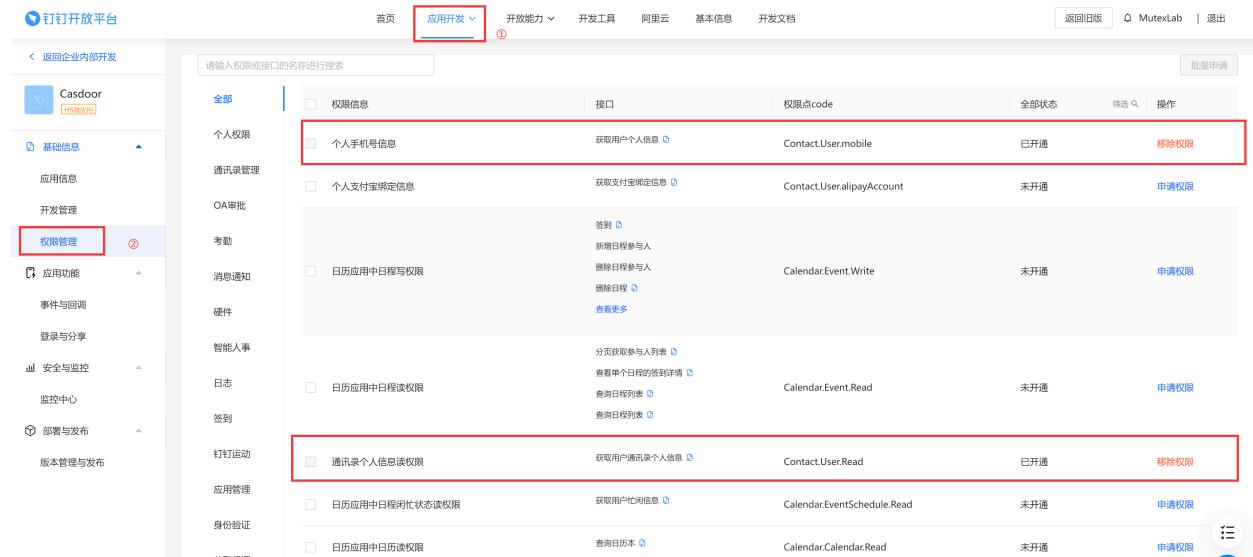
## 接入分享

嵌入分享SDK，实现一键登录后内容分享。[了解更多](#)

iOS 分享

For more detailed information, please refer to the [DingTalk developer docs](#).

Additionally, you need to add the following permissions to the DingTalk application:



The screenshot shows the DingTalk Open Platform interface with the '应用开发' (Application Development) tab selected. In the '权限管理' (Permission Management) section, two specific permissions are highlighted with red boxes:

- 个人手机号信息** (Personal mobile phone number information): Contact.User.mobile status: 已开通 (Enabled), operation: 移除权限 (Remove permission).
- 通讯录个人信息读权限** (Address book personal information reading permission): Contact.User.Read status: 已开通 (Enabled), operation: 移除权限 (Remove permission).

## Configuring Casdoor

Here's the final configuration for DingTalk:

Name <a href="#">?</a> :	dingding
Display name <a href="#">?</a> :	dingding
Organization <a href="#">?</a> :	admin (Shared)
Category <a href="#">?</a> :	OAuth
Type <a href="#">?</a> :	 DingTalk
Client ID <a href="#">?</a> :	ding6dposoonm8u4t2g5
Client secret <a href="#">?</a> :	***
Provider URL <a href="#">?</a> :	<a href="https://github.com/organizations/xxx/settings/applications/1234567">https://github.com/organizations/xxx/settings/applications/1234567</a>

# Steam

## Steam ✓

To add the Steam OAuth provider to your application, follow these steps:

1. Visit the [Steam WebAPI platform](#) and log in using your Steam account.
2. Apply for an API Key for your Casdoor domain or IP.
3. Fill in your API Key as the Client Secret into Casdoor. The ClientID does not need to be filled.
4. Make sure that your Steam account has games in order to apply for the API.

For more detailed information, please visit the [Steam WebAPI documentation](#).

# GitHub

GitHub OAuth supports both the web application flow and device flow. Please continue reading to obtain OAuth credentials.

First, please visit the [GitHub developer settings](#) to register a new GitHub App.

## ⚠ CAUTION

**Tricks:** We recommend that you use GitHub Apps to replace OAuth Apps because GitHub Apps can add multiple redirect URLs, which can bring convenience when deploying test and production environments. The [GitHub official](#) also recommends using GitHub Apps instead of OAuth Apps.

## Settings / Developer settings

 GitHub Apps

 OAuth Apps

 Personal access tokens

Then fill in the GitHub App name, Homepage URL, description, and Callback URL.

GitHub App name \*

The name of your GitHub App.

Write Preview Markdown supported

A UI-first centralized authentication / Single-Sign-On (SSO) platform supporting OAuth 2.0, OIDC and SAML, integrated with Casbin RBAC and ABAC permission management

Homepage URL \*

The full URL to your GitHub App's website.

Identifying and authorizing users

Add Callback URL

The full URL to redirect to after a user authorizes an installation.

Callback URL

Delete

Callback URL

Delete

### ❗ SET THE AUTHORIZATION CALLBACK URL CORRECTLY

In the GitHub App config, the `Callback URL` must be your Casdoor's `callback URL`, and the `Redirect URL` in Casdoor should be your application's `callback URL`.

For more details, please read [App config](#).

After registering your GitHub App, you can now generate your Client Secret!

## About

Owned by: [REDACTED]

App ID: [REDACTED]

Client ID: lv1 [REDACTED] d2e

[Revoke all user tokens](#)

GitHub Apps can use OAuth credentials to identify users. Learn more about identifying users by reading our [integration developer documentation](#).

## Client secrets

[Generate a new client secret](#)



Client secret

\*\*\*\*\*dba81954

Added 5 minutes ago by [REDACTED]

Last used within the last week

[Delete](#)



Client secret

\*\*\*\*\*15822f89

Added on 15 Feb by [REDACTED]

Last used within the last week

[Delete](#)

Add a GitHub OAuth provider and fill in the Client ID and Client Secret in your Casdoor.

Edit Provider

Name <small>②</small>	provider_github_localhost
Display name <small>②</small>	provider_github_localhost
Category <small>②</small>	OAuth
Type <small>②</small>	GitHub
Client ID <small>②</small>	lv...2e
Client secret <small>②</small>	***
Provider URL <small>②</small>	<a href="https://github.com/organizations/xxx/settings/applications/1234567">https://github.com/organizations/xxx/settings/applications/1234567</a>

Now you can use GitHub as a third-party service to complete authentication.

# Gitee

To set up the Gitee OAuth provider, please go to the [Gitee developer](#) website. If you haven't created applications before, the Gitee workbench will look like this:



The screenshot shows the Gitee workbench interface. At the top, there is a dark header bar with navigation links: '企业版' (Enterprise), '高校版' (University Edition), '私有云' (Private Cloud), '博客' (Blog), and '我的' (My). To the right of the header are search, notification, and user profile icons. Below the header, the main content area has tabs for '我的应用' (My Applications) and '已授权应用' (Authorized Applications). The '我的应用' tab is selected, showing a message '无数据' (No data) with a small 'no data' icon.

You can then create your Gitee app.

## 创建第三方应用

应用名称 \*

应用描述

应用主页 \*

应用回调地址 \* +

Enter the name, description, homepage, and callback URL, and carefully choose the permissions.

### ⚠ SET THE AUTHORIZATION CALLBACK URL CORRECTLY

In the Gitee OAuth config, the `authorization callback URL` must be your Casdoor's callback URL, and the `Redirect URL` in Casdoor should be your application's callback URL.

For more details, please read the [App config](#) guide.

After creating the Gitee app, you can obtain the `Client ID` and `Client Secrets`!

### Casdoor (今日请求次数: 0 次)

#### 应用名称 \*

Casdoor

#### Client ID

300ff94d994a7597850bbafb2d5dc67929676dd8e7176b029e067dc6966ef9c4

#### Client Secret

60be2e4e0f3fb8286cfe9f129ab0c3d6b40718a964dade150a8095eb2748730c

[重置 Client Secret](#)

[移除已授权用户的有效 Token](#)

Add a Gitee OAuth provider and enter the `Client ID` and `Client Secrets` in your Casdoor.

Edit Provider

Save

Name [?](#) :

my\_gitee\_provider

Display name [?](#) :

Gitee provider

Category [?](#) :

OAuth

Type [?](#) :

Gitee

Client ID [?](#)

300ff94d994a7597850bbafb2d5dc67929676dd8e7176b029e067dc6966ef9c4

Client secret [?](#)

\*\*\*\*\*

Now you can use Gitee as a third-party service to complete authentication!

### CAUTION

Since Casdoor needs to obtain the user's email, the email option must be checked; otherwise, it will cause scope authorization errors.

Permissions (Be careful to select scopes, users might deny authorization when there are too many scopes.)

All

- |                                     |               |  |
|-------------------------------------|---------------|--|
| <input checked="" type="checkbox"/> | user_info     | Access and update user data, activities, etc |
| <input type="checkbox"/>            | projects      | Full control of user projects                |
| <input type="checkbox"/>            | pull_requests | Full control of user pull requests           |
| <input type="checkbox"/>            | issues        | Full control of user issues                  |
| <input type="checkbox"/>            | notes         | Access, create and edit user comments        |
| <input type="checkbox"/>            | keys          | Full control of user public keys             |
| <input type="checkbox"/>            | hook          | Full control of user webhook                 |
| <input type="checkbox"/>            | groups        | Full control of user orgs and teams          |
| <input type="checkbox"/>            | gists         | Access, create and update user gists         |
| <input type="checkbox"/>            | enterprises   | Full control of user enterprises and teams   |
| <input checked="" type="checkbox"/> | emails        | Access user emails data                      |

Submit

Delete

# LinkedIn

To set up the LinkedIn OAuth provider, please go to the [LinkedIn Developer](#) page to create a new app.

 DEVELOPERS    Products    Docs and tools ▾    Resources ▾    My apps ▾

## Create an app

\* indicates required

**App name\***

**LinkedIn Page\***  
 ⓘ This action can't be undone once the app is saved.  
  
The LinkedIn Company Page you select will be associated with your app. Verification can be done by a Page Admin. Please note this cannot be a member profile page. [Learn more](#)

[+ Create a new LinkedIn Page ↗](#)

**Privacy policy URL**

**App logo\***  
This is the logo displayed to users when they authorize with your app  
  
 [Upload a logo](#)

After filling in the form above and creating your app, you'll need to verify the LinkedIn page associated with the app.



## Identity Cloud Login

Client ID: 860t47n8b4jh7w | Created: Sep 4, 2020

**Settings**

Auth

Products

Analytics

Team members

### App settings

[Delete app](#)

Company:



**Identity Cloud Documentation**

Computer Software; 1-10 employees

[Verify](#)



This app is not verified as being associated with this company.

[Learn more](#)



**NOTE**

Only the company page administrator can verify your app and grant permission to it.

Once your app is verified, you can continue:

 Identity Cloud Login  
Client ID: 860t47n8b4jh7w | Created: Sep 4, 2020

Settings Auth **Products** Analytics Team members

**Products**

Additional available products

 **Marketing Developer Platform**  
Build marketing experiences to reach the right audiences Select  
[View docs ↗](#)

 **Share on LinkedIn**  
Amplify your content by sharing it on LinkedIn Select  
[View docs ↗](#)

 **Sign In with LinkedIn**  
Let users easily sign in with their professional identity Select  
[View docs ↗](#)

Add authorized redirect URLs for your app as your Casdoor callback URL.

**Authorized redirect URLs for your app**

*No redirect URLs added*

**+ Add redirect URL**

**!** SET AUTHORIZED REDIRECT URLs CORRECTLY

In the LinkedIn OAuth configuration, the `authorized redirect URLs` must be your Casdoor's callback URL, and the `Redirect URL` in Casdoor should be your application's callback URL.

For more details, please read the [App Config](#) section.

You can then obtain your `Client ID` and `Client Secret`.

## Application credentials

### Authentication keys

#### Client ID:

860t47n8b4jh7w

#### Client Secret:

.....



Add a LinkedIn OAuth provider and fill in the `Client ID` and `Client Secret` in your Casdoor.

Edit Provider

Save

Name [?](#) : my\_linkedin\_provider

Display name [?](#) : Linkedin provider

Category [?](#) : OAuth

Type [?](#) : LinkedIn

Client ID [?](#) : 860t47n8b4jh7w

Client secret [?](#) : \*\*\*\*

Now you can use LinkedIn as a third-party service to complete authentication!

# Facebook

To set up the Facebook OAuth provider, please go to the [Facebook Developer](#) website and create a new app.

Select the type of app you are going to create.

## Select an app type

X

The app type can't be changed after your app is created.



Create or manage business assets like Pages, Events, Groups, Ads, Messenger and Instagram Graph API using the available business permissions, features and products.



### Consumer

Connect consumer products, and permissions, like Facebook Login and Instagram Basic Display to your app.



### Instant Games

Create an HTML5 game hosted on Facebook.



### Gaming

Connect an off-platform game to Facebook Login.



### Workplace

Create enterprise tools for Workplace from Facebook.



### None

Create an app with combinations of consumer and business permissions and products.

[Learn More About App Types](#)

Cancel

Continue

After entering your name and contact email, you will be taken to the Facebook Developer dashboard.

**FACEBOOK for Developers**

Docs Tools Support My Apps  ?

Casdoor App ID: 1231340483981478 In development

Dashboard Settings Roles Alerts App Review Products Add Product

Add a Product

**Facebook Login**  
The world's number one social login product.  
[Read Docs](#) [Set Up](#)

**Audience Network**  
Monetize your app and grow revenue with ads from Facebook advertisers.  
[Read Docs](#) [Set Up](#)

**App Events**  
Understand how people engage with your business across apps, devices, platforms and websites.  
[Read Docs](#) [Set Up](#)

**Messenger**  
Customize the way you interact with people on  
[Read Docs](#)

**Webhooks**  
Subscribe to changes and receive updates in real time.  
[Read Docs](#)

**Instant Games**  
Create a cross-platform HTML 5 game hosted on  
[Read Docs](#)

Next, set up Facebook login:



## Facebook Login

The world's number one social login product.

[Read Docs](#)

[Set Up](#)

Choose the Web platform for this app:

Use the Quickstart to add Facebook Login to your app. To get started, select the platform for this app.



iOS



Android



Web



Other

After filling in the website URL, go to **Facebook Login > Settings** and enter valid OAuth Redirect URIs.

#### Client OAuth Settings

Yes

##### Client OAuth Login

Enables the standard OAuth client token flow. Secure your application and prevent abuse by locking down which token redirect URIs are allowed with the options below. Disable globally if not used. [?]

Yes

##### Web OAuth Login

Enables web-based Client OAuth Login. [?]

Yes

##### Enforce HTTPS

Enforce the use of HTTPS for Redirect URIs and the JavaScript SDK. Strongly recommended. [?]

No

##### Force Web OAuth Reauthentication

When on, prompts people to enter their Facebook password in order to log in on the web. [?]

No

##### Embedded Browser OAuth Login

Enable webview Redirect URIs for Client OAuth Login. [?]

Yes

##### Use Strict Mode for Redirect URIs

Only allow redirects that exactly match the Valid OAuth Redirect URIs. Strongly recommended. [?]

#### Valid OAuth Redirect URIs

A manually specified redirect\_uri used with Login on the web must exactly match one of the URIs listed here. This list is also used by the JavaScript SDK for in-app browsers that suppress popups. [?]

Valid OAuth redirect URIs.

### ❗ SET AUTHORIZED REDIRECT URLs CORRECTLY

In the Facebook OAuth configuration, the `Valid OAuth Redirect URIs` must be your Casdoor's callback URL, and the `Redirect URL` in Casdoor should be your application's callback URL.

For more details, please read the [App Configuration](#) section.

The basic app configuration is almost complete!

Switch the mode from **In development** to **Live** in the top bar of the dashboard.



Now you can use your **App ID** and **App Secret** in Casdoor.

App ID	App Secret
<input type="text" value="1231340483981478"/>	<input type="text" value="*****"/> <a href="#">Show</a>

Add the Facebook OAuth provider and fill in the **Client ID** and **Client Secret** with the **App ID** and **App Secret** from your Casdoor.

修改提供商保存

名称 <small>②</small> :	<input type="text" value="my_facebook_provider"/>
显示名称 <small>②</small> :	<input type="text" value="Facebook provider"/>
分类 <small>②</small> :	<input type="text" value="OAuth"/>
类型 <small>②</small> :	<input type="text" value="Facebook"/>
Client ID <small>②</small>	<input type="text" value="1231340483981478"/>
Client secret <small>②</small>	<input type="text" value="*****"/>

You can now use Facebook as a third-party service for authentication!

# Google

To set up the Google OAuth provider, please go to the [Google API console](#) and log in using your Google account.

Project name \* -  ?

Project ID: my-casdoor. It cannot be changed later. [EDIT](#)

Location \* -  [BROWSE](#)

Parent organization or folder

[CREATE](#) [CANCEL](#)

Next, navigate to the OAuth consent screen tab to configure the OAuth consent screen.

**API** APIs & Services

## OAuth consent screen

 Dashboard

Choose how you want to configure and register your app, including your target users. You can only associate one app with your project.

 Library Credentials OAuth consent screen Domain verification Page usage agreements

## User Type

 Internal 

Only available to users within your organization. You will not need to submit your app for verification. [Learn more about user type](#)

 External 

Available to any test user with a Google Account. Your app will start in testing mode and will only be available to users you add to the list of test users. Once your app is ready to push to production, you may need to verify your app. [Learn more about user type](#)

**CREATE**

Register your Google app by following these steps:

## Edit app registration

1 OAuth consent screen — 2 Scopes — 3 Test users — 4 Summary

### App information

This shows in the consent screen, and helps end users know who you are and contact you

App name \*

The name of the app asking for consent

User support email \*

For users to contact you with questions about their consent

App logo

BROWSE

Upload an image, not larger than 1MB on the consent screen that will help users recognize your app. Allowed image formats are JPG, PNG, and BMP. Logos should be square and 120px by 120px for the best results.

### App domain

To protect you and your users, Google only allows apps using OAuth to use Authorized Domains. The following information will be shown to your users on the consent screen.

Application home page

Afterward, go to the Credential tab.

## Credentials

[+ CREATE CREDENTIALS](#) [DELETE](#)

Create credentials to access your enabled APIs. [Learn more](#)

### API Keys

<input type="checkbox"/>	Name	Creation date
No API keys to display		

### OAuth 2.0 Client IDs

<input type="checkbox"/>	Name	Creation date
No OAuth clients to display		

### Service Accounts

<input type="checkbox"/>	Email	Name
No service accounts to display		

Create a credential for your app:

[Create OAuth client ID](#)

A client ID is used to identify a single app to Google's OAuth servers. If your app runs on multiple platforms, each will need its own client ID. See [Setting up OAuth 2.0](#) for more information. [Learn more](#) about OAuth client types.

Application type \*



### **!** ENSURE THAT YOU SET THE AUTHORIZED REDIRECT URIS CORRECTLY

In the Google OAuth configuration, the `Authorized redirect URIs` must be set to your Casdoor's callback URL, while the `Redirect URL` in Casdoor should be set to your application's callback URL.

For more details, please refer to the [App configuration](#).

After creating the Client ID, you will obtain the `Client ID` and `Client Secret`.

## OAuth client created

The client ID and secret can always be accessed from Credentials in APIs & Services



OAuth access is restricted to the [test users](#) listed on your [OAuth consent screen](#)

Your Client ID

487708653175-11oih9gfqb2u3tvfp6684qaes5ujjdca.apps.googleusercontent.com



Your Client Secret

HbxoqxxkGSs1lCVRuMTVvK57



DOWNLOAD JSON

OK

Add the Google OAuth provider and enter the `Client ID` and `Client Secret` in your Casdoor.

[Edit Provider](#) [Save](#)

---

Name [?](#) :

Display name [?](#) :

Category [?](#) :

Type [?](#) :

Client ID [?](#) :

Client secret [?](#) :

Provider URL [?](#) : <https://console.cloud.google.com/apis/credentials/oauthclient/498643462012-46>

You can now use Google as a third-party service to complete authentication.

# Google One Tap

## Step 1: Configure Your Application

If you want to allow login through Google One Tap, you'll need to add Google OAuth Provider to your application. For information on how to do this, please refer to [Google's documentation](#).

Once you've added the Google OAuth Provider, navigate to the application edit page, add the Google OAuth Provider, and switch the **Rule** from **Default** to **One Tap**.

The screenshot shows the application edit page with the Google OAuth provider configured. At the top, there is a large block of XML code representing the SAML metadata for the provider. Below this, the 'Providers' section lists several providers, with 'provider\_google\_oauth' selected. The provider details show it is an OAuth provider (indicated by a blue icon) and is set to 'One Tap'. There are also buttons to copy the SAML metadata URL and the sign-in page URL.

## Step 2: Logging In with Google One Tap

With the setup completed, users can now log in with Google One Tap.

# Baidu

To set up the Baidu OAuth provider, please read the [Baidu documentation](#) and follow their steps to complete the [application creation](#).

**开发者服务管理**

**📍 提示:**

轻应用平台不再支持创建直达号，如需开通直达号请登录<http://zhida.baiu.com>

**创建工作**

\* 应用名称: CasdoorTest 11/32

传统接入扩展:  合作网站

解决方案:  使用BAE

**创建**

After creating your app, the redirect URL should be set in the following position:

**Casdoor**

**基本信息**

接入类型 —————

**其他应用**

开发者服务 ————— 

**Oauth2.0**

**安全设置** 

**基本信息**

 名称: Casdoor 

Icon: 

ID: 25547043

API Key: Hn[REDACTED]yQmAp61

Add your Casdoor domain in the following position:

The screenshot shows the Casdoor interface with the title 'Casdoor'. On the left sidebar, there are several options: '基本信息' (Basic Information), '接入类型' (Access Type), '其他应用' (Other Applications), '开发者服务' (Developer Services), 'Oauth2.0', and '安全设置' (Security Settings). The '安全设置' option is selected and highlighted with a red border.

In the main content area, under '安全设置', there is a section titled 'Implicit Grant授权方式' (Implicit Grant Authorization Method) with two radio button options: '启用' (Enable) and '禁用' (Disable). The '禁用' (Disable) option is selected.

Below this, there is a '授权回调页:' (Authorization Callback Page) input field, which is currently empty. A note next to it states: '不配置OAuth授权回调地址，会存在用户授权信息被窃取风险，强烈建议配置该项。' (If no OAuth authorization callback address is configured, user authorization information may be stolen, strongly recommend to configure this item.)

Under '根域名绑定:' (Root Domain Binding), the value 'door.casbin.com' is entered. A note next to this field says: '应用在访问OpenAPI时须带有Referer信息，且其域名被限制在“根域名绑定” 的设置项中' (When accessing OpenAPI, the application must have a Referer, and its domain name must be restricted in the "Root Domain Binding" setting item).

At the bottom of the form, there is a checkbox labeled '限制访问OpenAPI的Referer' (Restrict OpenAPI Referer) and another checkbox labeled '同时绑定访问OpenAPI服务器IP' (Bind IP for OpenAPI server).

At the very bottom of the page are two buttons: '确定' (Confirm) and '取消' (Cancel).

### ⚠ CAUTION

This part is very different from the information provided in the Baidu documentation:

1. Adding the URL to the callback URL setting will most likely fail to validate the URL and cause the login to fail, so we add our domain name to the domain setting.
2. Only one URL or domain name can be added, which is very different from the documentation.

Then you can obtain the `Client ID` and `Client Secrets`.

# Casdoor

- 基本信息
- 接入类型
- 其他应用
- 开发者服务
- Oauth2.0
- 安全设置

## 基本信息

名称: Casdoor

Icon:

ID:

Client ID API Key: HnhK7...QmAp61

Client Secret Secret Key: DTgBZ...ls1bLm1Gha

创建时间: 2022-01-22 16:20:05

更新时间: 2022-01-23 15:45:06

Add a Baidu OAuth provider and fill in the `Client ID` and `Client Secrets` in your Casdoor.

casbin

- Home
- Organizations
- Users
- Roles
- Permissions
- Providers
- Applications
- Resources
- Tokens

Edit Provider Save Save & Exit

Name ②: Baidu

Display name ②: Baidu

Category ②: OAuth

Type ②: Baidu

Client ID ② HsM...nWT

Client secret ② \*\*\*

Provider URL ②: <https://github.com/organizations/xxx/settings/applications/1234567>

Save Save & Exit

Now you can use Baidu as a third-party service to complete authentication!

### GENERAL TROUBLESHOOTING

If you encounter a Baidu prompt that states your redirect URL is incorrect, here are some ways you might be able to fix it:

1. Add your domain name to the appropriate location and then reset the Secret (Baidu reset Secret has a bug, it will prompt you an error, but after refreshing the page the Secret has been refreshed).
2. If the above methods do not solve the problem, we suggest you delete the application and create a new one, and set your domain name first.

Another problem is that the user name returned by Baidu is masked, unlike their documentation which shows the user name and displayed name. Therefore, we can currently only use the masked name as the user name.

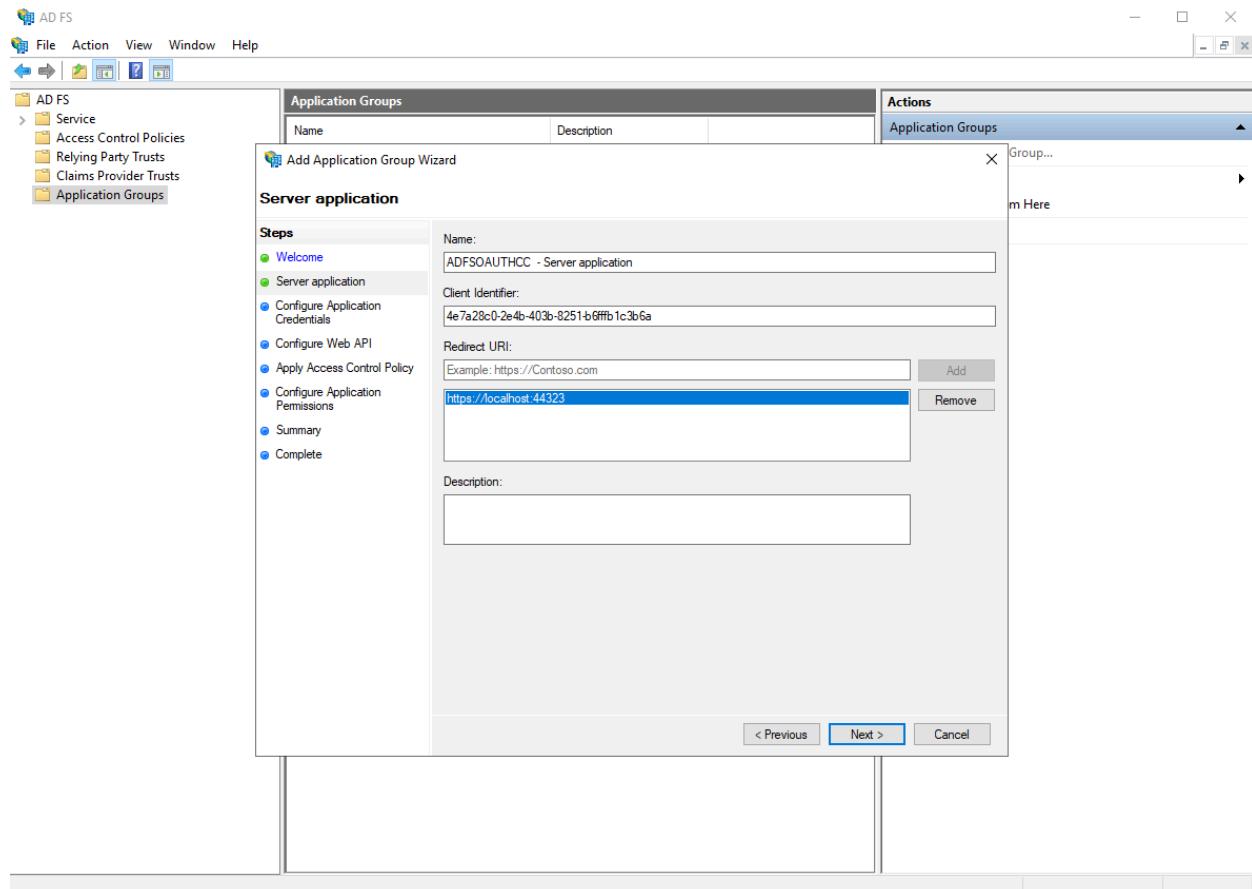
# AD FS

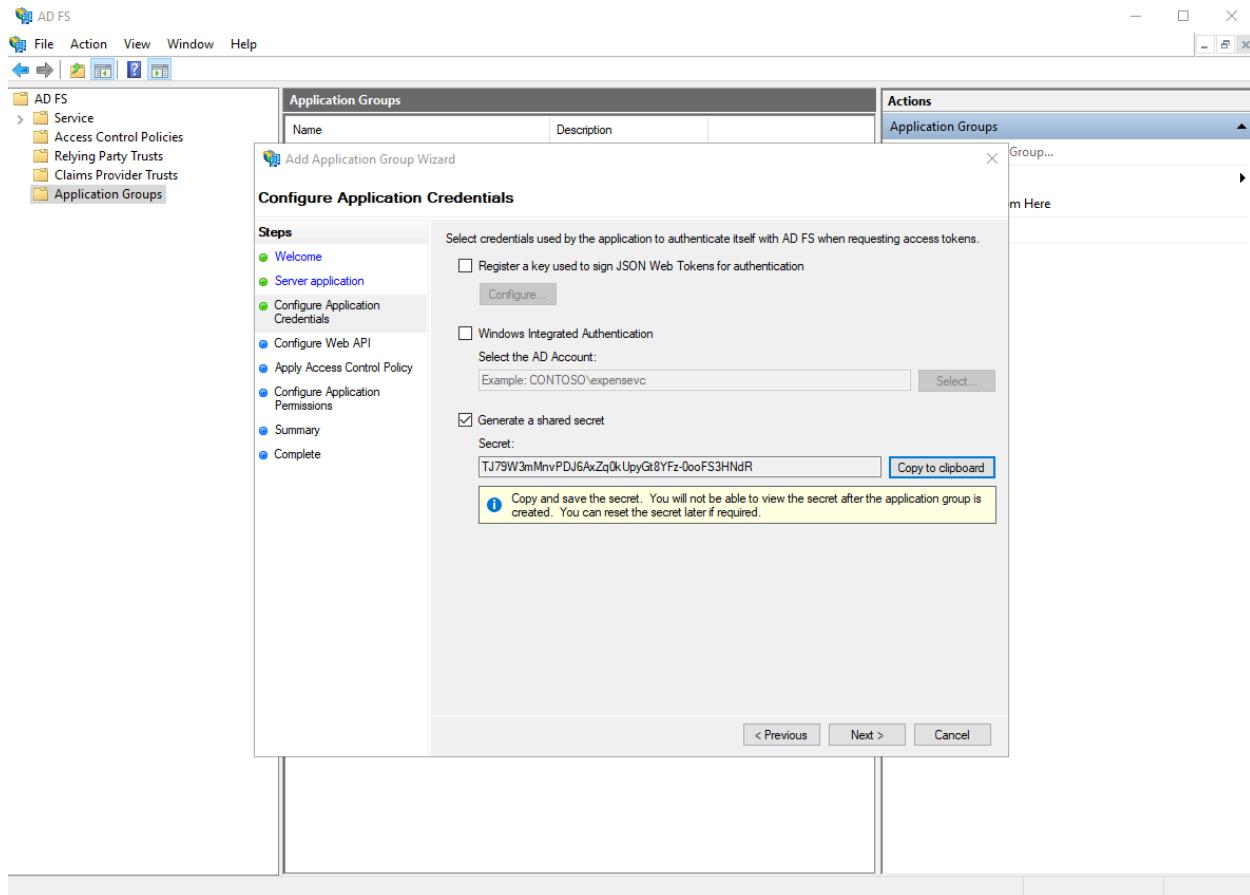
To set up Active Directory Federation Service, please refer to the [AD FS documentation](#) for a basic understanding of ADFS, and consult the [AD FS Deployment Guide](#) for instructions on setting up an AD FS server. Ensure that you have a fully operational AD FS server before proceeding to the next steps.

## Step 1: Enabling OAuth via AD FS

For detailed instructions on creating an app step by step, refer to the [Enabling OAuth Confidential Clients with AD FS](#) guide.

By the end of this step, you should have obtained a client ID and client secret as shown in the following screenshots:





The client identifier in the first picture and the secret in the second picture should be used as the client ID and client secret in the OAuth setup.

## Enabling Casdoor AD FS Provider

Add an AD FS provider and enter the "Client ID" and "Client Secret" in your Casdoor settings.

Edit Provider Save Save & Exit

Name ? :

Display name ? :

Category ? : OAuth

Type ? : Adfs ←

Client ID ? :

Client secret ? :   

Domain ? :

Provider URL ? : <https://openhome.alipay.com/platform/appManage.htm#/app/2021003111697088/overview>

Save Save & Exit

# AzureAD

## Introduction

Azure Active Directory (Azure AD) simplifies application management by providing a single identity system for cloud and on-premises applications. Software as a Service (SaaS) applications, on-premises applications, and Line of Business (LOB) applications can be added to Azure AD. Users can then log in once for secure and seamless access to these applications, as well as Office 365 and other business applications provided by Microsoft.

## How to use?

The steps to register an app are shown below.

### Step 1: Register an application

First, [register](#) an application and choose the account type as needed. The demo station uses the type shown below.

[Home](#) >

## Register an application

\* Name

The user-facing display name for this application (this can be changed later).

### Supported account types

Who can use this application or access this API?

- Accounts in this organizational directory only (Default only - Single tenant)
- Accounts in any organizational directory (Any Azure AD directory - Multitenant)
- Accounts in any organizational directory (Any Azure AD directory - Multitenant) and personal Microsoft accounts (e.g. Skype, Xbox)
- Personal Microsoft accounts only

[Help me choose...](#)

---

### Redirect URI (optional)

By proceeding, you agree to the [Microsoft Platform Policies](#) 

[Register](#)

## Step 2: Create a client secret

Create a `client secret` and save the value because it will be used later.

The screenshot shows the Casdoor interface for managing certificates and secrets. On the left, a sidebar lists various management options like branding, authentication, and certificates. The 'Certificates & secrets' option is highlighted with a red box. The main content area displays a table of credentials. A single row is shown, representing a client secret. The table columns include 'Description', 'Expires', 'Value', and 'Secret ID'. The 'Value' column contains a long, complex string of characters, which is also highlighted with a red box. The 'Secret ID' column shows a unique identifier.

## Step 3: Add redirect URIs

Follow the example in the picture to add the redirect URIs for Casdoor.

The screenshot shows the Casdoor 'Authentication' configuration page. The left sidebar has 'Authentication' selected and highlighted with a red box. In the main content area, there's a section for 'Platform configurations' and a 'Supported account types' section. On the right, under 'Configure', there's a 'Redirect URLs' section with a red box around it. It shows a single URL entry: 'http://localhost:8000/callback'. Below this, there are sections for 'Front-channel logout URL' and 'Implicit grant and hybrid flows', each with its own configuration fields. At the bottom, there are 'Save' and 'Discard' buttons, and a 'Configure' button highlighted with a red box.

## Step 4: Grant admin consent

The `user.read` API is open by default. You can add more scopes according to your needs. Finally, remember to grant admin consent.

The screenshot shows the Casdoor API permissions page. The left sidebar has sections for Overview, Quickstart, Integration assistant, Manage (with Branding & properties, Authentication, Certificates & secrets, Token configuration, and API permissions selected), Expose an API, App roles, Owners, Roles and administrators, Manifest, Support + Troubleshooting, Troubleshooting, and New support request. The main area shows a message: "Successfully granted admin consent for the requested permissions." A warning message states: "Starting November 9th, 2020 end users will no longer be able to grant consent to newly registered multitenant apps without verified publishers. [Add MPN ID to verify publisher](#)". Another message says: "The 'Admin consent required' column shows the default value for an organization. However, user consent can be customized per permission, user, or app. This column may not reflect the value in your org app will be used. [Learn more](#)". The "Configured permissions" section lists Microsoft Graph permissions: email, offline\_access, openid, profile, and User.Read, all with Delegated type and View users' basic profile description. The "Admin consent required" column shows "No" for all. The "Status" column shows five entries, each with a green checkmark and the text "Granted for Default Dire...".

## Step 5: Create AzureAD provider in Casdoor

The last step is to add an AzureAD OAuth provider and fill in the `Client ID` and `Client Secret` in your Casdoor.

Edit Provider

Save

Save & Exit

Name ? : provider\_casdoor\_azuread

Display name ? : Casdoor AzureAD

Category ? : OAuth

Type ? : AzureAD

Client ID ? : 621cc0f0-055f-433f-9894-bfa1bfde169d

Client secret ? : \*\*\*

Provider URL ? : [https://portal.azure.com/#view/Microsoft\\_AAD\\_RegisteredApps/Applications列表](https://portal.azure.com/#view/Microsoft_AAD_RegisteredApps/Applications列表)

Save

Save & Exit

# Infoflow

To set up the Infoflow OAuth provider, please follow these steps:

1. Go to [Infoflow](#) and log in using your Infoflow account.
2. Visit the [Infoflow Application](#) page.

The screenshot shows the Infoflow application management interface. At the top, there is a navigation bar with the Infoflow logo, followed by tabs: 首页 (Home), 通讯录 (Address Book), 应用中心 (Application Center) which is highlighted with a red box, 数据统计 (Data Statistics), and 设置 (Settings). Below the navigation bar, the main content area has a title '应用(5)' and three buttons: '新建应用' (Create New Application) which is also highlighted with a red box, '应用分组/排序' (Group/Sort Applications), and '应用宣传栏' (Promotion Column).

3. Register your Infoflow app.

The screenshot shows the Casdoor application registration form. At the top, there are buttons for '返回' (Back) and 'Casdoor'. The form has a header '基本信息' (Basic Information) and a '保存' (Save) button. The fields include:

- 应用logo: A placeholder image of a camera icon with a green checkmark.
- 建议使用640\*640, 2M以内的jpg、png图片 (Suggestion: Use a 640x640, 2M jpg or png image).
- 应用名称: Casdoor
- 应用介绍: Casdoor单点登录系统
- 功能: A checkbox labeled '应用' (Application) is checked and highlighted with a red box. Other options like '机器人' (Robot) and '服务号' (Service Account) are available but not checked.

4. Obtain the AgentID.

< 返回

Casdoor

I 基本信息

应用logo:



应用名称: Casdoor

应用介绍: Casdoor单点登录系统

功能: 应用

AgentID

应用ID: 55

5. Navigate to the Setting tab and create a new management group.

如流 Infoway

首页 通讯录 应用中心 数据统计 设置 ①

基本信息 成员加入 权限设置 ② 通讯录设置 安全设置 客户端启动页

系统管理组 ③ 管理员 新建下级管理组 ④

普通管理组 暂未设置管理员

通讯录权限 组织架构

6. Add your structure to the address book permissions and give it the necessary permissions. Also, add the application you just created to the specified location.

### 通讯录权限

[修改](#)

组织架构	查看	管理
	<input checked="" type="checkbox"/>	<input type="checkbox"/>

对部门仅有查看权限时，只可查看被授权的成员资料信息；对部门有管理权限时，可查看成员的所有资料信息

<input checked="" type="checkbox"/> 成员ID	<input checked="" type="checkbox"/> 姓名	<input checked="" type="checkbox"/> 部门	<input checked="" type="checkbox"/> 头像
<input checked="" type="checkbox"/> 手机号	<input checked="" type="checkbox"/> 邮箱	<input checked="" type="checkbox"/> 登录帐号	

### 应用权限

[修改](#)

应用权限	发消息	配置应用
Casdoor	<input checked="" type="radio"/>	<input type="radio"/>

7. Add the sensitive interface permissions as shown.

## 敏感接口权限

修改

接口名称	权限开放
获取部门成员	<input checked="" type="checkbox"/>
获取部门列表	<input type="checkbox"/>
获取成员信息	<input checked="" type="checkbox"/>
获取标签成员	<input type="checkbox"/>
维护通信录	<input type="checkbox"/>
获取成员群组列表	<input type="checkbox"/>
获取群组成员列表	<input type="checkbox"/>
维护群组成员	<input type="checkbox"/>
发送群组消息	<input type="checkbox"/>
维护群组话题	<input type="checkbox"/>
维护勋章	<input type="checkbox"/>
通讯录搜索	<input type="checkbox"/>

8. On the same page, you will find the `CorpID` and `Secret`.

## 开发者凭据

### Client ID

CorpID	hir...1
Secret	HgH...NB
Client Secret	<a href="#">重置</a>

9. Add an Infoflow OAuth provider to Casdoor and fill in the `Client ID`, `Client Secret`, and `Agent ID`.

Edit Provider [Save](#) [Save & Exit](#)

Name ② :	Infoflow
Display name ② :	Infoflow
Category ② :	OAuth
Type ② :	Infoflow
Sub type ② :	Internal
Client ID ②	<input type="text"/> CorpID
Client secret ②	<input type="text"/> Secret
Agent ID ②	<input type="text"/> AgentID

You can now use Infoflow as a third-party service for authentication.

# Okta

To set up the Okta OIDC provider, first visit [Okta Developer](#) and sign up to get a developer account.

Navigate to the Applications > Applications tab, click Create App Integration, select a Sign-in method of OIDC - OpenID Connect, and choose an Application type of Web Application, then click Next.

### Create a new app integration

**Sign-in method**

[Learn More ↗](#)

- OIDC - OpenID Connect**  
Token-based OAuth 2.0 authentication for Single Sign-On (SSO) through API endpoints. Recommended if you intend to build a custom app integration with the Okta Sign-In Widget.
- SAML 2.0**  
XML-based open standard for SSO. Use if the Identity Provider for your application only supports SAML.
- SWA - Secure Web Authentication**  
Okta-specific SSO method. Use if your application doesn't support OIDC or SAML.
- API Services**  
Interact with Okta APIs using the scoped OAuth 2.0 access tokens for machine-to-machine authentication.

---

**Application type**

What kind of application are you trying to integrate with Okta?

Specifying an application type customizes your experience and provides the best configuration, SDK, and sample recommendations.

- Web Application**  
Server-side applications where authentication and tokens are handled on the server (for example, Go, Java, ASP.Net, Node.js, PHP)
- Single-Page Application**  
Single-page web applications that run in the browser where the client receives tokens (for example, Javascript, Angular, React, Vue)
- Native Application**  
Desktop or mobile applications that run natively on a device and redirect users to a non-HTTP callback (for example, iOS, Android, React Native)

[Cancel](#) [Next](#)

Enter the Sign-in redirect URIs, such as `https://door.casdoor.com/callback`.

<b>Sign-in redirect URIs</b> Okta sends the authentication response and ID token for the user's sign-in request to these URIs <a href="#">Learn More</a>	<input type="checkbox"/> Allow wildcard * in sign-in URI redirect. <code>https://door.casdoor.com/callback</code> <span style="border: 1px solid #ccc; padding: 2px;">X</span>
<a href="#">+ Add URI</a>	

In the **Assignments** section, define the type of Controlled access for your app and then click **Save** to create the app integration.

Now you will have the `client ID`, `Client secret`, and `Okta domain`.

<b>Client Credentials</b> <span style="float: right;"><a href="#">Edit</a></span>	
<b>Client ID</b>	<code>Ooa4we8u8iivyscpb5d7</code> <span style="border: 1px solid #ccc; padding: 2px;">Edit</span>
Public identifier for the client that is required for all OAuth flows.	
<b>Client secret</b>	<code>.....</code> <span style="border: 1px solid #ccc; padding: 2px;">Edit</span>
Secret used by the client to exchange an authorization code for a token. This must be kept confidential! Do not include it in apps which cannot keep it secret, such as those running on a client.	

<b>General Settings</b> <span style="float: right;"><a href="#">Edit</a></span>	
<b>Okta domain</b>	<code>dev-53555475.okta.com</code> <span style="border: 1px solid #ccc; padding: 2px;">Edit</span>

Add an Okta OAuth provider in the Casdoor dashboard by entering your `Client ID`, `Client secret`, and `Domain`.

Edit Provider Save Save & Exit

Name ?: provider\_casdoor\_okta

Display name ?: Casdoor Okta

Category ?: OAuth

Type ?: Okta

Client ID ?: 0oa4we8u8iivyscpb5d7

Client secret ?: \*\*\*

Domain ?: <https://dev-53555475.okta.com/oauth2/default>

Provider URL ?: <https://dev-53555475.okta.com>

Save Save & Exit

#### ⚠ SET DOMAIN CORRECTLY

Note that the `Domain` is not just the `Okta domain`; `/oauth2/default` should be appended to it.

Visit [Okta docs on authorization servers](#) to get more details.

Now you can use Okta as a third-party service to complete authentication.

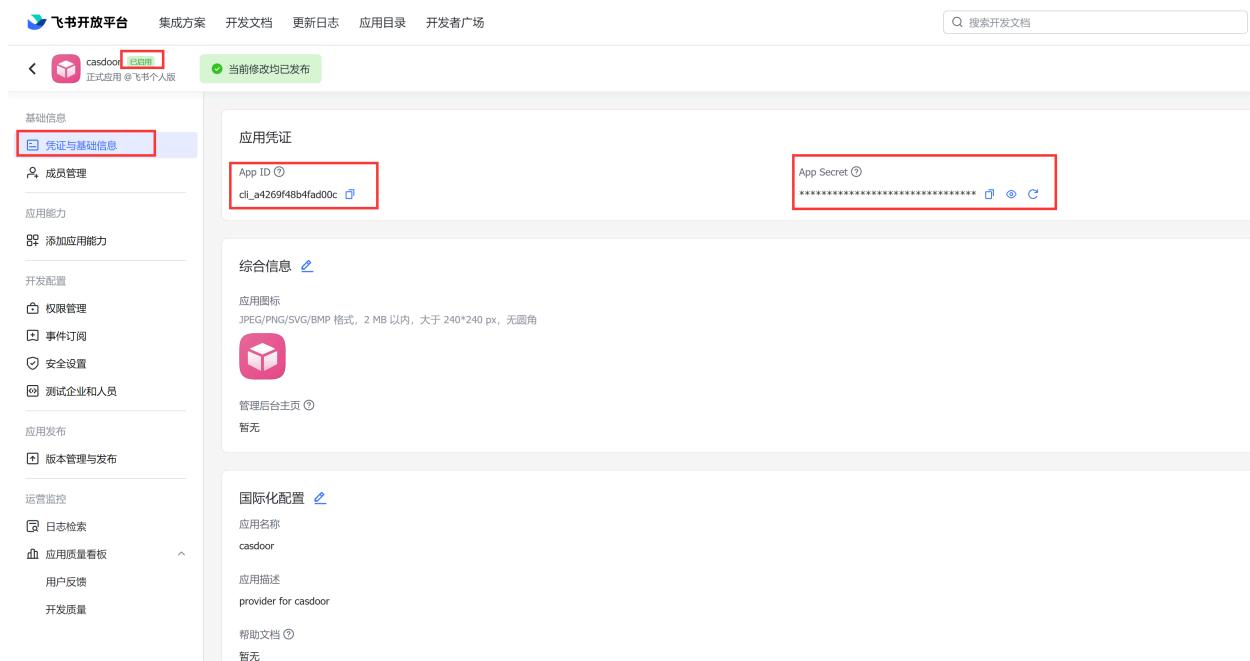
# Lark

## ① NOTE

This is an example of how to configure a Lark OAuth provider.

## Step 1: Create a Lark application

First, you need to create a new application on the [Lark Open Platform](#) and enable it. You can find the `App ID` and `App Secret` in the basic information of your application.



Next, add the redirect URL `<your-casdoor-domain>/callback` (e.g., `http://localhost:7001/callback`) in the security settings of your application.

The screenshot shows the Casdoor application settings interface. On the left sidebar, under the '安全设置' (Security Settings) section, there is a red box highlighting the '重定向 URL' (Redirect URL) and 'IP 白名单' (IP Whitelist) sections. The '重定向 URL' section contains a single entry: 'http://localhost:7001/callback'. The 'IP 白名单' section is currently empty. At the bottom right of the main content area, there is a blue button labeled '技术支持' (Technical Support) with a gear icon.

## Step 2: Create a Lark OAuth provider

Now create a Lark OAuth provider in Casdoor. Fill in the necessary information.

Name	Name in Lark
Category	Choose <button>OAuth</button>
Type	Choose <button>Lark</button>
Client ID	<input type="text"/> App ID obtained from Step 1
Client secret	<input type="text"/> App Secret obtained from Step 1

The image displays two side-by-side screenshots from the Feishu Open Platform developer console.

**Left Screenshot (Provider Configuration):**

- Name: lark
- Display name: lark-display
- Organization: admin (Shared)
- Category: OAuth
- Type: Lark
- Client ID: cli\_a4269f48b4fad00c (highlighted with a red box)
- Client secret: \*\*\* (highlighted with a red box)
- Provider URL: [View](#)

**Right Screenshot (Application Settings):**

- 基础信息:
  - 应用凭证:
    - App ID: cli\_a4269f48b4fad00c (highlighted with a red box)
    - App Secret: (redacted) (highlighted with a red box)
- 综合信息:
  - 应用图标: (Image placeholder)
  - 管理后台主页: 新建
- 国际化配置:
  - 应用名称: casdoor
  - 应用描述: provider for casdoor
  - 帮助文档: 新建

Now you can use Lark as the third-party service to complete authentication.

# Email



## Overview

Using Email for authentication



## MailHog

Using MailHog as the SMTP server

# Overview

## Adding an Email provider

1. Click on **Add** to add a new provider.
2. Select **Email** under the **Category** section.

Name <small>?</small> :	email provider
Display name <small>?</small> :	My Email
Category <small>?</small> :	Email
Type <small>?</small> :	Default

3. Fill in the fields for **Username**, **Password**, **Host**, and **Port** for your SMTP service.

Username <small>?</small>	no-reply@casbin.com
Password <small>?</small>	***
Host <small>?</small> :	smtp.qiye.aliyun.com
Port <small>?</small> :	465

4. Customize the `Email Title` and `Email Content`, then save the changes.

# MailHog

In this guide, we will be using MailHog as the SMTP server. [MailHog](#) is an email-testing tool that operates with a fake SMTP server.

## Step 1: Deploy the MailHog service

The IP address for the MailHog service is `192.168.24.128`, and the SMTP service port is `1025`.

```
[HTTP] Binding to address: 0.0.0.0:8025
2023/07/13 03:06:43 Serving under http://0.0.0.0:8025/
Creating API v1 with WebPath:
Creating API v2 with WebPath:
[APIv1] KEEPALIVE /api/v1/events
[HTTP] Binding to address: 0.0.0.0:8025
Creating API v1 with WebPath:
Creating API v2 with WebPath:
2023/07/13 03:10:36 Using maildir message storage
2023/07/13 03:10:36 Maildir path is /tmp/mailhog641072855
2023/07/13 03:10:36 [SMTP] Binding to address: 0.0.0.0:1025
2023/07/13 03:10:36 Serving under http://0.0.0.0:8025/
[APIv2] GET /api/v2/jim
[APIv2] GET /api/v2/messages
2023/07/13 03:10:36 [HTTP] Connection established for client 192.168.24.128:51497 from 192.168.24.128:51497
```

## Step 2: Create an email provider

Provide the necessary information and save the settings.

Category <a href="#">?</a> :	Email
Type <a href="#">?</a> :	Default
Username <a href="#">?</a> :	
Password <a href="#">?</a> :	
From address <a href="#">?</a> :	notification@casdoor.com
From name <a href="#">?</a> :	Casdoor Notification
Host <a href="#">?</a> :	192.168.24.128
Port <a href="#">?</a> :	1025
Disable SSL <a href="#">?</a> :	<input checked="" type="checkbox"/>
Email title <a href="#">?</a> :	Casdoor Verification Code (Test)
Email content <a href="#">?</a> :	You have requested a verification code at <a href="#">Casdoor (Test)</a> . Here is your code: <u>%s</u> , please enter in 5 minutes.
Test Email <a href="#">?</a> :	admin@example.com
	<a href="#">Test SMTP Connection</a>
	<a href="#">Send Testing Email</a>
<a href="#">Provider URL <a href="#">?</a>:</a>	<a href="https://github.com/organizations/xxx/settings/applications/1234567">https://github.com/organizations/xxx/settings/applications/1234567</a>
<a href="#">Save</a>	<a href="#">Save &amp; Exit</a>

## Step 3: Send a test email

First, click on the [Test SMTP Connection](#) button. If you see [provider: SMTP connected successfully](#), it means that your Casdoor service can access the MailHog service.

Next, click on the [Send Testing Email](#) button. If you see [Email sent successfully](#), it means that the test email has been sent successfully from the [From](#) address to the [Test Email](#).

Name ?: email\_provider provider:SMTP connected successfully

Display name ?: Email Provider Email sent successfully

Organization ?: admin (Shared)

Category ?: Email

Type ?: Default

Username ?:

Password ?:

From address ?: notification@casdoor.com

From name ?: Casdoor Notification

Host ?: 192.168.24.128

Port ?: 1025

Disable SSL ?:

Email title ?: Casdoor Verification Code (Test)

Email content ?: You have requested a verification code at Casdoor (Test). Here is your code: 123456, please enter in 5 minutes.

Test Email ?: admin@example.com **Test SMTP Connection** **Send Testing Email**

Provider URL ?: <https://github.com/organizations/xxx/settings/applications/1234567>

 MailHog

Connected

Inbox (4)

From "Casdoor Notification" <notification@casdoor.com>  
Subject Casdoor Verification Code (Test)  
To admin@example.com

HTML Plain text Source

Jim  
Jim is a chaos monkey.  
[Find out more at GitHub.](#)

[Enable Jim](#)

You have requested a verification code at Casdoor (Test). Here is your code: 123456, please enter in 5 minutes.

# SMS

## Overview

Using SMS for authentication

## Twilio

Using Twilio as an SMS provider for Casdoor

## Alibaba Cloud

Using Alibaba Cloud as an SMS provider for Casdoor

## Amazon SNS

Using Amazon SNS as an SMS provider for Casdoor

## Azure ACS

Using ACS as an SMS provider for Casdoor



# Overview

We use [casdoor/go-sms-sender](#) to send SMS for Casdoor. The `go-sms-sender` library currently supports Twilio, Submail, SmsBao, Alibaba Cloud, Tencent Cloud, Huawei Cloud, and Volc SMS APIs. If you want to add support for other SMS providers, you can either raise an issue or submit a pull request.

## Adding an SMS provider

1. Click on `Add` to add a new provider.
2. Select `SMS` in the `Category` section.

The screenshot shows a dropdown menu for selecting a category. The menu items are: SMS (selected), AI, Captcha, Email, OAuth, Payment, SAML, and Storage. The 'SMS' option is highlighted with a purple background.

Category ② :	SMS
Type ② :	AI Captcha Email OAuth Payment SAML <b>SMS</b> Storage
Client ID ② :	
Client secret ② :	
Sign Name ② :	
Template code ② :	

3. Choose the type of your provider.

The screenshot shows a dropdown menu for selecting a provider type. The menu items are: Aliyun SMS (selected), Huawei Cloud SMS, SmsBao SMS, SUBMAIL SMS, Tencent Cloud SMS, Twilio SMS, and Volc Engine SMS. The 'Aliyun SMS' option is highlighted with a purple background.

Category ② :	SMS
Type ② :	Aliyun SMS Huawei Cloud SMS SmsBao SMS SUBMAIL SMS Tencent Cloud SMS Twilio SMS Volc Engine SMS
Client ID ② :	
Client secret ② :	
Sign Name ② :	
Template code ② :	

4. Retrieve the necessary information from your SMS provider and fill out the corresponding fields.

# Twilio

## Fill in the necessary information in Casdoor

There are four required fields: `Client ID`, `Client secret`, `Sender number`, and `Template code`. The corresponding relationship to the Tencent Cloud COS account is as follows:

Name	Name in Twilio	Required
Client ID	Account SID	Required
Client secret	Auth Token	Required
Sender number	Twilio phone number	Required
Template code		Required

### Twilio information

- Account SID, Auth Token, and Twilio phone number

**Step 4: invite and upgrade**

**Develop** Monitor

**Invite teammates**  
Invite developers to your Twilio account to start building! [Learn more about user access management](#)

**Upgrade your account**  
Upgrade your account to send to any number, buy local  
[more](#). [Learn more about trial account limitations](#)

**Account Info**

**Account SID**: AC06b73d65c8ee67ce8e448edcc64b6ec6

**Auth Token**: [Show](#)  
Always store your token securely to protect your account. [Learn more](#)

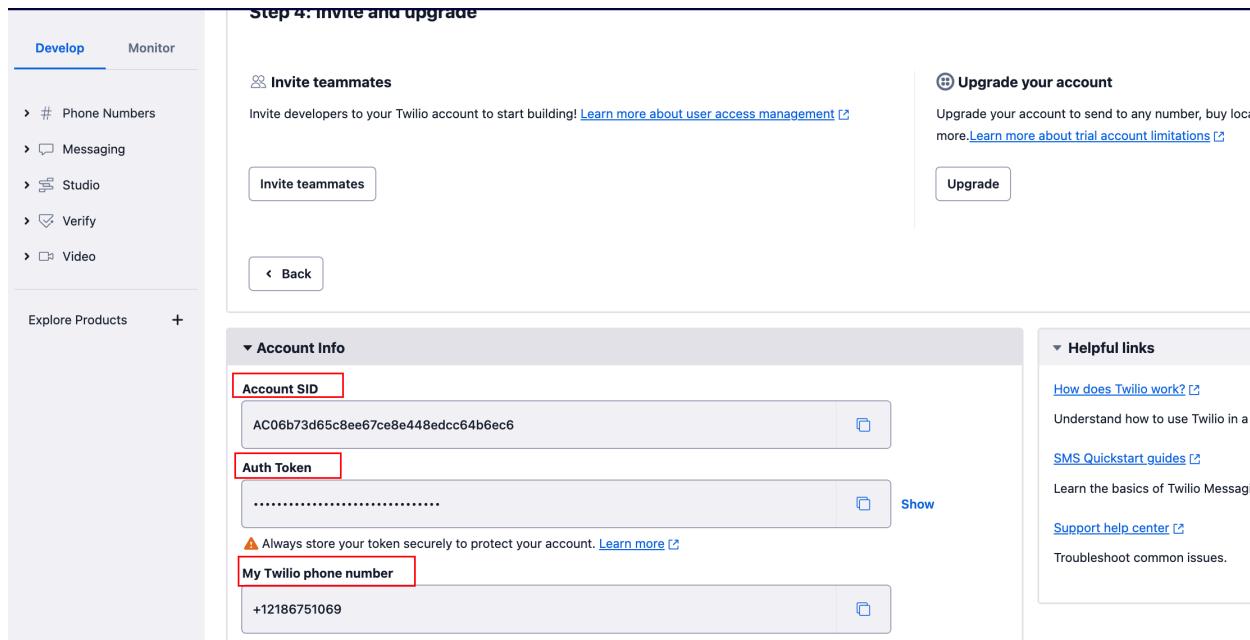
**My Twilio phone number**: +12186751069

**Helpful links**

- [How does Twilio work?](#)
- [SMS Quickstart guides](#)
- [Support help center](#)

[Back](#)

[Upgrade](#)



## Configure Casdoor provider

You can configure the `template code` to suit your requirements, and then enter your phone number in `SMS Test` to test.

Name <a href="#">?</a> :	twilio
Display name <a href="#">?</a> :	twilio
Organization <a href="#">?</a> :	admin (Shared)
Category <a href="#">?</a> :	SMS
Type <a href="#">?</a> :	Twilio SMS
Client ID <a href="#">?</a> :	AC06b73d65c8ee67ce8e448edcc64b6ec6
Client secret <a href="#">?</a> :	***
Sender number <a href="#">?</a> :	+12186751069
Template code <a href="#">?</a> :	get the message
SMS Test <a href="#">?</a> :	+1 <a href="#">▼</a> Input your phone num... <a href="#">Send Testing SMS</a>
Provider URL <a href="#">?</a> :	<a href="#">🔗</a>



# Alibaba Cloud

## Fill in the necessary information in Casdoor

There are four required fields: `Client ID`, `Client secret`, `Sign Name`, and `Template code`. The corresponding relationship with the Alibaba Cloud account is as follows:

Name	Name in Alibaba	is required
Client ID	AccessKey ID	required
Client secret	AccessKey Secret	required
Sign Name	Signature	required
Template code	Template code	required

## Alibaba information

- AccessKey ID and AccessKey Secret

After logging into my Aliyun workbench, I click on "AccessKey" to create an ID and Secret.

The screenshot shows the Alibaba Cloud SMS service interface. At the top, there's a search bar and navigation links like '费用', '工单', 'ICP 备案', '企业', '支持', 'App', and '简体'. Below the header, a banner reads '【有奖调研】阿里云短信服务易用性有奖调研 点击进入'. The main area has tabs for '新手引导', 'OpenAPI 开发者门户', '开发者指南', and 'AccessKey' (which is circled in orange). On the left, there's a section for '发送量数据' with a chart and a note about data being updated at 22:33:52. The right side has sections for '用户监控信息', '快捷操作入口', and '国内消息'. A central callout box says '快速上手短信服务, 从这里开始!' and '您已完成20%的学习进度, 继续努力吧.' with a '快速学习短信服务' button.

By creating an AccessKey, I obtain my AccessKey ID and AccessKey Secret:

This screenshot shows the '安全信息管理' (Security Information Management) section. It highlights the '用户AccessKey' (User AccessKey) table. The table includes columns for 'AccessKey ID', 'AccessKey Secret', '状态' (Status), '最后使用时间' (Last Used Time), and '创建时间' (Creation Time). A single row is shown with the AccessKey ID 'LTAI4Fy4mVoMjAzC95rt5Wh7', AccessKey Secret '显示' (Visible), Status '启用' (Enabled), Last Used Time '2020年7月19日 20:24:58', and Creation Time '2020年7月11日 17:52:50'. There are '禁用' (Disable) and '删除' (Delete) buttons in the '操作' (Operation) column.

- Signature

This screenshot shows the 'Signatures' management interface. On the left is a sidebar with options like 'Go China', 'Go Globe', 'Analytics', 'Dashboard', 'Delivery Report', 'Messaging Logs', 'Bills', 'Resource Plan Usage', 'Short URL Statistics', 'System Configurations', and 'General Settings'. The main area features a QR code with the text 'Join the group chat to try new features.' and a large blue feather icon. Below the QR code is a note about Alibaba Cloud SMS prohibiting illegal content. The 'Signatures' tab is selected, showing a table with columns: 'Signature' (with a checkbox), 'Ticket ID', 'Scenario', 'Review Status', 'Created At', and 'Actions'. One row is visible with the signature 'casdoor', status 'Approved', and created at '2023-07-26 13:15:49'. Buttons for 'Create Signature', 'Select a review status', 'Search by signature', 'Export Records', and 'Export' are also present.

- Template code

The screenshot shows the Alibaba Cloud Short Message Service (SMS) interface. On the left, there's a sidebar with navigation links like Overview, Quick Start & Delivery Test, Go China, Go Globe, Analytics, Dashboard, Delivery Report, Messaging Logs, Bills, Resource Plan Usage, Short URL Statistics, System Configurations, General Settings, and Domestic SMS Settings. The main content area is titled "Create Dedicated DingTalk Group Chat". It features a QR code for creating a dedicated DingTalk group chat, instructions to scan it, and a note about using the group chat to submit and modify signatures and message templates. Below this is a note from Alibaba Cloud regarding prohibited content. A tab bar at the bottom includes "Signatures", "Message Templates" (which is selected), and "Mass Messaging". A message box provides information about signature review times and message template submission requirements. At the bottom, there's a table listing a single message template entry:

Template Name	Tag	Ticket ID	Template Code	Template Type	Created At
casdoor 测		20020389144	SMS_462155126	Verification Code Message	2023-07-26 17:54:00

## Configure Casdoor provider

Enter your phone number in the `SMS Test` field to test.

The screenshot shows the Casdoor provider configuration form for Aliyun SMS. The fields are as follows:

- Name: alibaba
- Display name: alibaba
- Organization: admin (Shared)
- Category: SMS
- Type: Aliyun SMS
- Client ID: LTAI5tFwxoA51CnSiQFyyPU5
- Client secret: \*\*\*
- Sign Name: casdoor
- Template code: SMS\_462155126
- SMS Test: +86 (dropdown) - Input your phone num... (text input) - Send Testing SMS (button)
- Provider URL: (text input with a placeholder icon)

# Amazon SNS

## Obtaining the necessary information in Amazon

There are four required fields: **Access Key**, **Secret Access Key**, **Region**, and **Template code**. I will show you how to obtain this information from Amazon SNS.

- Access Key and Secret Access Key

In Identity and Access Management (IAM), you can create an **Access Key** and **Secret Access Key**.

The screenshot shows the AWS IAM Access Keys page. On the left, there's a sidebar with 'Identity and Access Management (IAM)' selected. The main area has a heading 'Access keys (1)'. It contains a table with one row:

Access key ID	Created on	Access key last used	Region last used	Service last used	Status
AKIAJYOMMMXHVZLH4LYKGL	16 days ago	None	N/A	N/A	Active

Below this, there's a section for 'CloudFront key pairs (0)' with a table header 'Creation time' and 'CloudFront key ID'.

- Region

The **Region** is related to the topic you created.

The screenshot shows the AWS Amazon SNS Dashboard. On the left, there's a sidebar with links for 'Dashboard', 'Topics', 'Subscriptions', and sections for 'Mobile' (Push notifications, Text messaging (SMS), Origination numbers). The main area is titled 'Dashboard' and shows a summary: 'Resources for ap-southeast-1'. It lists 'Topics' (1), 'Platform applications' (0), and 'Subscriptions' (0). Below this, there's a section titled 'Overview of Amazon SNS' with a sub-section 'Application-to-application (A2A)' which describes Amazon SNS as a managed messaging service for decoupling publishers from subscribers.

## Configuring the Casdoor provider

The `Template code` is the message you want to send. Enter your phone number in the `SMS Test` to test.

Name <a href="#">?</a> :	amazon_sns
Display name <a href="#">?</a> :	amazon_sns
Organization <a href="#">?</a> :	admin (Shared)
Category <a href="#">?</a> :	SMS
Type <a href="#">?</a> :	aws Amazon SNS
Access key <a href="#">?</a> :	AKIAYOMMXHVZACW5RFMX
Secret access key <a href="#">?</a> :	***
Region <a href="#">?</a> :	ap-southeast-1
Template code <a href="#">?</a> :	enter the message you want to send
SMS Test <a href="#">?</a> :	+1 <input type="button" value="▼"/> <input type="text" value="Input your phone num..."/> <input type="button" value="Send Testing SMS"/>
Provider URL <a href="#">?</a> :	<a href="https://github.com/organizations/xxx/settings/applications/1234567">https://github.com/organizations/xxx/settings/applications/1234567</a>

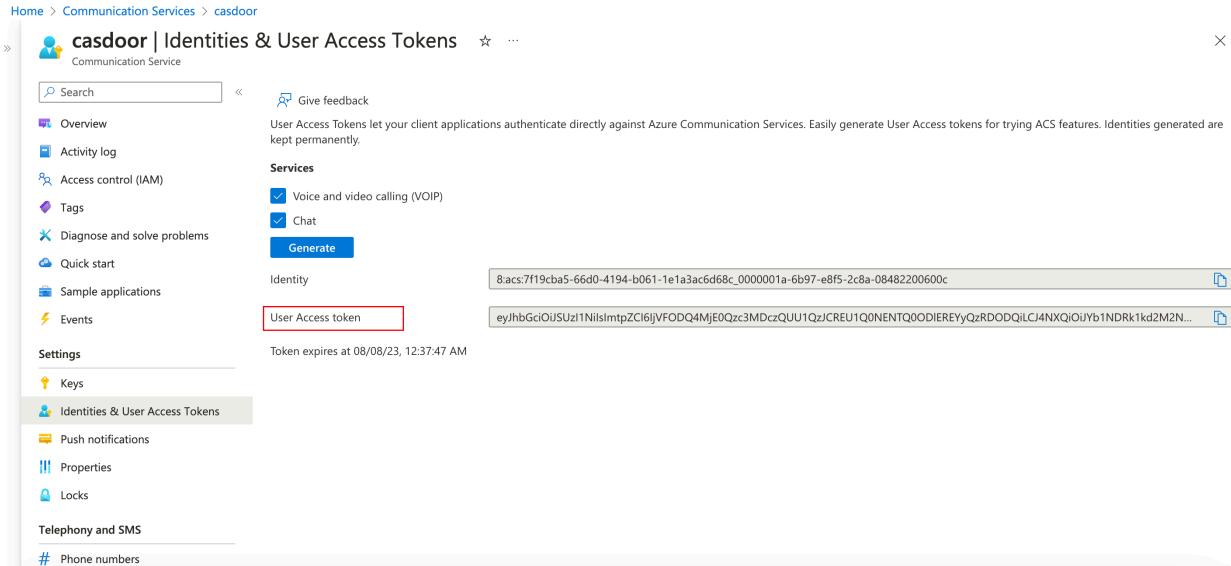
# Azure ACS

## Obtaining the necessary information in Azure

There are four required fields: `Client secret`, `Sender number`, `Template code`, and `Provider Url`. I will show you how to obtain this information from Azure ACS.

- `Client secret`

In Communication Service, you can create a User Access Token, which is the `client secret` in Casdoor.



The screenshot shows the Azure Communication Services Identity & User Access Tokens page for a service named 'casdoor'. On the left, there's a sidebar with various navigation options like Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Quick start, Sample applications, Events, Keys, and Settings. Under Settings, 'Identities & User Access Tokens' is selected. In the main content area, there's a 'Services' section with checkboxes for 'Voice and video calling (VOIP)' and 'Chat', both of which are checked. Below that is a 'Generate' button. To the right, there's a 'Identity' section with a text input field containing a long token string: '8:acs:7f19cba5-66d0-4194-b061-1e1a3ac6d68c\_0000001a-6b97-e8f5-2c8a-08482200600c eyJhbGciOiJSUzI1NlsltmpZCI6IjVFODQ4MjE0Qzc3MDczQUU1QzCREU1Q0NENTQ0ODIERYyQzRDODQilCj4NXQiOjYb1NDRk1kd2M2N...'. Below this, it says 'Token expires at 08/08/23, 12:37:47 AM'.

- `Sender number`

The `Sender number` is the phone number you create in Communication Service.

Communication Service

Search (Cmd+/) Get Port Release Give feedback

Tools

- Keys
- Identities & User Access Tokens
- Push notifications

Voice Calling - PSTN

- # Phone numbers
- Direct routing (Preview)

SMS

- Short Codes (Preview)

Monitoring

- Insights (preview)
- Metrics
- Diagnostic settings
- Logs

- Provider Url

The **Provider Url** is the endpoint in Communication Service.

Communication Service

Search (Cmd+/) Move Delete Give feedback

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Quick start

Sample applications

Events

Settings

Keys

Identities & User Access Tokens

Endpoint : https://casdoor.unitedstates.communication.azure.com

Status : Active

Location : Global

Subscription : 免费试用

Subscription ID : e054e27a-96e8-4cca-a1cf-32717dcd303c

Tags (edit) : Add tags

**Build engaging communication experiences at scale**

Azure Communication Services brings rich communication APIs to all of your apps across any device, on any platform, using the same reliable and secure infrastructure that powers Microsoft Teams.

[Learn more](#)

# Configure Casdoor provider

The `template code` is the message you want to send. Enter your phone number in `SMS Test` to test.

---

Name [?](#) :

Display name [?](#) :

Organization [?](#) :

Category [?](#) :

Type [?](#) :  

Client ID [?](#) :

Client secret [?](#) :

Sender number [?](#) :

Template code [?](#) :

SMS Test [?](#) :

Provider URL [?](#) :

---

# Notification



## Overview

Add Notification providers to your application



## Telegram

Using Telegram as a notification provider for Casdoor



## Custom HTTP

Using Custom HTTP as a notification provider for Casdoor

# Overview

Casdoor can be configured to send notification messages using various Notification providers.

Currently, Casdoor supports multiple Notification providers. Here are the providers that Casdoor supports:

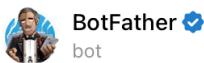
Provider	Logo
Telegram	
Custom HTTP	

# Telegram

## Step 1: Get API Token

First, you need to create an account on [Telegram](#). After creating an account, you should contact the [BotFather](#), which is a bot used to create other bots.

To create your bot, use the command `/newbot`:



BotFather ✅  
bot

---

### Games

[/mygames](#) - edit your [games](#)  
[/newgame](#) - create a new [game](#)  
[/listgames](#) - get a list of your games  
[/editgame](#) - edit a game  
[/deletegame](#) - delete an existing game



usher  
[/newbot](#)



BotFather

Alright, a new bot. How are we going to call it? Please choose a name for your bot.



usher  
casdoor



BotFather

Good. Now let's choose a username for your bot. It must end in 'bot'. Like this, for example: TetrisBot or tetris\_bot.



usher  
CasdoorBot



BotFather

Done! Congratulations on your new bot. You will find it at [t.me/CasdoorBot](https://t.me/CasdoorBot). You can now add a description, about section and profile picture for your bot, see [/help](#) for a list of commands. By the way, when you've finished creating your cool bot, ping our Bot Support if you want a better username for it. Just make sure the bot is fully operational before you do this.

Use this token to access the HTTP API:

**6531753859:AAEJV6-fopJLLyNa3mSn\_H-dFIP08VXwEto**

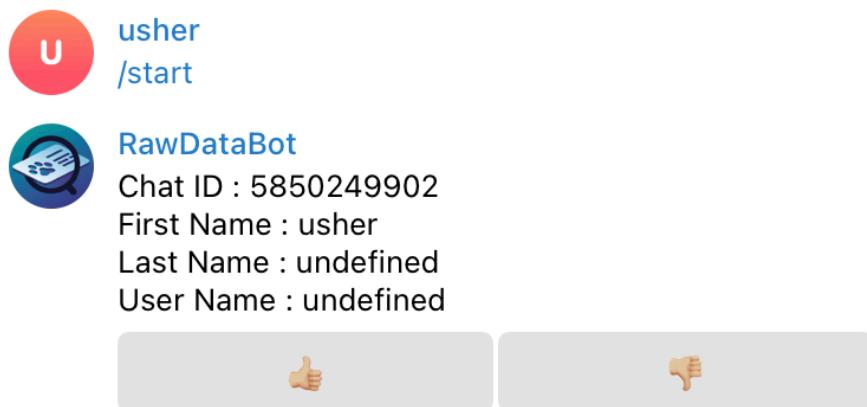
Keep your token **secure** and **store it safely**, it can be used by anyone to control your bot.

For a description of the Bot API, see this page: <https://core.telegram.org/bots/api>

Your bot should have two attributes: a `name` and a `username`. After creating the bot, you will receive an `API Token`.

## Step 2: Get Chat ID

To find your chat ID, use [RawDataBot](#).



## Step 3: Configure Casdoor Telegram Provider

There are three required fields: `App Key`, `Content`, and `Chat ID`. The relationship between the fields and Telegram is as follows:

Name	Name in Telegram
App Key	API Token
Chat ID	Chat ID
Content	

Name [?](#) : tele

Display name [?](#) : tele

Organization [?](#) : admin (Shared)

Category [?](#) : Notification

Type [?](#) :  Telegram

App Key [?](#) : 6531753859:AAEJV6-fopJLLyNa3mSn\_H-dFIPO8VXwEto

Content [?](#) : test

Chat ID [?](#) : 5850249902 Send Testing Notification

Provider URL [?](#) : <https://github.com/organizations/xxx/settings/applications/1234567>

Save Save & Exit

# Custom HTTP

## ⓘ NOTE

Casdoor supports Custom HTTP Notification Provider. You can use it to send messages to specific HTTP addresses.

## Configure Casdoor Custom HTTP Provider

There are three required fields: `Method`, `Parameter name`, `Content`, and `Chat ID`.

Name	Description
Method	Select <code>GET</code> or <code>POST</code> method.
Parameter name	URL query parameter name or body parameter, depending on the <code>method</code> .
Content	The message you want to send.
Chat ID	Your HTTP address

Name <small>②</small> :	custom_http
Display name <small>②</small> :	custom_http
Organization <small>②</small> :	admin (Shared)
Category <small>②</small> :	Notification
Type <small>②</small> :	 Custom HTTP
Method <small>②</small> :	POST
Parameter <small>②</small> :	test
Content <small>②</small> :	test
Endpoint <small>②</small> :	<input type="text" value="http://localhost:12345"/>
	<button style="background-color: #007bff; color: white; border-radius: 5px; padding: 5px;" type="button">Send Testing Notification</button>
Provider URL <small>②</small> :	<a href="https://github.com/organizations/xxx/settings/applications/1234567">https://github.com/organizations/xxx/settings/applications/1234567</a>

In my example, when I click `Send Notification Message`, I receive this request:

```
Listening on :12345...
Received a request:
Method: POST
URL: /
Body: test
```

# Storage

## Overview

Setting up a storage provider for uploading files in Casdoor

## Local File System

Using the Local File System as a storage provider for Casdoor

## Amazon S3

Using Amazon S3 as a storage provider for Casdoor

## Azure Blob

Using Azure Blob as a storage provider for Casdoor

 **MinIO**

Using MinIO as a storage provider for Casdoor

 **Aliyun OSS**

Using Aliyun OSS as a storage provider for Casdoor

 **Tencent Cloud COS**

Using Tencent Cloud COS as a storage provider for Casdoor

# Overview

If you need to use file storage services, such as "avatar upload", you will need to set up a storage provider and apply it to your application in Casdoor.

Casdoor supports two types of storage: Local and Cloud. In this chapter, you will learn how to add a storage provider to use these services.

## Item

- **Client ID:** A unique identifier provided by the cloud storage provider.
- **Client secret:** A secure value known only to Casdoor and the cloud storage service.
- **Endpoint:** The public URL or domain of the cloud storage service.
- **Endpoint (Intranet):** The internal or private URL or domain of the cloud storage service.
- **Path prefix:** Path prefix for the file location.

### ⓘ INFO

The default `Path prefix` is "/". For example, when the `Path prefix` is empty, a default file path would be:

```
https://cdn.casbin.com/casdoor/avatar.png
```

You can fill it with "abcd/xxxx", and then you can store your avatar in:

```
https://cdn.casbin.com/abcd/xxxx/casdoor/avatar.png
```

- **Bucket:** A container used for storing files and data.
- **Domain:** The custom domain name of the CDN for your cloud storage.
- **Region ID:** An identifier used to specify the data center region where the cloud storage service is located.

## Local

We support uploading files to the local system.

## Cloud

We support AWS S3, Azure Blob Storage, MinIO, Alibaba Cloud OSS, Tencent Cloud COS, and we are constantly adding more Cloud storage services.

# Local File System

## INFO

The Local File System provider will store your uploaded files in the Casdoor `files` folder.

For example, when your Casdoor is located in the `/home/user/casdoor` directory, the uploaded files will be stored in the `/home/user/casdoor/files` folder.

## Configure the Casdoor provider

Name [?](#) : localfile

Display name [?](#) : localfile

Organization [?](#) : admin (Shared)

Category [?](#) : Storage

Type [?](#) : Local File System

Path prefix [?](#) :

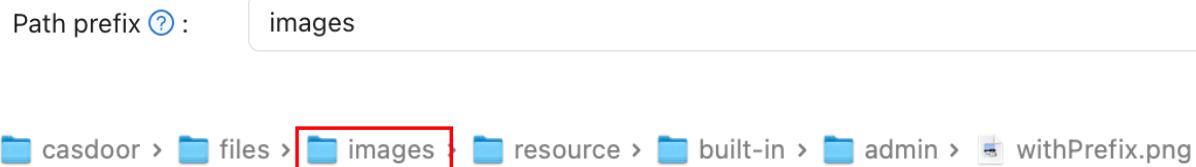
Domain [?](#) : http://localhost:8000

Provider URL [?](#) :

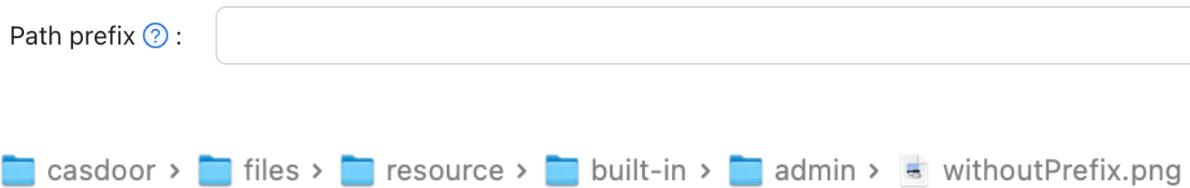
The `Path prefix` is the prefix of the location path for your files. You can fill it in

as needed. In the following example, you can see the difference with or without the prefix.

## With prefix



## Without prefix



# Amazon S3

 NOTE

This is an example of Amazon S3.

## Create security credentials

Follow the document: [Managing access keys](#) to create and save your `access key` and `secret access key` in the Amazon console.

## Configure your bucket

In your bucket permissions options, uncheck the "block" option and save the changes.

## Block public access (bucket settings)

Public access is granted to buckets and objects through access control lists (ACLs), bucket policies, access point policies, or all. In order to ensure that public access to all your S3 buckets and objects is blocked, turn on Block all public access. These settings apply only to this bucket and its access points. AWS recommends that you turn on Block all public access, but before applying any of these settings, ensure that your applications will work correctly without public access. If you require some level of public access to your buckets or objects within, you can customize the individual settings below to suit your specific storage use cases. [Learn more](#)

### **Block all public access**

Turning this setting on is the same as turning on all four settings below. Each of the following settings are independent of one another.

#### **Block public access to buckets and objects granted through *new* access control lists (ACLs)**

S3 will block public access permissions applied to newly added buckets or objects, and prevent the creation of new public access ACLs for existing buckets and objects. This setting doesn't change any existing permissions that allow public access to S3 resources using ACLs.

#### **Block public access to buckets and objects granted through *any* access control lists (ACLs)**

S3 will ignore all ACLs that grant public access to buckets and objects.

#### **Block public access to buckets and objects granted through *new* public bucket or access point policies**

S3 will block new bucket and access point policies that grant public access to buckets and objects. This setting doesn't change any existing policies that allow public access to S3 resources.

#### **Block public and cross-account access to buckets and objects through *any* public bucket or access point policies**

S3 will ignore public and cross-account access for buckets or access points with policies that grant public access to buckets and objects.

[Cancel](#)

[Save changes](#)

Edit the object ownership and check ACLs enabled.

## Object Ownership

Control ownership of objects written to this bucket from other AWS accounts and the use of access control lists (ACLs). Object ownership determines who can specify access to objects.

**ACLs disabled (recommended)**

All objects in this bucket are owned by this account. Access to this bucket and its objects is specified using only policies.

**ACLs enabled**

Objects in this bucket can be owned by other AWS accounts. Access to this bucket and its objects can be specified using ACLs.

**⚠️** We recommend disabling ACLs, unless you need to control access for each object individually or to have the object writer own the data they upload. Using a bucket policy instead of ACLs to share data with users outside of your account simplifies permissions management and auditing.

### Object Ownership

**Bucket owner preferred**

If new objects written to this bucket specify the bucket-owner-full-control canned ACL, they are owned by the bucket owner. Otherwise, they are owned by the object writer.

**Object writer**

The object writer remains the object owner.

**ⓘ** If you want to enforce object ownership for new objects only, your bucket policy must specify that the bucket-owner-full-control canned ACL is required for object uploads. [Learn more ↗](#)

Cancel

Save changes

## Configure Casdoor

Name	Name in Amazon	Is Required
Client ID	Access key	Required
Client secret	Secret access key	Required
Endpoint	Endpoint	Required
Endpoint (intranet)	VPC endpoint	

Name	Name in Amazon	Is Required
Bucket	Bucket name	Required
Path prefix		
Domain	CloudFront domain	
Region ID	AWS region	Required

Fill in the necessary information, including the `Client ID` and `Client Secret` obtained from the `access key` and `secret access key` in the previous step. You can refer to this documentation for information on the formatting of the `endpoint`: [Website endpoints](#)

Name <a href="#">?</a> :	awss3
Display name <a href="#">?</a> :	awss3
Organization <a href="#">?</a> :	admin (Shared)
Category <a href="#">?</a> :	Storage
Type <a href="#">?</a> :	AWS S3
Client ID <a href="#">?</a> :	AKIAYOMMXHVZC5CHBPNR
Client secret <a href="#">?</a> :	***
Endpoint <a href="#">?</a> :	<a href="http://kininaru.s3-website.ap-northeast-1.amazonaws.com">http://kininaru.s3-website.ap-northeast-1.amazonaws.com</a>
Endpoint (Intranet) <a href="#">?</a> :	
Bucket <a href="#">?</a> :	kininaru
Path prefix <a href="#">?</a> :	
Domain <a href="#">?</a> :	
Region ID <a href="#">?</a> :	ap-northeast-1
Provider URL <a href="#">?</a> :	<a href="#">🔗</a>

## (Optional) Use VPC

You can refer to the official documentation for configuration: [Access AWS services through AWS PrivateLink](#)

## (Optional) Use CloudFront distribution

Follow the document to configure CloudFront: [Configure CloudFront](#)

In the domain field, enter your distribution domain name.

Endpoint [?](#) : <http://kininaru.s3-website.ap-northeast-1.amazonaws.com>

Bucket [?](#) : kininaru

Path prefix [?](#) :

Domain [?](#) : <https://d20zlk9foisfk0.cloudfront.net>

Region ID [?](#) : ap-northeast-1

Provider URL [?](#) : [🔗](#)

# Azure Blob

**ⓘ NOTE**

This is an example of Azure Blob.

- You must have an [Azure storage](#) account.

## Step 1: Select Azure Blob

Select Azure Blob as the storage type.

Edit Provider		Save	Save & Exit
Name ⓘ :	provider_ftfzes		
Display name ⓘ :	New Provider - ftfzes		
Category ⓘ :	Storage		
Type ⓘ :	Azure Blob		
Client ID ⓘ :	Local File System		
	AWS S3		
Client secret ⓘ :	Aliyun OSS		
	Tencent Cloud COS		
Endpoint ⓘ :	Azure Blob		

## Step 2: Fill in the necessary information in Casdoor

There are four required fields: `Client ID`, `Client secret`, `Endpoint`, and `Bucket`. The corresponding relationship to the Azure Blob account is as follows:

Field Name	Azure Name	Required
Client ID	AccountName	Required
Client secret	AccountKey	Required
Endpoint	ContainerUrl	Required
Endpoint (intranet)	PrivateEndpoint	
Bucket	ContainerName	Required
Path prefix		
Domain	DomainName	

- AccountName

The **AccountName** is your AccountName.

- AccountKey

The **AccountKey** is your key to access the Azure API.

 NOTE

You can obtain your account key from the Azure Portal under the "Access Keys" section on the left-hand pane of your storage account.

The screenshot shows the 'Access keys' section of the Azure Storage account settings for 'casbin'. The left sidebar lists 'Containers', 'File shares', 'Queues', and 'Tables' under 'Data storage'; 'Networking', 'Azure CDN', and 'Access keys' under 'Security + networking'; and 'Shared access signature', 'Encryption', and 'Microsoft Defender for Cloud' under 'Data management'. The 'Access keys' section is highlighted with a red box. It displays two key pairs: 'key1' (last rotated 0 days ago) and 'key2' (last rotated 0 days ago). Each key has a 'Show' button to reveal the value. Below each key pair is a 'Connection string' input field with a 'Show' button.

Storage account name: casbin

key1 Rotate key

Last rotated: 2023/7/22 (0 days ago)

Key: [REDACTED] [Show](#)

Connection string: [REDACTED] [Show](#)

key2 Rotate key

Last rotated: 2023/7/22 (0 days ago)

Key: [REDACTED] [Show](#)

Connection string: [REDACTED] [Show](#)

- ContainerUrl

You can obtain the ContainerUrl from your container properties.

 default | Properties

Container

Search Refresh Give feedback

Overview Diagnose and solve problems Access Control (IAM)

Shared access tokens Access policy Properties Metadata

**NAME**  
default

**URL**  
`https://casbin.blob.core.windows.net/default`

**LAST MODIFIED**  
7/22/2023, 5:18:03 PM

**ETAG**  
0x8DB8A948D644055

- (Optional) PrivateEndpoint

Azure Private Endpoint is a feature that allows connecting Azure services to Azure Virtual Network (VNet) private subnets. You can refer to the official Azure documentation for configuration: [private endpoint config](#)

- ContainerName

In this example, a default container called 'default' is created.

The screenshot shows the Azure Storage account interface for 'casbin'. The left sidebar has a 'Containers' link highlighted with a red circle. The main area displays a list of containers with two entries: '\$logs' and 'default', where 'default' is also circled in red.

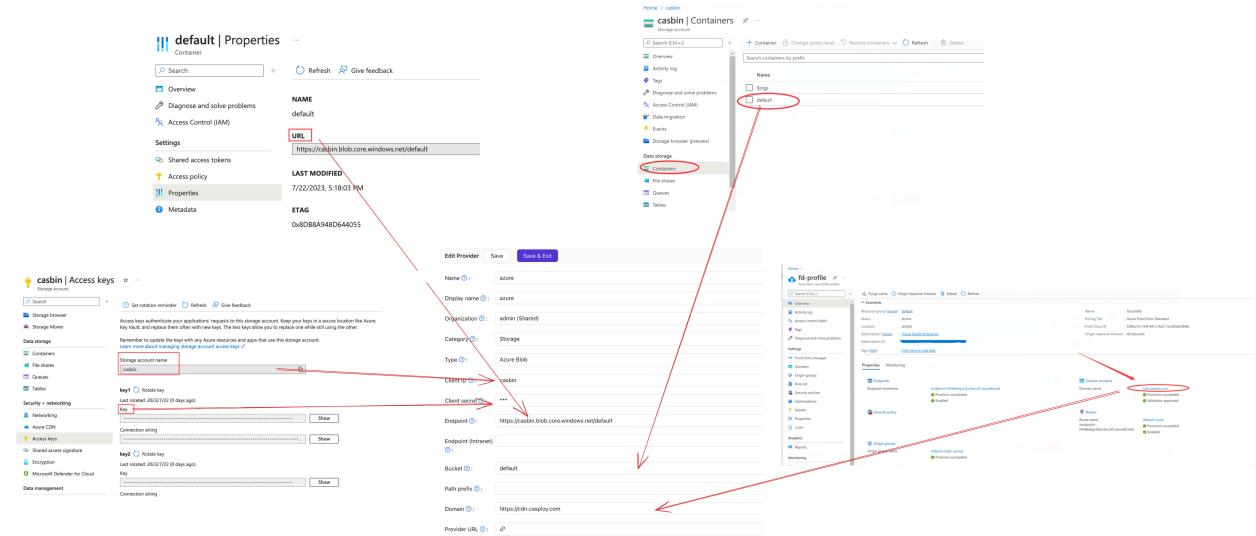
- (Optional) DomainName

The custom domain name in your Azure CDN.

The screenshot shows the Azure Front Door 'fd-profile' blade for 'fd-profile'. In the 'Custom domains' section, the domain 'cdn.casploy.com' is listed with status 'Provision succeeded' and 'Validation approved'. A red arrow points from the 'Custom domains' section in the 'fd-profile' blade to the 'Custom domains' section in the 'fd-profile' blade.

# Step 3: Save your configuration

The final result is as follows:



Now you can use Azure Blob Storage services in your application.

# MinIO

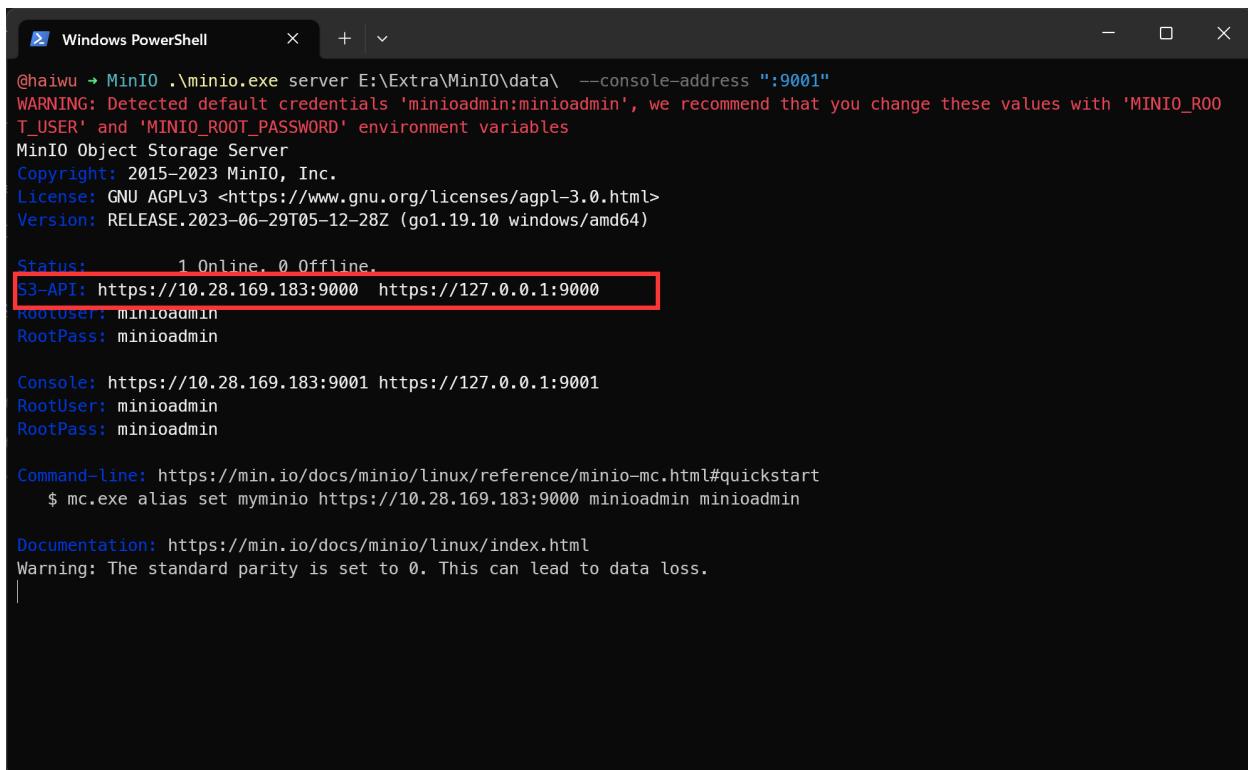
## ⓘ NOTE

This is an example of how to configure a MinIO provider.

MinIO is a high-performance object storage service that is API compatible with Amazon S3 cloud storage service.

## Step 1: Deploy the MinIO service

First, deploy the MinIO service with TLS enabled. You can obtain the [API address](#) from the console.

A screenshot of a Windows PowerShell window titled "Windows PowerShell". The command run is ".\minio.exe server E:\Extra\MinIO\data\ --console-address \"":9001\"". The output shows the MinIO Object Storage Server starting up, including copyright information (2015-2023 MinIO, Inc.), license (GNU AGPLv3), and version (RELEASE.2023-06-29T05-12-28Z). It also displays connection details: Status (1 Online, 0 Offline), S3-API (https://10.28.169.183:9000 https://127.0.0.1:9000), RootUser (minioadmin), RootPass (minioadmin), Console (https://10.28.169.183:9001 https://127.0.0.1:9001), and Command-line (https://min.io/docs/minio/linux/reference/minio-mc.html#quickstart \$ mc.exe alias set myminio https://10.28.169.183:9000 minioadmin minioadmin). A red box highlights the S3-API and RootUser/RootPass lines.

```
@haiwu ~> MinIO .\minio.exe server E:\Extra\MinIO\data\ --console-address ":"9001"
WARNING: Detected default credentials 'minioadmin:minioadmin', we recommend that you change these values with 'MINIO_ROOT_USER' and 'MINIO_ROOT_PASSWORD' environment variables
MinIO Object Storage Server
Copyright: 2015-2023 MinIO, Inc.
License: GNU AGPLv3 <https://www.gnu.org/licenses/agpl-3.0.html>
Version: RELEASE.2023-06-29T05-12-28Z (go1.19.10 windows/amd64)

Status:      1 Online, 0 Offline.
S3-API: https://10.28.169.183:9000 https://127.0.0.1:9000
RootUser: minioadmin
RootPass: minioadmin

Console: https://10.28.169.183:9001 https://127.0.0.1:9001
RootUser: minioadmin
RootPass: minioadmin

Command-line: https://min.io/docs/minio/linux/reference/minio-mc.html#quickstart
$ mc.exe alias set myminio https://10.28.169.183:9000 minioadmin minioadmin

Documentation: https://min.io/docs/minio/linux/index.html
Warning: The standard parity is set to 0. This can lead to data loss.
```

Second, create the [Access Key](#) and [Secret key](#).

**Create Access Key**

Access Key: `ulqg2f67Or9mmTnphPA`

Secret Key: `.....`

Restrict beyond user policy

You can specify an optional JSON-formatted IAM policy to further restrict Access Key access to a subset of the actions and resources explicitly allowed for the parent user. Additional access beyond that of the parent user cannot be implemented through these policies.

**Learn more about Access Keys**

**Create Access Keys**

Access Keys inherit the policies explicitly attached to the parent user, and the policies attached to each group in which the parent user has membership.

**Assign Custom Credentials**

Randomized access credentials are recommended, and provided by default. You may use your own custom Access Key and Secret Key by replacing the default values. After creation of any Access Key, you will be given the opportunity to view and download the account credentials.

Access Keys support programmatic access by applications. You cannot use a Access Key to log into the MinIO Console.

**Assign Access Policies**

You can specify an optional JSON-formatted IAM policy to further restrict Access Key access to a subset of the actions and resources explicitly allowed for the parent user. Additional access beyond that of the parent user cannot be implemented through these policies.

You cannot modify the optional Access Key IAM policy after saving.

Third, create the Bucket.

**Create Bucket**

Bucket Name\*: `casdoor`

View Bucket Naming Rules

**Features**

Versioning	<input type="checkbox"/> OFF	<input checked="" type="checkbox"/> ON
Object Locking	<input type="checkbox"/> OFF	<input checked="" type="checkbox"/> ON
Quota	<input type="checkbox"/> OFF	<input checked="" type="checkbox"/> ON

**Buckets**

MinIO uses buckets to organize objects. A bucket is similar to a folder or directory in a filesystem, where each bucket can hold an arbitrary number of objects.

**Versioning** allows to keep multiple versions of the same object under the same key.

**Object Locking** prevents objects from being deleted. Required to support retention and legal hold. Can only be enabled at bucket creation.

**Quota** limits the amount of data in the bucket.

**Retention** imposes rules to prevent object deletion for a period of time. Versioning must be enabled in order to set bucket retention policies.

## Step 2: Create a MinIO provider in Casdoor

Now create a MinIO provider in Casdoor. Fill in the necessary information.

Name	Name in MinIO
Category	choose Storage
Type	choose MinIO
Client ID	Access Key obtained from Step 1
Client secret	Secret Key obtained from Step 1
Endpoint	API address obtained from Step 1
Bucket	Bucket obtained from Step 1

The screenshot shows the Casdoor configuration interface for setting up a provider. The provider is named 'minio'.

- Provider Configuration:**
  - Name: minio
  - Display name: minio
  - Organization: admin (Shared)
  - Category: Storage
  - Type: MinIO
  - Client ID: ulqg2f67Or9mmTnphPA
  - Client secret: \*\*\*
  - Endpoint: http://10.28.169.183:9000
  - Bucket: casdoor
  - Path prefix:
  - Provider URL:
- Create Access Key:**
  - Access Key: ulqg2f67Or9mmTnphPA
  - Secret Key: (redacted)
  - Bucket beyond user policy: OFF
- Buckets:**
  - Create Bucket: casdoor
  - Features: Versioning, ObjectLocking, Quota
  - Retention: Retention policies rule to prevent object deletion for a period of time. Versioning must be enabled in order to set bucket retention policies.
- Windows PowerShell:**

```
minio - MinIO Version: v1.14.0 (commit: e7e5a5d)
WARNING: Detected default credentials 'minionominion', we recommend that you change these values with 'MINIO_ROOT_USER' and 'MINIO_ROOT_PASSWORD' environment variables
MinIO object storage system
Copyright 2015-2023 MinIO, Inc.
License: GNU AGPLv3 <https://www.gnu.org/licenses/agpl-3.0.html>
Version: RHEL-5.10-2023-06-20-22-28 (ppc64le windows/amd64)

[1]: https://10.28.169.183:9000 https://127.0.0.1:9000
[2]: https://10.28.169.183:9000 https://127.0.0.1:9000
[3]: https://10.28.169.183:9000 https://127.0.0.1:9000
[4]: https://10.28.169.183:9000 https://127.0.0.1:9000
[5]: mc.exe alias set myminio https://10.28.169.183:9000 minioadmin minioadmin
[6]: https://mc.exe/docs/minio/linux/index.html
Warning: The standard parity is set to 0. This can lead to data loss.
```

## Step 3: Use MinIO storage service in your application

Now you can use the MinIO storage service in your application.

# Aliyun OSS

**ⓘ NOTE**

This is an example of Aliyun OSS.

The AccessKey is your key to access Aliyun API with full account permissions.

To create an AccessKey, follow the instructions in the [Aliyun workbench](#).

Next, create the OSS service:

The screenshot shows the 'Create Bucket' page. At the top right are a help icon, a 'Create Storage Space' button, and a close button. Below the title, a yellow banner displays a warning: '注意: Bucket 创建成功后, 您所选择的 存储类型、区域、存储冗余类型 不支持变更。' (Note: After creating the bucket successfully, the storage type, region, and redundancy type you selected cannot be changed.)

The form fields are as follows:

- Bucket 名称:** mycasdoor (with a green checkmark and '9/63' text)
- 地域:** 华北2 (北京) (with a dropdown arrow)
- Endpoint:** oss-cn-beijing.aliyuncs.com

A note below the region field states: '相同区域内的产品内网可以互通; 订购后不支持更换区域, 请谨慎选择。' (Products within the same region can communicate via internal network; after purchase, the region cannot be changed, please choose carefully.)

Fill in the necessary information in Casdoor and save:

Name <a href="#">?</a> :	provider_storage_aliyun_oss
Display name <a href="#">?</a> :	Storage Aliyun OSS
Category <a href="#">?</a> :	Storage
Type <a href="#">?</a> :	Aliyun OSS
Client ID <a href="#">?</a>	LTAIxFoNpNAnPoiT
Client secret <a href="#">?</a>	***
Endpoint <a href="#">?</a> :	oss-cn-beijing.aliyuncs.com
Endpoint (Intranet) <a href="#">?</a> :	oss-cn-beijing-internal.aliyuncs.com
Bucket <a href="#">?</a> :	casbin
Domain <a href="#">?</a> :	<a href="https://cdn.casbin.com/casdoor/">https://cdn.casbin.com/casdoor/</a>
Provider URL <a href="#">?</a> :	<a href="https://oss.console.aliyun.com/bucket/oss-cn-beijing/casbin/object">https://oss.console.aliyun.com/bucket/oss-cn-beijing/casbin/object</a>

You can now use Aliyun cloud storage services in your application.

# Tencent Cloud COS

 NOTE

This is an example of Tencent Cloud COS.

## Fill in the necessary information in Casdoor

There are five required fields: `Client ID`, `Client secret`, `Endpoint`, `Bucket`, and `Region ID`. The corresponding relationship to the Tencent Cloud COS account is as follows:

Name	Name in Tencent	Required
Client ID	SecretId	Yes
Client secret	SecretKey	Yes
Endpoint	Endpoint	Yes
Bucket	BucketName	Yes
Path prefix		
Domain	CDNDomain	
Region ID	Region	Yes

## Tencent Cloud COS information

- SecretId and SecretKey

The screenshot shows the Tencent Cloud API Key Management interface. On the left sidebar, 'API 密钥管理' (API Key Management) is selected. The main area displays a table with one row of data:

APPID	密钥	创建时间	最近访问时间	状态
1319606438	<div style="border: 1px solid red; padding: 2px;">SecretId: AKIDdAlMuNrJn8GHI6mLi6NSWbheNr7MViec</div> <div style="border: 1px solid red; padding: 2px;">SecretKey: ***** 显示</div>	2023-07-22 19:01:...	2023-07-22 22:09	已启用

- Endpoint, BucketName, and Region

The screenshot shows the Tencent Cloud Bucket Overview page for the bucket 'casdoor-1319606438'. The left sidebar has '概览' (Overview) selected. The main area includes sections for '用量概览' (Usage Overview), '基本信息' (Basic Information), and '域名信息' (Domain Name Information). The '基本信息' section shows the storage bucket details:

存储桶名称	casdoor-1319606438 (存储桶不支持改名)
所属地域	广州 (中国) (ap-guangzhou)
创建时间	2023-07-22 18:57:50
访问权限	私有读写

The '域名信息' section shows the domain configuration:

访问域名	https://casdoor-1319606438.cos.ap-guangzhou.myqcloud.com
自定义CDN加速域名	0条
自定义源站域名	0条
全球加速域名	未开启
静态网站域名	未开启

- (Optional) CDNDomain

You can refer to the official documentation for configuration: [Config CDN](#)

## Configure Casdoor provider

The screenshot shows two overlapping interfaces. The top interface is the 'API密钥管理' (API Key Management) in the Tencent Cloud console, displaying an access key with a secret key. The bottom interface is the 'Casdoor provider' configuration page in the Casdoor UI, showing fields like Name, Display name, Organization, Category, Type, Client ID, Client secret, Endpoint, Bucket, Path prefix, Domain, Region ID, and Provider URL.

Red arrows point from specific fields in the Casdoor provider configuration to their corresponding values in the API Key Management interface:

- Client ID: Points to the 'Secret AKIDAMuJn8GH8mLjNSWbheN7Mveic' field in the API Key Management interface.
- Client secret: Points to the 'SecretKey' field in the API Key Management interface.
- Endpoint: Points to the 'Endpoint casdoor-1319606438.cos.ap-guangzhou.myqcloud.com' field in the Casdoor provider configuration.
- Bucket: Points to the 'Bucket casdoor-1319606438' field in the Casdoor provider configuration.
- Region ID: Points to the 'Region ID ap-guangzhou' field in the Casdoor provider configuration.

# SAML

## Overview

Using identities from external identity providers that support SAML 2.0

## Aliyun IDaaS

Using Aliyun IDaaS to authenticate users

## Keycloak

Using Keycloak to authenticate users

# Overview

Casdoor can be configured to support user login to the UI using identities from external identity providers that support SAML 2.0. In this configuration, Casdoor never stores any credentials for the users.

Now, Casdoor supports multiple SAML application providers. Icons of the providers will be displayed on the login page after being added to Casdoor. Here are the providers that Casdoor supports:

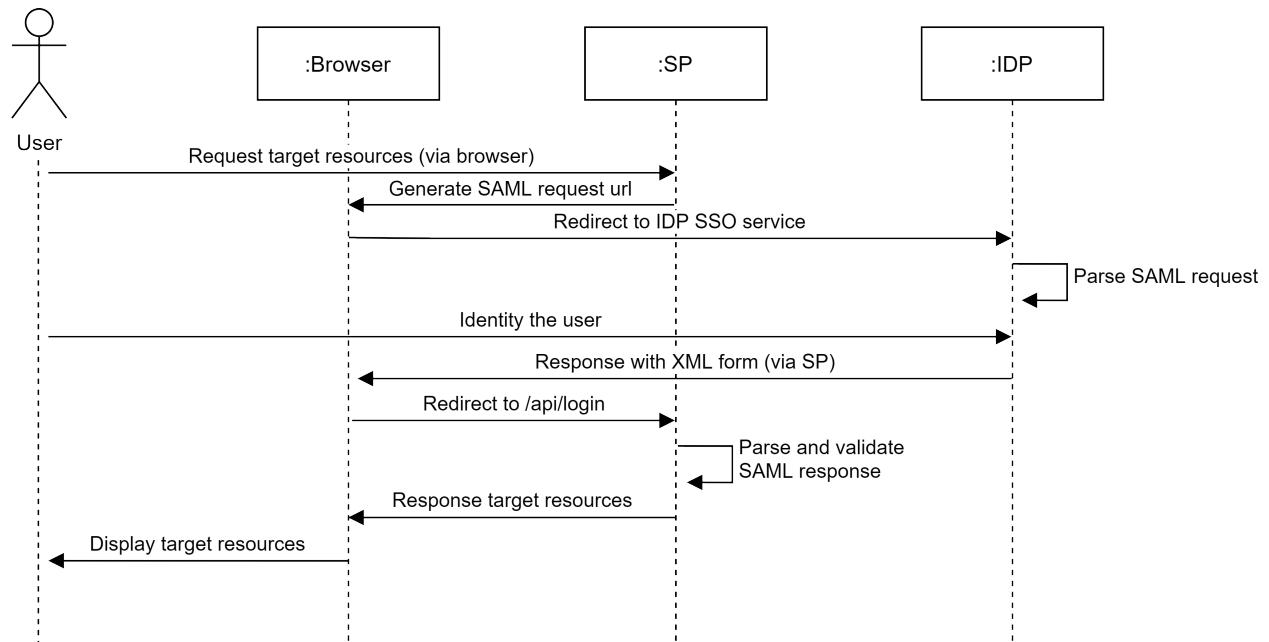
Aliyun IDaaS	Keycloak
	
	

## Terms

- Identity Provider (IDP) - The service that stores the identity database and provides identity and authentication services to Casdoor.
- Service Provider (SP) - The service that provides resources to the end user, in this case, the Casdoor deployment.
- Assertion Consumer Service (ACS) - The consumer of SAML assertions generated by the Identity Provider.

# How SAML integration works

When using SAML SSO, users log into Casdoor via the identity provider without ever passing credentials to Casdoor. The process is shown in the following diagram.



# Aliyun IDaaS

## Create SAML application in Aliyun IDaaS

Login to the [Aliyun management console](#), search and go to the Application Identity Service (IDentity-as-a-Service, IDaaS).

The screenshot shows the Aliyun Management Console interface. The left sidebar has a '应用身份管理' section with a '概览页' tab selected. The main content area displays the '概览页' (Overview Page) for the Application Identity Service. It features a summary table comparing EIAM (Employee Identity & Access Management) and CIAM (Customer Identity & Access Management System). The table highlights features like '独立集群部署, 支持灵活扩容' (Independent cluster deployment, supports flexible scaling) for EIAM and '适合定制化场景, 针对使用场景提供定制化方案' (Suitable for customized scenarios, provides customized solutions for usage scenarios) for CIAM. A QR code for '阿里云售后' (Aliyun After-sales) is also present.

Click EIAM Instance List and open the free version.

The screenshot shows the 'EIAM 实例列表' (EIAM Instance List) page. The left sidebar has a 'EIAM 实例列表' tab selected. The main content area displays a table with columns: 实例ID/名称, 标准版实例ID, 状态 (全部), 规格授权, 最大用户数, 到期时间, 产品版本, 用户登录页地址, 实例开放接口域名, and 操作. A red box highlights the '开通免费版' (Launch Free Edition) button in the top right corner. Below the table, it says '没有相关实例' (No related instances).

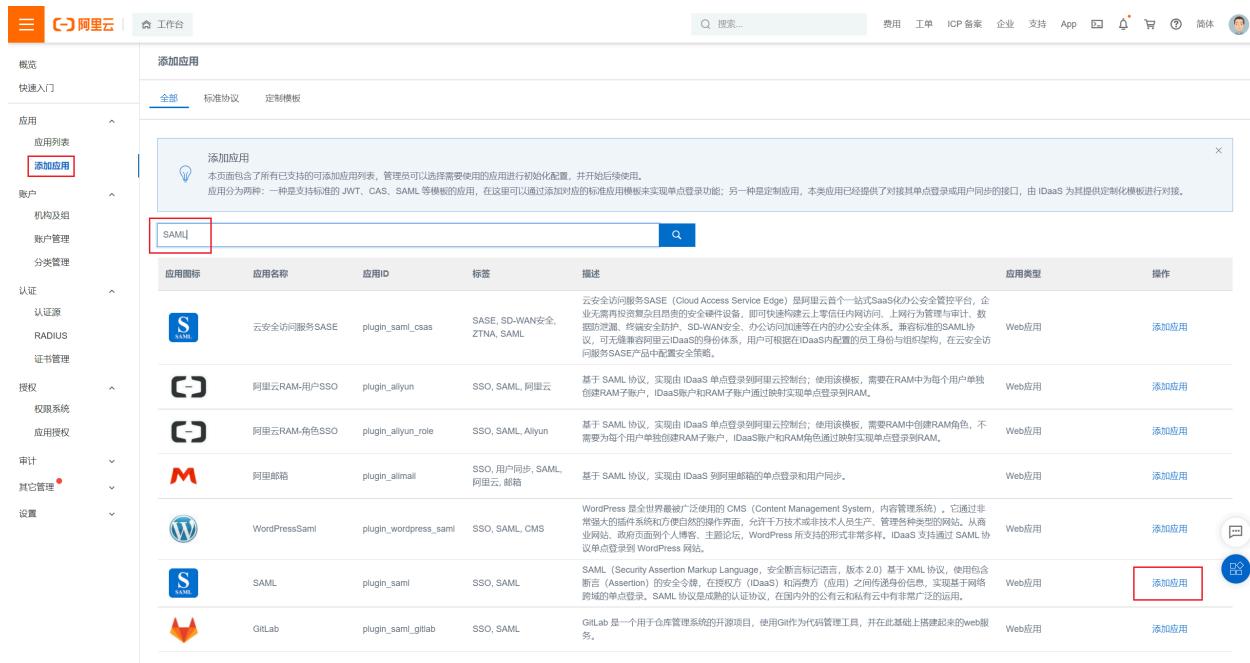
An instance will be created and run automatically after opening. Click on the

instance name or the Manage button to enter the IDaaS management console.



The screenshot shows the 'EIAM 实例列表' (EIAM Instance List) page. On the left, there's a sidebar with '应用身份管理' (Application Identity Management), '概览页' (Overview Page), and 'EIAM 实例列表' (EIAM Instance List). Under 'EIAM 实例列表', there are sections for 'CIAM 实例列表' (CIAM Instance List), '安全认证' (Security Authentication), '产品文档' (Product Documentation), '联系我们' (Contact Us), and '专家服务' (Expert Services). The main content area displays a table for 'EIAM 实例列表'. A row for 'idaas-cn-shanghai' is selected, showing details like '状态 (全部)' (Status All), '规格授权' (Specification Authorization), '最大用户数' (Max User Count), '到期时间' (Expiration Time), '产品版本' (Product Version), '用户登录页地址' (User Login Page Address), and '实例开放接口域名' (Instance Open Interface Domain Name). The '操作' (Operation) column contains a '管理' (Manage) link, which is highlighted with a red box. At the bottom right of the table, there are navigation buttons: '< 上一页' (Previous Page), '1' (Page 1), and '下一页 >' (Next Page).

After entering the IDaaS management console, click Add Application, search for SAML, and click Add Application.



The screenshot shows the '添加应用' (Add Application) page. On the left, there's a sidebar with '概览' (Overview), '快速入门' (Quick Start), '应用' (Application), '应用列表' (Application List), '添加应用' (Add Application) (which is highlighted with a red box), '账户' (Account), '机构及组' (Organizations and Groups), '账户管理' (Account Management), '分类管理' (Category Management), '认证' (Authentication), '认证源' (Authentication Sources), 'RADIUS', '证书管理' (Certificate Management), '授权' (Authorization), '权限系统' (Permission System), '应用授权' (Application Authorization), '审计' (Audit), '其它管理' (Other Management), and '设置' (Settings). The main content area has tabs for '全部' (All), '标准协议' (Standard Protocols), and '定制模板' (Custom Templates). A search bar at the top has 'SAML' entered. Below it, a table lists various applications. The columns include '应用图标' (Application Icon), '应用名称' (Application Name), '应用ID' (Application ID), '标签' (Tags), '描述' (Description), '应用类型' (Application Type), and '操作' (Operation). One row for 'SAML' is highlighted with a red box. The '操作' column for this row contains a '添加应用' (Add Application) link, which is also highlighted with a red box. Other rows include '云安全访问服务SASE', '阿里云RAM-用户SSO', '阿里云RAM-角色SSO', '阿里邮箱', 'WordPressSaml', 'SAML', and 'GitLab'.

Click Add SigningKey.

## 添加应用 (SAML)

×

导入SigningKey	添加SigningKey				
别名	序列号	有效期	秘钥算法	算法长度	操作
暂无数据					

Fill in all required information and submit.

## 添加SigningKey

×

* 名称	CASDOOR-TEST
部门名称	请输入部门名称
公司名称	请输入公司名称
* 国家	CN
* 省份	Beijing
城市	请输入城市
* 证书长度	1024
* 有效期	3 年
<button>提交</button>	<button>取消</button>

Select the added SigningKey.

## 添加应用 (SAML)

×

操作					
别名	序列号	有效期	秘钥算法	算法长度	
CN=CASDOOR-TEST, ST=Beijing, C=CN	3322747020095790430	1095	RSA	1024	<button>选择</button> <button>导出</button>

Fill in all the required information below and submit.

- IDP IdentityId: Keep the same as Issuer URL in Casdoor.
- SP Entity ID & SP ACS URL(SSO Location): Now fill in whatever you want. After completing the configuration of Casdoor, you need to come to modify.
- Assertion Attribute: Directly fill in as username.
- Account Association Mode: Account Association

## 添加应用 (SAML)

X

图片大小不超过1MB

应用ID

idaas-cn-shanghai-pvl0hq0ojppugin\_saml

\* 应用名称

CASDOOR-SAML

\* IDP IdentityId

CASDOOR

IDP IdentityId is required

\* SP Entity ID

http://localhost

SP Entity ID is required

\* SP ACS URL(SSO Location)

http://localhost

\* NameIdFormat

urn:oasis:names:tc:SAML:2.0:nameid-format:transient

v

\* Binding

POST

v

SP 登出地址

请输入 SP 登出地址

Assertion Attribute

username

应用子账户

v



断言属性。设值后，会将值放入SAML断言中。名称为自定义名称，值为账户的属性值。

Sign Assertion



IDaaS发起登录地址

IDaaS发起登录地址

以 http://、https:// 开头，填写后使用 IDaaS 发起登录将会跳转到该地址，而不会使用 SAML 的idp发起登录流程

\* 账户关联方式

账户关联 (系统按主子账户对应关系进行手动关联，用户添加后需要管理员审批)

账户映射 (系统自动将主账户名称或指定的字段映射为应用的子账户)

# Account authorization & association

After the application is successfully added, an authorization prompt will pop up.  
Do not authorize it now, add an account and then authorize it.

Go to Organizations and Groups and click on New Account.

The screenshot shows the Alibaba Cloud Organization Structure Management interface. On the left sidebar, under the '账户' (Account) category, the '机构及组' (Organizational Units and Groups) option is selected and highlighted with a red box. In the main content area, there is a large callout box titled '机构及组' (Organizational Units and Groups) with the following text:  
管理员在当前页面对组织架构、部门及其包含的组、账户进行管理，也可以使用AD、LDAP或Excel文件的方式配置导入或同步。  
在左侧的组织架构树中，可以右键点击某个部门对其进行操作，也可以左键选择某个部门，并在右侧为其进行创建账户、创建组、创建部门等操作。  
Below this, there is a section titled '组织架构' (Organizational Structure) with a sub-section '查看详情' (View Details). A red box highlights the '新增账户' (Add New Account) button. To the right, there is a search bar and a table listing accounts. The table has columns: 编号 (Number), 账户名称 (Account Name), 显示名称 (Display Name), 类型 (Type), 目录 (Directory), and 操作 (Operations). One account is listed: idaas\_manager (显示名称: 默认管理员, 类型: 自建账户, 目录: /). At the bottom of the page, there are pagination controls and a footer.

Fill in all required information and submit.

## 新建账户

X

账户属性

扩展属性

父级组

父级

阿里云IDaaS

\* 账户名称

casdoor

账户名称不能以特殊字符开始，可包含大写字母、小写字母、数字、中划线(-)、下划线(\_)、点(.)，长度至少 4 位

\* 显示名称

casdoor

\* 密码

\*\*\*\*\*

密码中必须包含大小写字母+数字+特殊字符的组合;长度至少 10 位，密码不能包含"<"和">"。

邮箱

请输入有效的邮箱地址

手机号或邮箱至少填写一个。

手机号

+86 ▾ 151 123456789

手机号或邮箱至少填写一个。

外部ID

外部ID

IDaaS 平台中的唯一身份标识, 若不填将由系统自动生成。

过期时间

过期时间

不填将使用系统默认过期时间 2116-12-31

备注

备注

用户备注信息

提交

取消

Go to Application Authorization, select the accounts you want to authorize and click Save.

The screenshot shows the 'Application Authorization' section of the Alibaba Cloud Management Console. On the left sidebar, under the 'Authorization' category, 'Application Authorization' is highlighted with a red box. The main panel displays a table of accounts associated with the application 'CASDOOR-SAML'. One account, 'casdoor', is selected and highlighted with a red box. A large blue 'Save' button is at the bottom of the table.

Go to the Application List, click View application sub-accounts, and then click Add account association.

The screenshot shows the 'Application List' section of the Alibaba Cloud Management Console. On the left sidebar, 'Application List' is highlighted with a red box. The main panel displays detailed information for the application 'CASDOOR-SAML'. In the 'Operations' column for this application, there is a 'Details' link which is also highlighted with a red box.

The screenshot shows the Alibaba Cloud application management interface. On the left, there's a sidebar with categories like Application Catalog, Add Application, Accounts, Institutions & Groups, Account Management, Classification Management, Authentication, Authentication Sources, RADIUS, Certificate Management, Authorization, System Authorization, and Application Authorization. The main area has tabs for Application Catalog and Accounts. A modal window titled 'Add Account Association' is open, with a red box highlighting the 'Add Account Association' button. The modal contains information about sub-accounts and examples of how they relate to the main account.

Fill in the primary and sub accounts that need to be associated and click Save.

The primary account exists in IDaaS, and the sub account is the ID of the user in Casdoor.

This screenshot shows the 'Add Account Association' dialog box. It has two input fields: one for the primary account ('Primary Account') containing 'casdoor' and another for the secondary account ('Sub Account') containing '52908237-fa4c-4681-b636-a6afce22fb2e'. At the bottom are two buttons: a blue 'Save' button and a white 'Cancel' button.

## Export IDaaS Metadata

Go to the Application List, click View Application Details and click Export IDaaS SAML Metadada.

The screenshot shows the Aliyun Idaas application management interface. On the left, there is a sidebar with various management categories like Application, Account, Authentication, and Audit. The main area is titled "应用列表" (Application List) and shows a table with columns: 应用图标 (Application Icon), 应用名称 (Application Name), and 应用ID (Application ID). One row is selected, showing the icon for CASDOOR-SAML, the name CASDOOR-SAML, and the ID idaas-cn-shanghai-[redacted]\_saml. To the right, a detailed view for "应用详情 (CASDOOR-SAML)" is displayed, containing tabs for "图标" (Icon), "应用信息" (Application Information), and "认证信息" (Authentication Information). The "认证信息" tab is active, showing fields like SigningKey, NameIdFormat, SP ACS URL, and Binding. A red box highlights the "IDP IdentityId" field which contains "CASDOOR". Below this, there is a link "导出 IDaaS SAML 元配置文件" (Export IDaaS SAML Metadata Configuration File).

# Configure in Casdoor

Create a new provider in Casdoor.

Select category as **SAML**, type as **Aliyun Idaas**. Copy the content of metadata and paste it to the **Metadata** input. The values of **Endpoint**, **IdP** and **Issuer URL** will be generated automatically after clicking the **Parse** button.

Name ⓘ :	casdoor-idaas	
Display name ⓘ :	casdoor-idaas	
Category ⓘ :	SAML	
Type ⓘ :	Aliyun IDaaS	
Client ID ⓘ :		
Client secret ⓘ :		
Metadata ⓘ :	<pre>&lt;md:SingleSignOnService binding="urn:oasis:names:tc:SAML:2.0:bindings:HTTP-POST" location="https://aliyunidaas.com/charon/api/applications/plugin_idaas/strategies/login_saml/sp_sso_post"/&gt; &lt;/md:IDPSSODescriptor&gt; &lt;/md:EntityDescriptor&gt;</pre>	
<input style="margin-right: 10px;" type="button" value="Parse"/> <span style="color: green;">Success</span>		
Endpoint ⓘ :	<a href="https://dvmoykbkx.login.aliyundaas.com/enduser/api/application/plugin_saml/idaas-cn-shanghai">https://dvmoykbkx.login.aliyundaas.com/enduser/api/application/plugin_saml/idaas-cn-shanghai</a>	
IdP ⓘ :	MIIByzCAVcBgAwIBAgIILhzEz2NMHV4wDQYJKoZIhvNAQEFBQAwNjELMAkGA1UEBhMCQ04xEDAOBgNVBAgTBoJlaWppbmcxFTATBgNVBAMTDENBU0RPTIItVEVTVDaeFw0yMTEyMDkwNzEyMTFaFw0yNDEyMDgwNzEyMTFaMDYxCzAJE	
Issuer URL ⓘ :	CASDOOR	
SP ACS URL ⓘ :	<a href="http://localhost:8000/api/acs">http://localhost:8000/api/acs</a>	<input type="button" value="Copy"/>
SP Entity ID ⓘ :	<a href="http://localhost:8000/api/acs">http://localhost:8000/api/acs</a>	<input type="button" value="Copy"/>
Provider URL ⓘ :	<a href="https://github.com/organizations/xxx/settings/applications/1234567">https://github.com/organizations/xxx/settings/applications/1234567</a>	

Copy the SP ACS URL and the SP Entity ID and click the Save button.

Edit the application you want to configure in Casdoor. Select the provider just added and click the button **Save**.

Providers	<a href="#">Providers</a>	<a href="#">Add</a>
Name	Category	Type
casdoor-idaas	SAML	<a href="#">canSignUp</a>

# Modify SAML application in Aliyun IDaaS

Disable the application and then click **Modify Application**.

The screenshot shows the Alibaba Cloud Application Management interface. On the left, there's a sidebar with categories like Application, Account, Authentication, Authorization, Audit, and Settings. The main area is titled 'Application List' and contains a table with columns: Application Icon, Application Name, Application ID, Device Type, Status, Two-factor Authentication Status, and Operations. One row in the table is highlighted with a red border around its status column. The table also includes sections for Application Information, Authentication Information, Account Information - Sync, Account Information - Sub-account, Authorization Information, Audit Information, API, and Internal Authorization Management. At the bottom, there are pagination controls showing 1 page of 1 item.

Fill in SP Entity ID and SP ACS URL(SSO Location) with the content copied in Casdoor. Submit and enable application.

## 修改应用 (CASDOOR-SAML)

×

图标



上传文件

图片大小不超过1MB

应用ID

idaas-cn-shanghai-...\\login\_saml

\* 应用名称

CASDOOR-SAML

\* IDP IdentityId

CASDOOR

IDP IdentityId is required

\* SP Entity ID

http://localhost:8000/api/acs

SP Entity ID is required

\* SP ACS URL(SSO Location)

http://localhost:8000/api/acs

\* NameIdFormat

urn:oasis:names:tc:SAML:2.0:nameid-format:transient

\* Binding

POST

SP 登出地址

请输入SP 登出地址

Assertion Attribute

username

应用子账户



断言属性。设值后，会将值放入SAML断言中。名称为自定义名称，值为账户的属性值。

Sign Assertion



IDaaS发起登录地址

IDaaS发起登录地址

以 http://、https://开头，填写后使用 IDaaS 发起登录将会跳转到该地址，而不会使用 SAML 的idp发起登录流程

## Validate the effect

Go to the application you just configured and you can find that there is an icon in the login page.

Click the icon and jump to the Aliyun IDaaS login page, and then successfully login to the Casdoor after authentication.



---

username, Email or phone

Password

Auto sign in      [Forgot password?](#)

[Sign In](#)

[Sign in with code](#)    No account? [sign up now](#)

A row of social media icons for GitHub, LinkedIn, and others.

---

# Keycloak

The JBoss [Keycloak](#) system is a widely used and open-source identity management system that supports integration with applications via SAML and OpenID Connect. It can also operate as an identity broker between other providers such as LDAP or other SAML providers and applications that support SAML or OpenID Connect.

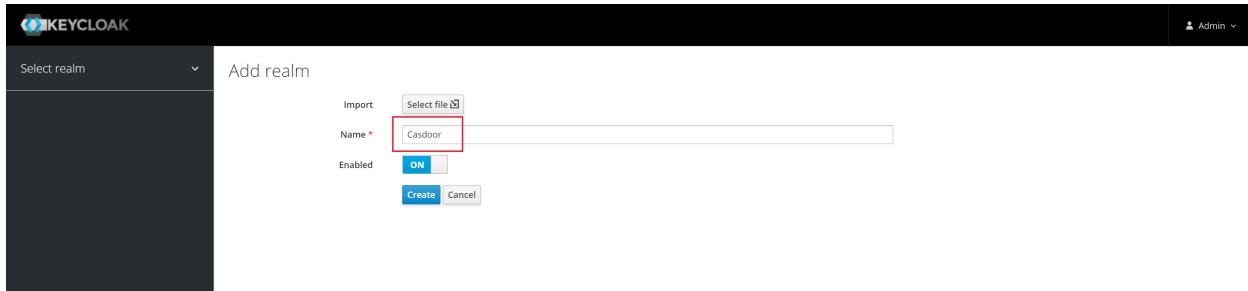
Here is an example of how to configure a new client entry in Keycloak and configure Casdoor to use it to allow UI login by Keycloak users who are granted access via Keycloak configuration.

## Configure Keycloak

For this example, let's make the following configuration choices and assumptions:

- Assume that you are running Casdoor in dev mode locally. The Casdoor UI is available at `http://localhost:7001` and the server is available at `http://localhost:8000`. Replace with the appropriate URL as needed.
- Assume that you are running Keycloak locally. The Keycloak UI is available at `http://localhost:8080/auth`.
- Based on that, the SP ACS URL for this deployment will be:  
`http://localhost:8000/api/acs`.
- Our SP Entity ID will use the same URL: `http://localhost:8000/api/acs`.

You can use the default realm or create a new realm.



## Add a client entry in Keycloak

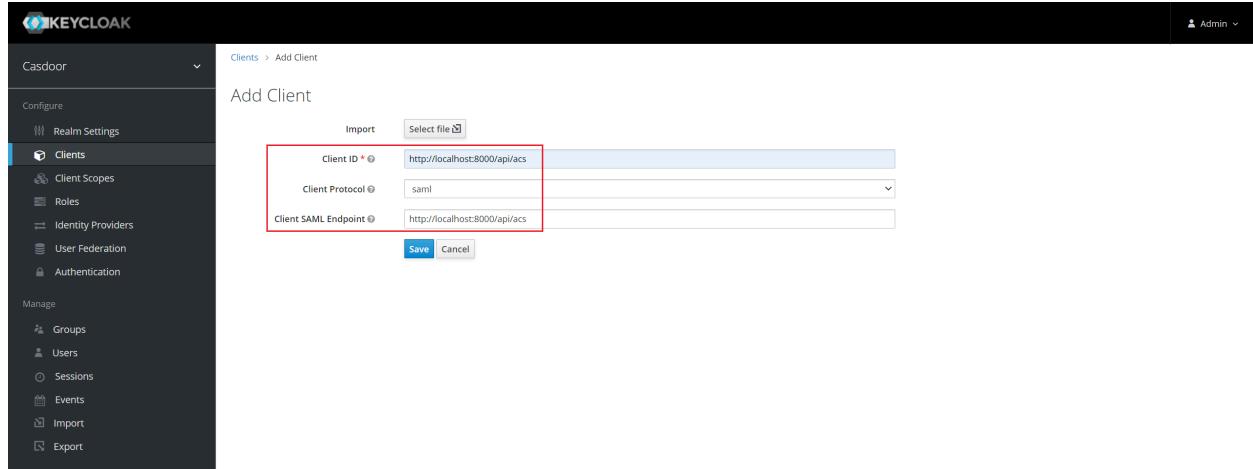
### INFO

For more details about Keycloak Clients, refer to the [Keycloak documentation](#).

Click Clients in the menu and then click Create to go to the Add Client page. Fill in the fields as follows:

- **Client ID:** `http://localhost:8000/api/acs` - This will be the SP Entity ID used in the Casdoor configuration later.
- **Client Protocol:** `saml`.
- **Client SAML Endpoint:** `http://localhost:8000/api/acs` - This URL is where

you want the Keycloak server to send SAML requests and responses. Generally, applications have one URL for processing SAML requests. Multiple URLs can be set in the Settings tab of the client.



The screenshot shows the Keycloak administration interface. On the left, a sidebar menu is open with 'Clients' selected. The main area is titled 'Add Client'. A red box highlights the input fields for 'Client ID' (set to 'http://localhost:8000/api/acs'), 'Client Protocol' (set to 'saml'), and 'Client SAML Endpoint' (set to 'http://localhost:8000/api/acs'). Below these fields are 'Save' and 'Cancel' buttons.

Click Save. This action creates the client and brings you to the Settings tab.

The following are part of the settings:

1. Name - Casdoor. This is only used to display a friendly name to Keycloak users in the Keycloak UI. You can use any name you prefer.
2. Enabled - Select on.
3. Include Authn Statement - Select on.
4. Sign Documents - Select on.
5. Sign Assertions - Select off.
6. Encrypt Assertions - Select off.
7. Client Signature Required - Select off.
8. Force Name ID Format - Select on.
9. Name ID Format - Select username.
10. Valid Redirect URIs - Add http://localhost:8000/api/acs.
11. Master SAML Processing URL - http://localhost:8000/api/acs.

## 12. Fine Grain SAML Endpoint Configuration

- i. Assertion Consumer Service POST Binding URL -

`http://localhost:8000/api/acs.`

- ii. Assertion Consumer Service Redirect Binding URL -

`http://localhost:8000/api/acs.`

Save the configuration.

KEYCLOAK Admin

Clients > http://localhost:8000/api/acs

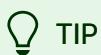
**Http://localhost:8000/api/acs**

Configure Realm Settings Clients

**Settings** Roles Client Scopes Mappers Scope Sessions Offline Access Clustering Installation

Client ID: http://localhost:8000/api/acs  
 Name: Casdoor  
 Description:  
 Enabled: ON  
 Always Display in Console: OFF  
 Consent Required: OFF  
 Login Theme:  
 Client Protocol: saml  
 Include AuthnStatement: ON  
 Include OneTimeUse Condition: OFF  
 Force Artifact Binding: OFF  
 Sign Documents: ON  
 Optimize REDIRECT signing key lookup: OFF  
 Sign Assertions: OFF  
 Signature Algorithm: RSA\_SHA256  
 SAML Signature Key Name: KEY\_ID  
 Canonicalization Method: EXCLUSIVE  
 Encrypt Assertions: OFF  
 Client Signature Required: OFF  
 Force POST Binding: OFF  
 Front Channel Logout: ON  
 Force Name ID Format: ON  
 Name ID Format: username  
 Root URL:  
 Valid Redirect URIs: http://localhost:8000/api/acs  
 Base URL:  
 Master SAML Processing URL: http://localhost:8000/api/acs  
 IDP Initiated SSO URL Name:  
 IDP Initiated SSO Relay State:  
**Fine Grain SAML Endpoint Configuration**  
 Assertion Consumer Service POST Binding URL: http://localhost:8000/api/acs  
 Assertion Consumer Service Redirect Binding URL: http://localhost:8000/api/acs  
 Logout Service POST Binding URL:  
 Logout Service Redirect Binding URL:  
 Logout Service ARTIFACT Binding URL:  
 Artifact Binding URL:  
 Artifact Resolution Service:  
**Advanced Settings**  
**Authentication Flow Overrides**

Save Cancel



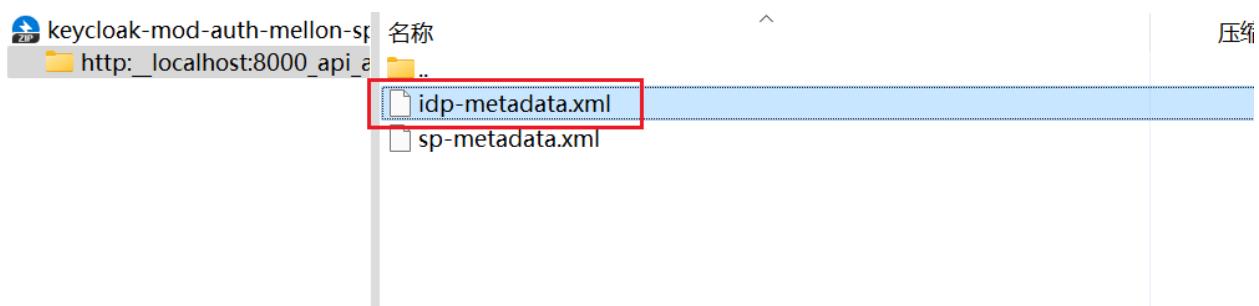
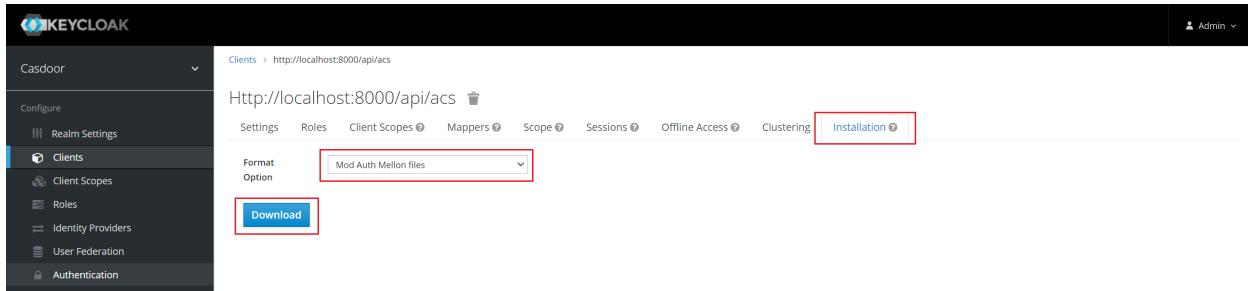
TIP

If you want to sign the authn request, you need to enable the **Client Signature Required** option and upload the certificate generated by yourself. The private key and certificate used in Casdoor, `token_jwt_key.key` and `token_jwt_key.pem`, are located in the `object` directory. In Keycloak, you need to click the **Keys** tab, click the **Import** button, select **Archive Format** as **Certificate PEM**, and upload the certificate.

Click **Installation** tab.

For Keycloak <= 5.0.0, select Format Option - **SAML Metadata IDPSSODescriptor** and copy the metadata.

For Keycloak 6.0.0+, select Format Option - **Mod Auth Mellon files** and click **Download**. Unzip the downloaded.zip, locate `idp-metadata.xml`, and copy the metadata.



# Configure in Casdoor

Create a new provider in Casdoor.

Select category as SAML, type as Keycloak. Copy the content of metadata and paste it into the Metadata field. The values of Endpoint, IdP, and Issuer URL will be generated automatically after clicking the Parse button. Finally, click the Save button.



TIP

If you enable the Client Signature Required option in Keycloak and upload the certificate, please enable the Sign request option in Casdoor.

The screenshot shows the Casdoor provider configuration interface for a SAML provider. The provider is named 'keycloak-casdoor' and its display name is also 'keycloak-casdoor'. The category is set to 'SAML' and the type is 'Keycloak'. The 'Sign request' option is enabled. The 'Metadata' field contains a large block of XML code representing the SAML 2.0 assertion. Below the XML, there is a 'Parse' button. The 'Endpoint' field is set to 'http://localhost:8080/auth/realm/casdoor/protocol/saml'. The 'IdP' field contains a long URL starting with 'MIICnTCCAYUCBgF9pAmxSDANBgkqhkiG9w0BAQsFADASMRawDgYDVQQDDAdjYXNkb29yMB4XDtxMTIxMDExMDg1OFoXDTMxMTIxMDExMTAxOFowEjEQMA4GA1UEAwwHY2FzZG9vccCA5IwDQYJKoZIhvcNAQEBBQADggEPADCCAQk'. The 'Issuer URL' field is set to 'http://localhost:8080/auth/realm/casdoor'. The 'SP ACS URL' field is set to 'http://localhost:8000/api/acs' with a 'Copy' button next to it. The 'SP Entity ID' field is set to 'http://localhost:8000/api/acs' with another 'Copy' button next to it. The 'Provider URL' field contains a placeholder URL 'https://github.com/organizations/xxx/settings/applications/1234567'.

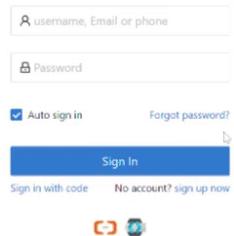
Edit the application you want to configure in Casdoor. Select the provider you just added and click the Save button.

Providers <small>(1)</small>		Providers	Add								
Name		Category	Type	canSignUp	canSignIn	canUnlink	prompted	Action			
casdoor-idaas		SAML									
keycloak-casdoor		SAML									

# Validate the effect

Go to the application you just configured and you will find a Keycloak icon on the login page.

Click the icon and you will be redirected to the Keycloak login page. After successful authentication, you will be logged into Casdoor.



A screenshot of the Casdoor login page. It features a header with the Casbin logo. Below the header are two input fields: one for "username, Email or phone" and one for "Password". Underneath these fields are two buttons: "Auto sign in" (with a checked checkbox) and "Forgot password?". At the bottom of the form are links for "Sign in with code" and "No account? sign up now". Above the "Sign In" button, there is a small text link "Sign In". Below the "Sign In" button are two small icons: a blue square with a white circle and a red square with a white circle.

# Payment

## Overview

Add Payment providers to your application

## PayPal

Add PayPal as a payment provider to your application

## Stripe

Add Stripe payment provider to your application

## Alipay

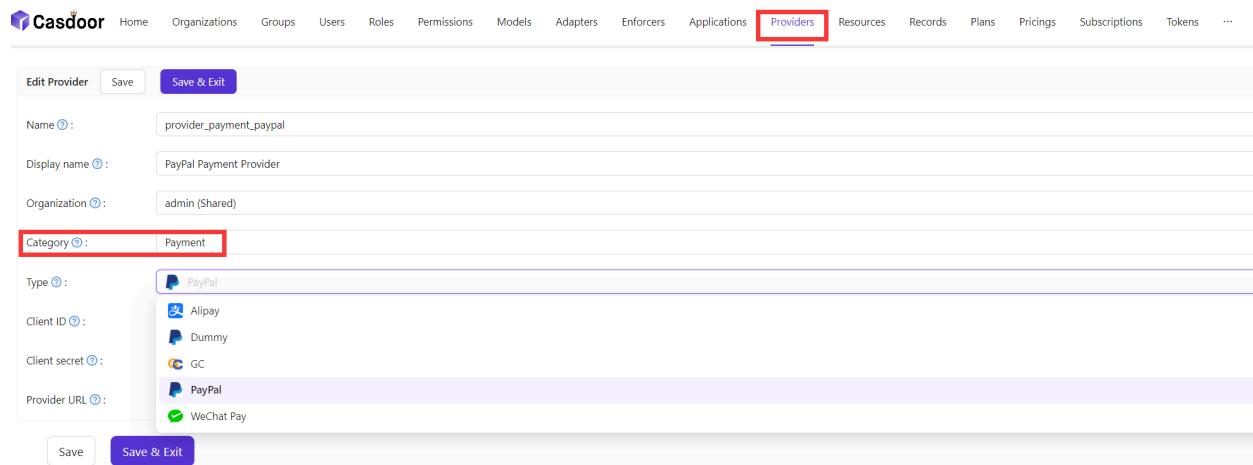
## WeChat Pay

Add WeChat Pay OAuth provider to your application.



# Overview

If you want to use payment services in Casdoor, you need to create a Payment provider and add it to your products.



The screenshot shows the Casdoor web interface with the 'Providers' tab selected. A new provider is being created with the following details:

- Name:** provider\_payment\_paypal
- Display name:** PayPal Payment Provider
- Organization:** admin (Shared)
- Category:** Payment (highlighted with a red box)
- Type:** PayPal
- Client ID:** Alipay
- Client secret:** Dummy
- Provider URL:** GC
- PayPal:** (selected)
- WeChat Pay:**

At the bottom, there are 'Save' and 'Save & Exit' buttons.

To learn how to configure a product, refer to [Product](#). After configuring a product, you can add Payment providers for the product so that users can purchase the product through the Payment providers.

# PayPal

## NOTE

This is an example of how to configure the PayPal payment provider.

## Step 1: Create a PayPal application

First, you need to create an application in PayPal. To access the PayPal Developer site, you should have a PayPal business account. If you don't have an account, [create one first](#).

After you create a PayPal business account, log in to the [Developer Dashboard](#) using your account and then click on [Create App](#) under [Apps & Credentials](#).

The screenshot shows the PayPal Developer Dashboard interface. At the top, there's a navigation bar with links for Docs, APIs & SDKs, Tools, Help, and Business Dashboard. A user profile icon is also present. Below the navigation, there are tabs for Home, Apps & Credentials (which is highlighted with a red box), Testing Tools, and Event Logs. A toggle switch indicates 'Sandbox' mode is active. A message at the bottom of the dashboard says 'You're in sandbox mode.' On the right side, there's a 'Create App' button with a red arrow pointing towards it. The main content area is titled 'API Credentials' and contains a sub-section for 'REST API apps'. It lists two applications: 'casdoor' and 'Default Application'. Each entry includes 'App name', 'Client ID', 'Secret', and a settings gear icon. The 'Client ID' and 'Secret' columns show placeholder text starting with 'AVEu0A\_'. A yellow banner at the top of this section informs the user they are viewing sandbox API credentials and provides a link to 'View live credentials'.

App name	Client ID	Secret	⋮
casdoor	AVEu0A_sbq6tnKyOxbeBAcEw0Jcsgbv...	.....	⋮
Default Application	AR6LK9lz8ZkHdt6H1n_N9Jaq3IXY5rVK...	.....	⋮

You can find the [Client ID](#) and [Secret key](#) in the basic information of your application.

← Back

## casdoor

Viewing sandbox API credentials. [View live credentials.](#)

### API credentials

App name casdoor 

Client ID AVEu0A\_sbq6ttnKyOxbeBAcEw0Jcsgbv2JZvQAtK  

Secret key 1 .....   

[+ Add Second Key](#)

### Sandbox account info

[View details](#)

Sandbox URL <https://sandbox.paypal.com> 

Sandbox Region C2

Email sb-qqaiv26894991@business.example.com 

Password \*\*\*\*\*  

### Features

## Step 2: Create a PayPal payment provider

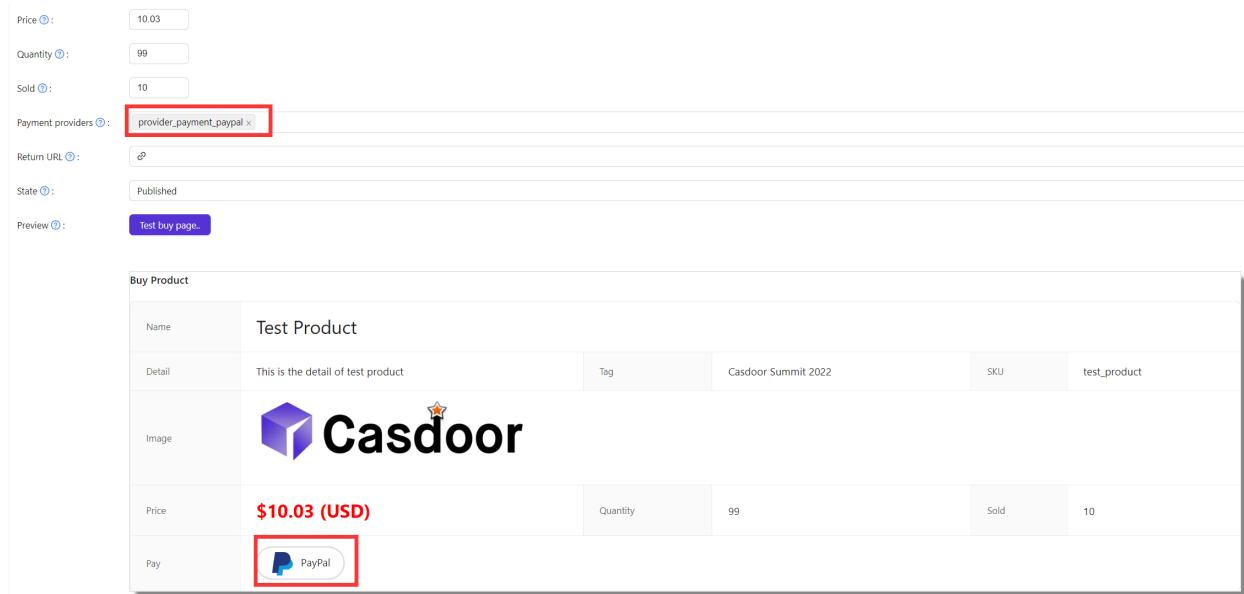
Next, create a PayPal payment provider in Casdoor. Fill in the necessary information:

Name	Name in PayPal
Category	Choose <button>Payment</button>

Name	Name in PayPal
Type	Choose <code>PayPal</code>
Client ID	Use the <code>Client ID</code> obtained from Step 1
Client secret	Use the <code>Secret key</code> obtained from Step 1

## Step 3: Add the PayPal payment provider for your product

Finally, add the PayPal payment provider for your product so that users can purchase the product using PayPal.



The screenshot shows the Casdoor product management interface. At the top, there are input fields for Price (10.03), Quantity (99), and Sold (10). Below these, the 'Payment providers' field contains 'provider\_payment\_paypal x', which is highlighted with a red box. Further down, the 'Return URL' field is set to '[/](#)', 'State' is 'Published', and 'Preview' is set to 'Test buy page...'. At the bottom, the 'Buy Product' section displays the product details: Name is 'Test Product', Detail is 'This is the detail of test product', Tag is empty, SKU is 'test\_product', and Image is the Casdoor logo. The price is listed as '\$10.03 (USD)'. The 'Pay' button, which features the PayPal logo, is also highlighted with a red box.



NOTE

The above operations are all performed in PayPal's `Sandbox` mode. If you want to use it in a live production environment, you need to create an application in PayPal's `Live` mode and set `runmode=prod` in Casdoor's configuration file `conf/app.conf`.

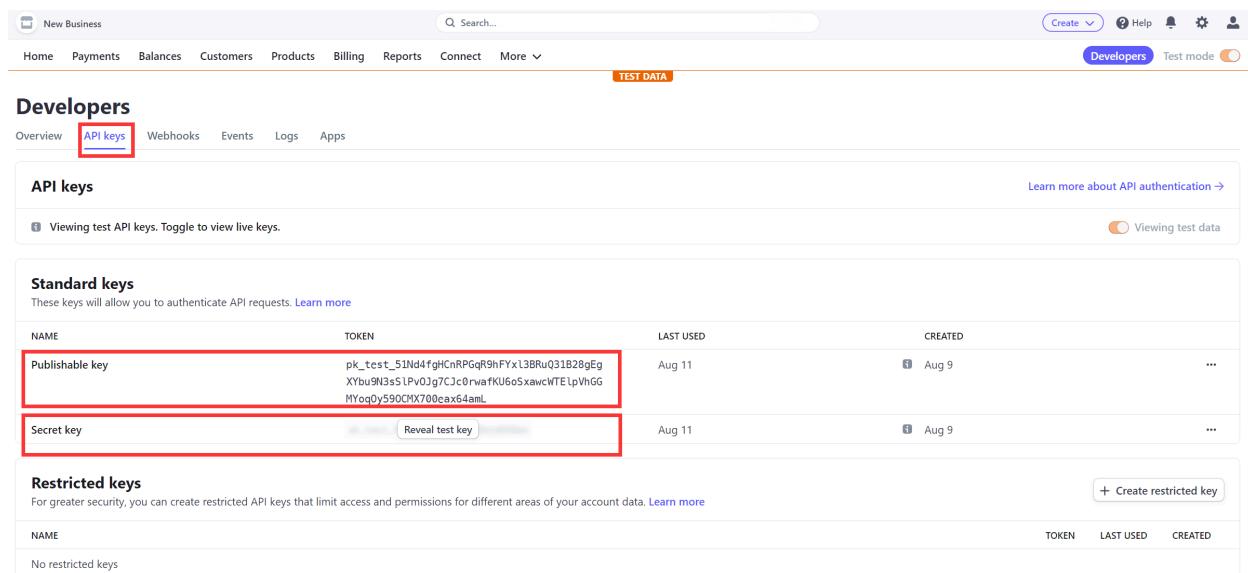
# Stripe

## ⓘ NOTE

This is an example of how to configure a Stripe payment provider.

## Step 1. Get Publishable Key and Secret Key

First, you need to have an account at [Stripe](#). After creating a Stripe account, log in to the [Developer Dashboard](#) using your account credentials. You can find the [Publishable key](#) and [Secret key](#) under the [API keys](#) tab.



The screenshot shows the Stripe Developer Dashboard with the 'API keys' tab selected. The 'TEST DATA' button is highlighted. The 'Standard keys' section displays two entries:

NAME	TOKEN	LAST USED	CREATED	...
Publishable key	pk_test_51Nd4fghCnRPGrR9hFyx13BRuQ31B28gEgXYbu9N3sSLPv0Jq7Cj0rwaKU6oSxawcWTElpVhGGMYog0v590CMX700ea64amL	Aug 11	Aug 9	...
Secret key	[REDACTED]	Aug 11	Aug 9	...

The 'Restricted keys' section is shown below, with a '+ Create restricted key' button.

## Step 2. Create a Stripe Payment provider

Next, create a Stripe Payment provider in Casdoor by filling in the necessary

information.

Name	Name in Stripe
Category	choose <a href="#">Payment</a>
Type	choose <a href="#">Stripe</a>
Client ID	<a href="#">Publishable key</a> obtained from Step 1
Client secret	<a href="#">Secret key</a> obtained from Step 1

Edit Provider [Save](#) [Save & Exit](#)

Name [?](#): provider\_payment\_stripe

Display name [?](#): Stripe Payment Provider

Organization [?](#): admin (Shared)

Category [?](#): Payment

Type [?](#): **S** Stripe

Client ID [?](#): pk\_test\_51Nd4fgHCnRPGqR9hFYxl3BRuQ31B28gEgXYbu9N3sSIPvOJg7CJc0rwafKU6oSxawcWTElpVhGGMYoqOy59OCMX700eax64amL

Client secret [?](#): \*\*\*

Provider URL [?](#): [🔗](#)

[Save](#) [Save & Exit](#)

## Step 3. Add the Stripe Payment provider for your product

Finally, add the Stripe Payment provider for your product so that users can

purchase the product using Stripe.

Currency [?](#) :

Price [?](#) :

Quantity [?](#) :

Sold [?](#) :

Payment providers [?](#) :

Return URL [?](#) :

State [?](#) : Published

Preview [?](#) : [Test buy page.](#)

**Buy Product**

Name	Test Product	Detail	This is the detail of test product	Tag	Casdoor Summit 2022	SKU	test_product
Image							
Price	\$10.04 (USD)						
Pay	 PayPal	 Stripe	Quantity	99	Sold	10	

# Alipay

# WeChat Pay

## Step 1: Deploy Casdoor

Firstly, Casdoor should be deployed.

You can refer to the Casdoor official documentation for the [Server Installation](#). Please deploy your Casdoor instance in production mode.

After a successful deployment, you need to ensure:

- Open your favorite browser and visit <http://localhost:8000>; you will see the login page of Casdoor.
- Input `admin` and `123` to verify that the login functionality is working fine.

Then you can quickly implement a Casdoor based login page in your own app with the following steps.

## Step 2: Configure payment callback notification address

Before that, please log in to the WeChat Pay Merchant Platform. In order for Casdoor to receive payment result notifications, you need to set a callback notification address in the WeChat Pay Merchant Platform.

- In the Merchant Dashboard, go to `Development Configuration` → `Payment Configuration`.
- Find the `Callback Notification Address` setting and click the `Modify` button.

- Fill in the payment callback notification address of the Casdoor instance. For example:

```
https://your-casdoor-url.com/api/wechat-payment-callback
```

## Step 3: Configure API Security

### Get APIv3 key

To ensure the security of API calls, you need to configure API security settings in the WeChat Pay Merchant Platform.

Log in to the [WeChat Merchant Platform](#), go to `Account center` → `Account settings` → `API security` → `APIv3 key` → `Set up`.

### Get the serial number of the merchant certificate

It is also necessary to obtain the serial number of the merchant certificate. Follow these steps to obtain it:

Log in to the [WeChat Merchant Platform](#), go to `Account center` → `Account settings` → `API security` → `API certificate management` → copy the serial number.

You can refer to the [WeChat Payment Merchant ID Query Guide](#), [APIv3 Key Settings](#), and [How to View the Certificate Serial Number](#) for help.

# Step 4: Add the payment provider

Select WeChat Pay as the payment type

New Provider    Save    Save & Exit    Cancel

Name ? : wechat-provider

Display name ? : New wechat-provider

Organization ? : admin (Shared)

Category ? : Payment

Type ? : WeChat Pay

Client ID ? : Alipay  
GC

Client secret ? : PayPal  
WeChat Pay

Provider URL ? : <https://github.com/organizations/xxx/settings/applications/123456/>

## Get the payment URL

Log in to the [WeChat Merchant Platform](#), go to [Commodity centered](#) → [Development arrangement](#) → [Payment arrangements](#) → [Payment URL](#) → [Copy](#)

## Fill in the necessary information in Casdoor

There are four required fields: `Client ID`, `Client secret`, `App ID`, `Provider URL`. The relationship corresponding to the Azure Blob account is as follows:

Name	Name in WeChat Pay	Is Required
Client ID	Merchant ID	Yes
Client secret	APIv3 key	Yes
App ID	App ID	Yes
Provider URL	Payment URL	Yes

The acquisition of `Merchant ID` and `APIv3 key` is as mentioned before. For the App ID, see [here](#) for more help.

Edit Provider Save Save & Exit

Name ? : wechat-provider

Display name ? : New wechat-provider

Organization ? : admin (Shared)

Category ? : Payment

Type ? : WeChat Pay

Client ID ? e75c5c9f0056d80849a7 Your merchant ID

Client secret ? \*\*\* Your APIv3 key

appId ? appldadaasdaffafgaass Your appId

Provider URL ? https://api.mch.weixin.qq.com/pay/unifiedorder Your Payment URL

Save Save & Exit

## Step 5: Add WeChat Cert

In this step, you need two required fields: `Serial number` and `Private key`.

How to obtain the serial number has been explained in the third step.

To get the `Private key`, click [here](#) for help.

Edit Cert Save Save & Exit

Name ? : cert\_wechat  
x509

Display name ? : New Cert - wechat

Scope ? : JWT

Type ? : x509

Crypto algorithm ? : RS256

Bit size ? : 4096

Expire in years ? : 20

Your merchant certificate serial number

Certificate ? : Copy certificate Download certificate

```
-----BEGIN CERTIFICATE-----
MIIE2TCAsGgAwIBAgIDAeJAMA0GCSqGSIb3DQEBCwUAMCYxDjAMBg
NVBAoTBWFk
bWluMRQwEgYDVQQDAjZXJ0X2dmamRqZzAeFwOyMzA0MTAxMTEy
NTIaFw00MzA0
-----END CERTIFICATE-----
```

Private key ? : Your private key Copy private key Download private key

```
-----BEGIN RSA PRIVATE KEY-----
MIIJKgIBAAKCAgEA4Fn+yt0cUCUlrMx/zXd0JnEbRCxBqo8weFf1LgBKi2h
6R1vD
cZfFRRvlHA/Oktl5nKXQPuQzwuxHy6Cz2HRoAR0ayNVDcASJTWOtOF/
z0vYRKT/
-----END RSA PRIVATE KEY-----
```

## Step 6: Add WeChat Payment Provider in Products

Currency ? : USD

Price ? : 300

Quantity ? : 99

Sold ? : 10

Payment providers ? : wechat-provider

The payment provider you just add

wechat-provider

Return URL ? : ↲

The payment callback notification address same in WeChat merchant platform

State ? : Published

Preview ? : Test buy page..

Final effect:

Buy Product					
Name	New Product - 4emdrq				
Detail		Tag	Casdoor Summit 2022	SKU	product_4emdrq
Image	 Casdoor				
Price	\$300 (USD)	Quantity	99	Sold	10
Pay	 WeChat Pay				

## What's more

You can explore the following projects/docs to learn more about WeChat Pay:

- [wechatpay-apiv3-go-sdk](#)
- [WeChat Payment Development Document](#)

# Captcha

## Overview

Add a captcha to your application

## Default

Using Casdoor's default captcha in your application

## Cloudflare Turnstile

Add Cloudflare Turnstile to your application

## reCAPTCHA

Add reCAPTCHA to your application

 **hCaptcha**

Add hCaptcha to your application

 **Alibaba Cloud Captcha**

Add Alibaba Cloud Captcha to your application

 **Geetest**

Add Geetest Captcha to your application

# Overview

Casdoor can be configured to support different captchas to verify if the operation is performed by a human. By adding a captcha provider and applying it in the application, when users login, register, or forget their password and need to send a code, a captcha check dialog will appear to verify if the operation is performed by a human.

Currently, Casdoor supports multiple captcha providers. The following are the providers supported by Casdoor:

Default	Cloudflare Turnstile	reCAPTCHA	hCaptcha	Aliyun Captcha	Geetest
					
					

We will show you how to apply a captcha and add it to Casdoor.

## Add a captcha provider

1. Navigate to your Casdoor index page.
2. Click on **Providers** in the top bar.
3. Click on **Add**, then you will see a new provider in the top list.
4. Click on the new provider to modify it.
5. Select **Captcha** in the **Category**.

6. Choose the captcha provider you need in the `Type`.
7. Fill in the most important information. Different captcha providers may require different information to be filled in.

## Applying in the application

1. Click on `Application` in the top bar and choose one application to edit.
2. Click on the provider add button and select the provider you just added.
3. Done!

# Default

The default captcha implementation generates and verifies an image. In the default captcha image, a sequence of digits 0-9 is used with a defined length of 5.

## Configuring in Casdoor

To configure the default captcha in Casdoor, follow these steps:

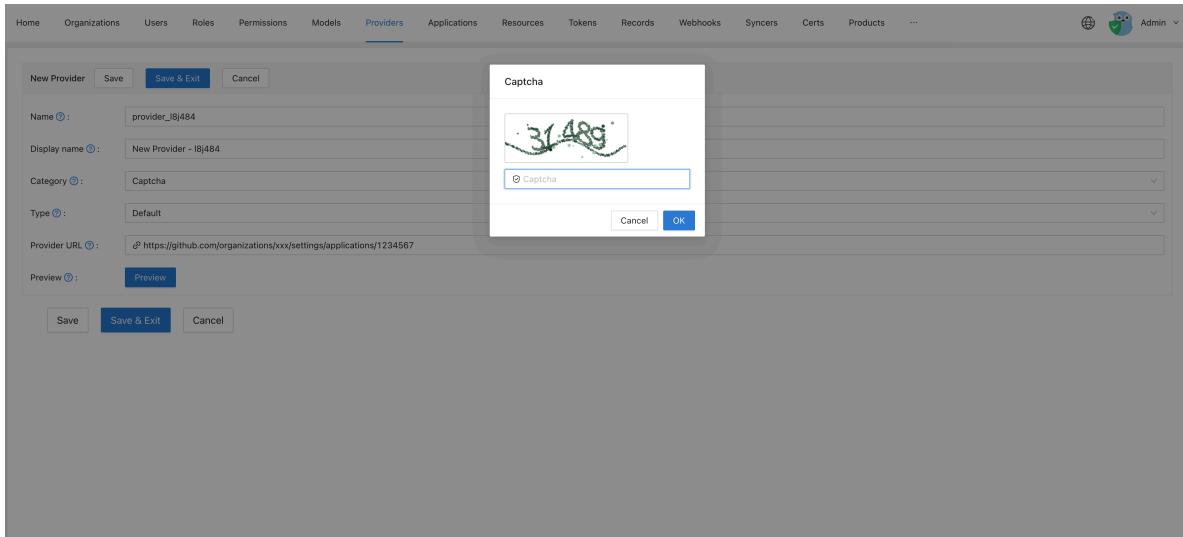
1. Create a new provider in Casdoor.
2. Select the category as Captcha, and the type as Default.

The screenshot shows the Casdoor web interface with the 'Providers' tab selected. A new provider is being created with the following details:

- Name: provider\_18j484
- Display name: New Provider - 18j484
- Category: Captcha
- Type: Default
- Provider URL: https://github.com/organizations/xxx/settings/applications/1234567

At the bottom of the form, there are three buttons: 'Save', 'Save & Exit', and 'Cancel'. The 'Save & Exit' button is highlighted in blue, indicating it is the active button.

3. Click on the Preview button to preview the style of this captcha.



# Applying in your application

To apply the default captcha in your application, do the following:

1. Edit the application you want to configure in Casdoor.
2. Select the provider that you just added. There are three types of rules available:
  - **Always**: Always requires human-machine verification during login.
  - **None**: Never requires human-machine verification. The account will be blocked if it attempts to login with the wrong password for the 5th time within 15 minutes. The block will be lifted after 15 minutes.
  - **Dynamic**: After 5 failed login attempts, human-machine verification will be required but the account will not be blocked.

Providers		Add	Name	Category	Type	canSignUp	canSignIn	canUnlink	prompted	Rule	Action		
provider_4olfdm				Captcha		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Always			
provider_casdoor_github				OAuth		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				
provider_casdoor_google				OAuth		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				

We also provide a demo video to demonstrate the differences in rules, which we hope will be helpful to you.

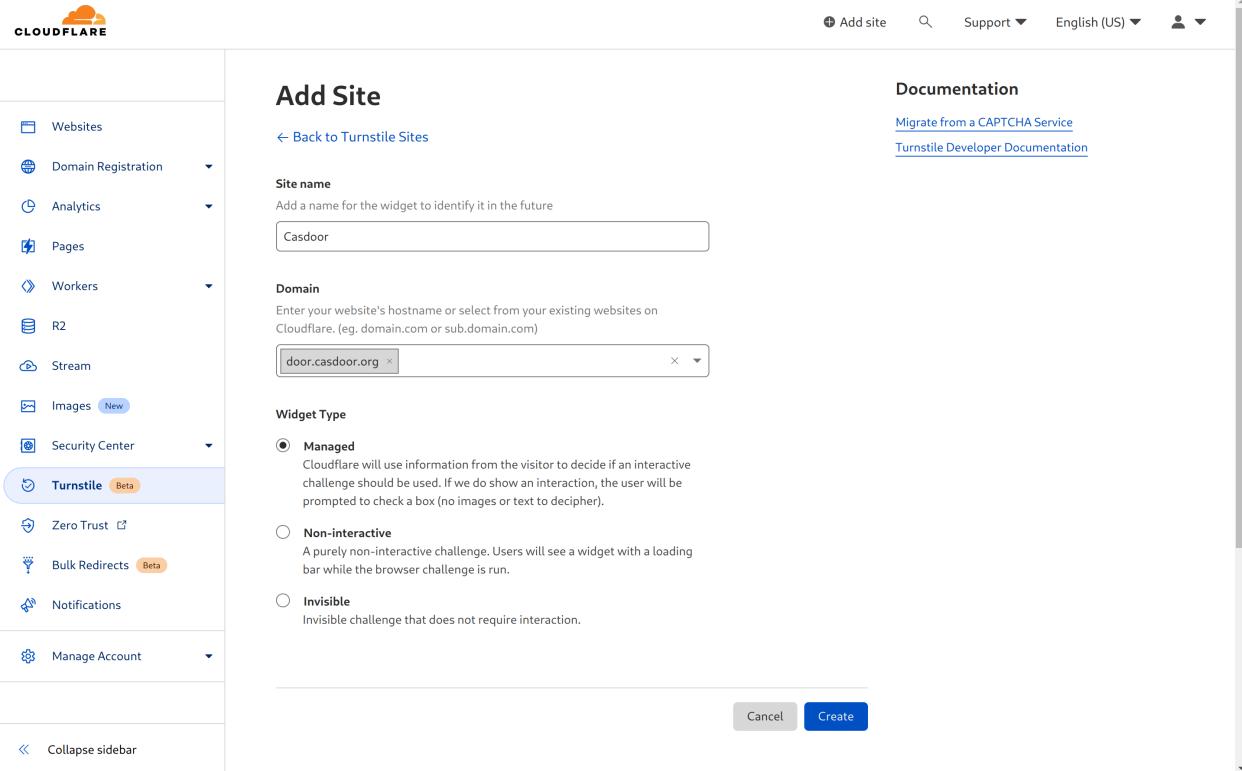
# Cloudflare Turnstile

Cloudflare Turnstile is a CAPTCHA service provided by Cloudflare, which is a user-friendly, privacy-preserving alternative to CAPTCHA. You can find more details in the [Turnstile Docs](#).

## Create an API key pair

To start using Cloudflare Turnstile, you need to [create a Cloudflare account](#), navigate to the `Turnstile` tab on the navigation bar, and obtain the Site Key and Secret Key.

First, add a name for the widget to identify it in the future and enter your website's hostname. Then choose the widget type. It is recommended to choose `Managed`. Finally, click `Create`.



The screenshot shows the Cloudflare dashboard with the sidebar collapsed. The main area is titled "Add Site" under the "Turnstile Sites" section. The "Site name" field contains "Casdoor". The "Domain" field contains "door.casdoor.org". Under "Widget Type", the "Managed" option is selected. At the bottom right are "Cancel" and "Create" buttons.

**Add Site**

← Back to Turnstile Sites

**Documentation**

[Migrate from a CAPTCHA Service](#)  
[Turnstile Developer Documentation](#)

**Site name**  
Add a name for the widget to identify it in the future  
Casdoor

**Domain**  
Enter your website's hostname or select from your existing websites on Cloudflare. (eg. domain.com or sub.domain.com)  
door.casdoor.org

**Widget Type**

**Managed**  
Cloudflare will use information from the visitor to decide if an interactive challenge should be used. If we do show an interaction, the user will be prompted to check a box (no images or text to decipher).

**Non-interactive**  
A purely non-interactive challenge. Users will see a widget with a loading bar while the browser challenge is run.

**Invisible**  
Invisible challenge that does not require interaction.

Cancel Create

You will then be able to obtain a site key and a secret key.

The screenshot shows the Cloudflare dashboard with the sidebar expanded. The 'Turnstile' option under the 'Security Center' section is selected, indicated by a blue background and a 'Beta' badge. The main content area is titled 'Add Site' and shows fields for 'Site Key' (containing '0xAAAAA/...') and 'Secret Key' (containing '0xAAAAAAAB...'). Below these are 'Client side integration code' and 'Server side integration code' sections, each containing a snippet of JavaScript. A 'Done' button is at the bottom right. The top navigation bar includes links for 'Add site', 'Support', 'English (US)', and user profile.

# Configure in Casdoor

Create a new provider in Casdoor.

Select the category as **Captcha** and the type as **Cloudflare Turnstile**. Fill in the site key and the secret key that you obtained in the previous step.

Casdoor Home Organizations Users Roles Permissions Models Adapters Applications Providers Resources ... Admin

Edit Provider Save Save & Exit

Name : Cloudflare Turnstile

Display name : Cloudflare Turnstile

Organization : admin (share)

Category : Captcha

Type : Cloudflare Turnstile

Site key : 0x4AAAAAAABXhq3vOlgpUTmk

Secret key : \*\*\*

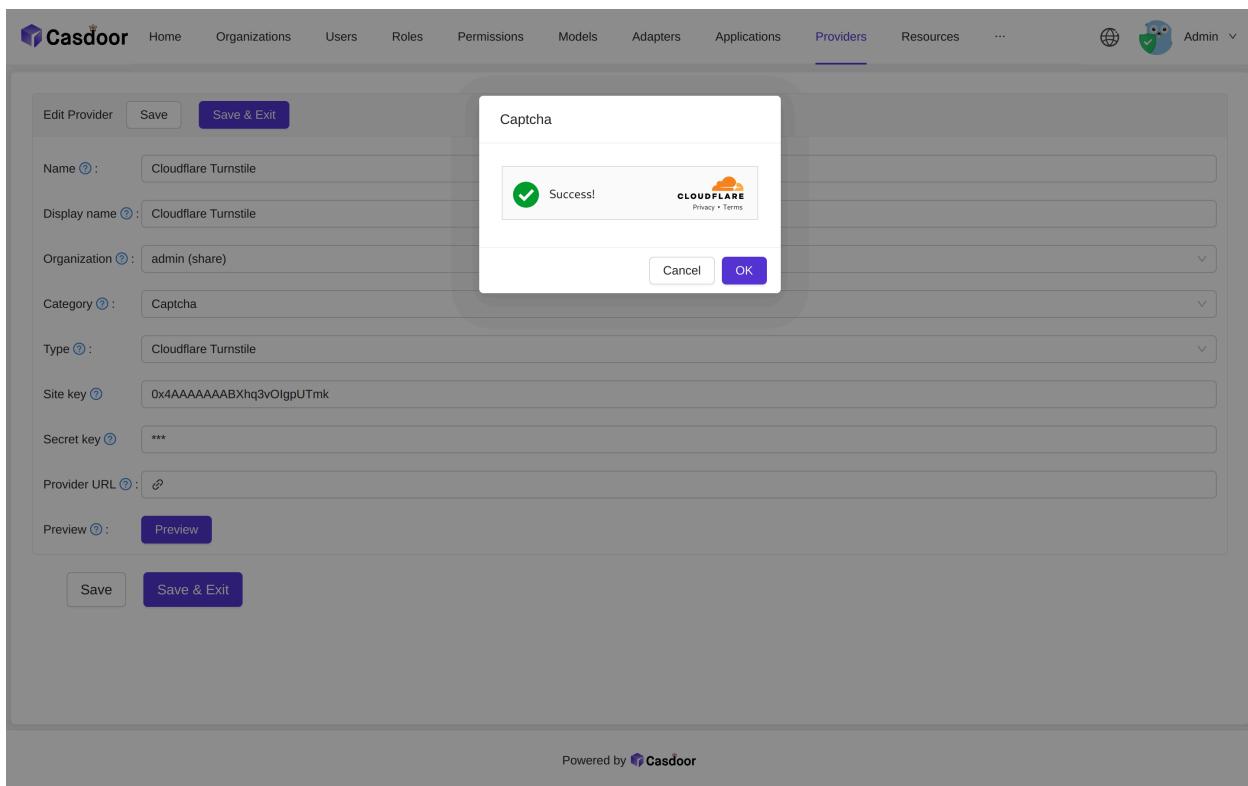
Provider URL : [View](#)

Preview : Preview

Save Save & Exit

Powered by Casdoor

You can click the Preview button to see a preview of the style of this CAPTCHA.



Powered by Casdoor

# Application Integration

Edit the application you want to configure in Casdoor. Select the provider that you just added and click the **Save** button.

Providers <a href="#">?</a> :								
Name	Category	Type	Can signup	Can signin	Can unlink	Prompted	Rule	Action
Cloudflare Turnstile	Captcha						None	  

# reCAPTCHA

reCAPTCHA is provided by Google, and we use reCAPTCHA v2 Checkbox. You can find more details about it at this [link](#).

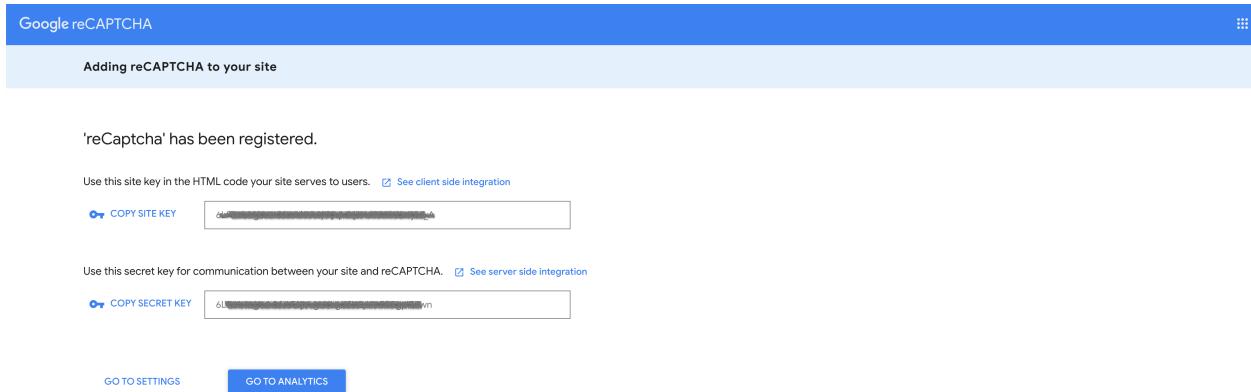
## Create an API key pair

To start using reCAPTCHA, you need to [sign up for an API key pair](#) for your site. The key pair consists of a site key and secret key. The site key is used to invoke the reCAPTCHA service on your site or mobile application. The secret key authorizes communication between your application backend and the reCAPTCHA server to [verify the user's response](#).

First, choose the [type of reCAPTCHA](#) and then fill in the authorized domains or [package names](#). After you have accepted the terms of service, click Register to obtain a new API key pair.

The screenshot shows the Google reCAPTCHA registration interface. At the top, there's a blue header bar with the text "Google reCAPTCHA". Below it, a white navigation bar has a back arrow and the text "Register a new site". A yellow banner below the navigation bar says "Get unlimited assessments using [reCAPTCHA Enterprise](#)". The main form area starts with a "Label" field containing "reCaptcha". Under "reCAPTCHA type", "reCAPTCHA v2" is selected, which is described as "Verify requests with a challenge". Three options are listed: "I'm not a robot" Checkbox (selected), Invisible reCAPTCHA badge, and reCAPTCHA Android. The "Domains" section contains "casdoor.org". In the "Owners" section, the email "resullee@gmail.com" is listed with "(You)". There's a link to "Enter email addresses". At the bottom, a checked checkbox says "Accept the reCAPTCHA Terms of Service". A small note at the very bottom states: "By accessing or using the reCAPTCHA APIs, you agree to the Google APIs [Terms of Use](#), Google [Terms of Use](#), and to the Additional Terms below. Please read and understand all applicable terms and policies before accessing the APIs."

You will then receive a site key and a secret key.

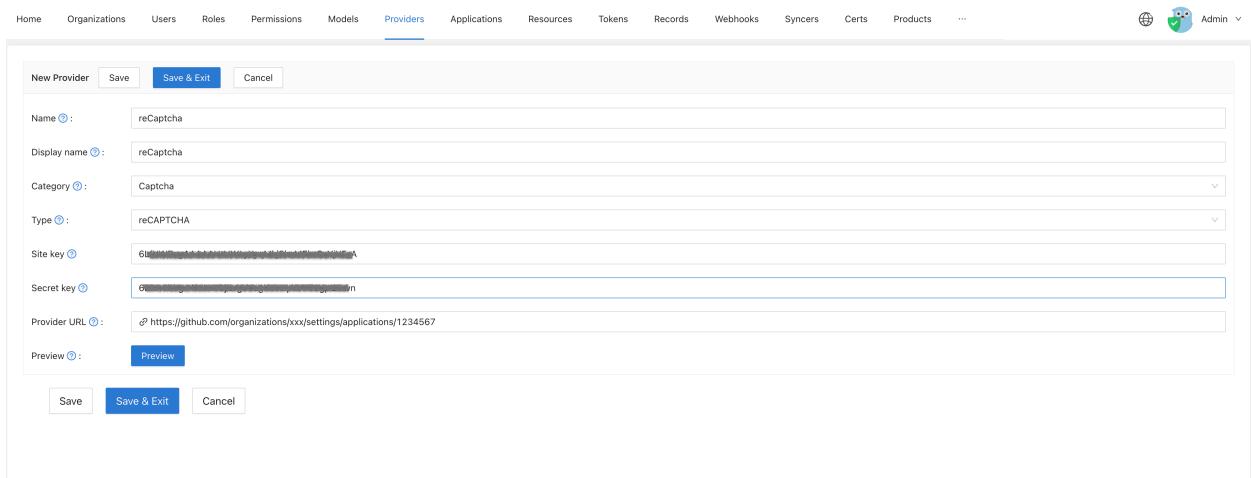


The screenshot shows the Google reCAPTCHA registration page. At the top, it says 'Adding reCAPTCHA to your site'. Below that, it states "'reCaptcha' has been registered.''. It provides instructions to 'Use this site key in the HTML code your site serves to users.' with a 'See client side integration' link. A 'COPY SITE KEY' button is next to a text input field containing a long string of characters. Below this, it says 'Use this secret key for communication between your site and reCAPTCHA.' with a 'See server side integration' link. A 'COPY SECRET KEY' button is next to another text input field containing a long string of characters. At the bottom, there are 'GO TO SETTINGS' and 'GO TO ANALYTICS' buttons.

## Configure in Casdoor

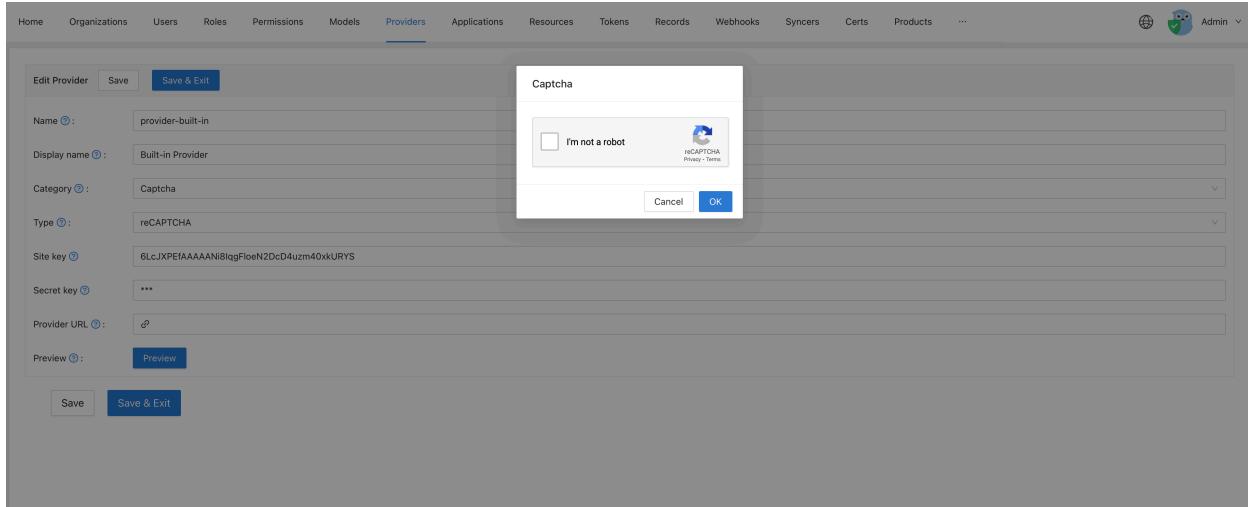
Create a new provider in Casdoor.

Select the category as Captcha and the type as reCAPTCHA. You need to provide the site key and secret key created in the previous step.



The screenshot shows the Casdoor 'New Provider' configuration page. The 'Providers' tab is selected. The form fields are as follows: Name: reCaptcha, Display name: reCaptcha, Category: Captcha, Type: reCAPTCHA, Site key: (redacted), Secret key: (redacted), Provider URL: https://github.com/organizations/xx/settings/applications/1234567, and Preview: (button). At the bottom are 'Save', 'Save & Exit', and 'Cancel' buttons.

You can click the Preview button to see the style of this captcha.



# Apply in the application

Edit the application you want to configure in Casdoor. Select the provider you just added and click the **Save** button.

Providers		Add	Category	Type	canSignUp	canSignIn	canUnlink	prompted	Action
Name	reCaptcha	✓	Captcha						

# hCaptcha

hCaptcha is a captcha service provider, similar to reCAPTCHA. You can find more details about hCaptcha [here](#).

## Create an API key pair

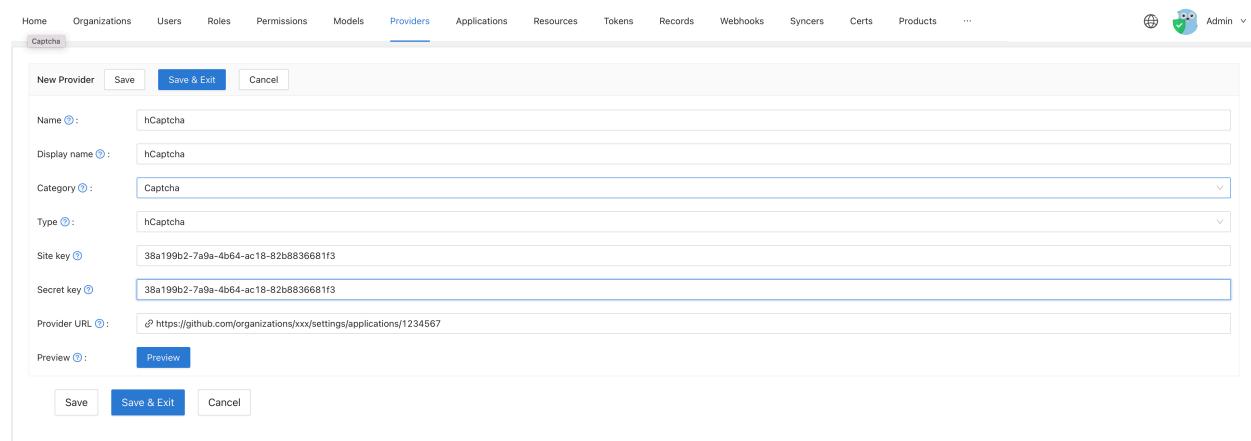
To start using hCaptcha, you need to sign up for an API key pair for your site. You can obtain your site key on your [profile page](#).

Once you have signed up, you will receive a site key and a secret key.

## Configure in Casdoor

To configure hCaptcha in Casdoor, create a new provider.

Select the category as Captcha and the type as hCaptcha. Fill in the site key and secret key obtained in the previous step.

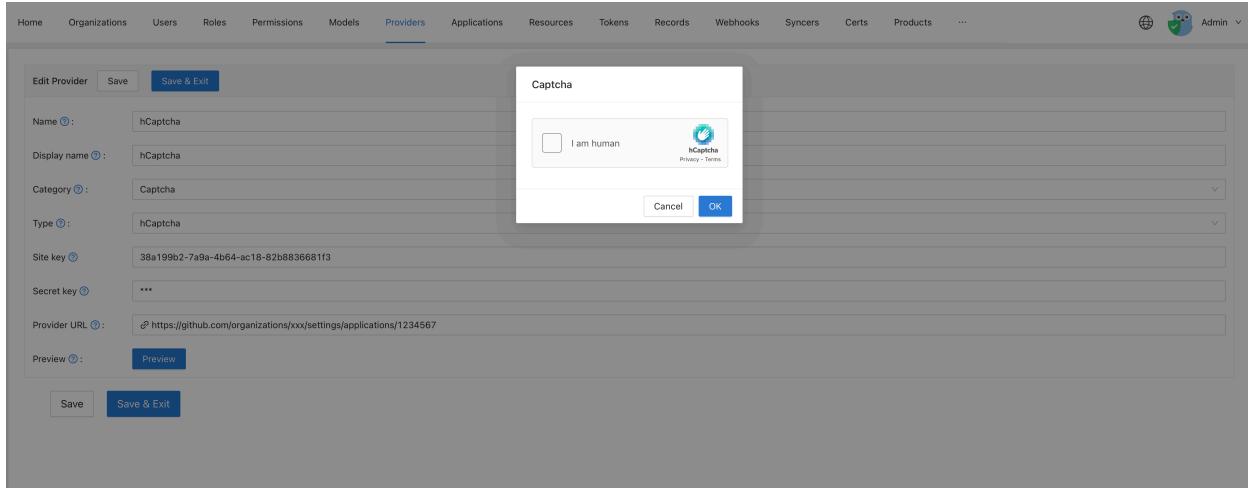


The screenshot shows the Casdoor web interface with the 'Providers' tab selected. A new provider is being created for 'hCaptcha'. The form fields are as follows:

- Name: hCaptcha
- Display name: hCaptcha
- Category: Captcha
- Type: hCaptcha
- Site key: 38a199b2-7a9a-4b64-ac18-82b8836681f3
- Secret key: 38a199b2-7a9a-4b64-ac18-82b8836681f3
- Provider URL: https://github.com/organizations/xxx/settings/applications/1234567
- Preview button: Preview

At the bottom of the form are three buttons: Save, Save & Exit, and Cancel. The 'Save & Exit' button is highlighted in blue.

You can click the Preview button to see how the captcha style will look.



# Apply in your application

Go to the application you want to configure in Casdoor. Select the provider you just added and click the **Save** button.

Providers	Add	Name	Category	Type	canSignUp	canSignIn	canUnlink	prompted	Action
		hCaptcha	Captcha						  

# Alibaba Cloud Captcha

Alibaba Cloud Captcha is a captcha service provided by Alibaba Cloud. It offers two ways to verify captcha: "Sliding Validation" and "Intelligent Validation". You can find more details about it in this [link](#).

## Add Captcha Configuration in Alibaba Cloud

To add the Captcha configuration, log in to the [Alibaba Cloud management console](#), search for and go to the Captcha Service. Then, click on Confirm Open to enable the Captcha Service.



Once you have entered the Captcha management console, click on Add configuration.

The screenshot shows the Alibaba Cloud Workbench interface. On the left, there's a sidebar with '验证码' (Verification Code) selected. The main area has a title '验证码' and a sub-section '配置管理'. A message at the top says '公告: 2021年3月18日起, 人机验证产品统一更名为验证码。'. Below is a table with two rows of configuration data:

配置名称	appkey	scene	验证方式	业务类型	使用场景	最后更新	操作
测试验证码	F [REDACTED] B	nc_other	滑动验证	PC	其它	2022-06-20 23:47:37	<a href="#">自定义样式</a> <a href="#">系统代码集成</a>
测试智能验证码	FF [REDACTED] B	lc_other	智能验证	PC	其它	2022-06-21 00:44:08	<a href="#">自定义样式</a> <a href="#">系统代码集成</a>

At the bottom right of the table, there are navigation buttons: '共有2条' (2 items), '<' (prev), '1' (current), and '>' (next). To the right of the table are three small circular icons: a magnifying glass, a clipboard, and a gear.

Fill in all the required information and submit the form.

The screenshot shows the 'Add Configuration' form. It consists of three steps:

- 1 配置服务内容**:
  - 配置名称:
  - 高峰期QPS:
  - 业务类型:  PC网页  H5 (移动端WAP + APP)
  - 验证方式:  滑动验证  智能验证  无痕验证
  - 使用场景:  登录  注册  活动  论坛  短信  其它
- 2 系统代码集成&测试**
- 3 完成**

On the right side of the form, there are three circular icons: a magnifying glass, a clipboard, and a gear. At the bottom right, there are buttons for 'Next Step' (下一步) and 'Finish' (完成).

Now, you can view the **Scene** and **App key** in your console.

The screenshot shows the Alibaba Cloud Workbench interface with the '验证码' (Captcha) product selected. The main content area displays a table of configuration items under the '配置管理' (Configuration Management) tab. Two specific columns are highlighted with red boxes: 'appkey' and 'scene'. The 'appkey' column contains two entries: '测试验证码' with value 'F\*\*\*\*\*8B' and '测试智能验证码' with value 'F\*\*\*\*\*b'. The 'scene' column also contains two entries: 'nc\_other' and 'ic\_other'. The table includes columns for '验证方式' (Validation Method), '业务类型' (Business Type), '使用场景' (Usage Scenario), '最后更新' (Last Updated), and '操作' (Operations). A note at the top states: '公告：自2020年11月20日起，验证码产品进行计费变更。新增收取每条配置费用10元/天，其中包含5000次调用，超过5000次后每次0.002元进行计费。敬请知晓，如有疑问，可随时提交工单求助。' (Announcement: As of November 20, 2020, the Captcha product has changed its billing method. A new fee of 10 yuan per day is charged for each configuration, which includes 5,000 calls. For calls exceeding 5,000, each additional call costs 0.002 yuan. Please be informed, if you have any questions, you can submit a work order for help at any time.)

Also, the `Access key` and `Secret access key` can be found in your profile.

## Configure in Casdoor

Create a new provider in Casdoor.

Select the category as `Captcha`, and the type as `hCaptcha`. Then, choose the sub-type: "Sliding Validation" or "Intelligent Validation". Make sure to fill in the `Access key`, `Secret access key`, `Scene`, and `App key` that you created in the previous step.

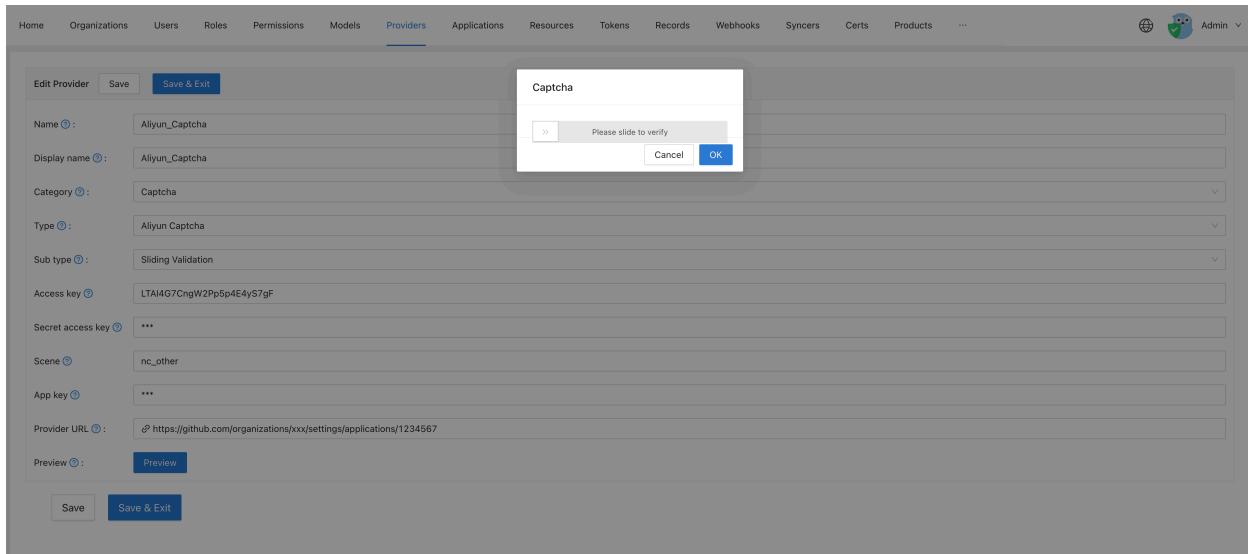
Screenshot of the 'New Provider' configuration page. The 'Providers' tab is selected. The form fields are as follows:

Name	Aliyun_Captcha
Display name	Aliyun_Captcha
Category	Captcha
Type	Aliyun Captcha
Sub type	Sliding Validation
Access key	LTAI4G7CngW2Pp5p4E4yS7gF
Secret access key	IPXXXXXXXXXXXXXN
Scene	nc_other
App key	FXXXXXXXXXXXXX8
Provider URL	<a href="https://github.com/organizations/xxx/settings/applications/1234567">https://github.com/organizations/xxx/settings/applications/1234567</a>
Preview	Preview

Buttons at the bottom: Save, Save & Exit, Cancel.

You can click on the **Preview** button to see the style of this captcha.

The following image shows the preview of "Sliding Validation":



And this image shows the preview of "Intelligent Validation":

The screenshot shows the Casdoor provider configuration interface. A modal window titled "Captcha" is open, prompting the user to "Click the button to start". The main configuration form contains the following fields:

- Name: Aliyun\_Captcha
- Display name: Aliyun\_Captcha
- Category: Captcha
- Type: Aliyun Captcha
- Sub type: Intelligent Validation
- Access key: LTAI4G7CngW2Pp5p4E4yS7gF
- Secret access key: ...
- Scene: ic\_other
- App key: ...
- Provider URL: https://github.com/organizations/xxx/settings/applications/1234567
- Preview: Preview

At the bottom, there are "Save" and "Save & Exit" buttons.

# Application Integration

Edit the application in which you want to configure Casdoor. Select the newly added provider and click on the Save button.

The screenshot shows the Casdoor provider list table. It displays the following information for the provider "Aliyun\_Captcha":

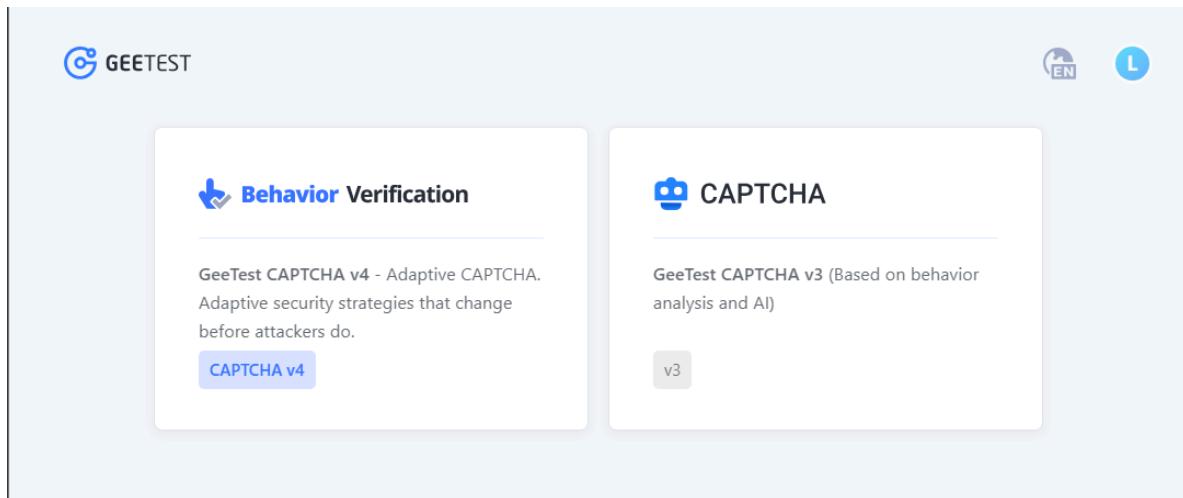
Name	Category	Type	canSignUp	canSignIn	canUnlink	prompted	Action
Aliyun_Captcha	Captcha	Intelligent Validation					

# Geetest

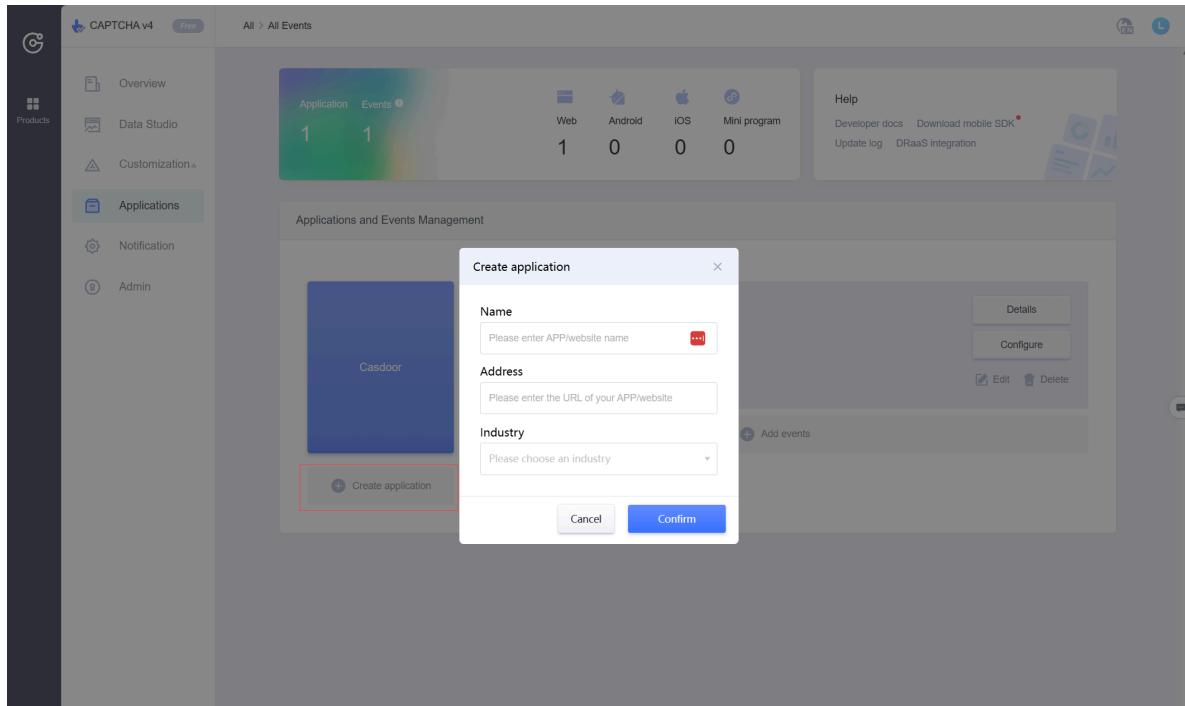
## Configure Geetest

To configure Geetest and obtain the public and secret key, follow these steps:

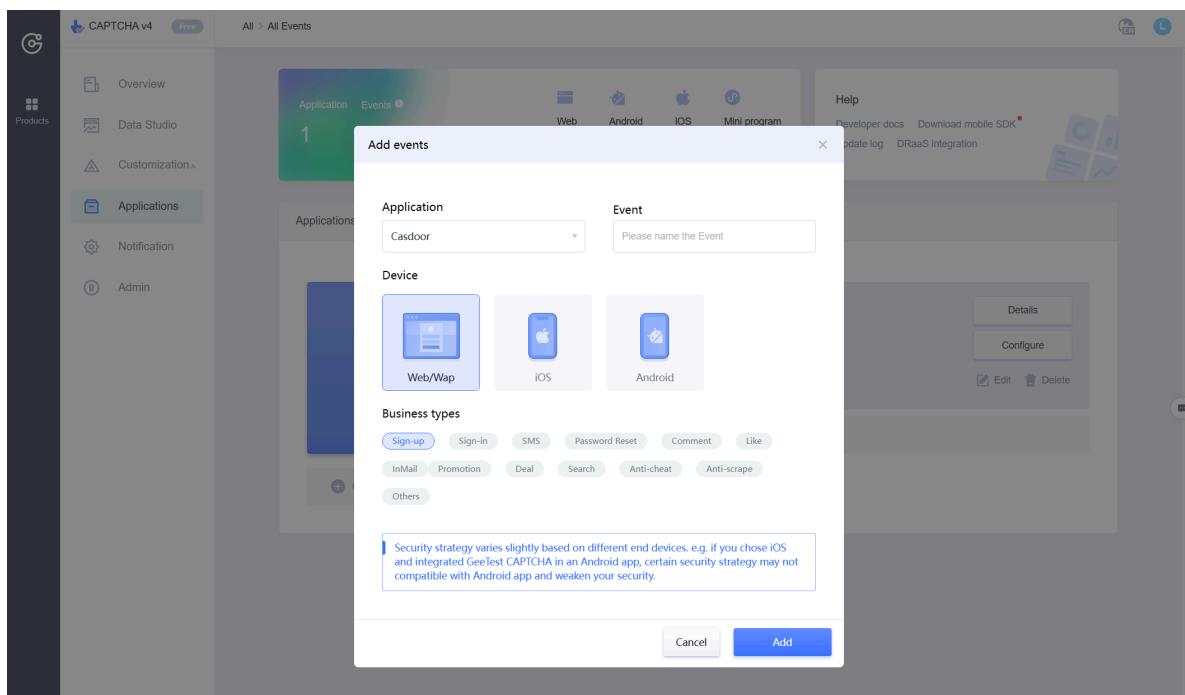
1. Go to the Geetest CAPTCHA V4 section on the [Geetest product page](#).



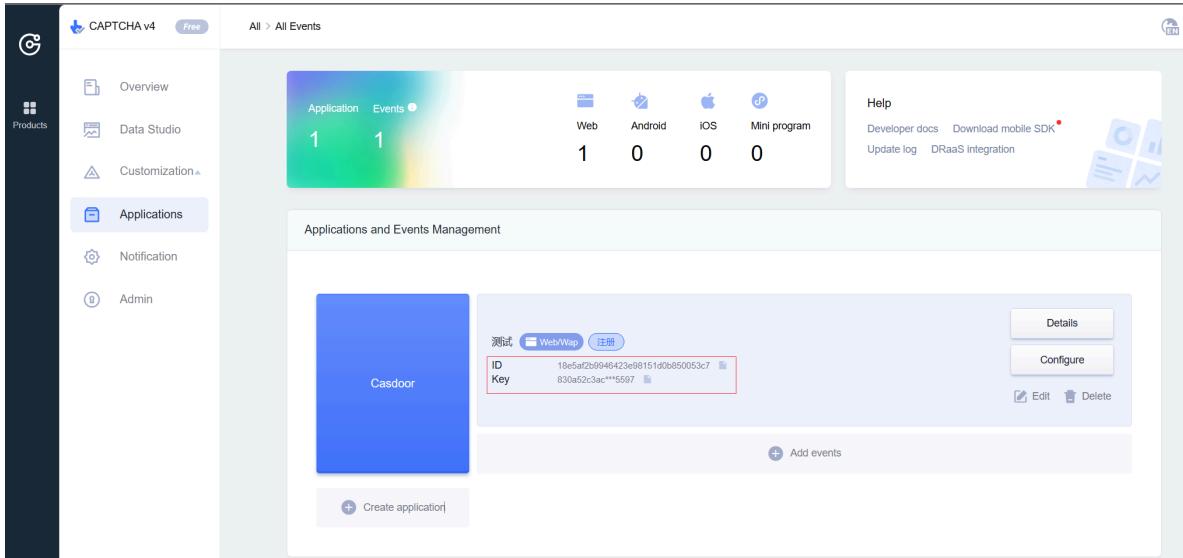
2. Create an application by entering the name and address for your application.



### 3. Add events and choose "web" for the device.



### 4. Retrieve the `ID` and `Key`.



# Configure Casdoor

Follow these steps to configure Casdoor:

1. Create a new provider in Casdoor.

Set the category as **Captcha** and the type as **Geetest**. Fill in the `Site key` and `Secret key` with the ID and Key obtained from Geetest.

2. Click the Preview button to preview the style of this captcha.

The screenshot shows the Casdoor web interface for managing providers. The top navigation bar includes links for Home, Organizations, Users, Roles, Permissions, Models, Providers (which is the active tab), Applications, Resources, Tokens, Records, and Admin. The main content area is titled "Edit Provider" and contains fields for Name, Display name, Category, Type, Site key, Secret key, and Provider URL. Buttons for Save, Save & Exit, Preview, and another Save button are visible. At the bottom right, it says "Made with ❤ by Casdoor".

Name	Display name	Category	Type	Site key	Secret key	Provider URL
provider_geetest	provider_geetest	Captcha	GEETEST	489b713a684726d851073a7e8cf8442a	***	<a href="https://github.com/organizations/xxx/settings/applications/1234567">https://github.com/organizations/xxx/settings/applications/1234567</a>

# Apply in your application

To apply the Geetest configuration in your application:

Edit the application you want to configure in Casdoor. Select the provider you just added and click the Save button.

The screenshot shows a table of providers. A new row has been added for "geetest", which is categorized as "Captcha" and is of type "GEETEST".

Providers	Add	Name	Category	Type	Can signup	Can signin	Can unlink	Prompted	Rule	Action
geetest			Captcha	GEETEST						

# Web3

## Web3-Onboard

Add the Web3-Onboard Web3 provider to your application

## MetaMask

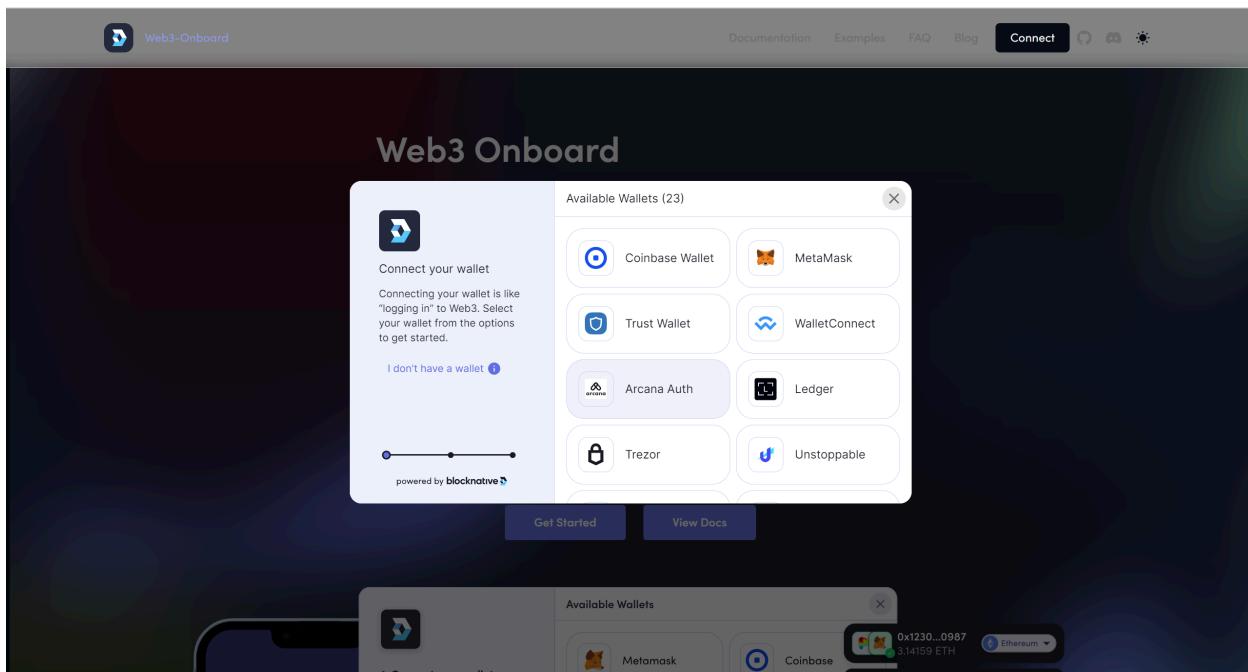
Adding the MetaMask Web3 provider to your application

# Web3-Onboard

## ⓘ NOTE

This is an example of how to configure Web3-Onboard as a Web3 provider.

[Web3-Onboard](#) can help users use different wallets for Web3 login. Casdoor allows using Web3-Onboard as an identity provider and enables Web3 login with Web3-Onboard.



## Step 1: Create a Web3-Onboard Web3 provider

First, you need to create a Web3-Onboard Web3 provider in Casdoor.

Name	Description
Category	Choose <code>Web3</code>
Type	Choose <code>Web3-Onboard</code>
Wallets	Choose the wallets that are allowed to log in

Edit Provider
Save
Save & Exit

---

Name ? :

Display name ? :

Organization ? :

Category ? :

Type ? :  `Web3-Onboard`

Wallets ? :  Injected  Coinbase  Trust  Gnosis  Sequence  Taho  Frontier  Infinity Wallet

Provider URL ? :

---

Save
Save & Exit

Currently, Casdoor only supports the wallets shown in the image above. The `Injected` wallets represent browser-injected wallets such as `MetaMask` or `Coinbase`.

## Step 2: Add the provider to your application

Second, add the Web3-Onboard Web3 provider to your application.

Providers [?](#) [Add](#)

Name	Category	Type	Can signup	Can signin	Can unlink	Prompted	Rule	Action
provider_storage_minio_s3	Storage		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<a href="#">▲</a> <a href="#">▼</a> <a href="#">trash</a>
provider_oauth_lark	OAuth		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<a href="#">▲</a> <a href="#">▼</a> <a href="#">trash</a>
provider_email_qq	Email		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<a href="#">▲</a> <a href="#">▼</a> <a href="#">trash</a>
provider_web3_metamask	Web3		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<a href="#">▲</a> <a href="#">▼</a> <a href="#">trash</a>
provider_google_oauth	OAuth		<input checked="" type="checkbox"/> One Tap	<a href="#">▲</a> <a href="#">▼</a> <a href="#">trash</a>				
provider_web3_onboard	Web3		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<a href="#">▲</a> <a href="#">▼</a> <a href="#">trash</a>

## Step 3: Login with Web3-Onboard

Now you can log in through Web3-Onboard. Here is a demo video.

# MetaMask

 NOTE

This is an example of how to configure MetaMask as a Web3 provider.

MetaMask is a browser extension and app that functions as both a cryptocurrency wallet and a gateway to blockchain apps. Casdoor allows you to use MetaMask as an identity provider and enables Web3 login with MetaMask.

## Step 1: Create a MetaMask Web3 provider

To start, you need to create a MetaMask Web3 provider in Casdoor.

Name	Description
Category	Choose <button>Web3</button>
Type	Choose <button>MetaMask</button>

Edit Provider
Save
Save & Exit

---

Name <span>?</span> :	metamask_provider
Display name <span>?</span> :	MetaMask Provider
Organization <span>?</span> :	admin (Shared)
Category <span>?</span> :	Web3
Type <span>?</span> :	MetaMask
Provider URL <span>?</span> :	<a href="#">🔗</a>

---

Save
Save & Exit

## Step 2: Add the provider to your application

Next, add the MetaMask Web3 provider to your application.

The screenshot shows a provider configuration interface with the following details:

- Providers:** A list of providers including "provider\_storage\_minio\_s3", "provider\_oauth\_lark", "provider\_email\_qq", and "metamask\_provider". The "metamask\_provider" is highlighted with a red box.
- Preview:** Buttons for "Copy SAML metadata URL" and "Copy sign-in page URL".
- Table:** A table showing provider settings:
 

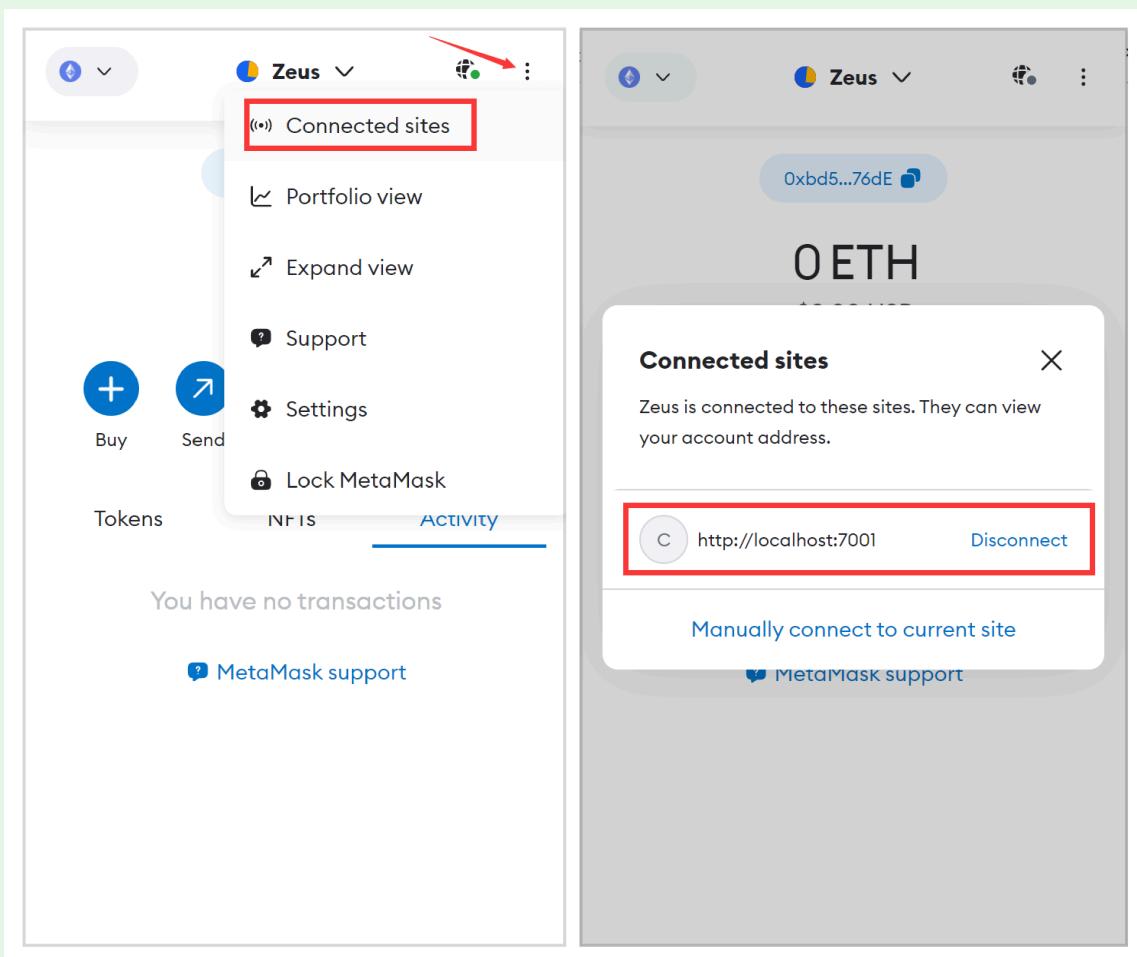
Name	Category	Type	Can sign-up	Can sign-in	Can un-link	Prompted	Rule	Action
metamask_provider	Web3	MetaMask	On	On	On	Off		Up/Down

## Step 3: Login with MetaMask

You can now log in with MetaMask. Here is a demo video.

 TIP

1. When logging in with MetaMask, please authorize only one Ethereum address. Casdoor will only bind one Ethereum address per user.
2. If you want to switch to another Ethereum address for login, please disconnect the connection between the current Ethereum address and Casdoor first.



# Resources

## Overview

Upload resources in Casdoor

# Overview

You can upload resources in Casdoor. Before uploading resources, you need to configure a storage provider. Please refer to the [Storage Provider](#) section for more information.

Once you have configured at least one storage provider and added it to your application, you can proceed.

Providers <a href="#">?</a> :			
Providers	Add		
Name	Category	Type	ca
Provider_azure	Storage	A	
Github_1	OAuth	G	
provider_Alipay	Payment	支	

Great! Now let's take a look at an example of how to [upload](#) and [delete](#) resources.

## Uploading Resources

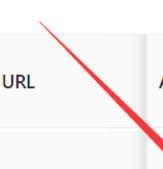
Users can upload various types of resources, such as files and images, to the [cloud storage](#) that you have configured.



Resources		<a href="#">Upload a file...</a>			
Provider	File Name	Content	Created time	Tag	
provider_storage_aliyun_oss	source/casbin/leo220yuyaodog/2022_ICM_Problem_D.pdf		2022-05-18 17:25:21	custom	
provider_storage_aliyun_oss	source/built-in/admin/美的2021&22Q1交流.pdf		2022-05-18 12:28:01	custom	
provider_storage_aliyun_oss	source/casbin/admin/solo.svg		2022-05-17 16:25:39	custom	

## Deleting Resources

If you no longer need a particular resource, you can choose to delete it by clicking the "Delete" button.



Created time	Tag	Type	Format	File size	Preview	URL	Action
2022-05-19 23:16:55	custom	image	.jpg	70.3 KB		<a href="#">Copy Link</a>	<a href="#">Delete</a>

# Products

## Products

Add products that you want to sell

## Payment

View the transaction information of the products in Payment

# Products

You can add the product (or service) you want to sell. The following will guide you through the process of adding a product.

## Configuring Product Attributes

First, you need to understand the basic properties of the product:

- Tag
- Detail
- Currency
- Price
- Quantity
- Sold

Tag <a href="#">?</a> :	Casdoor Summit 2022
Detail <a href="#">?</a> :	This is a description
Currency <a href="#">?</a> :	USD
Price <a href="#">?</a> :	19
Quantity <a href="#">?</a> :	100
Sold <a href="#">?</a> :	10

## Payment Provider

In addition to setting these properties, you also need to add payment providers to the product. Multiple payment providers can be added to a product.

To learn how to configure a payment provider, refer to [Payment Provider](#)

Payment providers <a href="#">?</a> :	provider_Alipay <a href="#">x</a>
Return URL <a href="#">?</a> :	<a href="http://localhost:8000/products/callback">http://localhost:8000/products/callback</a>

Finally, fill in the **Return URL**. This is the URL to which the payment provider page will redirect after the payment is completed.

# Preview the Product

You're done! Review the details and save:

Preview [\(1\)](#):

[Test buy page.](#)

Buy Product					
Name	Product				
Detail	This is a subscription.	Tag	Casdoor Summit 2022	SKU	product
Image	 Casdoor				
Price	\$300 (USD)	Quantity	99	Sold	10
Pay	 Alipay				

# Payment

After the payment is successfully processed, you will be able to view the transaction information of the products in the **Payment** section. This information will include details such as the organization, user, purchase time, and product name.

# Invoice

To issue an invoice, navigate to the edit screen by clicking on the following link: [payment\\_edit.png](#).

On the edit screen, you will need to fill in the relevant invoice information. There are two invoice types available: `individual` and `organization`.

To complete the process, simply click on the "issue invoice" button.

Please let us know if you have any further questions or concerns.

# Pricing

## Overview

Casdoor Pricing Overview

## Plan

Casdoor Plan Overview

## Pricing Overview

An Overview of Casdoor Pricing

## Subscription

Casdoor Subscription Overview

# Overview

Casdoor can be used as a subscription management system through its [Plan](#), [Pricing](#), and [Subscription](#) features.

You can choose which plans to include in your price list, as shown in the pictures below:

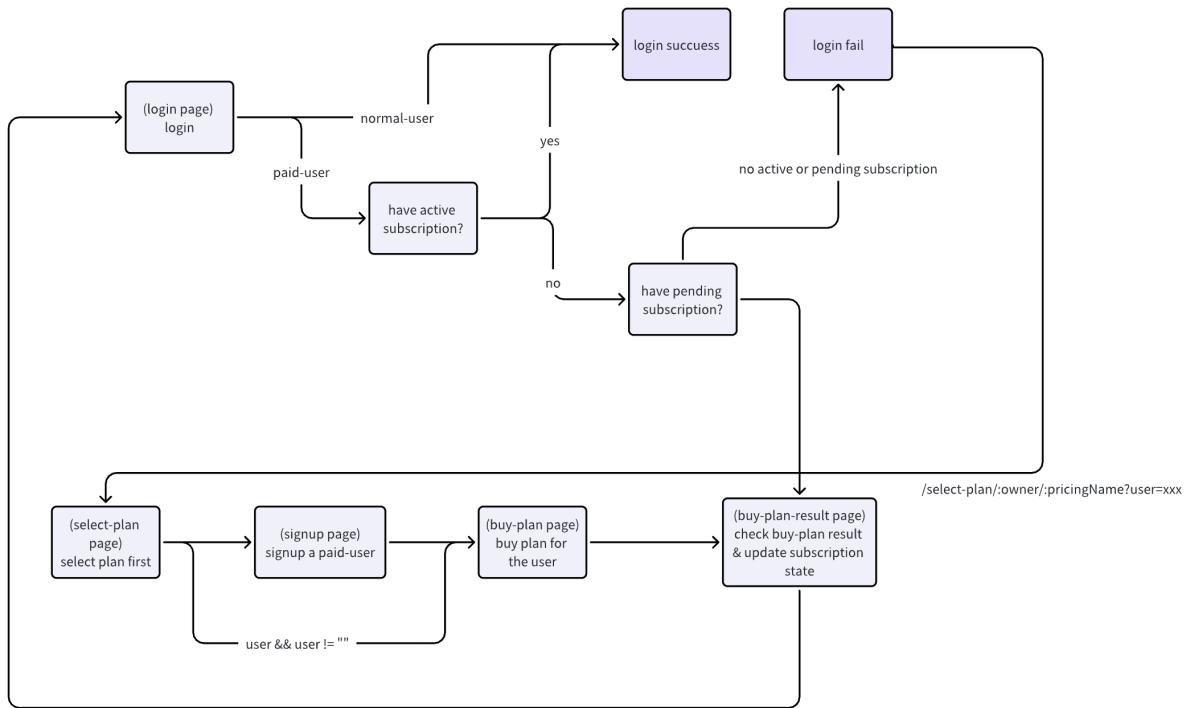
Casdoor Pricing		
Casdoor hosting services provided by Casbin Inc.		
Basic Plan	Premium Plan	Enterprise Plan
<b>\$ 10.01</b> per month	<b>\$ 20.02</b> per month	<b>\$ 30.03</b> per month
For small teams, with limited technical support	For fast growing start-ups, with full technical support	For large & medium-sized enterprise, with full technical support
<a href="#">Getting started</a>	<a href="#">Getting started</a>	<a href="#">Getting started</a>

*Free 7-days trial available!*

Each [Pricing](#) belongs to a specific [Application](#). Users can select a plan and sign up as a [paid-user](#) through the corresponding [pricing page URL](#) of the [Pricing](#).

## General flow

The general flow looks like this:



1. Users enter the select-plan page of the **Pricing** by accessing the **pricing page URL** shared by the admin.

**Pricing Configuration:**

Setting	Value
Organization	built-in
Name	pricing_casdoor
Display name	Casdoor Pricing
Description	Casdoor hosting services provided by Casbin Inc.
Application	app-built-in
Plans	plan_basic X plan_premium X plan_enterprise X
Trial duration	7
Is enabled	Enabled
Preview	<a href="#">Copy pricing page URL</a> (button highlighted with a red box)

**Casdoor Pricing Preview:**

## Casdoor Pricing

Casdoor hosting services provided by Casbin Inc.

Basic Plan	Premium Plan	Enterprise Plan
<b>\$ 10.01</b> per month For small teams, with limited technical support	<b>\$ 20.02</b> per month For fast growing start-ups, with full technical support	<b>\$ 30.03</b> per month For large & medium-sized enterprise, with full technical support
<a href="#">Getting started</a>	<a href="#">Getting started</a>	<a href="#">Getting started</a>

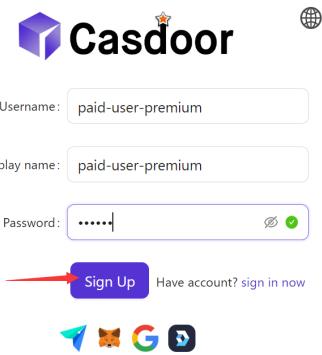
2. Users select a Plan to subscribe and complete the signup process, becoming a paid-user.

## Casdoor Pricing

Casdoor hosting services provided by Casbin Inc.

Basic Plan	Premium Plan	Enterprise Plan
<b>\$ 10.01</b> per month For small teams, with limited technical support	<b>\$ 20.02</b> per month For fast growing start-ups, with full technical support	<b>\$ 30.03</b> per month For large & medium-sized enterprise, with full technical support
<a href="#" style="background-color: #007bff; color: white; padding: 5px 10px; text-decoration: none; border-radius: 5px;">Getting started</a>	<a href="#" style="background-color: #007bff; color: white; padding: 5px 10px; text-decoration: none; border-radius: 5px;">Getting started</a>	<a href="#" style="background-color: #007bff; color: white; padding: 5px 10px; text-decoration: none; border-radius: 5px;">Getting started</a>

Free 7-days trial available!



3. After signing up, users will be redirected to the buy-plan page for the selected Plan to proceed with the payment.

### Buy Product

Name	Auto Created Product for Plan built-in/plan_premium(Premium Plan)	Tag	auto_created_product_for_plan	SKU	product_6g2mcm
Detail	This Product was auto created for Plan built-in/plan_premium(Premium Plan)				
Image					
Price	\$20.02 (USD)	Quantity	999	Sold	0
Pay	 Stripe  PayPal				

- Once the payment is successfully completed, the user's **Subscription** for the **Plan** is activated. Now, users can log in to Casdoor as a **paid-user**.



You have successfully completed the payment: Auto Created Product for Plan built-in/plan\_premium(Premium Plan)

Please click the below button to return to the original website

[Return to Website](#)

Here is a demo video:

# Plan

The `Plan` describes a list of features for an application, each with its own name and price.

The features of a `Plan` depend on the Casdoor `Role`, which comes with a set of `Permissions`.

This allows for the independent description of a `Plan`'s features, regardless of naming and pricing.

For example, a `Plan` may have different prices depending on the country or date.

The following picture illustrates the relationship between a `Plan` and a `Role`.

## Plan

- Display Name
  - Price per month
- ...

## Role

permission 1  
permission 2  
...  
permission N

# Plan Properties

Every `Plan` has the following properties:

- `Organization`
- `Name`
- `CreatedTime`
- `DisplayName`
- `Role`
- `PricePerMonth`
- `Currency`
- `PaymentProviders`: Users can purchase the `Plan` through the Payment providers. For information on how to configure a Payment provider, see [Payment provider](#).
- `IsEnabled`

The screenshot shows a user interface for editing a plan. At the top, there are three buttons: 'Edit Plan' (light gray), 'Save' (white), and 'Save & Exit' (purple). Below these are several input fields and dropdown menus:

- Organization**: A dropdown menu showing 'built-in'.
- Name**: An input field containing 'plan\_enterprise'.
- Display name**: An input field containing 'Enterprise Plan'.
- Role**: An empty input field.
- Description**: An input field containing 'For large & medium-sized enterprise, with full technical support'.
- Price per month**: An input field containing '30.03'.
- Price per year**: An input field containing '100'.
- Currency**: An input field containing 'USD'.
- Payment providers**: A dropdown menu showing 'provider\_payment\_stripe x' and 'provider\_payment\_paypal x'.
- Is enabled**: A toggle switch that is turned on (blue).

At the bottom, there are two buttons: 'Save' (white) and 'Save & Exit' (purple).

When a **Plan** is created through Casdoor, a related **Product** is automatically created.

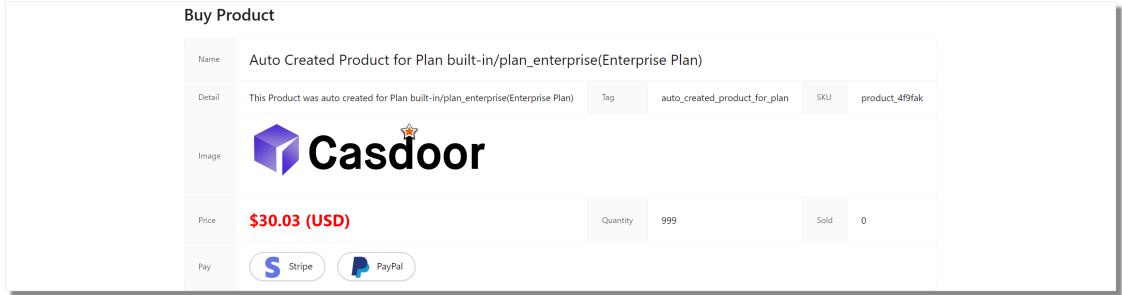
The information configured for the **Plan** will be automatically synchronized to the **Product**.

When users buy a **Plan**, they are essentially purchasing the related **Product** of the selected **Plan**.

Product Configuration:

Name	product_4f9fak
Display name	Auto Created Product for Plan built-in/plan_enterprise(Enterprise Plan)
Organization	built-in
Image	<a href="https://cdn.casbin.org/img/casdoor-logo_1185x236.png">https://cdn.casbin.org/img/casdoor-logo_1185x236.png</a>
Preview	
Tag	auto_created_product_for_plan
Detail	This Product was auto created for Plan built-in/plan_enterprise(Enterprise Plan)
Description	
Currency	USD
Price	30.03
Quantity	999
Sold	0
Payment providers	provider_payment_stripe   provider_payment_paypal
Return URL	<a href="#">Test buy page</a>
State	Published

Buy Product Page Preview:

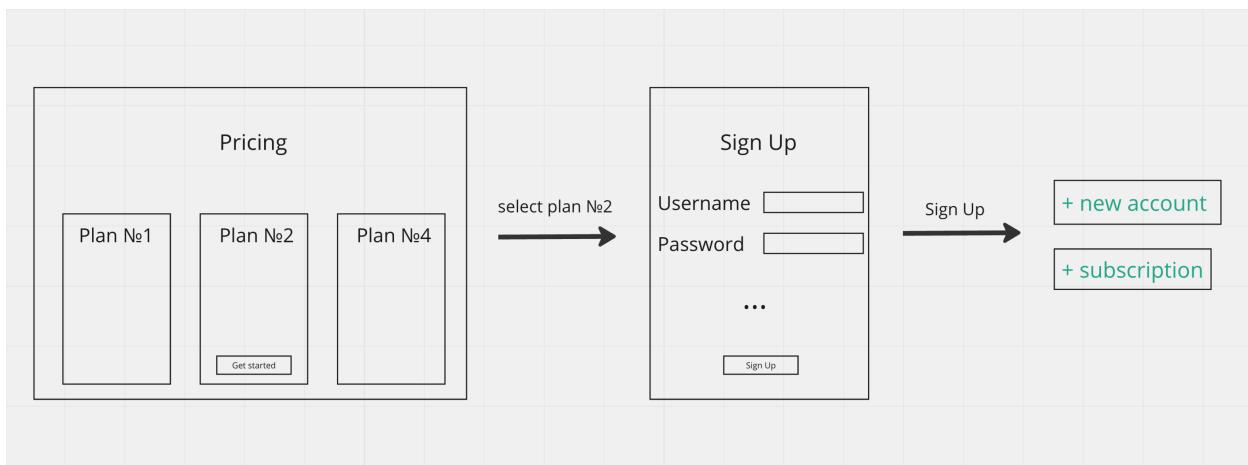


The preview shows the 'Buy Product' page with the following details:  
Name: Auto Created Product for Plan built-in/plan\_enterprise(Enterprise Plan)  
Detail: This Product was auto created for Plan built-in/plan\_enterprise(Enterprise Plan)  
Image: Casdoor logo  
Price: \$30.03 (USD)  
Quantity: 999  
Sold: 0  
Pay: Stripe, PayPal

# Pricing Overview

The **Pricing** feature contains one or more **Plan** options, allowing users to sign up for **Applications** at different price-points.

The general flow of pricing options is depicted in the image below:



## Pricing Properties

Every **Pricing** subscription has the following properties:

- **Organization**
- **Name**
- **CreatedTime**
- **DisplayName**
- **Description**
- **Plans**: An array of Plans.
- **.IsEnabled**
- **Application**

To see an example of the pricing interface, refer to the image below:

Edit Pricing Save Save & Exit

Organization : built-in

Name : pricing\_casdoor

Display name : Casdoor Pricing

Description : Casdoor hosting services provided by Casbin Inc.

Application : app-built-in

Plans : plan\_basic x plan\_premium x plan\_enterprise x

Trial duration : 7

Is enabled :

Preview : [Copy pricing page URL](#)

## Casdoor Pricing

Casdoor hosting services provided by Casbin Inc.

Basic Plan	Premium Plan	Enterprise Plan
<b>\$ 10.01</b> per month	<b>\$ 20.02</b> per month	<b>\$ 30.03</b> per month
For small teams, with limited technical support	For fast growing start-ups, with full technical support	For large & medium-sized enterprise, with full technical support
<a href="#">Getting started</a>	<a href="#">Getting started</a>	<a href="#">Getting started</a>

# Subscription

The `Subscription` feature helps in managing a user's selected `Plan`, making it easy to control the access to `Application` features.

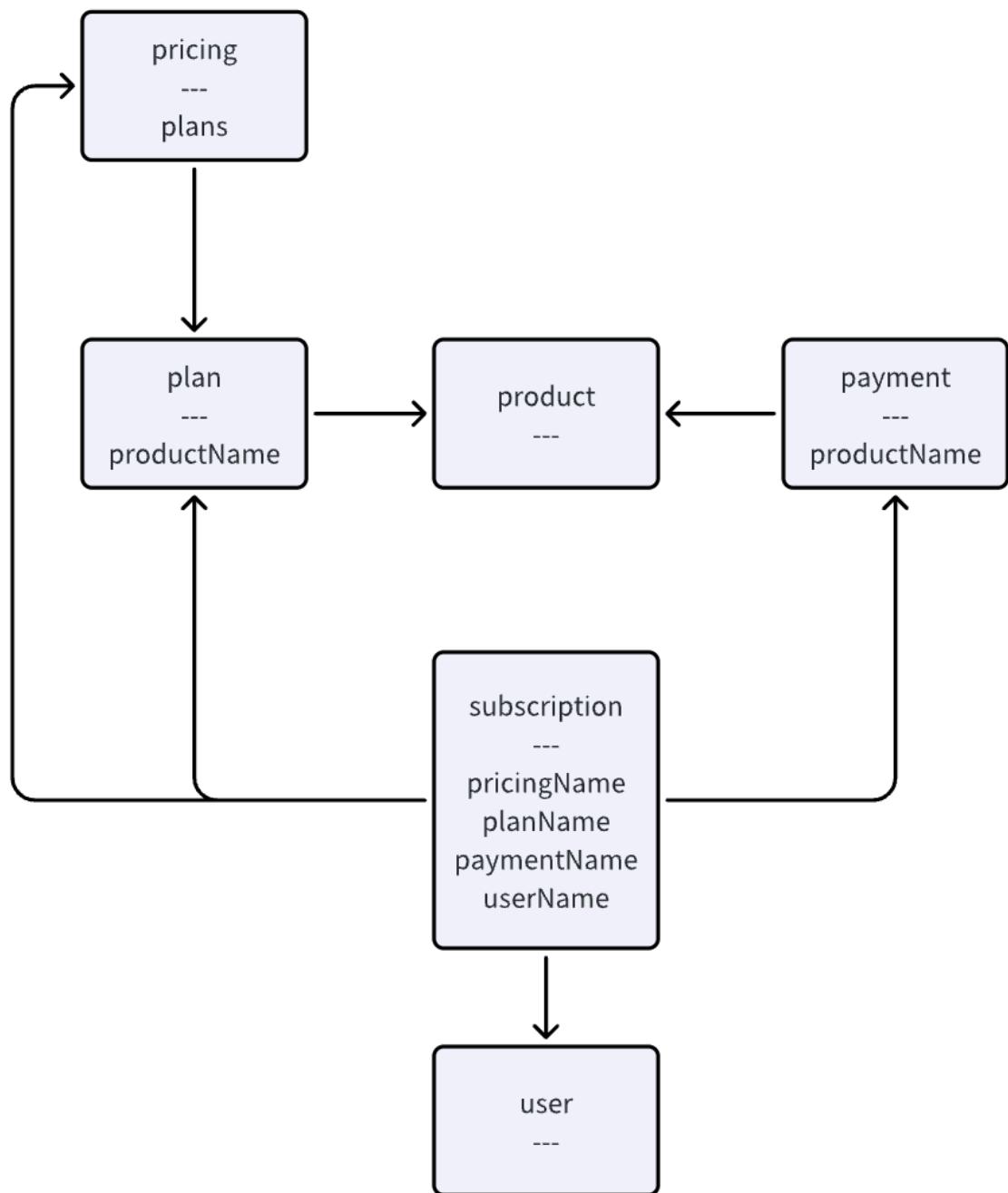


Since each `Plan` is based on a `Role`, you can assign the Plan's Role to a user and use the enforce API for permission checking.

A `Subscription` can be created in three ways:

- Manually by an admin
- Via the Pricing flow (after signing up as a `paid-user` and purchasing the selected `Plan`)
- Via API

The relationship between `Pricing`, `Plan`, `Subscription`, `Product`, and `Payment` is as follows:



# Subscription properties

Every Subscription has these properties:

- Owner
- Name
- CreatedTime
- DisplayName
- Description
- Duration: The duration of the Subscription.
- StartTime: The starting time for the Subscription to take effect.
- EndTime: The end time for the Subscription to take effect.
- Pricing: The related Pricing.
- Plan: The related Plan.
- Payment: The related Payment.
- User: The user who holds this Subscription.
- State: Currently, the Subscription has the following states: Pending, Error, Suspended, Active, Upcoming, Expired.

Edit Subscription

Organization <small>②</small> :	built-in
Name <small>②</small> :	sub.e719e2
Display name <small>②</small> :	New Subscription - e719e2
Duration <small>②</small> :	30
Start time <small>②</small> :	2023-08-25 <input type="button" value=""/>
End time <small>②</small> :	2023-09-24 <input type="button" value=""/>
User <small>②</small> :	paid-user-x
Pricing <small>②</small> :	pricing_casdoor
Plan <small>②</small> :	plan_premium
Payment <small>②</small> :	payment_20230825_160124_2d18867
Description <small>②</small> :	
State <small>②</small> :	<input checked="" type="radio"/> Active <input type="radio"/> Pending <input type="radio"/> Upcoming <input type="radio"/> Expired <input type="radio"/> Error <input type="radio"/> Suspended

# Users

## Overview

Managing Users in Casdoor

## MFA / 2FA

Secure your account with MFA / 2FA

## User Roles

Roles assigned to users

## Permissions

User Permissions

# Overview

## User Properties

As an authentication platform, Casdoor is able to manage users. Every user has the following properties:

- `Owner`: The organization that owns the user
- `Name`: The unique username
- `CreatedTime`
- `UpdatedTime`
- `Id`: Unique identifier for each user
- `Type`
- `Password`
- `PasswordSalt`
- `PasswordOptions`: Password complexity options
- `DisplayName`: Displayed in the user interface
- `FirstName`
- `LastName`
- `Avatar`: A link to the user's avatar
- `PermanentAvatar`
- `Email`
- `Phone`
- `Location`
- `Address`
- `Affiliation`
- `Title`

- `IdCardType`
- `IdCard`
- `Homepage`
- `Bio`
- `Tag`
- `Region`
- `Language`
- `Gender`
- `Birthday`
- `Education`
- `Score`
- `Karma`
- `Ranking`
- `IsDefaultAvatar`
- `IsOnline`
- `IsAdmin`: Indicates whether the user is an admin of their organization
- `IsGlobalAdmin`: Indicates whether the user has permission to manage the Casdoor
- `IsForbidden`
- `IsDeleted`
- `SignupApplication`
- `Hash`
- `PreHash`
- `CreatedIp`
- `LastSigninTime`
- `LastSigninIp`
- `Roles`: An array of the user's roles

- `Permissions`: An array of the user's permissions

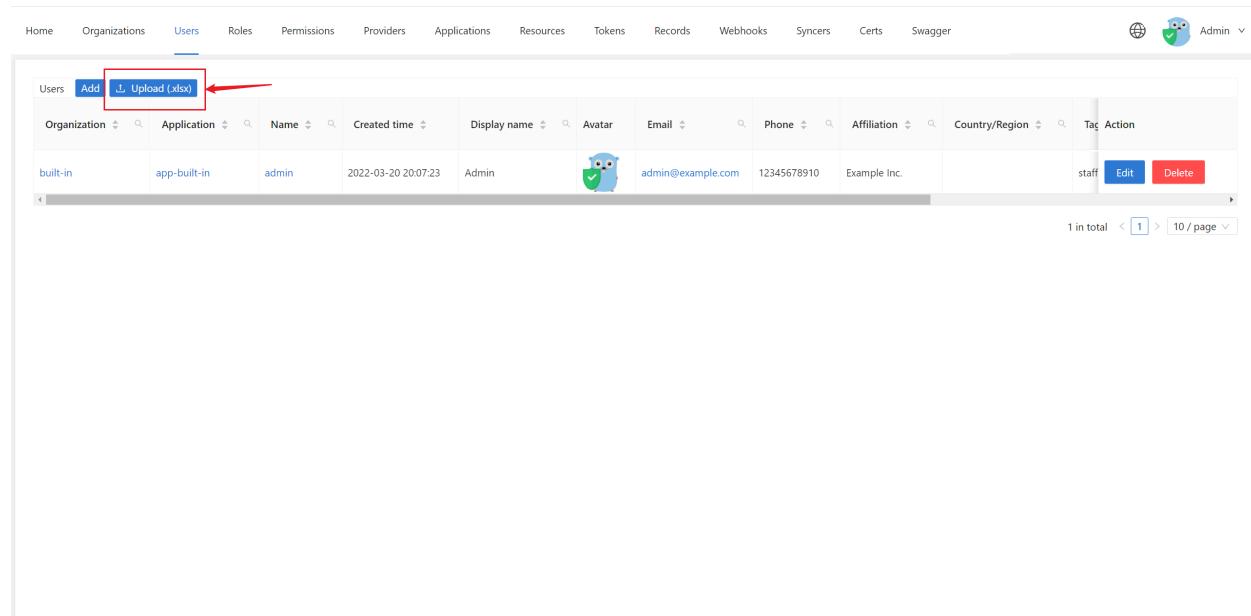
Unique IDs for social platform logins:

- `Github`
- `Google`
- `QQ`
- `WeChat`
- `Facebook`
- `DingTalk`
- `Weibo`
- `Gitee`
- `LinkedIn`
- `Wecom`
- `Lark`
- `Gitlab`
- `Adfs`
- `Baidu`
- `Casdoor`
- `Infoflow`
- `Apple`
- `AzureAD`
- `Slack`
- `Steam`
- `Ldap`
- `Properties`: A string->string map that stores any additional properties.

# Importing Users from XLSX File

You can add new users or update existing Casdoor users by uploading an XLSX file containing user information.

In the Admin Console, go to Users and click the Upload (.xlsx) button.



The screenshot shows the Casdoor Admin Console interface. At the top, there is a navigation bar with links: Home, Organizations, Users (which is highlighted in blue), Roles, Permissions, Providers, Applications, Resources, Tokens, Records, Webhooks, Syncers, Certs, and Swagger. On the far right, there is a user icon labeled "Admin". Below the navigation bar is a search bar with a placeholder "Organization" and a "Search" button. To the right of the search bar is a "Upload (.xlsx)" button, which is highlighted with a red box and a red arrow pointing to it. The main area is a table listing users. The columns include: Organization, Application, Name, Created time, Display name, Avatar, Email, Phone, Affiliation, Country/Region, Tag, and Action. There is one row visible in the table:

Organization	Application	Name	Created time	Display name	Avatar	Email	Phone	Affiliation	Country/Region	Tag	Action
built-in	app-built-in	admin	2022-03-20 20:07:23	Admin		admin@example.com	12345678910	Example Inc.		staff	<button>Edit</button> <button>Delete</button>

At the bottom of the page, there is a footer note: "Made with ❤ by Casdoor".

Select your XLSX file and click Open. The users will be imported.

We provide a [template XLSX file](#) named `user_test.xlsx` in the `xlsx` folder. The template includes 5 test users and headers for some required user properties.

Home   Organizations   **Users**   Roles   Permissions   Providers   Applications   Users uploaded successfully, refreshing the page   Syncers   Certs   Swagger    Admin

**user\_test.xlsx**

Organization	Application	Name	Created time	Display name	Avatar	Email	Phone	Affiliation	Country/Region	Tag	Action
built-in	app-built-in	tesla	2022-03-20 20:49:03	Nikola Tesla		9v73hn@example.com	40738134827	Example Inc.	United States of America	sciencist	<button>Edit</button> <button>Delete</button>
built-in	app-built-in	gauss	2022-03-20 20:48:33	Carl Friedrich Gauss		vqdsan@example.com	98621482844	Example Inc.	Germany	mathematician	<button>Edit</button> <button>Delete</button>
built-in	app-built-in	galileleo	2022-03-20 20:47:58	Galileo Galilei		8p4f38@example.com	22596937332	Example Inc.	Italy	scientist	<button>Edit</button> <button>Delete</button>
built-in	app-built-in	euler	2022-03-20 20:47:08	Leonhard Euler		3dzw4@example.com	74409642681	Example Inc.	Switzerland	mathematician	<button>Edit</button> <button>Delete</button>
built-in	app-built-in	einstein	2022-03-20 20:46:29	Albert Einstein		z6mive@example.com	60062541396	Example Inc.	Germany	scientist	<button>Edit</button> <button>Delete</button>
built-in	app-built-in	admin	2022-03-20 20:07:23	Admin		admin@example.com	12345678910	Example Inc.		staff	<button>Edit</button> <button>Delete</button>

6 in total < 1 > | 10 / page ▾

Made with ❤ by **Casdoor**

# MFA / 2FA

## About multi-factor authentication

MFA (Multi-Factor Authentication) is a security measure that can enhance the security of users and systems. It requires users to provide two or more factors of authentication to verify their identity when logging in or performing sensitive operations.

For Casdoor, the second form of authentication is a code that is sent as a text message or email. Once you enable MFA, Casdoor generates an authentication code every time someone attempts to sign in to your account. The only way someone can sign in to your account is if they know both your password and have access to the authentication code.

## Configuring MFA

1. On the user profile page, you can see the configuration of multi-factor authentication. If you cannot see it, make sure the organization has added the multi-factor authentication item in the account items table.

Managed accounts (1) Managed accounts [Add](#)

Application	Username	Password	Action
			No data

Multi-factor authentication (1) Multi-factor methods

Type : sms	<a href="#">Setup</a>
Type : email	<a href="#">Setup</a>

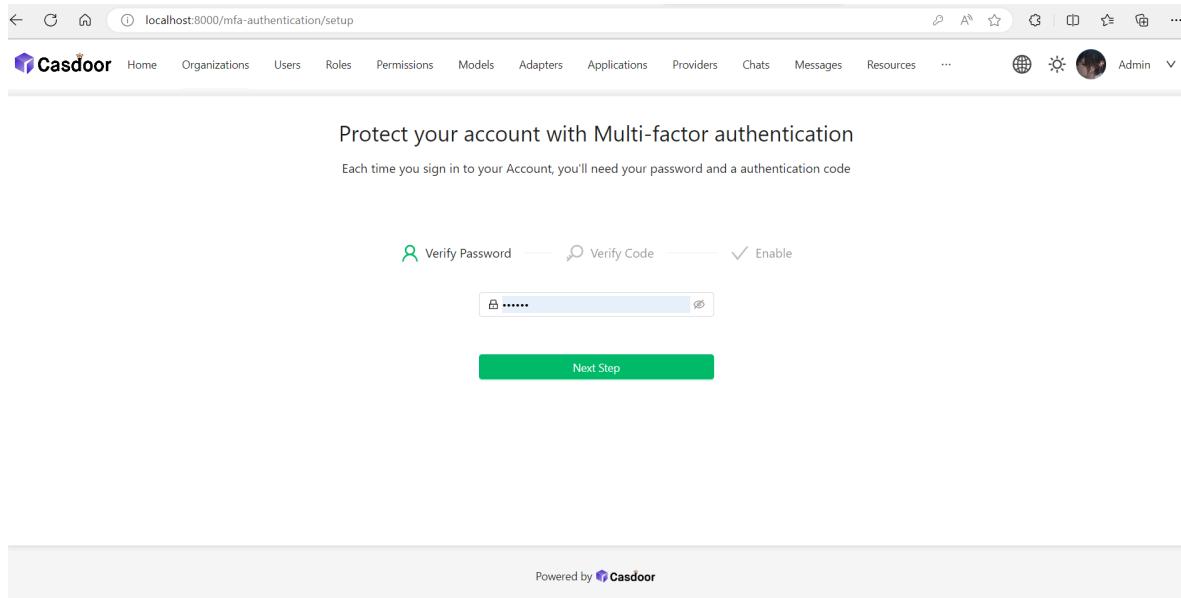
ID card (1) [Edit](#)

2. Click the "setup" button.

Multi-factor authentication (1) Multi-factor methods

Type : sms	<a href="#">Setup</a>
Type : email	<a href="#">Setup</a>

3. Type your password and click "Next Step".



## Configuring multi-factor authentication using a TOTP mobile app

A time-based one-time password (TOTP) application automatically generates an authentication code that changes after a certain period of time. We recommend using:

- [Google Authenticator](#)
- [Microsoft Authenticator.](#)

### TIP

To configure authentication via TOTP on multiple devices, during setup, scan the QR code using each device at the same time. If 2FA is already enabled, and you want to add another device, you must reconfigure your TOTP app from the user profile page.

## Protect your account with Multi-factor authentication

Each time you sign in to your Account, you'll need your password and a authentication code

 Verify Password —  Verify Code —  Enable



Scan the QR code with your authenticator app

Or copy the secret to your authenticator app

P757K7XT5MIO5RPZQYSC



 Passcode

Next Step

[Use email](#)    [Use SMS](#)

1. In the "Verify Code" step, do one of the following:

- Scan the QR code with your mobile device's app. After scanning, the app displays a six-digit code that you can enter on Casdoor.
- If you cannot scan the QR code, you can manually copy and enter the secret in your TOTP app instead.

2. The TOTP mobile application saves your account on Casdoor and generates a new authentication code every few seconds. On Casdoor, type the code into the "Passcode" field and click "Next Step".

3. Above the "Enable" button, copy your recovery codes and save them to your device. Save them to a secure location because your recovery codes can help

you regain access to your account if you lose access.

## Protect your account with Multi-factor authentication

Each time you sign in to your Account, you'll need your password and a authentication code

 Verify Password —  Verify Code —  Enable

Please save this recovery code. Once your device cannot provide an authentication code, you can reset mfa authentication by this recovery code

ad30de29-3ce0-4e39-a97f-ceff1d503d3c

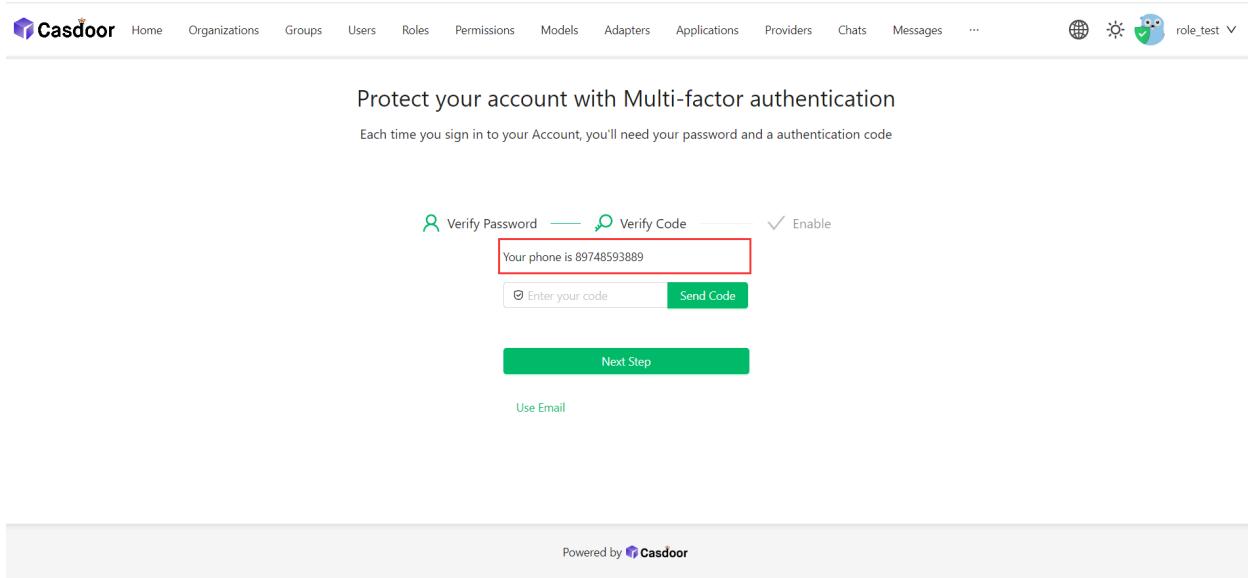
Enable

### CAUTION

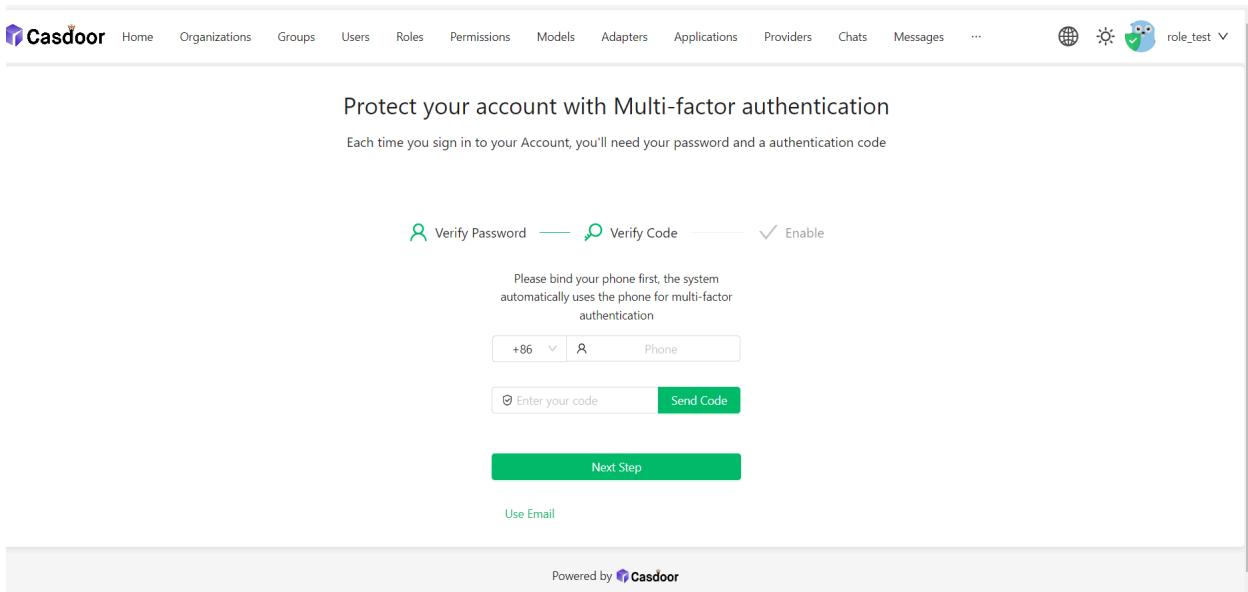
Each recovery code can only be used once. If you use a recovery code to sign in, it will become invalid.

## Configuring multi-factor authentication using text messages

If you have added your mobile phone number, Casdoor will use it to send you a text message.



If you have not added your mobile phone number, you need to add it first.



1. Select your country code and enter your mobile phone number.
2. Check if your information is correct and click "Send Code".
3. You will receive a text message with a security code. Then enter the code into the "Enter your code" field and click "Next Step".

- Above the "Enable" button, copy your recovery codes and save them to your device. Save them to a secure location because your recovery codes can help you regain access to your account if you lose access.

## Configuring multi-factor authentication using email

Configuring email as your multi-factor authentication method is similar to using text messages.

- Use your current email or enter your email address and click "Send Code".
- Then enter the code into the "Enter your code" field and click "Next Step".
- Above the "Enable" button, copy your recovery codes and save them to your device. Save them to a secure location because your recovery codes can help you regain access to your account if you lose access.

## Changing your preferred MFA method

You can add multiple MFA methods. Only the preferred method will be used when you sign in.

If you want to set a preferred MFA method, click the "Set preferred" button.

The screenshot shows a user interface for managing multi-factor authentication methods. At the top, there is a header for "Multi-factor authentication" with a link to "Multi-factor methods". Below this, there are two entries:

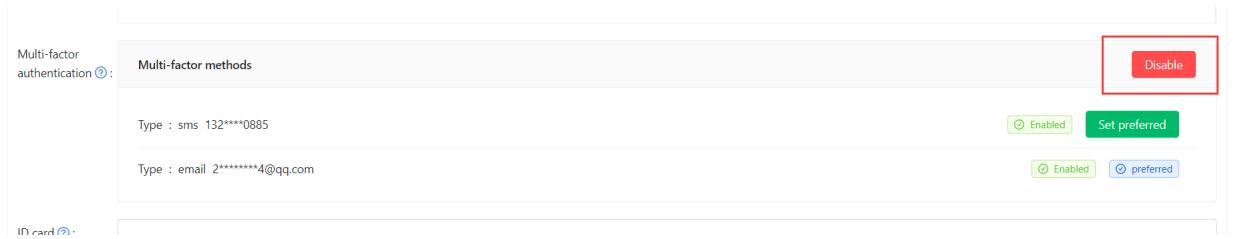
- Type : sms 132\*\*\*\*0885
- Type : email 2\*\*\*\*\*4@qq.com

For each entry, there are two buttons: "Enabled" (green) and "preferred" (blue). The "preferred" button for the Email method is highlighted with a red box. There is also a "Set preferred" button next to it, which is also highlighted with a red box. At the bottom, there is a section for "ID card" with a placeholder box.

A "Preferred" label will be displayed on your preferred method.

# Disabling multi-factor authentication

If you want to disable multi-factor authentication, click the "Disable" button. All your multi-factor authentication settings will be deleted.



# User Roles

Each user can have multiple roles. You can view the roles assigned to a user on their profile.

Bio [?](#) :

Tag [?](#) :

Signup application [?](#) :

Roles [?](#) :   (highlighted)

Permissions [?](#) :

3rd-party logins [?](#) :

Is admin [?](#) :

Is global admin [?](#) :

Is forbidden [?](#) :

Is deleted [?](#) :

## Role Properties

Every role has the following properties:

- `Owner`
- `Name`
- `CreatedTime`
- `DisplayName`
- `Enabled`
- `Users`: An array of sub users belonging to this role
- `Roles`: An array of sub roles belonging to this role

# Permissions

Each user may have multiple permissions. You can view the user's permissions on their profile.

The screenshot shows a user profile configuration page. At the top, there are fields for Bio, Tag, Signup application, and Roles, each with a single input field. Below these, under the heading 'Permissions', there is a list of roles ('role\_test', 'role\_test2') and a permission ('permission\_test'). This entire section is highlighted with a red rectangular box. Following this, there is a section for '3rd-party logins' with four toggle switches labeled 'Is admin', 'Is global admin', 'Is forbidden', and 'Is deleted', all of which are currently off (grayed out).

Bio ? :

Tag ? :

Signup application ? :

Roles ? :

Permissions ? :

3rd-party logins ? :

Is admin ? :

Is global admin ? :

Is forbidden ? :

Is deleted ? :

## Permission Properties

Permissions have the following properties:

- `Owner`
- `Name`
- `CreatedTime`
- `DisplayName`
- `.IsEnabled`
- `Model`
- `Users`: An array of this role's sub-users
- `Roles`: An array of this role's sub-roles

- ResourceType
- Resources: An array of the resources
- Actions: An array of actions
- Effect

# Syncer

## Overview

Synchronizing users in Casdoor

## Database

Using Database Syncer to synchronize databases

## Keycloak

Using Keycloak Syncer to synchronize Keycloak

# Overview

As an authentication platform, Casdoor can easily manage users stored in databases.

## Syncer

Casdoor stores users in the `user` table. So, when you plan to use Casdoor as an authentication platform, there is no need to worry about migrating your application's user data into Casdoor. Casdoor provides a **syncer** to quickly help you synchronize user data to Casdoor.

You need to specify the database and user table that you want to synchronize with Casdoor, and the syncer will take care of syncing the data at regular intervals. For more details, refer to the [database syncer](#).

## Synchronization hash

Casdoor uses a hash function to determine how to update a user. This hash value is calculated for each user in the table, using information such as the password or mobile phone number.

If the calculated hash value of a user with a specific `Id` changes compared to the original value, Casdoor confirms that the user table has been updated. Subsequently, the database updates the old information, thereby achieving **bilateral synchronization** between the Casdoor user table and the original user table.

# Database

## Database Syncer

The users table we created as a demo is imported from the [template XLSX file](#).

owner	name	created_time	updated_time	id	type	password	password_salt	display_name	first_name	last_name	avatar	permanent_avatar_email
built-in	einstein	2022-03-20T20:46:29+08:00		1c57cc37-37f5-4def-9e9f-082189ef63d2	normal-user	123		Albert Einstein			https://casbin.org	z6mive@
built-in	euler	2022-03-20T20:47:08+08:00		bb7831b4-0d24-4e96-b043-18fd8cf15eb	normal-user	123		Leonhard Euler			https://casbin.org	3dzw4j@
built-in	galileo	2022-03-20T20:47:58+08:00		7920eb6c-f9f5-40ef-8e18-3ac99f49bdff	normal-user	123		Galileo Galilei			https://casbin.org	8p4f38@
built-in	gauss	2022-03-20T20:48:33+08:00		f0c288f6-2c0d-479b-b545-cb4cf96db36	normal-user	123		Carl Friedrich G��s			https://casbin.org	vqdsan@
built-in	tesla	2022-03-20T20:49:03+08:00		687c3068-fd21-4d32-b2ba-e13e0b369ax	normal-user	123		Nikola Tesla			https://casbin.org	9v73hn@

To create a new syncer, go to the **Syncers** tab and fill in all the required information as shown below. Then, save the changes.

Organization : built-in

Name : syncer\_qmpox9

Type : Database

Host : localhost

Port : 3306

User : root

Password : password

Database type : MySQL

Database : auth

Table : user

Table columns :

Column name	Column type	Casdoor column	Is key	Is hashed	Action
name	string	Name	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
id	string	Id	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
first_name	string	FirstName	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	



In general, you need to fill in at least the **ID** and **Name** in the Casdoor columns. Other important fields include **createdTime**, **Password**, and **DisplayName**.

The following fields are required:

- `Organization`: The organization that the user will be imported to
- `Name`: The syncer name
- `Type`: Select "database"
- `Host`: The original database host
- `Port`: The original database port
- `User`: The original database username
- `Password`: The original database password
- `Database type`: All Xorm-supported databases such as MySQL, PostgreSQL, SQL Server, Oracle, and SQLite
- `Database`: The original database name
- `Table`: The original user table name
- `Table columns`
- `Column name`: The original user column name
- `Column type`: The original user column type
- `Casdoor Column`: The Casdoor user column name

Optional fields:

- `Is hashed`: Whether to calculate hash value. When this option is enabled, the syncer will only synchronize the user if the field of the user in the origin table is updated. If this option is disabled, the syncer will still synchronize the user even if only the field is updated. In short, the user will not be synchronized until the fields involved in the hash calculation (enabled "Is hashed") are updated.
- `Is key`: Whether it is the primary key of the user in the origin table and the user in the Casdoor table. When synchronizing the database, it is determined based on the field whose "Is key" option is selected. At least one of the "Is key" buttons for fields should be selected. If none are selected, the first "Is

"key" option is selected by default.

- **Avatar base URL**: When syncing users, if the Avatar base URL is not empty and the origin user.avatar does not have the prefix "http", the new user.avatar will be replaced by Avatar base URL + user.avatar.
- **Affiliation table**: It is used to sync the affiliation of the user from this table in the database. Since the affiliation may be a code of type int in the "Affiliation table", it needs to be mapped to a string. Refer to [getAffiliationMap\(\)](#). Casdoor has some redundant fields to borrow, so [here](#) we use **score** to map the int code to a string name.

Once you have configured the syncer, enable the **Is enable** option and save. The syncer will start working.

Name	Organization	Created time	Type	Host	Port	User	Password	Database type	Database	Action
syncer_qmpox9	built-in	2023-08-09 18:57:36	Database	localhost	3306	root	password	mysql	auth	<button>Sync</button> <button>Edit</button> <button>Delete</button>

You can also use the "Sync" button for database synchronization.

## Update

When the **Table columns** are set as shown in the following figure, the update operation is performed.

Table columns <small>(2)</small>						
Column name	Column type	Casdoor column	Is key	Is hashed	Action	Action
name	string	Name	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
id	string	Id	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
first_name	string	FirstName	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
password	string	Password	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

If the data in the two tables is different for the key, you can synchronize the data between the two tables based on the primary key.

- Update user in the original table

- Update user in the Casdoor table

## Add

When the `Table columns` are set as shown in the following figure, the add operation is performed.

Table columns <small>(1)</small>		Add	Column type	Casdoor column	Is key	Is hashed	Action
Column name							
name		string	▼	Name	▼	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
id		string	▼	Id	▼	<input type="checkbox"/>	<input checked="" type="checkbox"/>
first_name		string	▼	FirstName	▼	<input type="checkbox"/>	<input checked="" type="checkbox"/>
password		string	▼	Password	▼	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If the number of data between the two tables is different, add the data to the table with the lower number of data based on the primary key.

- Add user in the original table
- Add user in the Casdoor table

# Keycloak

## Keycloak Syncer

The Keycloak syncer is essentially the same as the [database syncer](#), with the added functionality of automatic configuration for Keycloak [Tables](#) and [Table columns](#).

Furthermore, the Keycloak syncer will fetch data from the [credential](#) table, [keycloak\\_group](#) table, and [user\\_group\\_membership](#) table, as user information in Keycloak is stored across multiple tables.

The screenshot shows the configuration interface for a Keycloak syncer. At the top, there are fields for Organization (built-in), Name (keycloak), Type (Keycloak), Host (localhost), Port (3306), User (root), Password (root), Database type (MySQL), and Database (keycloak). Below these, the 'Table' field is highlighted with a red box and contains 'user\_entity'. A red arrow points from this box to the text 'configured automatically after selecting Keycloak as syncer type'. Under 'Table primary key', there is a dropdown menu. The 'Table columns' section at the bottom is also highlighted with a red box and contains a table with columns: Column name, Column type, Casdoor column, Is hashed, and Action. The table lists various user attributes like ID, USERNAME, EMAIL, etc., with their corresponding Casdoor columns and hashing status.

Column name	Column type	Casdoor column	Is hashed	Action
ID	string	Id	<input checked="" type="checkbox"/>	<span>▲ ▼ 🔍</span>
USERNAME	string	Name	<input checked="" type="checkbox"/>	<span>▲ ▼ 🔍</span>
EMAIL	string	DisplayName	<input checked="" type="checkbox"/>	<span>▲ ▼ 🔍</span>
EMAIL_VERIFIED	boolean	Email	<input checked="" type="checkbox"/>	<span>▲ ▼ 🔍</span>
FIRST_NAME	string	EmailVerified	<input checked="" type="checkbox"/>	<span>▲ ▼ 🔍</span>
LAST_NAME	string	FirstName	<input checked="" type="checkbox"/>	<span>▲ ▼ 🔍</span>
CREATED_TIMESTAMP	string	LastName	<input checked="" type="checkbox"/>	<span>▲ ▼ 🔍</span>
ENABLED	boolean	CreatedTime	<input checked="" type="checkbox"/>	<span>▲ ▼ 🔍</span>
		IsForbidden	<input checked="" type="checkbox"/>	<span>▲ ▼ 🔍</span>

# Tokens

## Overview

Introduction to tokens in Casdoor

# Overview

Casdoor is built on OAuth and utilizes tokens as users' OAuth tokens.

The following are the available token fields in Casdoor:

- Owner
- Name
- CreatedTime
- Application
- Organization
- User
- Code
- AccessToken
- ExpireIn (Tokens will expire in hours)
- Scope (Scope of authorization)
- TokenType (e.g., Bearer type)

After logging into the application, there are two options to generate a JWT Token:

- JWT
- JWT-Empty

The JWT option will create a token with all fields of the User object, while the JWT-Empty option will create a token with all non-empty values for the user.

# Webhooks

## Overview

Adding Webhooks in Casdoor

# Overview

## Overview

Event systems enable you to create integrations that subscribe to specific events in Casdoor. When one of these events is triggered, a JSON payload will be sent to the configured URL via a POST request. The application will parse the JSON payload and execute the specified function. Events include signup, login, logout, and user updates, all of which are stored in the action field of the record. Event systems can be used to update an external issue from users.

# Deploy

## Nginx

Use Nginx to reverse proxy your backend Go program and quickly start the Casdoor service.

## Deploying Casdoor in Kubernetes (k8s)

Learn how to deploy Casdoor in a Kubernetes cluster

# Nginx

Though Casdoor follows a front-end back-end separation architecture, in a production environment, the back-end program still provides static file services for front-end files. Hence, you can employ reverse proxy software like [Nginx](#) to proxy all traffic for the Casdoor domain and redirect it to the port monitored by the backend Go program.

In this chapter, you will learn how to use Nginx to reverse proxy your backend Go program and quickly start the Casdoor service.

## 1. Build front end static files

Assuming you have downloaded Casdoor and completed the necessary configuration (if not, refer to the [Get started](#) section), you only need to build the static files as follows:

[Yarn](#)    [npm](#)

---

```
yarn install && yarn run build
```

```
npm install && npm run build
```

## 2. Run the back-end program

```
go run main.go
```

Or, build it first:

```
go build && ./main
```

## 3. Configure and run Nginx

```
vim /path/to/nginx/nginx.conf
```

Then, add a server:

```
server {
    listen 80;
    server_name YOUR_DOMAIN_NAME;
    location / {
        proxy_set_header Host $http_host;
        proxy_set_header X-Real-IP $remote_addr;
        proxy_set_header X-Forwarded-For
$proxy_add_x_forwarded_for;
        proxy_redirect off;
        proxy_pass http://127.0.0.1:8000;
    }
}
```

Next, restart your Nginx process. Run:

```
nginx -s reload
```

## 4. Test

Visit [http://YOUR\\_DOMAIN\\_NAME](http://YOUR_DOMAIN_NAME) in your favorite browser.



# Deploying Casdoor in Kubernetes (k8s)

## Deploy Casdoor in Kubernetes (k8s)

We provide a basic example of deploying Casdoor in a Kubernetes cluster. In the root folder of Casdoor, you will find a file named "k8s.yaml". This file contains an example configuration for deploying Casdoor in Kubernetes, including a deployment and a service.

Before starting the deployment, ensure that you have modified the `conf/app.conf` file so that Casdoor can connect to the database successfully and that the database itself is running. Also, make sure that Kubernetes is able to pull the necessary images.

To deploy Casdoor, run the following command:

```
kubectl apply -f k8s.yaml
```

You can check the deployment status by running the command `kubectl get pods`.

Here is the content of `k8s.yaml`:

```
# this is only an EXAMPLE of deploying casddor in kubernetes
# please modify this file according to your requirements
apiVersion: v1
kind: Service
metadata:
```

Please note that this file is only an example. You can make various modifications as per your requirements, such as using a different namespace, service type, or a ConfigMap to mount the configuration file. Using a ConfigMap is a recommended approach in Kubernetes for mounting configuration files in a production environment.



# LDAP

## Overview

Casdoor cooperates with an LDAP server

## Configuring and Syncing LDAP Users

Configuring LDAP in Casdoor for user synchronization

## LDAP Server

How to connect LDAP client in Casdoor

# Overview

Support for an LDAP server has been introduced into Casdoor. Casdoor is able to synchronize users from LDAP servers to Casdoor in order to use them as user accounts for logging in, and authenticate them using the LDAP servers. Casdoor also supports setting up cron jobs to synchronize users automatically on a regular basis.

## Details about Casdoor-LDAP synchronization mechanism

The way Casdoor cooperates with an LDAP server is described as follows:

1. **Synchronization:** Casdoor can connect to an LDAP server, fetch users' information, and read all users' information (including `uidNumber`, `uid`, `cn`, `gidNumber`, `mail`, `email`, `emailAddress`, `telephoneNumber`, `mobile`, `mobileTelephoneNumber`, `registeredAddress`, `postalAddress`). It then creates Casdoor accounts for each user in the LDAP, and stores these accounts in the database.
2. **Authentication:** As we have seen, Casdoor does not fetch LDAP users' passwords. When an account that is synchronized from the LDAP server tries to log in through Casdoor, instead of checking the password stored in Casdoor's database, Casdoor connects to the LDAP server and verifies whether the user's password is correct.
3. **User identification:** Casdoor uses `uid` to exclusively identify a user. Therefore, please ensure that every LDAP user has a unique `uid`.

Once a user is synchronized into Casdoor, their information is independent from the LDAP user. This means that if you modify the user's information in Casdoor,

the user's information in the LDAP will not be modified, and vice versa (except for the LDAP user's password, as we rely on it to authenticate the user).

# Configuring and Syncing LDAP Users

LDAP configurations are specific to each organization, as LDAP users will be synchronized into them.

To modify the configuration, you need to use a global admin user. Enter the following information for LDAP user synchronization on the "organization" page.

LDAP :		添加			
LDAP服务器	服务器	基本DN	自动同步	最近同步	操作
Example LDAP Server	example.com:389	ou=People,dc=example,dc=com	Disable		<button>同步</button> <button>编辑</button> <button>删除</button>

# Configuring Connection to LDAP Server

Edit LDAP    Save    **Save & Exit**    Sync LDAP

Organization ② :	built-in
ID ② :	691edec0-f1ab-4e23-8f9f-a824a383032f
Server name ② :	Example LDAP Server
Server host ② :	example.com
Server port ② :	389
Enable SSL ② :	<input checked="" type="checkbox"/>
Base DN ② :	ou=built-in,dc=example,dc=com
Search Filter ② :	(objectClass=posixAccount)
Filter fields ② :	<input type="checkbox"/> uid <input type="checkbox"/> Email
Admin ② :	cn=admin,dc=example,dc=com
Admin Password ② :	.....
Auto Sync ② :	0 mins

## Server Name

A friendly name that managers can use to identify different servers.

Example: Example LDAP Server

## Server Host

The host or IP address of the LDAP server.

Example: `example.com`

## Server Port

The port number of the LDAP server. Only numeric values are allowed.

Example: `389`

## Base DN

Casdoor uses Sub search mode by default when searching in LDAP. The Base DN is the basic distinguished name used for the search. Casdoor will return all users under the specified Base DN.

The admin account configured in Casdoor should have at least read-only permissions at the Base DN.

Example: `ou=Example, dc=example, dc=com`

## Search Filter

Casdoor uses a search filter to query LDAP users.

Example: `(objectClass=posixAccount)`

## Filter Fields

Filter fields are the identifiers of the user in the LDAP server. When logging in to Casdoor as an LDAP user, the entered login username is regarded as the `uid` of the LDAP user. You can also configure other fields, such as `mail` or `mobile`.

The screenshot shows the Casdoor web application interface for managing LDAP configurations. The main title is "Edit LDAP". The form fields include:

- Organization: built-in
- ID: 691edec0-f1ab-4e23-8f9f-a824a383032f
- Server name: Example LDAP Server
- Server host: 1
- Server port: 389
- Enable SSL: (checkbox)
- Base DN: ou=built-in,dc=example,dc=com
- Search Filter: (objectClass=inetOrgPerson)
- Filter fields: (empty)
- Admin: cn=admin,dc=example,dc=com
- Admin Password: (redacted)

Buttons at the top right include "Save", "Save & Exit", and "Sync LDAP".

## Admin

An account that can log in to the specified LDAP server.

The login method (DN or ID) depends on the LDAP server settings you want to connect to.

Example: `cn=manager,dc=example,dc=com`

## Admin Password

The password for the LDAP server Admin account.

## Auto Sync

Set to `0` to disable auto sync. Any other value means Sync every few minutes.

# Synchronizing Users

The sync table displays all the users obtained from the LDAP server within the specific `ou`. If the users have already been synced, the checkbox will be disabled. You can select the users by checking the box, and then sync the selected users from the LDAP server.

Example LDAP Server		Sync	Edit LDAP			
<input type="checkbox"/>	CN	UidNumber / Uid	Group Id	Email	Phone	Address
<input type="checkbox"/>	zhan san	1000 / zsan	500			
<input type="checkbox"/>	li si	1001 / lsi	500			
<input type="checkbox"/>	a dmin	1002 / admin	500			
<input type="checkbox"/>	tom brown	1007 / jery	500			
<input type="checkbox"/>	wrie jerry	1003 / wjerry	500			
<input type="checkbox"/>	admin2	1004 / admin2	500			
<input type="checkbox"/>	yyyy	1005 / yyyy	500			

< 1 > 10 / page ▾

## ⚠ CAUTION

If the `uid` of a user in the LDAP server is the same as the `name` of an existing user in the Casdoor organization, Casdoor will create a new user with a `name` that includes the `uid` and a random string. However, this user may not be able to log in because the name of the newly synced user does not exist in the LDAP server. Therefore, it is recommended to avoid this situation.

# LDAP Server

Many systems, like [Nexus](#), support LDAP authentication. Casdoor also implements a simple LDAP server, which supports bind and search operations.

This document describes how to connect to the LDAP server in Casdoor and implement simple login authentication.

## LDAP Server Port

The LDAP server listens on port [389](#) by default. You can change the default port by modifying the [ldapServerPort](#) value in [conf/app.conf](#).

## How it Works

Similar to the LDAP client in Casdoor, the users in the LDAP server are all subclasses of [posixAccount](#).

When the server receives a set of data transmitted by the LDAP, it will parse the [cn](#) and [ou](#), where [cn](#) represents the username and [ou](#) represents the organization name. The [dc](#) does not matter.

If it is a bind operation, the server will use Casdoor to verify the username and password and grant the user permission in Casdoor.

If it is a search operation, the server will check whether the search operation is legal, according to the permissions granted to the client by the bind operation, and return a response.



INFO

We only support Simple Authentication.

## How to Bind

In Casdoor LDAP server, we only recognize `[DN]` similar to this format:

`cn=admin, ou=built-in, dc=example, dc=com`.

Please set the `[DN]` of the admin user to the above format. Then, you can use this `[DN]` to bind to the LDAP server with the user's password to log in to Casdoor for verification. If the server verification is successful, the user will be granted authority in Casdoor.

## How to Search

Once the bind operation completes successfully, you can perform the search operation. There are some differences between search and bind operations.

- To search for a certain user, such as `Alice` under the `built-in` organization, you should use a `[DN]` like this: `ou=built-in, dc=example, dc=com`, and add `cn=Alice` in the Filter field.
- To search for all users under a certain organization, such as all users in `built-in`, you should use a `[DN]` like this: `ou=built-in, dc=example, dc=com`, and add `cn=*` in the Filter field.
- To search for all users in all organizations (assuming the user has sufficient permissions), you should use a `[DN]` like this: `ou=*, dc=example, dc=com`, and add `cn=*` in the Filter field.

# Integrations



2 items



1 items



8 items



17 items

 **JavaScript**

1 items

 **Lua**

1 items

 **PHP**

4 items

 **Ruby**

1 items

 **Haskell**

1 items



Python

1 items

# C++



**Nginx**

Using Casdoor with Nginx



**Envoy**

Using Casdoor in Envoy

# Nginx

Enable OpenID Connect-based single sign-on for applications proxied by NGINX Plus using Casdoor as the identity provider (IdP).

This guide explains how to enable single sign-on (SSO) for applications that are being proxied by NGINX Plus. The solution uses OpenID Connect as the authentication mechanism, with [Casdoor](#) as the identity provider (IdP), and NGINX Plus as the relying party.

See Also: You can find more information about the NGINX Plus OpenID Connect integration in the project's GitHub repository.

## Prerequisites

The instructions assume that you have the following:

- A running Casdoor server. Refer to the Casdoor documentation for [Server Installation](#) and [Try with Docker](#).
- An NGINX Plus subscription and NGINX Plus R15 or later. For installation instructions, see the [NGINX Plus Admin Guide](#).
- The [NGINX JavaScript module](#), which is required for handling the interaction between NGINX Plus and the IdP. After installing NGINX Plus, install the module using the appropriate command for your operating system.

For Debian and Ubuntu:

```
sudo apt install nginx-plus-module-njs
```

For CentOS, RHEL, and Oracle Linux:

```
sudo yum install nginx-plus-module-njs
```

- The following directive should be included in the top-level (“main”) configuration context in `/etc/nginx/nginx.conf` in order to load the NGINX JavaScript module:

```
load_module modules/ngx_http_js_module.so;
```

## Configuring Casdoor

**Note:** The following procedure reflects the Casdoor GUI at the time of publication, but the GUI is subject to change. Use this guide as a reference and adapt to the current Casdoor GUI as necessary.

To create a Casdoor client for NGINX Plus in the Casdoor GUI, follow these steps:

1. Log in to your Casdoor account at <http://your-casdoor-url.com/login/>.
2. In the top navigation column, click Application. On the Application page that opens, click the Add button in the upper left corner.



3. On the Edit Application page that opens, change the value in the Name and Display name fields to the name of the application for which you’re enabling SSO. Here, we’re using NGINX Plus.

Name  :	NGINX Plus
Display name  :	NGINX Plus

In the Redirect URLs field, type the URL of the NGINX Plus instance including the port number, and ending in `/_codexch` (in this guide it is [https://your-site-url.com:443/\\_codexch](https://your-site-url.com:443/_codexch)).

Redirect URLs  :	<a href="#">Redirect URLs</a> <a href="#" style="background-color: #58357E; color: white; border-radius: 5px; padding: 2px 10px;">Add</a>
<b>Redirect URL</b>	
 <a href="https://my-nginx.example.com:443/_codexch">https://my-nginx.example.com:443/_codexch</a>	

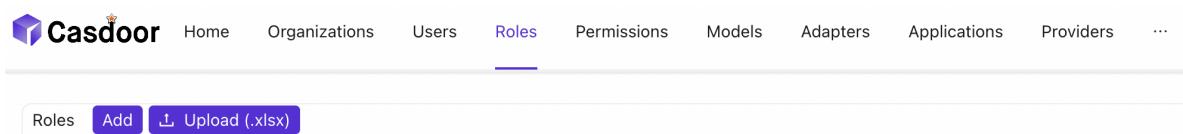
#### Notes:

- For production, we strongly recommend that you use SSL/TLS (port 443).
  - The port number is mandatory even when you’re using the default port for HTTP (80) or HTTPS (443).
4. Record the values in the Client ID and Client Secret fields. You will copy them into the NGINX Plus configuration file in [Step 4 of Configuring NGINX Plus](#).

Client ID [?](#) : 200c96d5ce5f11111111111111111111

Client secret [?](#) : 58f13a80b877e7e7e7e7e7e7e7e7e7e7e

5. Click Roles in the top navigation column, then click the Add button in the upper left corner of the page that opens.



6. On the Add page that opens, type a value in the Name and Display Name fields (here it is nginx-casdoor-role) and click the Save button.

Name [?](#) : nginx-casdoor-role

Display name [?](#) : nginx-casdoor-role

7. In the top navigation column, click Users. On the Users page that opens, either click Edit to edit one of the existing users or click the Add button in the upper left corner to create a new user.
8. On the Add page that opens, modify the Name and Display Name as you like (here it is user1).

Name  : user1

Display name user1

 :

Select NGINX Plus in the Signup application.

Signup application  : NGINX Plus

In the Managed accounts field, select NGINX Plus in Application and fill in the username and password.

Managed accounts  :	Managed accounts 						
	<table border="1"><thead><tr><th>Application</th><th>Username</th><th>Password</th></tr></thead><tbody><tr><td>NGINX Plus </td><td><input type="text"/></td><td><input type="password"/></td></tr></tbody></table>	Application	Username	Password	NGINX Plus 	<input type="text"/>	<input type="password"/>
Application	Username	Password					
NGINX Plus 	<input type="text"/>	<input type="password"/>					

9. Go back to the Roles page and click Edit on the nginx-casdoor-role row. In the opened page, in the Sub users field, select the username you just created (here it is built-in/user1).

Sub users  : built-in/user1 

# Configuring NGINX Plus

To configure NGINX Plus as the OpenID Connect relying party, follow these steps:

1. Start by creating a clone of the [nginx-openid-connect](#) GitHub repository:

```
git clone https://github.com/nginxinc/nginx-openid-connect
```

2. Copy the following files from the clone to the `/etc/nginx/conf.d` directory:

- `frontend.conf`
- `openid_connect.js`
- `openid_connect.server_conf`
- `openid_connect_configuration.conf`

3. Retrieve the URLs for the authorization endpoint, token endpoint, and JSON Web Key (JWK) file from the Casdoor configuration. Open a terminal and execute the following `curl` command, piping the output to the indicated `python` command to generate a readable configuration format. For brevity, we have truncated the output to display only the relevant fields.

```
curl http://<casdoor-server-address>/.well-known/openid-configuration | python -m json.tool  
...
```

4. Open `/etc/nginx/conf.d/openid_connect_configuration.conf` using your preferred text editor. Modify the "default" parameter value for each of the following `map` directives with the specified values:
  - `map $host $oidc_authz_endpoint` – Use the value of the `authorization_endpoint` from [Step 3](#) (in this guide, `https://<casdoor-server-address>/login/oauth/authorize`)
  - `map $host $oidc_token_endpoint` – Use the value of the `token_endpoint` from [Step 3](#) (in this guide, `http://<casdoor-server-address>/api/login/oauth/access_token`)
  - `map $host $oidc_client` – Use the value in the Client ID field from [Step 4 of Configuring Casdoor](#)
  - `map $host $oidc_client_secret` – Use the value in the Client Secret field from [Step 2 of Configuring Casdoor](#)
  - `map $host $oidc_hmac_key` – Use a unique, long, and secure phrase
5. Configure the JWK file based on the version of NGINX Plus being used:
  - In NGINX Plus R17 and later, NGINX Plus can directly read the JWK file from the URL specified as `jwks_uri` in [Step 3](#). Make the following changes to `/etc/nginx/conf.d/frontend.conf`:
    - a. Comment out (or remove) the `auth_jwt_key_file` directive.
    - b. Uncomment the `auth_jwt_key_request` directive. (The parameter `_jwks_uri` refers to the value of the `$oidc_jwt_keyfile` variable, which will be set in the next step.)
    - c. Update the "default" parameter of the `map $host $oidc_jwt_keyfile` directive to the value obtained from the `jwks_uri` field in [Step 3](#) (in this guide, `http://<casdoor-server-address>/.well-known/jwks`).
  - In NGINX Plus R16 and earlier, or if preferred, the JWK file must be located

on the local disk. Follow these steps:

- a. Copy the JSON contents from the JWK file specified in the `jwks_uri` field in [Step 3](#) (in this guide, `http://<casdoor-server-address>/.well-known/jwks`) to a local file (e.g., `/etc/nginx/my_casdoor_jwk.json`).
  - b. In `/etc/nginx/conf.d/openid_connect_configuration.conf`, change the "default" parameter of the `map $host $oidc_jwt_keyfile` directive to the path of the local file.
6. Ensure that the user specified in the `user` directive within the NGINX Plus configuration file (usually `/etc/nginx/nginx.conf`) has read permissions for the JWK file.

## Testing

Open a browser and enter the address of your NGINX Plus instance. Then, attempt to log in using the credentials of a user who has been assigned the NGINX Plus role.



# Casdoor



username, Email or phone



Password



Auto sign in

[Forgot password?](#)

Sign In

No account? [sign up now](#)

## Troubleshooting

Please refer to the [Troubleshooting](#) section in the nginx-openid-connect repository on GitHub.

# Envoy

## Prerequisites

A running Casdoor server. Please refer to the Casdoor documentation for [Server Installation](#) and [Try with Docker](#).

## Configuring Casdoor

1. Add the Envoy application. In the Redirect URLs field, enter the URL of the Envoy instance including the port number, and ending with /oauth2/callback (e.g., http://%REQ(:authority)%/oauth2/callback). Make a note of the values in the Client ID and Client Secret.
2. Add the `envoy-casdoor-role` role.
3. Add the `user1` user. Select Envoy in the Signup application. In the Managed accounts field, select Envoy in the Application dropdown and fill in the username and password. Go back to the Roles page and click "Edit" on the `envoy-casdoor-role` row. In the opened page, in the Sub users field, select the username you just created (in this case, it is built-in/user1).

## Configure Envoy

1. Modify the `token_endpoint`, `authorization_endpoint`, and `client_id` in the `envoy.yaml` file.
2. Modify the `inline_string` in the `token-secret.yaml` file to the Client Secret of Envoy from Casdoor.
3. Modify the `inline_bytes` in the `hmac-secret.yaml` file with a unique, long, and secure phrase.

4. Add the `envoy.yaml`, `token-secret.yaml`, and `hmac-secret.yaml` files to your Envoy path.

## How to Run

1. Start Envoy using the `envoy.yaml` file.
2. Go to the website where Envoy is listening. You should immediately be redirected to Casdoor for user authentication.

# C#



Unity

Use the Casdoor-dotnet-sdk for Unity development.

# Unity

## Step 1: Deploy Casdoor

Firstly, Casdoor should be deployed.

You can refer to the Casdoor official documentation for the [Server Installation](#). Please deploy your Casdoor instance in production mode.

After a successful deployment, ensure that:

- Open your favorite browser and visit <http://localhost:8000>, you will see the login page of Casdoor.
- Input `admin` and `123` to test the login functionality.

Alternatively, you can use the [official Casdoor demo station](#) for a quick start.

## Step 2: Import Casdoor.Client

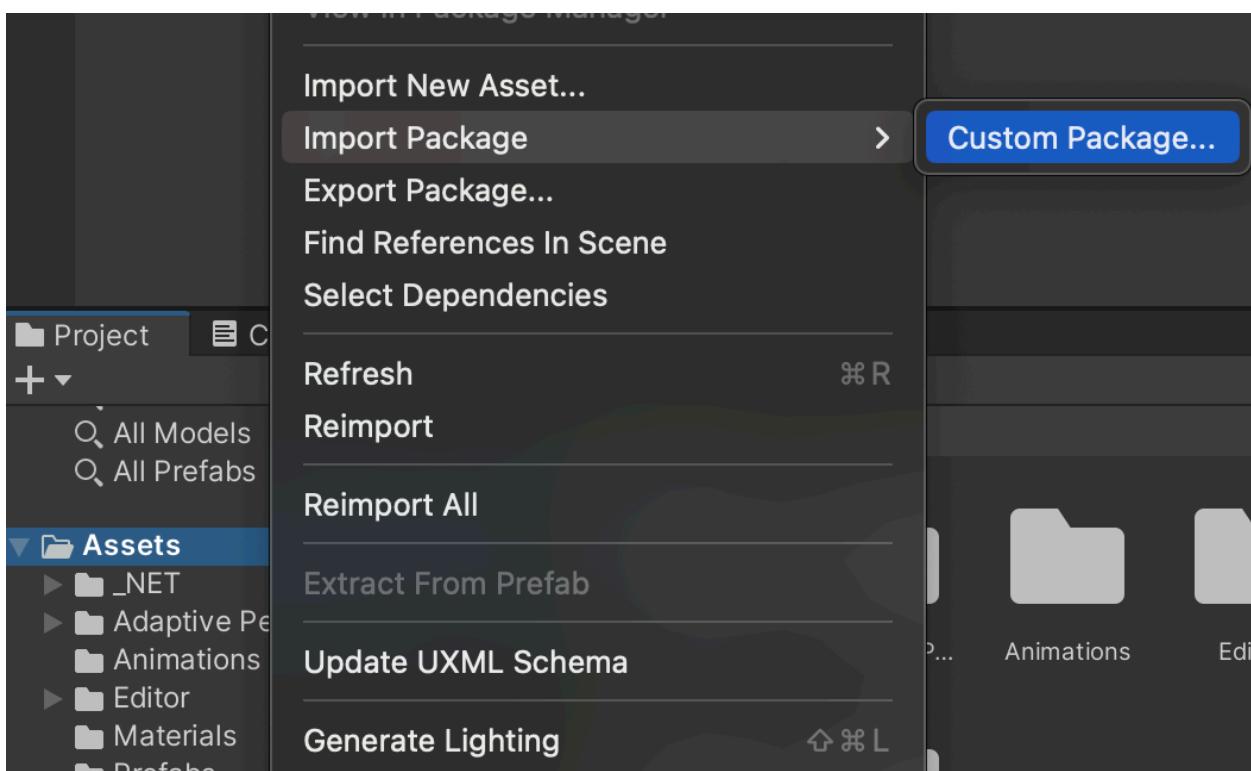
Import `Casdoor.Client` for `.NET` in the [Casdoor-dotnet-sdk](#).

One optional method is as follows:

- `git@github.com:casdoor/casdoor-dotnet-sdk.git`
- Run `ConsoleApp` in the `Sample` folder.
- Get the `/casdoor-dotnet-sdk/src/Casdoor.Client/bin/Debug/net462` folder.

Now, you can import the `net462` folder into your Unity project through the method shown in the figure below. Of course, you can also choose folders of other

versions.



## Step 3: Usage

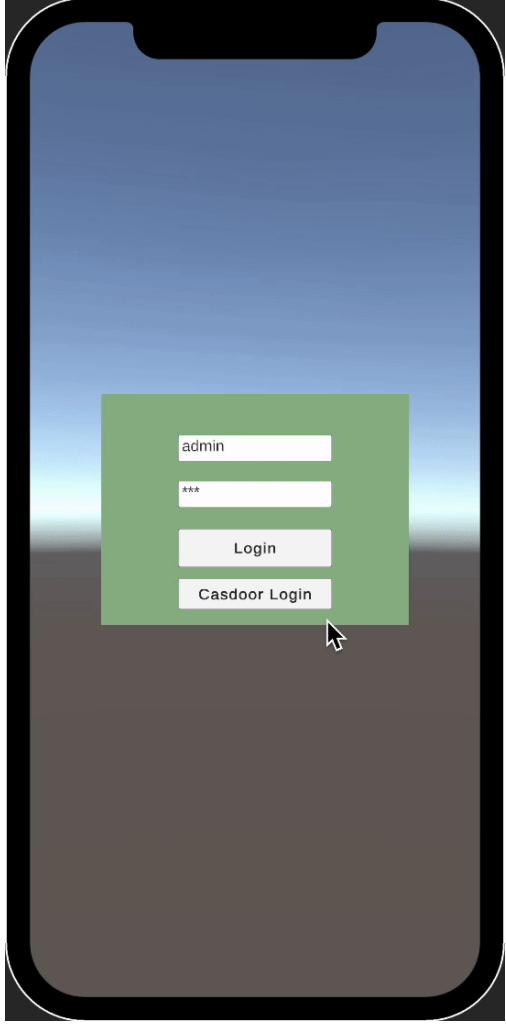
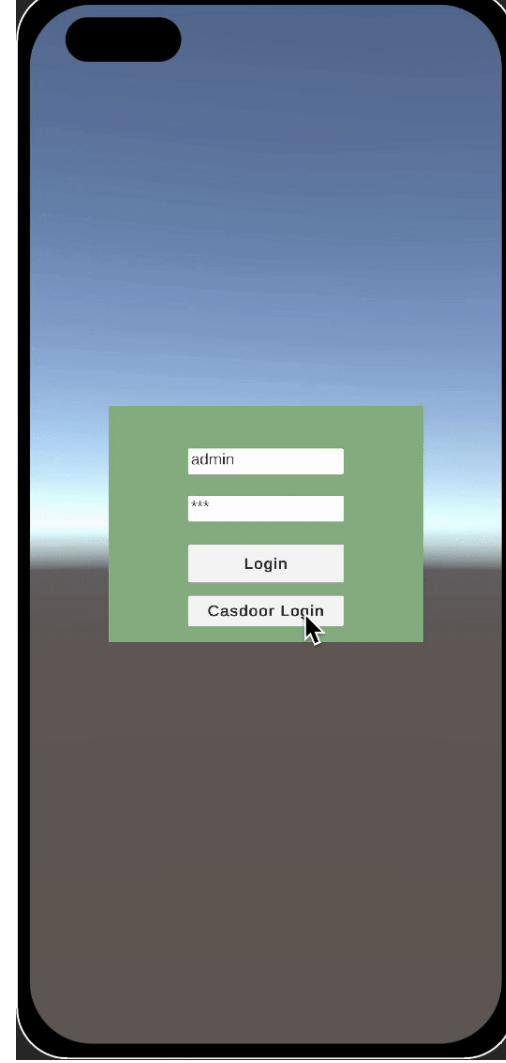
Learn how to use the `Casdoor.Client` SDK for Unity 3D mobile development by looking at [casdoor-unity-example](#).

After running the `casdoor-unity-example`, you will see the following interfaces:

- Login with username and password:



- Login with the Casdoor web page:

iOS	Android
 A screenshot of an iPhone X displaying a login interface. The interface consists of a green rectangular card with rounded corners. It contains four white rectangular input fields: the first labeled "admin", the second with three asterisks (***) as a placeholder, the third labeled "Login", and the fourth labeled "Casdoor Login". A cursor arrow is positioned directly above the "Casdoor Login" button, indicating it is about to be tapped.	 A screenshot of an Android smartphone displaying a similar login interface. The green card has the same four input fields: "admin", "***", "Login", and "Casdoor Login". The "Casdoor Login" button is highlighted with a white outline and a black background, and a cursor arrow is positioned directly above it, indicating it is about to be tapped.

# Go

## Kubernetes

Using Casdoor for Authentication in Kubernetes

## OpenShift

Using Casdoor for authentication in OpenShift

## BookStack

Using Casdoor for authentication in BookStack

## Bytebase

Using OAuth2 to connect various applications, like Bytebase

 **ELK**

Overview of casdoor/elk-auth-casdoor

 **Gitea**

Using Casdoor for authentication in Gitea

 **Grafana**

Using Casdoor for authentication in Grafana

 **MinIO**

Configuring Casdoor as an identity provider to support MinIO

# Kubernetes

According to the [Kubernetes documentation](#), the API Server of Kubernetes can be authenticated using OpenID Connect (OIDC). This article will guide you on how to configure authentication in Kubernetes using Casdoor.

## Environment Requirements

Before starting, please make sure that you have the following environment:

- A Kubernetes cluster.
- A Casdoor application like this [demo website](#).
- `kubectl` command tool (optional).

 NOTE

Kubernetes `oidc-issuer-url` only accepts URLs which use the `https://` prefix. So your Casdoor application should be deployed on an HTTPS website.

## Step 1: Creating a Casdoor App and User Account for Authentication

Go to your Casdoor application and add a new application called **Kubernetes**. Please remember the `Name`, `Organization`, `client ID`, `client Secret`, and add some grant types to this app.

Name [?](#):

Display name [?](#):

Logo [?](#):   
URL [?](#):

Preview: 

Home [?](#):

Description [?](#):

Organization [?](#):

Client ID [?](#):

Client secret [?](#):

Cert [?](#):

Grant types [?](#):

Next, add a new user to the application that you just created. Please note that the **Organization** and **Signup application** used here should correspond to the app registered earlier.

Organization <a href="#">?</a> :	casbin
ID <a href="#">?</a> :	202e02e9-9128-496a-a209-fdb336448f56
Name <a href="#">?</a> :	user_pnvm5i
Display name <a href="#">?</a> :	New User - pnvm5i
Avatar <a href="#">?</a> :	<p>Preview:</p>  <p>Upload a photo...</p>
User type <a href="#">?</a> :	normal-user
Password <a href="#">?</a> :	<a href="#">Modify password...</a>
Email <a href="#">?</a> :	pnvm5i@example.com
Phone <a href="#">?</a> :	+1 <input type="button" value="▼"/> 78005961394
Country/Region <a href="#">?</a> :	Please select country/region
Location <a href="#">?</a> :	
Affiliation <a href="#">?</a> :	Example Inc.
Title <a href="#">?</a> :	
Homepage <a href="#">?</a> :	
Bio <a href="#">?</a> :	
Tag <a href="#">?</a> :	staff
Signup application <a href="#">?</a> :	Kubernetes

# Step 2: Configure Kubernetes API Server with OIDC Authentication

To enable the OIDC plugin, you need to configure the following flags on the API server:

- `--oidc-issuer-url`: URL of the provider that allows the API server to discover public signing keys.
- `--oidc-client-id`: A client id that all tokens must be issued for.

This article uses minikube for demonstration. You can configure the OIDC plugin for the minikube's API server using the following command at startup:

```
minikube start --extra-config=apiserver.oidc-issuer-
url=https://demo.casdoor.com --extra-config=apiserver.oidc-client-
id=294b09fbc17f95daf2fe
```

# Step 3: Test OIDC Authentication

## Obtain Authentication Information

Due to the lack of a frontend in kubectl, authentication can be performed by sending a POST request to the Casdoor server. Here is the code in Python which sends a POST request to the Casdoor server and retrieves the `id_token` and `refresh_token`:

```
import requests
```

After executing this code, you should receive a response similar to the following:

```
{  
  "access_token": "xxx",  
  "id_token": "yyy",  
  "refresh_token": "zzz",  
  "token_type": "Bearer",  
  "expires_in": 72000,  
  "scope": ""  
}
```

Now, you can use the `id_token` that you just obtained to authenticate with the Kubernetes API server.

## HTTP Request-Based Authentication

Add the token to the request header.

```
curl https://www.xxx.com -k -H "Authorization: Bearer $(id_token)"
```

- `https://www.xxx.com` is the Kubernetes API server deployment address.

## Kubectl Client-Based Authentication

### Configuration File Method

Write the following configuration to the `~/.kube/config` file. You should replace each configuration item in the configuration file above with the values you obtained earlier.

```
users:
```

Now, you can directly access your API server using kubectl. Try running a test command.

```
kubectl cluster-info
```

### Command Line Argument Method

Alternatively, you can authenticate by directly adding the `id_token` to the command line parameters of kubectl.

```
kubectl --token=$(id_token) cluster-info
```

# OpenShift

OpenShift supports OIDC, so we can integrate Casdoor with OpenShift. The following steps demonstrate how to integrate Casdoor with OpenShift Local using the [online demo of Casdoor](#).

## Step 1: Create an Casdoor application

Add a new application in Casdoor, noting the following points:

- Remember the `Client ID` and `Client secret` for the next step.
- The format of the Redirect URL is `https://oauth-openshift.apps.<cluster_name>.<cluster_domain>/*`. Fill it in depending on your situation.

Name [?](#) :

Display name [?](#) :

Logo [?](#) :   
Preview: 

Home [?](#) :

Description [?](#) :

Organization [?](#) :

Client ID [?](#) :

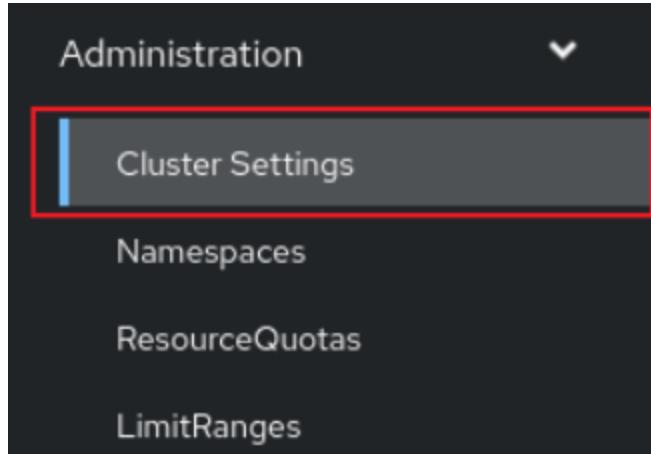
Client secret [?](#) :

Cert [?](#) :

Redirect URLs [?](#) :   
Redirect URLs [Add](#)

## Step 2: OpenShift OAuth Configuration

Now log into the OpenShift Console as Kubeadmin. Once you are logged in, browse to the side menu and locate the Cluster settings.



Under Global Configuration, you will see OAuth.

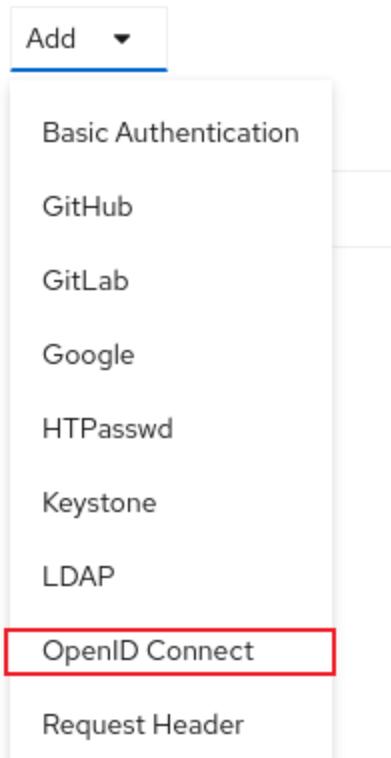
[OAuth](#)

OAuth holds cluster-wide information about OAuth. The canonical name is 'cluster'. It is used to configure the integrated OAuth server. This configuration is only honored when the top level Authentication config has type set to IntegratedOAuth. Compatibility level I: Stable within a major release for a minimum of 12 months or 3 minor releases (whichever is longer).

You will see the Identity Provider section. In the ADD section, select OpenID Connect from the options.

## Identity providers

Identity providers determine ho



Configure OIDC, noting the following points:

- Fill in the `Client ID` and `Client Secret` remembered from the previous step.
- The Issuer URL must use https, in the form `https://<casdoor-host>`, again depending on your situation.

## Add Identity Provider: OpenID Connect

Integrate with an OpenID Connect identity provider using an Authorization Code Flow.

Name \*

casdoor

Unique name of the new identity provider. This cannot be changed later.

Client ID \*

2452f2b5abb6ff131199

Client secret \*

\*\*\*\*\*

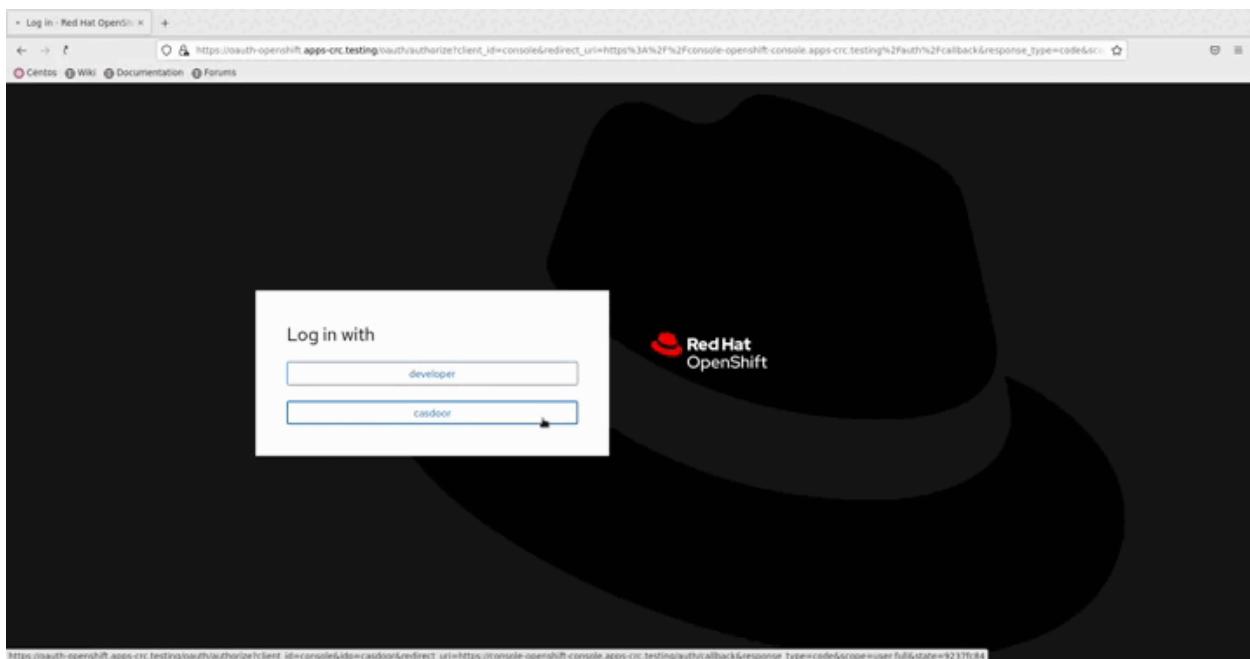
Issuer URL \*

<https://demo.casdoor.com>

The URL that the OpenID provider asserts as its issuer identifier. It must use the https scheme with no URL query parameters or fragment.

## Step 3: Test OIDC Authentication

Access the OpenShift console in the browser. You will see Casdoor (the name you configured in the previous step). Click on the Casdoor login option. You will be redirected to the Casdoor login page.



# BookStack

## Using Casdoor for authentication in BookStack

[BookStack](#) is an open-source book and document sharing site, as well as an open-source application developed using the Go language to help you better manage document reading.

BookStack-casdoor has been integrated with Casdoor, and you can now quickly get started with a simple configuration.

### Step 1: Create a Casdoor application

Go to your Casdoor and add a new application called BookStack. Here is an example of creating the BookStack application in Casdoor.

Edit Application Save Save & Exit

Name ? : bookstack

Display name ? : bookstack

Logo ? : URL ? : [https://cdn.casdoor.com/logo/casdoor-logo\\_1185x256.png](https://cdn.casdoor.com/logo/casdoor-logo_1185x256.png)

Preview: 

Home ? :

Description ? :

Organization ? : [REDACTED]

Client ID ? : [REDACTED]

Client secret ? : [REDACTED]

Please remember the Name, Organization, client ID, and client Secret. You will need them in the next step.

## Step 2: Configure Casdoor Login

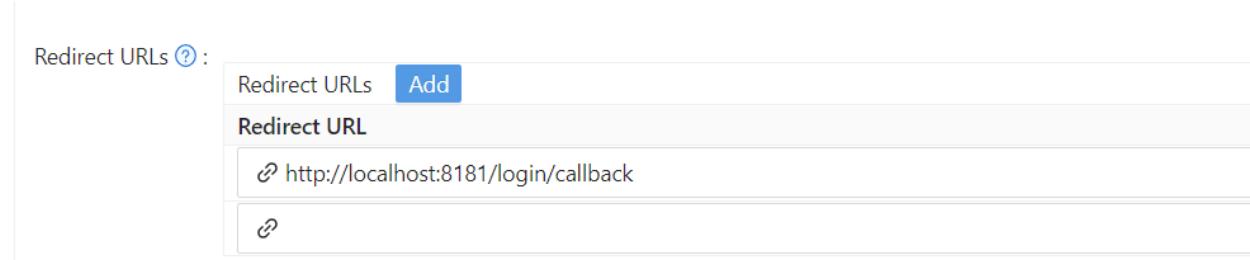
Next, navigate to BookStack and find the file oauth.conf.example.

Rename oauth.conf.example to oauth.conf and modify the configuration. By default, the content is as follows:

```
[oauth]
casdoorOrganization = "<Organization>"
casdoorApplication = "bookstack"
casdoorEndpoint = http://localhost:8000
clientId = <client ID>
clientSecret = <client Secret>
redirectUrl = http://localhost:8181/login/callback
```

## Step 3: Fill in the `redirectUrl` in Casdoor

In the final step, go back to the page where you added the BookStack application and fill in the `Redirect URLs`. Make sure the `Redirect URL` is the same as the `redirectUrl` in the `oauth.conf` file.



Now that you have completed the Casdoor configuration!

You can now go back to your BookStack and experience using Casdoor for login authentication once you have successfully deployed BookStack.

# Bytebase

Casdoor can use OAuth2 to connect various applications. In this example, we will use Bytebase to demonstrate how to use OAuth2 to connect to your applications.

The following are the configuration names:

`CASDOOR_HOSTNAME`: The domain name or IP address where the Casdoor server is deployed.

`Bytebase_HOSTNAME`: The domain name or IP address where Bytebase is deployed.

## Step 1: Deploy Casdoor and Bytebase

Firstly, deploy Casdoor and Bytebase.

After successful deployment, make sure that:

1. Casdoor can be logged in and used normally.
2. You can set `CASDOOR_HOSTNAME` to `http://localhost:8000` when deploying Casdoor in `prod` mode. See [production mode](#).

## Step 2: Configure Casdoor application

1. Create a new or use an existing Casdoor application.
2. Find the redirect URL: `<CASDOOR_HOSTNAME>/oauth/callback`.
3. Add the redirect URL to the Casdoor application:

The screenshot shows the Casdoor application settings page. It includes fields for Client ID (e828fd6922f4292b979e), Client secret (bab9f6c2fad67471e1bd81e074ea192e4f46dd), Cert (cert-built-in), and Redirect URLs (Redirect URLs: <CASDOOR\_HOSTNAME>/oauth/callback). A red box highlights the Client ID and Client secret fields.

On the application settings page, you will find two values: `Client ID` and `Client secret`. We will use these values in the next step.

Open your favorite browser and visit: `http://<CASDOOR_HOSTNAME>.well-known/openid-configuration`. You will see the OIDC configuration of Casdoor.

## Step 3: Configure Bytebase

- Find SSO and select OAuth 2.0:

The screenshot shows the Bytebase SSO configuration page. On the left sidebar, 'SSO' is highlighted with a red arrow. The main form shows 'Type' set to 'OAuth 2.0' (radio button selected) and 'Custom' (radio button selected under 'Use template'). Arrows point to both the selected radio buttons. Below, 'Basic information' shows 'Name' set to 'Custom'. A note at the bottom states 'Identity Provider ID: idp-custom-f4mw It cannot be changed later. [Edit](#)'.

- Configure this app:

The screenshot shows the Casdoor application interface. On the left, there's a sidebar with various options: Account, Profile, Workspace, General, Members, Projects, Subscription, Debug Log, Security & Policy, SQL Review, Risk Center, Custom Approval, Data Anonymization, Data Access Control, Audit Log, Integration, GRCs, SSO, IM, and Archive. The main area is titled 'SSO > casdoor' and contains the 'Basic Information' section. It shows the 'Name' as 'casdoor', 'Identity Provider ID' as 'idp-casdoor-mels', 'Domain' as 'http://101.43.192.216:8000', and 'Client ID' as 'e828fd992342926979e'. There are also sections for 'Client secret', 'Auth URL', 'Token URL', and 'User information mapping'. At the bottom, there are buttons for 'Test Connection', 'Archive this SSO', 'Discard changes', and 'Update'.

### 3. Find the Client ID and Client Secret on the Casdoor application page.

- Token server URL: `http://CASDOOR_HOSTNAME/api/login/oauth/access_token`
- Authorization server URL: `http://CASDOOR_HOSTNAME/login/oauth/authorize`
- User Info server URL: `http://CASDOOR_HOSTNAME/api/get-account`
- Scopes: `address phone openid profile offline_access email`

Log out of Bytebase and test SSO.

The screenshot shows the Bytebase login page. On the left, there's a large, colorful illustration of a rocket launching from a planet, with two cartoon characters (one holding a flag) watching. On the right, the Bytebase logo is displayed with the word 'Bytebase' next to it. Below the logo, there are input fields for 'Email' (containing 'jim@example.com') and 'Password'. To the right of the password field is a link 'Forgot your password?'. Below the input fields is a large blue 'Sign In' button. Underneath the button, there are links for 'New to Bytebase? Sign up' and 'Sign in with casdoor'. At the very bottom, there are language selection links for 'English' and '简体中文' (Simplified Chinese), and a copyright notice: '© 2023 Bytebase. All rights reserved.'

# ELK

## Overview of casdoor/elk-auth-casdoor

One of the biggest drawbacks of ELK (Elasticsearch, Logstash, and Kibana) is that originally these products had no authentication mechanism. As a result, anyone with the URL of Kibana or Elasticsearch could access the Kibana dashboard. Later on, ELK integrated an embedded authentication system called "Xpack." However, its advanced functions (such as OAuth, OIDC, LDAP, SAML) are not free. Only plain authentication, using a set of accounts and passwords, is available free of charge, which is quite inconvenient. This approach does not allow us to provide a unique account for everyone in a corporation.

To address this issue, we have developed an elk authentication solution based on Casdoor. This solution is free, open-source, under ongoing maintenance, and supports a wide range of advanced features. Casdoor is a centralized authentication/Single-Sign-On platform based on OAuth 2.0/OIDC. Casdoor/elk-auth-casdoor serves as a reverse proxy designed to intercept all HTTP data flow towards the ELK/Kibana stack. It guides users who haven't logged in to log in. This reverse proxy operates transparently as long as the user has logged in.

If a user hasn't been correctly authenticated, the request will be temporarily cached, and the user will be redirected to the Casdoor login page. Once the user logs in through Casdoor, the cached request will be restored and sent to Kibana. Therefore, if a POST request (or any other request type besides GET) is intercepted, the user won't need to refill the form and resend the request. The reverse proxy will remember it for you.

The casdoor/elk-auth-casdoor repository is located at <https://github.com/casdoor/elk-auth-casdoor>.

# How to run it?

0. Ensure that you have the Go programming language environment installed.
1. Go to [casdoor/elk-auth-casdoor](#) and fetch the code.
2. Register your proxy as an app with Casdoor.
3. Modify the configuration.

The configuration file is located at "conf/app.conf". Here is an example, which you should customize based on your specific needs.

```
appname = .  
# port on which the reverse proxy shall be run  
httpport = 8080  
runmode = dev  
# EDIT IT IF NECESSARY. The URL of this reverse proxy.  
pluginEndpoint = "http://localhost:8080"  
# EDIT IT IF NECESSARY. The URL of the Kibana.  
targetEndpoint = "http://localhost:5601"  
# EDIT IT. The URL of Casdoor.  
casdoorEndpoint = "http://localhost:8000"  
# EDIT IT. The clientID of your reverse proxy in Casdoor.  
clientID = ceb6eb261ab20174548d  
# EDIT IT. The clientSecret of your reverse proxy in Casdoor.  
clientSecret = af928f0ef1abc1b1195ca58e0e609e9001e134f4  
# EDIT IT. The application name of your reverse proxy in  
Casdoor.  
appName = ELKProxy  
# EDIT IT. The organization to which your reverse proxy  
belongs in Casdoor.  
organization = built-in
```

4. Visit <http://localhost:8080> (in the above example) and log in following the redirection guidance. You should then see Kibana protected and authenticated by Casdoor.
5. If everything works well, don't forget to block external access to the original Kibana port by configuring your firewall (or another method). This ensures that outsiders can only access Kibana via this reverse proxy.

# Gitea

## Using Casdoor for authentication in Gitea

[Gitea](#) is a community managed lightweight code hosting solution written in Go. It is published under the MIT license.

Gitea supports 3rd-party authentication including Oauth, which makes it possible to use Casdoor to authenticate it. Here is the tutorial for achieving this.

### Preparations

To configure Gitea to use Casdoor as identification provider, you need to have Gitea installed as well as access to administrator account.

For more information about how to download, install and run Gitea see  
<https://docs.gitea.io/en-us/install-from-binary/>

You are supposed to create an administrator account during installation. If you didn't, the administrator will be the first registered user. Please use this account proceed the following procedures.

### 1. Create an Casdoor application

Like this

Edit Application Save SAVE & EXIT

Name <span style="color: #800000;">?</span> :	<input type="text" value="application_9p7eai"/>									
Display name <span style="color: #800000;">?</span> :	New Application - 9p7eai									
Logo <span style="color: #800000;">?</span> :	 <a href="https://cdn.casbin.com/logo/logo_1024x256.png">https://cdn.casbin.com/logo/logo_1024x256.png</a>									
Preview:										
Home <span style="color: #800000;">?</span> :	<a href="#">View</a>									
Description <span style="color: #800000;">?</span> :	<input type="text"/>									
Organization <span style="color: #800000;">?</span> :	built-in									
Client ID <span style="color: #800000;">?</span> :	7ceb9b7fda4a9061ec1c									
Client secret <span style="color: #800000;">?</span> :	3416238e1edf915eac08b8fe345b2b95cdba7e04									
Cert <span style="color: #800000;">?</span> :	cert-built-in									
Redirect URLs <span style="color: #800000;">?</span> :	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Redirect URLs</th> <th>Add</th> <th>Action</th> </tr> </thead> <tbody> <tr> <td><a href="#">View</a></td> <td><a href="#">Add</a></td> <td><a href="#"></a> <a href="#"></a> <a href="#"></a> <a href="#"></a></td> </tr> <tr> <td>http://localhost:3000/user/oauth2/Casdoor/callback</td> <td></td> <td></td> </tr> </tbody> </table>	Redirect URLs	Add	Action	<a href="#">View</a>	<a href="#">Add</a>	<a href="#"></a> <a href="#"></a> <a href="#"></a> <a href="#"></a>	http://localhost:3000/user/oauth2/Casdoor/callback		
Redirect URLs	Add	Action								
<a href="#">View</a>	<a href="#">Add</a>	<a href="#"></a> <a href="#"></a> <a href="#"></a> <a href="#"></a>								
http://localhost:3000/user/oauth2/Casdoor/callback										

Please remember the client ID and client Secret for the next step.

Please don't fill in the callback url in this step. The url depends on the configurations on gitea in the next step. Later we will come back to set a correct callback url.

## 2. Configure Gitea to use Casdoor

Log in as administrator. Go to 'Site Administration' page via drop-down menu in the upper right corner. Then Switch to "Authentication Source" Page.

You are supposed to see something like this.

The screenshot shows the GitHub 'Authentication Sources' management interface. At the top, there's a navigation bar with links for Issues, Pull Requests, Milestones, Explore, and a notifications icon. Below that is a secondary navigation bar with links for Dashboard, User Accounts, Organizations, Repositories, Webhooks, Authentication Sources (which is underlined to indicate it's the active tab), User Emails, Configuration, System Notices, and Monitoring. The main content area is titled 'Authentication Source Management (Total: 0)' and contains a table with the following columns: ID, Name, Type, Enabled, Updated, Created, and Edit. A blue 'Add Authentication Source' button is located at the top right of the table area.

Press the "Add Authentication Source" Button, and fill in the form like this.

The screenshot shows the 'Add Authentication Source' form on GitHub. The form has the following fields:

- Authentication Type: OAuth2
- Authentication Name: Casdoor
- OAuth2 Provider: OpenID Connect
- Client ID (Key): 7ceb9b7fda4a9061ec1c
- Client Secret: 3416238e1edf915eac08b8fe345b2b95cdba7e04
- Icon URL: (empty)
- OpenID Connect Auto Discovery URL: http://localhost:8000/.well-known/openid-configuration
- Skip local 2FA: Leaving unset means local users with 2FA set will still have to pass 2FA to log on
- Additional Scopes: (empty)

Please choose the authentication type as "oauth2".

Please input a name for this authentication source and remember this name. This name will be used for the callback\_url in the next step.

Please choose the `OpenID Connect` Oauth2 Provider.

Fill in the Client ID and Client Secret remembered in the previous step.

Fill in the openid connect auto discovery url, which is supposed to be `<your endpoint of casdoor>/.well-known/openid-configuration`.

Fill in the other optional configuration items as you wish. And then submit it.

Submit the form.

### 3. Configure the callback url in casdoor

Go back to the application edit page in step 2, and add the following callback url:

`<endpoint of gitea>/user/oauth2/<authentication source name>/callback`

The `<authentication source name>` is the name for authentication source in Gitea in the previous step.

### 4. Have a try on Gitea

Logout the current administrator account.

You are supposed to see this in login page:

Sign In    OpenID

Sign In

Username or Email Address \*

Password \*

Remember this Device

**Sign In**   [Forgot password?](#)

[Need an account? Register now.](#)

Sign In With OpenID

Press the 'sign in with openid' button and you will be redirected to casdoor login page.

After login you will see this:

Explore   Help   [\[←\] Sign In](#)

Register New Account   [Link to Existing Account](#)

Complete New Account

Username \*

Email Address \*

admin@example.com

**Complete Account**

Follow the instructions and bind the casdoor account with a new gitea account or

existing account.

Then everything will be working correctly.

# Grafana

## Using Casdoor for authentication in Grafana

[Grafana](#) supports authentication via OAuth. Therefore, it is extremely easy for users to use Casdoor to log in to Grafana. Only several steps and simple configurations are needed to achieve that.

Here is a tutorial on how to use Casdoor for authentication in Grafana. Before you proceed, please ensure that you have Grafana installed and running.

### Step 1: Create an app for Grafana in Casdoor

Here is an example of creating an app in Casdoor:

Edit Application Save Save & Exit

Name ⓘ: application\_9p7eai

Display name ⓘ: New Application - 9p7eai

Logo ⓘ: URL ⓘ: [https://cdn.casbin.com/logo/logo\\_1024x256.png](https://cdn.casbin.com/logo/logo_1024x256.png)

Preview:



casbin

Home ⓘ: [/](#)

Description ⓘ:

Organization ⓘ: built-in

Client ID ⓘ: 7ceb9b7fda4a9061ec1c

Client secret ⓘ: 3416238e1edf915eac08b8fe345b2b95cd8a7e04

Cert ⓘ: cert-built-in

Redirect URLs ⓘ:

Action	Redirect URL
<a href="#">Add</a>	<a href="#">http://localhost:3000/login/generic_oauth</a>

Please copy the client secret and client ID for the next step.

Please add the callback URL of Grafana. By default, Grafana's OAuth callback is [/login/generic\\_oauth](/login/generic_oauth). So please concatenate this URL correctly.

## Step 2: Modify the configuration of Grafana

By default, the configuration file for OAuth is located at `conf/defaults.ini` in the workdir of Grafana.

Please find the section `[auth.generic_oauth]` and modify the following fields:

```
[auth.generic_oauth]
name = Casdoor
```

## About HTTPS

If you don't want HTTPS enabled for Casdoor or if you deploy Grafana without HTTPS enabled, please also set `tls_skip_verify_insecure = true`.

## About redirectURI after Sign In With Casdoor

If the redirect URI is not correct after signing in with Casdoor in Grafana, you may want to configure [root\\_url](#).

```
[server]
http_port = 3000
# The public-facing domain name used to access Grafana from a
browser
domain = <your IP here>
# The full public-facing URL
root_url = %(protocol)s://%(domain)s:%(http_port)s/
```

Related links:

1. [Grafana documentation](#)
2. [Grafana defaults.ini](#)

## About Role Mapping

You may want to configure `role_attribute_path` to map your user's role to Grafana via [role\\_attribute\\_path](#).

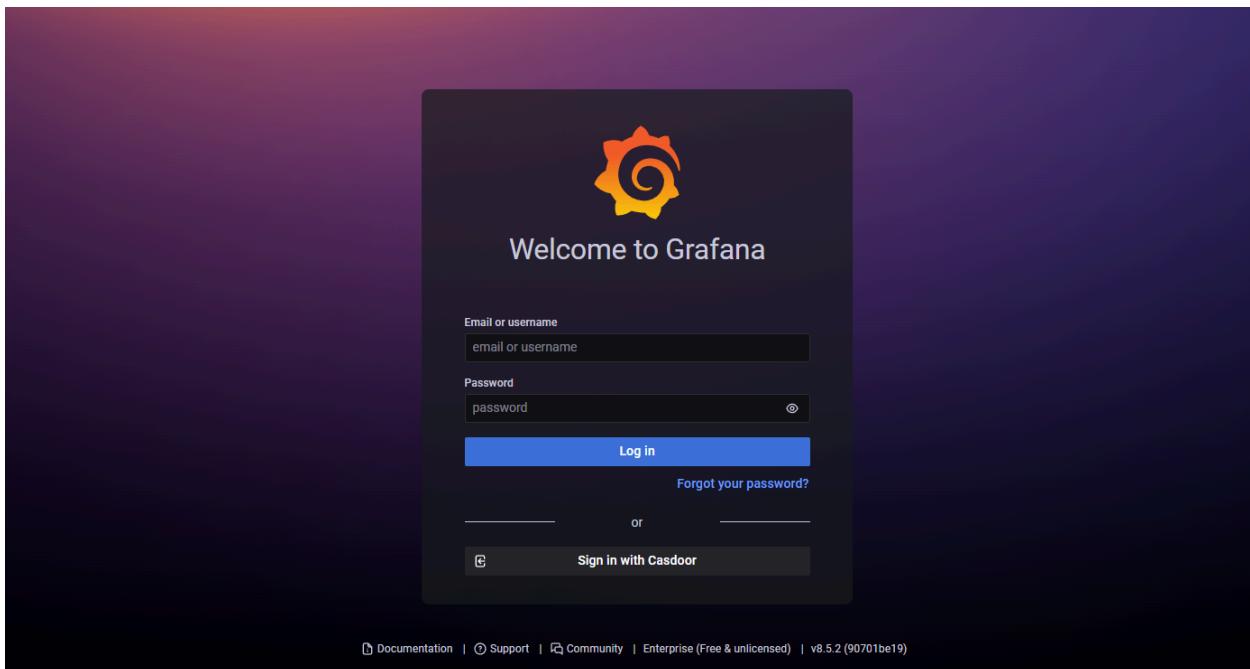
```
[auth.generic_oauth]
role_attribute_path = contains(roles[*].name, 'admin') && 'Admin'
```

The JMESPath expression after `role_attribute_path` is very important here.  
Please refer to the Grafana documentation.

## Step 3: See if it works

Shutdown Grafana and restart it.

Go to the login page. You should see something like this:



# MinIO

MinIO supports external identity management using an OpenID Connect (OIDC)-compatible provider. This document covers the configuration of Casdoor as an identity provider to support MinIO.

## Step 1: Deploy Casdoor & MinIO

First, deploy Casdoor.

You can refer to the Casdoor official documentation for [Server Installation](#).

After a successful deployment, make sure that:

- The Casdoor server is running on <http://localhost:8000>.
- Open your favorite browser and visit <http://localhost:7001> to see the login page of Casdoor.
- Test the login functionality by entering `admin` and `123`.

Next, you can quickly implement a Casdoor-based login page in your own app by following these steps.

You can refer to [here](#) to deploy your MinIO server and [here](#) for the MinIO client called `mc`.

## Step 2: Configure Casdoor Application

1. Create a new Casdoor application or use an existing one.
2. Add your redirect URL.

The screenshot shows the Casdoor application settings page. It includes fields for 'Client ID' (24a25ea0714d92e78595) and 'Client secret' (155 followed by a long redacted string). Below these, there's a 'Redirect URLs' section with an 'Add' button and a table for adding redirect URLs. A new row is being added with the URL 'http://localhost:8082/ui-one/login/oauth2/code/custom'. The 'Client ID' and 'Client Secret' fields are highlighted in red.

Client ID	24a25ea0714d92e78595	Client ID
Client secret	155 [REDACTED]	Client Secret
Redirect URLs	Add	Add a redirect URL for spring security
http://localhost:8082/ui-one/login/oauth2/code/custom		

3. Add the provider you want and provide any necessary settings.

On the application settings page, you will find two values: `Client ID` and `Client secret` (as shown in the picture above). We will use these values in the next step.

Open your favorite browser and visit: `http://CASDOOR_HOSTNAME/.well-known/openid-configuration` to see the OIDC configuration of Casdoor.

4. This step is necessary for MinIO. As MinIO needs to use a claim attribute in JWT for its policy, you should configure it in Casdoor as well. Currently, Casdoor uses `tag` as a workaround for configuring MinIO's policy.

Tag ? : `readwrite`

You can find all the supported policies [here](#).

## Step 3: Configure MinIO

You can start a MinIO server using the following commands:

```
export MINIO_ROOT_USER=minio  
export MINIO_ROOT_PASSWORD=minio123  
minio server /mnt/export
```

You can use the `--console-address` parameter to configure the address and port.

Next, add a service alias using the MinIO client `mc`.

```
mc alias set myminio <Your console address> minio minio123
```

Now, configure the OpenID Connect of MinIO. For Casdoor, the command will be:

```
mc admin config set myminio identity_openid  
config_url="http://CASDOOR_HOSTNAME/.well-known/openid-  
configuration" client_id=<client id> client_secret=<client secret>  
claim_name="tag"
```

You can refer to the [official document](#) for more detailed parameters.

Once successfully set, restart the MinIO instance.

```
mc admin service restart myminio
```

## Step 4: Try the demo!

Now, open your MinIO console in the browser and click on `Login with SSO`.

You will be redirected to the Casdoor user login page. Upon successful login, you will be redirected to the MinIO page and logged in automatically. You should now

see the buckets and objects that you have access to.

 CAUTION

If you deploy the frontend and backend of Casdoor on different ports, the login page you are redirected to will be on the backend port and it will display `404 not found`. You can modify the port to the frontend one. Then you can access the Casdoor login page successfully.

# Java

## Spring Boot

Using Casdoor in a Spring Boot project

## Spring Cloud

Using Casdoor in Spring Cloud

## Spring Cloud Gateway

Using Casdoor in Spring Cloud Gateway

## Spring Security

2 items

 Jenkins Plugin

Using the Casdoor plugin for Jenkins security

 Jenkins OIDC

Using the OIDC protocol as an IDP to connect various applications, like Jenkins

 Jira

2 items

 Connecting Applications with OIDC Protocol - Confluence

Learn how to use OIDC protocol as IDP to connect Confluence and other applications.

 RuoYi

Using Casdoor in RuoYi-Cloud



## Pulsar Manager

Using Casdoor in Pulsar Manager



## Using Casdoor in ShenYu

How to use Casdoor with ShenYu



## ShardingSphere

Using Casdoor in ShardingSphere



## Apache IoTDB

Using Casdoor with Apache IoTDB



## Apache DolphinScheduler

Using Casdoor for DolphinScheduler SSO login



## FireZone

Using the OIDC protocol as the IDP to connect various applications, such as FireZone



## Cloud Foundry

Learn how to integrate Casdoor with Cloud Foundry to secure your applications.



## Thingsboard

Learn how to integrate Casdoor with Thingsboard to secure your applications

# Spring Boot

[casdoor-spring-boot-example](#) is an example of how to use [casdoor-spring-boot-starter](#) in a Spring Boot project. We will guide you through the steps below.

## Step 1: Deploy Casdoor

Firstly, Casdoor should be deployed.

You can refer to the Casdoor official documentation for the [Server Installation](#). Please deploy your Casdoor instance in production mode.

After a successful deployment, make sure the following:

- Open your favorite browser and visit <http://localhost:8000>. You will see the login page of Casdoor.
- Test the login functionality by entering `admin` as the username and `123` as the password.

Now, you can quickly implement a Casdoor-based login page in your own app using the following steps.

## Step 2: Import casdoor-spring-boot-starter

You can import the casdoor-spring-boot-starter using Maven or Gradle.

[Maven](#)    [Gradle](#)

---

```

<!-- https://mvnrepository.com/artifact/org.casbin/casdoor-spring-
boot-starter -->
<dependency>
    <groupId>org.casbin</groupId>
    <artifactId>casdoor-spring-boot-starter</artifactId>
    <version>1.x.y</version>
</dependency>

// https://mvnrepository.com/artifact/org.casbin/casdoor-spring-
boot-starter
implementation group: 'org.casbin', name: 'casdoor-spring-boot-
starter', version: '1.x.y'

```

## Step 3: Initialize Config

Initialization requires 6 string-type parameters in the following order:

Name	Required	Description
endpoint	Yes	Casdoor Server URL, such as <code>http://localhost:8000</code>
clientId	Yes	Application client ID
clientSecret	Yes	Application client secret
certificate	Yes	Application certificate
organizationName	Yes	Application organization

Name	Required	Description
applicationName	No	Application name

You can use Java properties or YAML files for initialization.

[Properties](#)    [YML](#)

---

```
casdoor.endpoint = http://localhost:8000
casdoor.clientId = <client-id>
casdoor.clientSecret = <client-secret>
casdoor.certificate = <certificate>
casdoor.organizationName = built-in
casdoor.applicationName = app-built-in
```

```
casdoor:
  endpoint: http://localhost:8000
  client-id: <client-id>
  client-secret: <client-secret>
  certificate: <certificate>
  organization-name: built-in
  application-name: app-built-in
```

**⚠ CAUTION**

Replace the configuration values with your own Casdoor instance,  
especially the `clientId`, `clientSecret`, and `jwtPublicKey`.

## Step 4: Redirect to the Login Page

When you need to authenticate users who access your app, you can send the target URL and redirect to the login page provided by Casdoor.

Make sure you have added the callback URL (e.g. <http://localhost:8080/login>) in the application configuration beforehand.

```
@Resource  
private CasdoorAuthService casdoorAuthService;  
  
@RequestMapping("toLogin")  
public String toLogin() {  
    return "redirect:" +  
casdoorAuthService.getSigninUrl("http://localhost:8080/login");  
}
```

## Step 5: Get Token and Parse

After the Casdoor verification is passed, it will redirect back to your application with the code and state.

You can get the code and call the `getOAuthToken` method, then parse the JWT token.

`CasdoorUser` contains the basic information about the user provided by Casdoor. You can use it to set the session in your application.

```
@RequestMapping("login")  
public String login(String code, String state, HttpServletRequest
```

# Services

Examples of APIs are shown below:

- CasdoorAuthService
  - `String token = casdoorAuthService.getOAuthToken(code, "app-built-in");`
  - `CasdoorUser casdoorUser = casdoorAuthService.parseJwtToken(token);`

- CasdoorUserService
  - `CasdoorUser casdoorUser = casdoorUserService.getUser("admin");`
  - `CasdoorUser casdoorUser = casdoorUserService.getUserByEmail("admin@example.com");`
  - `CasdoorUser[] casdoorUsers = casdoorUserService.getUsers();`
  - `CasdoorUser[] casdoorUsers = casdoorUserService.getSortedUsers("created_time", 5);`
  - `int count = casdoorUserService.getUserCount("0");`
  - `CasdoorResponse response = casdoorUserService.addUser(user);`
  - `CasdoorResponse response = casdoorUserService.updateUser(user);`
  - `CasdoorResponse response = casdoorUserService.deleteUser(user);`

- CasdoorEmailService
  - `CasdoorResponse response = casdoorEmailService.sendEmail(title, content, sender, receiver);`

- CasdoorSmsService
  - `CasdoorResponse response = casdoorSmsService.sendSms(randomCode(), receiver);`

- CasdoorResourceService

- ```
CasdoorResponse response =  
casdoorResourceService.uploadResource(user, tag, parent,  
fullFilePath, file);
```
- ```
CasdoorResponse response =  
casdoorResourceService.deleteResource(file.getName());
```

## More Resources

You can explore the following projects/docs to learn more about integrating Java with Casdoor:

- [casdoor-java-sdk](#)
- [casdoor-spring-boot-starter](#)
- [casdoor-spring-boot-example](#)
- [casdoor-spring-security-example](#)
- [casdoor-spring-security-react-example](#)
- [casdoor-spring-boot-shiro-example](#)

# Spring Cloud

In the Spring Cloud microservice system, general authentication occurs at the gateway. Please refer to [casdoor-springcloud-gateway-example](#) for more information.

If you want to use Casdoor in a single service, you can refer to [casdoor-spring-boot-example](#).

Whether it's in the gateway layer or in a single service, both use the [casdoor-spring-boot-starter](#).

## What's more

You can explore the following projects/docs to learn more about integrating Java with Casdoor:

- [casdoor-java-sdk](#)
- [casdoor-spring-boot-starter](#)
- [casdoor-spring-boot-example](#)
- [casdoor-spring-security-example](#)
- [casdoor-spring-security-react-example](#)
- [casdoor-spring-boot-shiro-example](#)
- [casdoor-springcloud-gateway-example](#)

# Spring Cloud Gateway

The [casdoor-springcloud-gateway-example](#) is an example of how to use the [casdoor-spring-boot-starter](#) as an OAuth2 plugin in Spring Cloud Gateway. The steps to use it are described below.

## Step 1: Deploy Casdoor

Firstly, Casdoor should be deployed. You can refer to the official Casdoor documentation for the [Server Installation](#). Please deploy your Casdoor instance in production mode.

After a successful deployment, you need to ensure the following:

- Open your favorite browser and visit <http://localhost:8000>. You will see the login page of Casdoor.
- Input `admin` and `123` to test if the login functionality is working fine.

After that, you can quickly implement a Casdoor-based login page in your own app using the following steps.

## Step 2: Initialize a Spring Cloud Gateway

You can use the code from this example directly or combine it with your own business code.

You need a gateway service and at least one business service. In this example, `casdoor-gateway` is the gateway service and `casdoor-api` is the business service.

## Step 3: Include the dependency

Add the `casdoor-spring-boot-starter` dependency to your Spring Cloud Gateway project.

For Apache Maven:

```
/casdoor-gateway/pom.xml
```

```
<!-- https://mvnrepository.com/artifact/org.casbin/casdoor-spring-boot-starter -->
<dependency>
    <groupId>org.casbin</groupId>
    <artifactId>casdoor-spring-boot-starter</artifactId>
    <version>1.x.y</version>
</dependency>
```

For Gradle:

```
// https://mvnrepository.com/artifact/org.casbin/casdoor-spring-boot-starter
implementation group: 'org.casbin', name: 'casdoor-spring-boot-starter', version: '1.x.y'
```

## Step 4: Configure your properties

Initialization requires 6 parameters, all of which are of type string.

Name (in order)	Required	Description
endpoint	Yes	Casdoor Server URL, such as <code>http://localhost:8000</code>
clientId	Yes	Application.client_id
clientSecret	Yes	Application.client_secret
certificate	Yes	Application.certificate
organizationName	Yes	Application.organization
applicationName	No	Application.name

You can use Java properties or YAML files to initialize these parameters.

For properties:

```
casdoor.endpoint=http://localhost:8000
casdoor.clientId=<client-id>
casdoor.clientSecret=<client-secret>
casdoor.certificate=<certificate>
casdoor.organizationName=built-in
casdoor.applicationName=app-built-in
```

For YAML:

```
casdoor:
  endpoint: http://localhost:8000
  client-id: <client-id>
```

In addition, you need to configure Gateway Routing. For YAML:

```
spring:
  application:
    name: casdoor-gateway
  cloud:
    gateway:
      routes:
        - id: api-route
          uri: http://localhost:9091
          predicates:
            - Path=/api/**
```

## Step 5: Add the CasdoorAuthFilter

Add an implementation class of the GlobalFilter interface to the gateway for identity verification, such as the CasdoorAuthFilter used in this example.

If the authentication fails, it returns a 401 status code to the frontend to redirect them to the login interface.

```
@Component
public class CasdoorAuthFilter implements GlobalFilter, Ordered {

  private static final Logger LOGGER =
LoggerFactory.getLogger(CasdoorAuthFilter.class);

  @Override public int getOrder() {
    return 0;
  }

  @Override public Mono<Void> filter(ServerWebExchange exchange,
GatewayFilterChain chain) {
```

# Step 6: Get the Service and use it

Now provide 5 services: `CasdoorAuthService`, `CasdoorUserService`, `CasdoorEmailService`, `CasdoorSmsService`, and `CasdoorResourceService`.

You can create them as follows in the Gateway project.

```
@Resource  
private CasdoorAuthService casdoorAuthService;
```

When you require authentication for accessing your app, you can send the target URL and redirect to the login page provided by Casdoor.

Please make sure that you have added the callback URL (e.g., <http://localhost:9090/callback>) in the application configuration in advance.

```
@RequestMapping("login")  
public Mono<String> login() {  
    return Mono.just("redirect:" +  
        casdoorAuthService.getSignInUrl("http://localhost:9090/callback"));  
}
```

After successful verification by Casdoor, it will be redirected back to your application with a code and state. You can get the code and call the `getOAuthToken` method to parse out the JWT token.

`CasdoorUser` contains the basic information about the user provided by Casdoor. You can use it as a keyword to set the session in your application.

```

@RequestMapping("callback")
public Mono<String> callback(String code, String state,
ServerWebExchange exchange) {
    String token = "";
    CasdoorUser user = null;
    try {
        token = casdoorAuthService.getOAuthToken(code, state);
        user = casdoorAuthService.parseJwtToken(token);
    } catch(CasdoorAuthException e) {
        e.printStackTrace();
    }
    CasdoorUser finalUser = user;
    return exchange.getSession().flatMap(session -> {
        session.getAttributes().put("casdoorUser", finalUser);
        return Mono.just("redirect:/");
    });
}

```

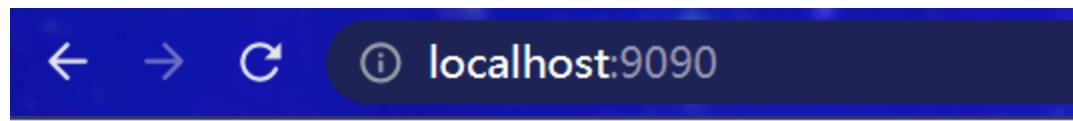
Examples of the APIs are shown below.

- CasdoorAuthService
  - `String token = casdoorAuthService.getOAuthToken(code, "app-built-in");`
  - `CasdoorUser casdoorUser = casdoorAuthService.parseJwtToken(token);`
- CasdoorUserService
  - `CasdoorUser casdoorUser = casdoorUserService.getUser("admin");`
  - `CasdoorUser casdoorUser = casdoorUserService.getUserByEmail("admin@example.com");`
  - `CasdoorUser[] casdoorUsers = casdoorUserService.getUsers();`
  - `CasdoorUser[] casdoorUsers = casdoorUserService.getSortedUsers("created_time", 5);`
  - `int count = casdoorUserService.getUserCount("0");`

- CasdoorResponse response = casdoorUserService.addUser(user);
  - CasdoorResponse response =  
casdoorUserService.updateUser(user);
  - CasdoorResponse response =  
casdoorUserService.deleteUser(user);
- CasdoorEmailService
    - CasdoorResponse response = casdoorEmailService.sendEmail(title, content, sender, receiver);
  - CasdoorSmsService
    - CasdoorResponse response =  
casdoorSmsService.sendSms(randomCode(), receiver);
  - CasdoorResourceService
    - CasdoorResponse response =  
casdoorResourceService.uploadResource(user, tag, parent, fullFilePath, file);
    - CasdoorResponse response =  
casdoorResourceService.deleteResource(file.getName());

## Step 7: Restart the project

After starting the project, open your favorite browser and visit <http://localhost:9090>. Then click any button that requests resources from casdoor-api.



# Casdoor

[Get Resource](#)

[Update Resource](#)

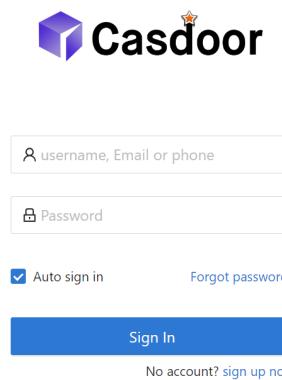
The gateway authentication logic will be triggered. Since you are not logged in, you will be redirected to the login interface. Click the Login button.



# Click to login

[Login](#)

You can see the unified login platform of Casdoor.



After a successful login, you will be redirected to the main interface. Now you can click any button.



# Casdoor

[Get Resource](#)

[Update Resource](#)

"success get resource1"

## What's more

You can explore the following projects/docs to learn more about the integration of Java with Casdoor.

- [casdoor-java-sdk](#)
- [casdoor-spring-boot-starter](#)
- [casdoor-spring-boot-example](#)
- [casdoor-spring-security-example](#)
- [casdoor-spring-security-react-example](#)
- [casdoor-spring-boot-shiro-example](#)
- [casdoor-springcloud-gateway-example](#)

# Spring Security

## Spring Security OAuth

Using Spring Security as an example to demonstrate how to use OIDC to connect to your applications

## Spring Security Filter with OIDC integration for Casdoor

This article explains how to use Spring Security Filter to connect your application with Casdoor using OIDC.

# Spring Security OAuth

Casdoor can use the OIDC protocol as an IDP to connect various applications. In this guide, we will use Spring Security as an example to show you how to use OIDC to connect to your applications.

## Step 1: Deploy Casdoor

First, you need to deploy Casdoor.

You can refer to the Casdoor official documentation for the [Server Installation](#).

After successfully deploying Casdoor, make sure:

- The Casdoor server is running on <http://localhost:8000>.
- Open your favorite browser and visit <http://localhost:7001>, where you will see the login page of Casdoor.
- Verify that the login functionality is working fine by entering `admin` and `123`.

Now, you can quickly implement a Casdoor-based login page in your own app by following the steps below.

## Step 2. Configure Casdoor application

1. Create a new Casdoor application or use an existing one.
2. Add your redirect URL (You can find more details on how to obtain the redirect URL in the next section).

The screenshot shows the 'Client ID' field containing '24a25ea0714d92e78595' and the 'Client Secret' field containing '155...'. Below these, the 'Redirect URLs' section shows a table with one row: 'http://localhost:8082/ui-one/login/oauth2/code/custom'.

3. Add the desired provider and fill in any additional settings.

On the application settings page, you will find two values: `Client ID` and `Client secret`, as shown in the image above. We will use these values in the next step.

Open your preferred browser and visit: `http://CASDOOR_HOSTNAME/.well-known/openid-configuration`. Here, you will find the OIDC configuration of Casdoor.

## Step 3. Configure Spring Security

Spring Security natively supports OIDC.

You can customize the settings of Spring Security OAuth2 Client:

**⚠ CAUTION**

You should replace the configuration with your own Casdoor instance, especially the `<Client ID>` and others.

`application.yml`    `application.properties`

```
spring:  
  security:  
    oauth2:  
      client:  
        registration:
```

```
spring.security.oauth2.client.registration.casdoor.client-id=<Client ID>
spring.security.oauth2.client.registration.casdoor.client-secret=<Client
Secret>
spring.security.oauth2.client.registration.casdoor.scope=<Scope>
spring.security.oauth2.client.registration.casdoor.authorization-grant-
type=authorization_code
spring.security.oauth2.client.registration.casdoor.redirect-uri=<Redirect
URL>

spring.security.oauth2.client.provider.casdoor.authorization-
uri=http://CASDOOR_HOSTNAME:7001/login/oauth/authorize
spring.security.oauth2.client.provider.casdoor.token-
uri=http://CASDOOR_HOSTNAME:8000/api/login/oauth/access_token
spring.security.oauth2.client.provider.casdoor.user-info-
uri=http://CASDOOR_HOSTNAME:8000/api/get-account
spring.security.oauth2.client.provider.casdoor.user-name-attribute=name
```

#### CAUTION

For the default situation of Spring Security, the <Redirect URL> should be like

`http://<Your Spring Boot Application Endpoint>/<Servlet Prefix if it is
configured>/login/oauth2/code/custom`. For example, in the following demo, the
redirect URL should be `http://localhost:8080/login/oauth2/code/custom`.

You should also configure this in the `casdoor` application.

You can also customize the settings using `ClientRegistration` in your code. You can find the mapping [here](#)

## Step 4: Get Started with a Demo

1. We can create a Spring Boot application.
2. We can add a configuration that protects all endpoints except `/` and `/login**` for users to log in.

```

@EnableWebSecurity
public class UiSecurityConfig extends WebSecurityConfigurerAdapter {

    @Override
    protected void configure(HttpSecurity http) throws Exception {
        http.authorizeRequests()
            .antMatchers("/", "/login**")
            .permitAll()
            .anyRequest()
            .authenticated()
            .and()
            .oauth2Login();

    }
}

```

3. We can add a naive page for the user to log in.

```

<!DOCTYPE html>
<html lang="en">
<head>
<meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
<title>Spring OAuth Client Thymeleaf - 1</title>
<link rel="stylesheet"
      href="https://stackpath.bootstrapcdn.com/bootstrap/4.1.3/css/
bootstrap.min.css" />
</head>
<body>
    <nav
        class="navbar navbar-expand-lg navbar-light bg-light shadow-sm
p-3 mb-5">
        <a class="navbar-brand" th:href="@{/foos/}">Spring OAuth Client
            Thymeleaf - 1</a>
    </nav>
    <div class="container">
        <label>Welcome!</label> <br /> <a th:href="@{/foos/}"
            class="btn btn-primary">Login</a>
    </div>
</body>
</html>

```

When the user clicks the `login` button, they will be redirected to `casdoor`.

4. Next, we can define our protected resources. We can expose an endpoint called `/foos` and a web page for display.

#### Data Model

```
public class FooModel {  
    private Long id;  
    private String name;  
  
    public FooModel(Long id, String name) {  
        super();  
        this.id = id;  
        this.name = name;  
    }  
    public Long getId() {  
        return id;  
    }  
    public void setId(Long id) {  
        this.id = id;  
    }  
    public String getName() {  
        return name;  
    }  
    public void setName(String name) {  
        this.name = name;  
    }  
}
```

#### Controller

```
@Controller  
public class FooClientController {  
    @GetMapping("/foos")  
    public String getFoos(Model model) {  
        List<FooModel> foos = new ArrayList<>();  
        foos.add(new FooModel(1L, "a"));  
        foos.add(new FooModel(2L, "b"));  
        foos.add(new FooModel(3L, "c"));  
    }  
}
```

## Web page

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
<title>Spring OAuth Client Thymeleaf - 1</title>
<link rel="stylesheet"
      href="https://stackpath.bootstrapcdn.com/bootstrap/4.1.3/css/
bootstrap.min.css" />
</head>
<body>
  <nav
    class="navbar navbar-expand-lg navbar-light bg-light shadow-sm
p-3 mb-5">
    <a class="navbar-brand" th:href="@{/foos/}">Spring OAuth Client
      Thymeleaf - 1</a>
    <ul class="navbar-nav ml-auto">
      <li class="navbar-text">Hi, <span
sec:authentication="name">preferred_username</span>&ampnbsp&ampnbsp&ampnbsp</li>
    </ul>
  </nav>
  <div class="container">
    <h1>All Foos:</h1>
    <table class="table table-bordered table-striped">
      <thead>
        <tr>
          <td>ID</td>
          <td>Name</td>
        </tr>
      </thead>
      <tbody>
        <tr th:if="${foos.empty}">
          <td colspan="4">No foos</td>
        </tr>
        <tr th:each="foo : ${foos}">
          <td>
            <span th:text="${foo.id}">ID</span>
          </td>
          <td>
            <span th:text="${foo.name}">Name</span>
          </td>
        </tr>
      </tbody>
    </table>
  </div>
</body>
```

**⚠ CAUTION**

All the web page templates should be placed under `resources/templates`.

## Step 5: Try the demo!

Firstly, you can try opening your favorite browser and directly visiting `/foos`. It will automatically redirect you to Casdoor's login page. You can log in there or from the root page.

If you visit your root page, you will see the Casdoor Application Setting.

Spring OAuth Client Thymeleaf - 1

Welcome !  
[Login](#)

Click the `Login` button and the page will redirect you to Casdoor's login page.



username, Email or phone

Password

Auto sign in      [Forgot password?](#)

[Sign In](#)

[Sign in with code](#)    No account? [sign up now](#)

After logging in, the page will redirect you to </foos>.

Spring OAuth Client Thymeleaf -1

Hi,

Your Username

### All Foos:

ID	Name
1	a
2	b
3	c

# Spring Security Filter with OIDC integration for Casdoor

Casdoor is an open-source IDP that supports OIDC and various other protocols. In this article, we will see how to integrate Casdoor with your application using Spring Security Filter and OIDC.

## Step 1: Deploy Casdoor

First, you need to deploy the Casdoor server. Refer to the [official documentation](#) for server installation instructions. After successful deployment, ensure that:

- The Casdoor server is running at <http://localhost:8000>.
- You can see the Casdoor login page at <http://localhost:7001>.
- You can test the login functionality by logging in with the credentials `admin` and `123`.

After verifying these steps, follow the steps below to integrate Casdoor with your application.

## Step 2: Configure Casdoor Application

- Create a new Casdoor application or use an existing one.
- Add your redirect URL. You can find more information about obtaining the redirect URL in the next section.

Name [?](#) : application\_a6ftas → your application name

Display name [?](#) : New Application - a6ftas

Logo [?](#) : URL [?](#) : [https://cdn.casbin.org/img/casdoor-logo\\_1185x256.png](https://cdn.casbin.org/img/casdoor-logo_1185x256.png)

Preview: 

Home [?](#) :

Description [?](#) :

Organization [?](#) : organization\_carg1b → your organization name

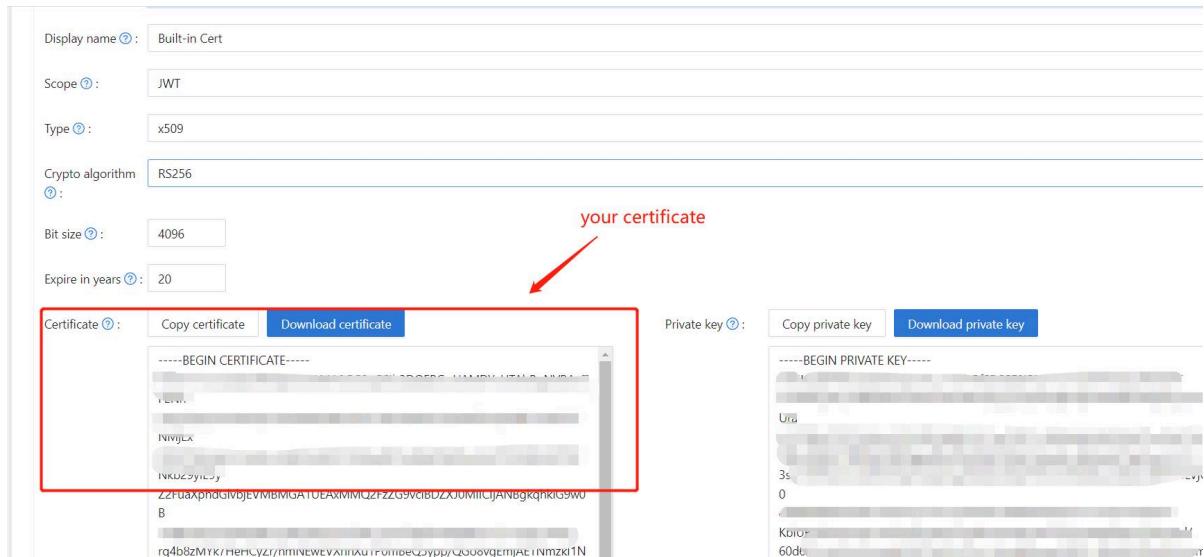
Client ID [?](#) : 3ed7314825ecf955cb19 → your client id

Client secret [?](#) : ee9314ea228 → your client secret

Cert [?](#) : cert-built-in

Redirect URLs [?](#) : Redirect URLs [Add](#)  
Redirect URL [?](#) http://localhost:3000/callback → your redirect url

- Obtain your [Certificate](#) on the certificate editing page.



- Add the provider and other settings as needed.

You can obtain the values for Application Name, Organization Name, Redirect URL, Client ID, Client Secret, and Certificate on the application settings page. We will use them in the next step.

## Step 3: Configure Spring Security

You can customize the settings of the Spring Security filters to process tokens:

### **⚠ CAUTION**

Make sure you replace the configuration values with your own Casdoor instance, especially <Client ID> and the others.

```
server:
  port: 8080
casdoor:
  endpoint: http://CASDOOR_HOSTNAME:8000
  client-id: <Client ID>
  client-secret: <Client Secret>
  certificate: <Certificate>
```

### CAUTION

For frontend applications, the default value of <FRONTEND\_HOSTNAME> is localhost:3000. In this demo, the redirect URL is http://localhost:3000/callback. Make sure to configure this in your casdoor application.

## Step 4: Configure Frontend

You need to install casdoor-js-sdk and configure the SDK as follows:

1. Install casdoor-js-sdk.

```
npm i casdoor-js-sdk
# or
yarn add casdoor-js-sdk
```

2. Set up SDK.

```
import Sdk from "casdoor-js-sdk";

// Serverurl is the URL where spring security is deployed
export const ServerUrl = "http://BACKEND_HOSTNAME:8080";

const sdkConfig = {
  serverUrl: "http://CASDOOR_HOSTNAME:8000",
  clientId: "<your client id>",
  appName: "<your application name>",
  organizationName: "<your organization name>",
  redirectPath: "/callback",
};

export const CasdoorSDK = new Sdk(sdkConfig);
```

# Step 5: Set Up a Demo

1. Create a Spring Boot application.
2. Add some configurations to handle JWT.

```
@EnableWebSecurity
public class SecurityConfig {

    private final JwtTokenFilter jwtTokenFilter;

    public SecurityConfig(JwtTokenFilter jwtTokenFilter) {
        this.jwtTokenFilter = jwtTokenFilter;
    }

    @Bean
    public SecurityFilterChain securityFilterChain(HttpSecurity http) throws Exception {
        // enable CORS and disable CSRF
        http = http.cors(corsConfig -> corsConfig
            .configurationSource(configurationSource())
            .csrf().disable());

        // set session management to stateless
        http = http
            .sessionManagement()
            .sessionCreationPolicy(SessionCreationPolicy.STATELESS)
            .and();

        // set permissions on endpoints
        http.authorizeHttpRequests(authorize -> authorize
            .mvcMatchers("/api/redirect-url", "/api/signin").permitAll()
            .mvcMatchers("/api/**").authenticated()
        );

        // set unauthorized requests exception handler
    }
}
```

3. Add a simple JWT filter to intercept requests that require token verification.

```
@Component
public class JwtTokenFilter extends OncePerRequestFilter {

    private final CasdoorAuthService casdoorAuthService;

    public JwtTokenFilter(CasdoorAuthService casdoorAuthService) {
        this.casdoorAuthService = casdoorAuthService;
    }

    @Override
    protected void doFilterInternal(HttpServletRequest request,
                                    HttpServletResponse response,
                                    FilterChain chain)
        throws ServletException, IOException {
        // get authorization header and validate
        final String header =
request.getHeader(HttpHeaders.AUTHORIZATION);
        if (!StringUtils.hasText(header) ||
!header.startsWith("Bearer ")) {
            chain.doFilter(request, response);
            return;
        }

        // get jwt token and validate
        final String token = header.split(" ")[1].trim();

        // get user identity and set it on the spring security
        context
        UserDetails userDetails = null;
        try {
            CasdoorUser casdoorUser =
casdoorAuthService.parseJwtToken(token);
            userDetails = new CustomUserDetails(casdoorUser);
        } catch (CasdoorAuthException exception) {
            logger.error("casdoor auth exception", exception);
            chain.doFilter(request, response);
            return;
        }
    }
}
```

When the user accesses the interface requiring authentication, `JwtTokenFilter` will obtain the token from the request header `Authorization` and verify it.

4. Define a `Controller` to handle when the user logs in to Casdoor. After the user logs in, they will be redirected to the server and carry the `code` and `state`. The server then needs to verify the user's identity from Casdoor and obtain the `token` through these two parameters.

```
@RestController
public class UserController {

    private static final Logger logger =
LoggerFactory.getLogger(UserController.class);

    private final CasdoorAuthService casdoorAuthService;

    // ...

    @PostMapping("/api/signin")
    public Result signin(@RequestParam("code") String code,
@RequestParam("state") String state) {
        try {
            String token = casdoorAuthService.getOAuthToken(code,
state);
            return Result.success(token);
        } catch (CasdoorAuthException exception) {
            logger.error("casdoor auth exception", exception);
            return Result.failure(exception.getMessage());
        }
    }

    // ...
}
```

## Step 6: Try the Demo

You can access the frontend application through your browser. If you are not logged in,

you will see a login button. Click on it, and you will be redirected to the Casdoor login page.

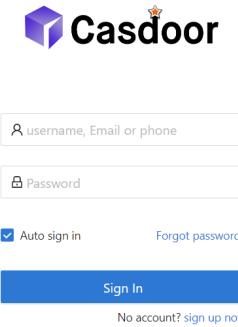
If you visit your root page,

---

[Casdoor Login](#)

Click the [Casdoor Login](#) button, and the page will redirect to Casdoor's login page.

---



---

Made with ❤ by [Casdoor](#)

After logging in, you will be redirected to [/](#).



New User - rtsbx4

[Logout](#)

# Jenkins Plugin

Casdoor provides a plugin that allows users to log in to Jenkins. Here, we will show you how to use the Casdoor plugin for Jenkins security.

The following are some of the configuration settings:

`CASDOOR_HOSTNAME`: The domain name or IP where the Casdoor server is deployed.

`JENKINS_HOSTNAME`: The domain name or IP where Jenkins is deployed.

## Step 1: Deploy Casdoor and Jenkins

Firstly, deploy [Casdoor](#) and [Jenkins](#).

After a successful deployment, ensure the following:

1. Set the Jenkins URL (Manage Jenkins → Configure System → Jenkins Location) to `JENKINS_HOSTNAME`.

The screenshot shows the Jenkins 'Configuration' screen under 'Manage Jenkins'. The 'Jenkins Location' section is highlighted. In the 'Jenkins URL' field, the value 'http://10.144.125.123:6780' is entered, with the placeholder 'JENKINS\_HOSTNAME' visible below it. The 'System Admin e-mail address' field contains the placeholder 'address not configured yet <nobody@nowhere>'. Below this, the 'Serve resource files from another domain' section is shown, with a note about the 'Resource Root URL' field being empty. At the bottom, there are 'Global properties' options for 'Environment variables' and buttons for 'Save' and 'Apply'.

2. Verify that Casdoor can be logged in and used normally.
3. Set the `origin` value of Casdoor (conf/app.conf) to `CASDOOR_HOSTNAME`.

```
conf > ⚙ app.conf
  8  dbName = casdoor
  9  redisEndpoint =
10  defaultStorageProvider =
11  isCloudIntranet = false
12  authState = "casdoor"
13  httpProxy = "127.0.0.1:10808"
14  verificationCodeTimeout = 10
15  initScore = 2000
16  logPostOnly = true
17  origin = "http://10.144.1.2:8000" | CASDOOR_HOSTNAME
```

## Step 2: Configure the Casdoor Application

1. Create a new Casdoor application or use an existing one.
2. Add a redirect URL: `http://JENKINS_HOSTNAME/securityRealm/finishLogin`

The screenshot shows the Casdoor application configuration interface. It includes fields for Description (set to 'Casdoor for Jenkins'), Organization (set to 'built-in'), Client ID (set to 'bbd0bd66696e504dec59'), Client secret (set to 'd2de01b01...110b47465c'), and Redirect URLs. The 'Redirect URLs' section has an 'Add' button and a table with one entry: 'Redirect URL' set to '`http://10.144.125.123:6780/securityRealm/finishLogin`' and 'Add a redirect url for Jenkins' set to '`JENKINS_HOSTNAME`'.

3. Add the desired provider and provide any additional settings.

On the application settings page, you will find two values: `Client ID` and `Client secret`, as shown in the picture above. We will use these values in the next step.

Open your favorite browser and visit `http://CASDOOR_HOSTNAME/.well-known/openid-configuration` to view the OIDC configuration of Casdoor.

## Step 3: Configure Jenkins

Now, you can install the Casdoor plugin from the marketplace or by uploading its `.jar` file.

After the installation is complete, go to Manage Jenkins → Configure Global Security.

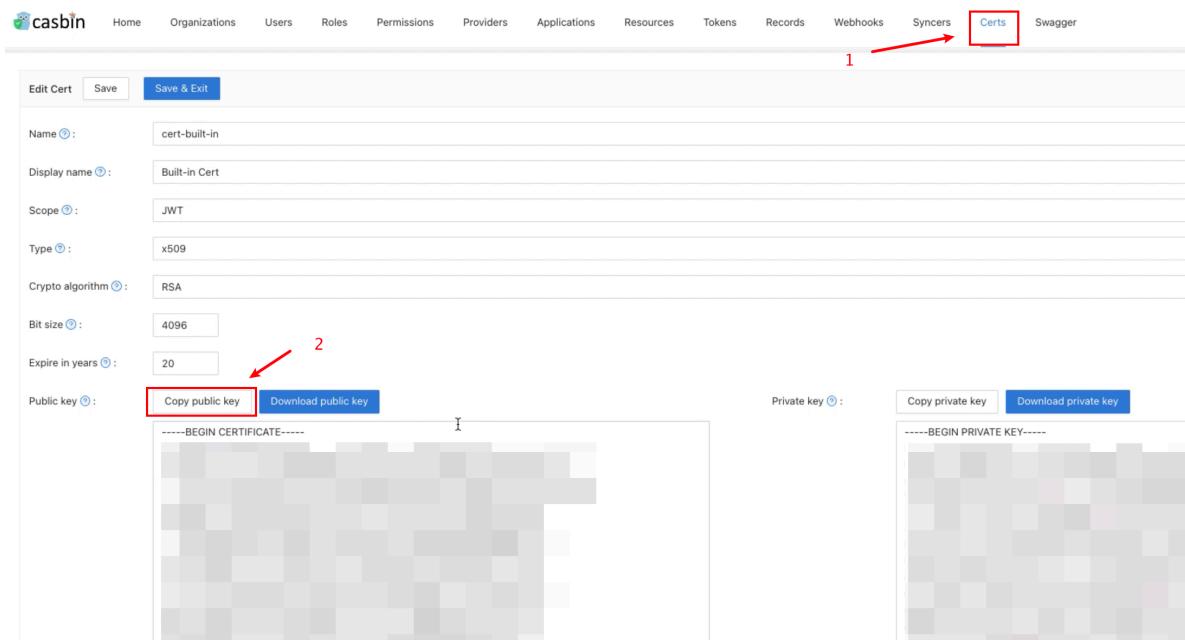
**Suggestion:** Back up the Jenkins `config.xml` file and use it for recovery in case of setup errors.

The screenshot shows the Jenkins 'Configure Global Security' page with the 'Casdoor Authentication Plugin' selected. The form fields are as follows:

- Authentication**:
  - Disable remember me
- Security Realm**:
  - Casdoor Authentication Plugin
  - Casdoor Endpoint:  
[Input field] (highlighted with a blue border)
  - Casdoor Endpoint is required.**
- Client ID**:  
[Input field]  
**Client Id is required.**
- Client Secret**:  
[Input field]  
**Client Secret is required.**
- JWT Public Key**:  
[Input field]  
**Jwt Public Key is required.**
- Organization Name**:  
[Input field]
- Application Name**:  
[Input field]
- Advanced...** (button)
- Delegate to servlet container** (radio button)
- Jenkins' own user database** (radio button)

At the bottom are **Save** and **Apply** buttons.

1. In the Security Realm section, select "Casdoor Authentication Plugin".
2. In the Casdoor Endpoint field, enter the `CASDOOR_HOSTNAME` mentioned earlier.
3. In the Client ID field, enter the `Client ID` mentioned earlier.
4. In the Client secret field, enter the `Client secret` mentioned earlier.
5. In the JWT Public Key field, provide the public key used to validate the JWT token. You can find the public key in Casdoor by clicking on `Cert` at the top. After clicking `edit` on your application, you can copy the public key from the following page.



6. Organization Name and Application Name are optional. You can specify your organization and application to verify users in other organizations and applications. If these fields are left empty, the plugin will use the default organization and application.
7. In the Authorization section, check "Logged-in users can do anything". Disable "Allow anonymous read access".
8. Click `Save`.

Jenkins will now automatically redirect you to Casdoor for authentication.

# Jenkins OIDC

Casdoor can use the OIDC protocol as an IDP to connect various applications. In this example, we will use Jenkins to demonstrate how to use OIDC to connect to your applications.

The following are some of the names used in the configuration:

- `CASDOOR_HOSTNAME`: The domain name or IP where the Casdoor server is deployed.
- `JENKINS_HOSTNAME`: The domain name or IP where Jenkins is deployed.

## Step 1: Deploy Casdoor and Jenkins

Firstly, deploy [Casdoor](#) and [Jenkins](#).

After a successful deployment, ensure the following:

1. Set the Jenkins URL (Manage Jenkins → Configure System → Jenkins Location) to `JENKINS_HOSTNAME`.

The screenshot shows the Jenkins configuration page under 'Dashboard > configuration'. It includes sections for 'Jenkins Location' (with Jenkins URL set to 'http://10.144.125.123:6780') and 'Global properties' (with checkboxes for 'Environment variables' and 'Advanced'). Buttons for 'Save' and 'Apply' are at the bottom.

2. Ensure that Casdoor can be logged in and used normally.
3. Set Casdoor's `origin` value (conf/app.conf) to `CASDOOR_HOSTNAME`.

```
conf > ⚙ app.conf
 8  dbName = casdoor
 9  redisEndpoint =
10 defaultStorageProvider =
11 isCloudIntranet = false
12 authState = "casdoor"
13 httpProxy = "127.0.0.1:10808"
14 verificationCodeTimeout = 10
15 initScore = 2000
16 logPostOnly = true
17 | origin = "http://10.144.1.2:8000"
      CASDOOR_HOSTNAME
```

## Step 2: Configure the Casdoor application

1. Create a new Casdoor application or use an existing one.

2. Add a redirect URL: `http://JENKINS_HOSTNAME/securityRealm/finishLogin`

The screenshot shows the Casdoor application settings page. A red box highlights the redirect URL field, which contains the value `http://10.144.125.123:6780/securityRealm/finishLogin`. Below this, the text "Add a redirect url for Jenkins" is displayed in red. Other fields shown include "Client ID" (bd0bd66696e504dec59) and "Client secret" (d2de01b01...110b47465c).

3. Add the provider you want and provide any additional settings.

You will obtain two values from the application settings page: `Client ID` and `Client secret`. We will use these values in the next step.

Open your favorite browser and visit: `http://CASDOOR_HOSTNAME/.well-known/openid-configuration` to view the OIDC configuration of Casdoor.

## Step 3: Configure Jenkins

First, we need to install [OpenId Connect Authentication](#) as Jenkins does not natively support OIDC.

After the installation is complete, go to [Manage Jenkins → Configure Global Security](#).

The screenshot shows the Jenkins Manage Jenkins dashboard. In the top left, there are links for 'User List' and 'Build History'. The 'Manage Jenkins' link is highlighted with a red border. Below it is a 'My Views' link. On the left, there are two dropdown menus: '构建队列' (Build Queue) which says '队列中没有构建任务' (No builds in queue), and '构建执行状态' (Build Execution Status) which shows '1 空闲' (1 idle) and '2 空闲' (2 idle). The main content area is titled 'System Configuration'. It contains several sections: 'Configure System' (Configure global settings and paths), 'Global Tool Configuration' (Configure tools, their locations and automatic installers), 'Manage Nodes and Clouds' (Add, remove, control and monitor the various nodes that Jenkins runs jobs on), 'Manage Plugins' (Add, remove, disable or enable plugins that can extend the functionality of Jenkins), 'Security' (Secure Jenkins; define who is allowed to access/use the system), 'Manage Credentials' (Configure credentials), and 'Configure Credential Providers' (Configure the credential providers and types). A yellow banner at the top right says 'Building on the built-in node can be a security issue. You should set up distributed builds. See the documentation.' with buttons for 'Set up agent', 'Set up cloud', and 'Dismiss'.

### TIP

Make sure to back up the Jenkins `config.xml` file to recover in case of any setup errors.

1. In Access Control, select `Login with Openid Connect` as the Security Realm.
2. Specify the `Client ID` noted above in the Client ID field.
3. Specify the `Client secret` noted above in the Client secret field.
4. In the Configuration mode, select `Automatic configuration` and enter `http://CASDOOR_HOSTNAME.well-known/openid-configuration` as the Well-known configuration endpoint.

**Security Realm**

- Delegate to servlet container ?
- Jenkins' own user database ?
- Login with Openid Connect Select this  ?

Client id ?

Input your Client ID

Client secret ?

 Concealed Input your Client secret Change Password

**Configuration mode**

- Automatic configuration ?
- Well-known configuration endpoint ?
- Manual configuration ?

http://10.144.1.2:8000/.well-known/openid-configuration

**CASDOOR\_HOSTNAME**

If your Casdoor is deployed locally, you may need to select **Manual configuration** and provide the following information:

- Token server URL: **http://CASDOOR\_HOSTNAME/api/login/oauth/access\_token**
- Authorization server URL: **http://CASDOOR\_HOSTNAME/login/oauth/authorize**
- UserInfo server URL: **http://CASDOOR\_HOSTNAME/api/get-account**
- Scopes: **address phone openid profile offline\_access email**

Configuration mode

- Automatic configuration ?
- Manual configuration ?
- Token server url ?

http://10.144.1.2:8000/api/login/oauth/access\_token

**CASDOOR\_HOSTNAME**

Authorization server url ?

http://10.144.1.2:8000/login/oauth/authorize

Userinfo server url ?

http://10.144.1.2:8000/api/get-account

Scopes ?

address phone openid profile offline\_access email

5. Click on **Advanced settings** and fill in the following:

- In the User name field, specify **name**.

- In the Full name field, specify `displayName`.
- In the Email field, specify `email`.

User name field name	<input type="text" value="name"/>
Full name field name	<input type="text" value="displayName"/>
Email field name	<input type="text" value="email"/>
Groups field name ?	<input type="text"/>
Token Field Key To Check ?	<input type="text"/>

6. In the Authorization section, enable “Logged-in users can do anything” and disable “Allow anonymous read access”. You can configure more complex authorization later, but for now, check if OpenID works correctly.

Log out of Jenkins, and it should redirect you to Casdoor for authentication.



Auto sign in      [Forgot password?](#)

[Sign In](#)

[Sign in with code](#)      [No account? sign up now](#)

Q
G

# Jira

## Via Built-in SSO

Using the OIDC protocol as an IDP to connect various applications, such as Jira

## Using the miniOrange Plugin

Connect casdoor and Jira using the OIDC protocol as the IDP

# Via Built-in SSO

This is a free method to connect Casdoor, but your website must use HTTPS.

Casdoor can use the OIDC protocol as an IDP to connect various applications. Here is a [Jira](#) tutorial.

The following are some of the names in the configuration:

- `CASDOOR_HOSTNAME`: Domain name or IP where the Casdoor server is deployed.
- `Jira_HOSTNAME`: Domain name or IP where Jira is deployed.

## Step 1: Deploy Casdoor and Jira

Firstly, deploy [Casdoor](#) and [Jira](#).

After a successful deployment, ensure the following:

1. Casdoor can be logged in and used normally.
2. You can set `CASDOOR_HOSTNAME` to `http://localhost:8000` when deploying Casdoor in `prod` mode. See [production mode](#).

## Step 2: Configure Casdoor application

1. Create or use an existing Casdoor application.
2. Find Authentication methods:

Jira Software

Administration  Search Jira admin

Applications Projects Issues Manage apps User management Latest upgrade report **System** 2

General configuration Find more admin tools Jira mobile app

SYSTEM SUPPORT System info Instrumentation Monitoring Database monitoring Integrity checker Logging and profiling Scheduler details Troubleshooting and support tools Clean up Audit log Clustering

SECURITY Project roles Global permissions Password Policy User sessions **Authentication methods** 3

Administering personal access <https://test.v2tl.com/plugins/servlet/applications/licenses>

**Authentication methods**

Manage how users authenticate. Save authentication configurations using SAML, OpenID Connect, or Crowd as the identity provider. [Learn more about using multiple identity providers.](#)

**Make authentication safer**

Authenticating with username and password is less secure than through single sign-on. Now that you've configured the latter, consider disabling product login form and basic authentication.

Communicate this change to your users.

[How to disable](#) · [Dismiss](#)

**Login options**

Name	Type	Last updated	Show on login page	Actions
Username and password	Product login form	Never	<input checked="" type="checkbox"/>	...
casdoor	OpenID Connect	25 April 2023 4:33 PM	<input checked="" type="checkbox"/>	...

**Authentication on API calls**

Allow basic authentication on API calls. You can use personal access tokens as a safer alternative method of authentication. See [Using personal access tokens](#).

- Add a Configuration and choose OpenID Connection single sign-on in the Authentication method

### Add new configuration

Name \*

Use a unique name for this configuration.

Authentication method

OpenID Connect single sign-on



Users log in using OpenID Connect

- Find the redirect URL:

Give these URLs to your identity provider

Redirect URL

<https://test.v2tl.com/plugins/servlet/oidc/callback>



Location where the client is sent to after successful account authentication.

## 5. Add a redirect URL:

The screenshot shows the Casdoor application settings page. It includes fields for Client ID (642ec5d6779a2f0e879d), Client secret (26cb47985c47ae3844580536ce2f59872969e109), and Cert (cert-built-in). Below these, there is a section for Redirect URLs with an 'Add' button. A single redirect URL is listed: https://test.v2tl.com/plugins/servlet/oidc/callback. To the right of the list is an 'Action' column with icons for moving up, moving down, and deleting.

Not surprisingly, you can obtain two values on the application settings page:

`Client ID` and `Client secret`, like the picture above. We will use them in the next step.

Open your favorite browser and visit: `http://CASDOOR_HOSTNAME/.well-known/openid-configuration`. You will see the OIDC configuration of Casdoor.

## Step 3: Configure Jira

1. We need to continue configuring our Configuration in Jira

## Edit existing configuration

Name \*

casdoor

Use a unique name for this configuration.

Authentication method

OpenID Connect single sign-on

Users log in using OpenID Connect

### OpenID Connect settings

Issuer URL \*

https://demo.casdoor.com

your casdoor url

The complete URL of the OpenID Provider. Needs to be unique.

Client ID \*

642ec5d6779a2f0e879d

application client ID

The client identifier, as registered with the OpenID Provider.

Client secret \*

.....

application client secret [Change](#)

Client secret is used in conjunction with the Client ID to authenticate the client application against the OpenID Provider.

Username mapping \*

\${preferred\_username}

Used to map IdP claims to the username, e.g. \${sub}

Additional scopes

phone ✕ email ✕ address ✕ profile ✕

✖ ▾

The default scope is 'openid'. Add more scopes if needed to obtain the username claim.

Redirect URL  
 Copy it to casdoor

Location where the client is sent to after successful account authentication.

Initiate login URL  
 Copy

URL used for OpenID Provider-initiated login.

**Additional settings**  
The authorization, token, and user info endpoints will be filled automatically if your Identity provider offers this option. If not, you will be asked to provide this information.

Fill the data automatically from my chosen identity provider.

**JIT provisioning**  
Just-in-time user provisioning allows users to be created and updated automatically when they log in through SSO to Atlassian Data Center applications. [Learn more](#).

Create users on login to the application

**OpenID Connect behaviour**

Remember user logins  
If checked, successful login history will be saved and users will be logged in automatically without the need for reauthentication.

**Login page settings**  
Decide if the IdP should be visible on login page and customize what the user will see on the button.

Show IdP on the login page

Login button text \*

The text is shown to the user on the login page. Remaining characters: 33.

Save configuration Cancel

2. You can configure more complex authorization later. For now, check if OpenID actually works.

⚠ You have temporary access to administrative functions. [Drop access](#) if you no longer require it. For more information, refer to the [documentation](#).

Jira Software Dashboards ▼ Projects ▼ Issues ▼ Boards ▼ Plans ▼ Create

Search Jira admin

Administration Applications Projects Issues Manage apps User management Latest upgrade report System

**General configuration**

- Find more admin tools
- Jira mobile app

**SYSTEM SUPPORT**

- System info
- Instrumentation
- Monitoring
- Database monitoring
- Integrity checker
- Logging and profiling
- Scheduler details
- Troubleshooting and support tools
- Clean up
- Audit log
- Clustering

**SECURITY**

- Project roles
- Global permissions

**Authentication methods**

Manage how users authenticate. Save authentication configurations using SAML, OpenID Connect, or Crowd as the identity provider. [Learn more about using multiple identity providers.](#)

⚠ **Make authentication safer**

Authenticating with username and password is less secure than through single sign-on. Now that you've configured the latter, consider disabling product login form and basic authentication.

Communicate this change to your users.

[How to disable](#) - Dismiss

**Login options**

Name	Type	Last updated	Show on login page	Actions
Username and password	Product login form	Never	<input checked="" type="checkbox"/>	...
casdoor	OpenID Connect	26 April 2023 7:20 PM	<input checked="" type="checkbox"/>	...

**Authentication on API calls**

Allow basic authentication on API calls.

You can use personal access tokens as a safer alternative method of authentication. See [Using personal access tokens](#).

Add configuration

# Using the miniOrange Plugin

This tutorial explains how to use [miniOrange](#) to connect casdoor and Jira.

[Casdoor](#) can use the OIDC protocol as the IDP to connect various applications. You can refer to this [Jira](#) tutorial for more information.

The following are some important names in the configuration:

`CASDOOR_HOSTNAME`: The domain name or IP where the Casdoor server is deployed.

`Jira_HOSTNAME`: The domain name or IP where Jira is deployed.

## Step 1: Deploy Casdoor and Jira

Firstly, deploy [Casdoor](#) and [Jira](#).

After successful deployment, make sure:

1. Set Jira URL (Plans → Administration → System → General Configuration) to

`Jira_HOSTNAME`.

The screenshot shows the Casdoor General Configuration page under the System tab. On the left sidebar, there are links for Applications, Projects, Issues, Manage apps, User management, and Latest upgrade report. The System tab is selected. In the main content area, there is a 'General configuration' sidebar with links for Find more admin tools, Jira mobile app, SYSTEM SUPPORT, System info, Instrumentation, Monitoring, Database monitoring, Integrity checker, Logging and profiling, Scheduler details, and Troubleshooting and support tools. The main panel shows the 'Settings' section with 'General Settings'. The 'Base URL' field is highlighted with a red border and contains the value `http://localhost:8080`. A red arrow points from the text 'Jira\_HOSTNAME' in the list item above to the 'Base URL' field. Other settings visible include 'Title' (JIRA), 'Mode' (Private), 'Maximum Authentication Attempts Allowed' (3), 'CAPTCHA on signup' (OFF), and 'Email from' (\${fullname} (Jira)).

2. Casdoor can be logged in and used normally.
3. You can set `CASDOOR_HOSTNAME` to `http://localhost:8000` when deploying Casdoor in `prod` mode. See [production mode](#).

## Step 2: Configure Casdoor Application and Jira

1. Create a new Casdoor application or use an existing one.
2. Install the [miniOrange](#) app to support OAuth. You can find this app in Plans->Administration->Find new apps->search

The screenshot shows the Atlassian Marketplace for JIRA interface. A red arrow points to the 'Manage apps' tab in the top navigation bar. Another red arrow points to the 'Find new apps' button in the left sidebar under the 'ATLASSIAN MARKETPLACE' section. A third red arrow points to the 'Oauth' filter button at the top of the search results. The search results page displays the 'mO Jira OAuth SSO, Jira OpenID Connect SSO, Jira OIDC SSO' app by miniOrange. The app listing includes its logo, name, developer information ('miniOrange • Supported by vendor • Data Center'), ratings ('★★★★★ (56)'), installations ('607 installations'), and purchase options ('Free trial', 'Buy now'). Below the app listing, a brief description states: 'Login to Jira & Service Desk using OAuth2.0/OpenID Connect (OIDC) compliant applications like Google apps, AWS Cognito, Azure AD, Keycloak, GitHub, GitLab, Discord, Facebook, Microsoft, Meetup and custom apps. Best OAuth SSO App In Market!'

3. Set `Selected Application` to Custom OpenId.
4. Find the redirect URL:

miniOrange OAuth Configuration

Manage apps Ask Us On Forum Frequently Asked Questions

OAuth/OIDC Configurations

Callback URL: http://localhost:8080/plugins/servlet/oauth/callback

## 5. Add the redirect URL:

Client ID: 514e09591ee5554b16fe

Client secret: e7f05b14a68fb23e526f08515aefb73bbab7814a

Cert: cert-built-in

Redirect URLs: [Add](#)

Redirect URL	Action
http://localhost:8080/plugins/servlet/oauth/callback	

## 6. Configure the app as follows:

Selected Application: Custom OpenId Import Details

Provider ID: 5c881c25-2e02-42c9-af06-0a71e0beb516

Custom App Name: casdoor

Client Id.\*: 514e09591ee5554b16fe

Client Secret.\*: e7f05b14a68fb23e526f08515aefb73bbab7814a

Scope.\*: openid email profile address phone offline\_access

Authorize Endpoint.\*: http://localhost:8000/login/oauth/authorize

Access Token Endpoint.\*: http://localhost:8000/api/login/oauth/access\_token

Logout Endpoint: Enter the Logout Endpoint URL

Enter the Logout endpoint of your OAuth/OpenID Provider. Leave blank if Logout endpoint not supported by provider.  
e.g. If Keycloak Logout endpoint is configured with {hostname}/auth/realms/{realm-name}/protocol/openid-connect/logout too.

Save

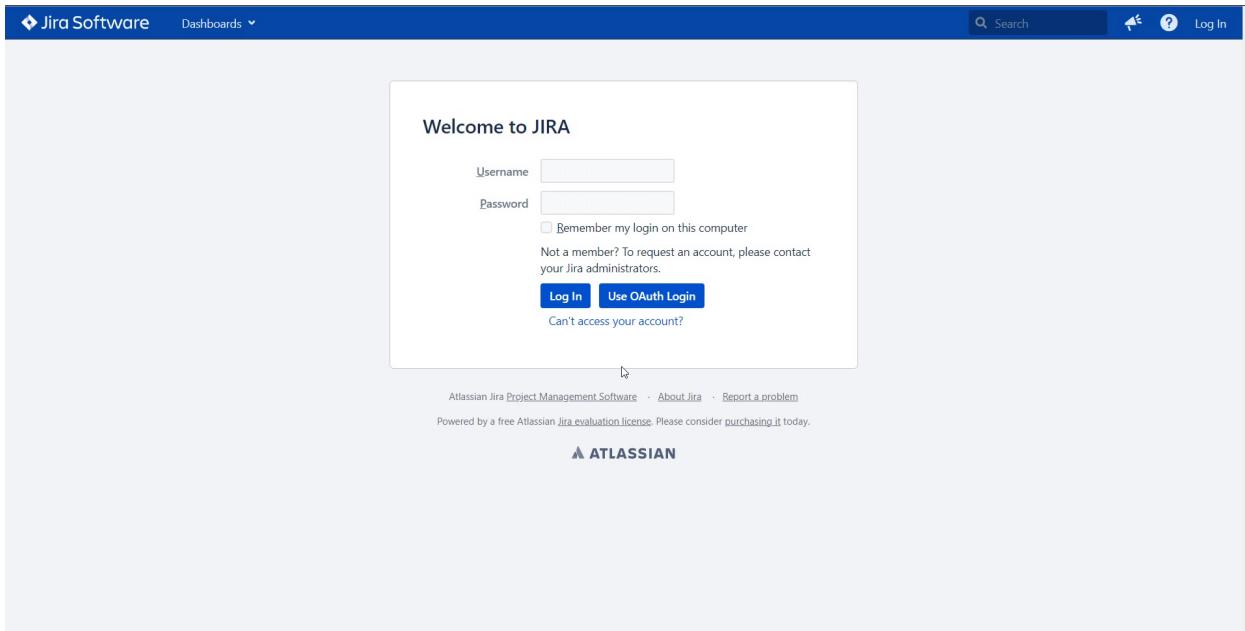
Test Configuration

- Token server URL: http://**CASDOOR\_HOSTNAME**/api/login/oauth/**access\_token**
- Authorization server URL: http://**CASDOOR\_HOSTNAME**/login/oauth/**authorize**

- UserInfo server URL : http://**CASDOOR\_HOSTNAME**/api/get-account
- Scopes: address phone openid profile offline\_access email

Open your favorite browser and visit: http://**CASDOOR\_HOSTNAME**/.well-known/openid-configuration. You will see the OIDC configuration of Casdoor.

Log out of Jira and test SSO.



# Connecting Applications with OIDC Protocol - Confluence

Casdoor can use OIDC protocol as an IDP to connect various applications. In this guide, we will use Confluence as an example to demonstrate how to use OIDC to connect your applications.

To start, make sure you have deployed Casdoor and Confluence successfully. Here are a few configuration names you need to remember:

- `CASDOOR_HOSTNAME`: Domain name or IP where Casdoor server is deployed.
- `Confluence_HOSTNAME`: Domain name or IP where Confluence is deployed.

## Step 1: Deploy Casdoor and Confluence

First, deploy Casdoor and Confluence.

After successful deployment, ensure the following:

1. Set Confluence URL to `Confluence_HOSTNAME`.

The screenshot shows the 'General Configuration' section of the Confluence administration interface. On the left, a sidebar lists various configuration options. The 'General Configuration' option is highlighted with a blue arrow pointing to it. The main content area is titled 'General Configuration' and contains a 'Site Configuration' section. Under 'Site Configuration', there is a 'Server Base URL' field set to 'http://localhost:8090'. A blue arrow points to this field.

2. Casdoor can be logged in and used normally.
3. You can set `CASDOOR_HOSTNAME` to `http://localhost:8000` if you deploy Casdoor in `prod` mode. Refer to the [production mode](#) for more details.

## Step 2: Configure Casdoor application

1. Create a new Casdoor application or use an existing one.
2. Find a redirect URL:

The screenshot shows the 'OAuth/OIDC Configurations' page. On the left, a sidebar lists 'OAuth/OIDC Configurations'. The main content area has a 'Callback URL' field set to 'http://localhost:8090/plugins/servlet/oauth/callback'. A blue arrow points to this field.

3. Add the redirect URL to the application:

The screenshot shows the 'OAuth/OIDC Configurations' page. It includes fields for 'Client ID' (01ae4bd048734ca2dea), 'Client secret' (f26a4115725867b7bb7b668c81e1f8f7fae1544d), 'Cert' (cert-built-in), and 'Redirect URLs'. The 'Redirect URLs' section has an 'Add' button and a field containing 'http://localhost:8090/plugins/servlet/oauth/callback'. Blue arrows point to each of these four fields.

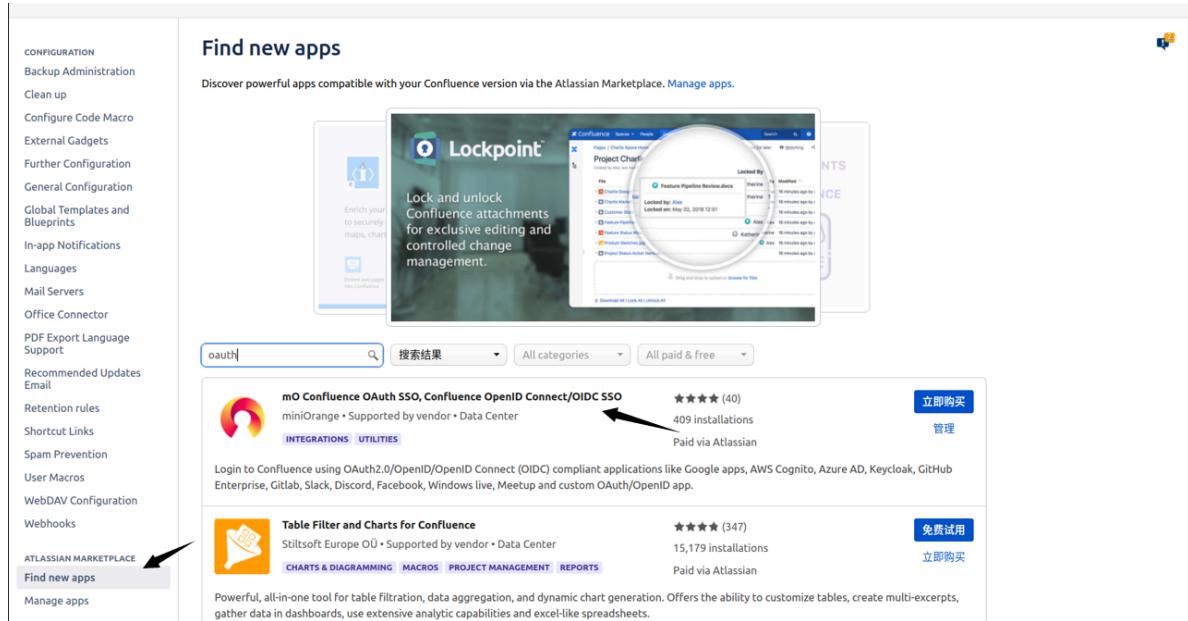
4. Add the desired provider and configure other settings accordingly.

On the application settings page, you will find two values: `Client ID` and `Client Secret`. We will need these in the next step.

Open your favorite browser and visit: `http://CASDOOR_HOSTNAME/.well-known/openid-configuration` to see the OIDC configuration of Casdoor.

## Step 3: Configure Confluence

1. Install the [miniOrange](#) app to support OAuth. You can find this app in:



The screenshot shows the Atlassian Marketplace interface. On the left, there's a sidebar with various configuration options like 'Backup Administration', 'External Gadgets', and 'ATLASSIAN MARKETPLACE'. The 'ATLASSIAN MARKETPLACE' option is highlighted with a red arrow. In the main area, there's a search bar with 'oauth' typed in. Below it, there are several app listings. One listing for 'mO Confluence OAuth SSO, Confluence OpenID Connect/OIDC SSO' by miniOrange is highlighted with a black arrow. This listing includes a star rating of 4.0, 409 installations, and a 'Buy Now' button. Other visible apps include 'Lockpoint' and 'Table Filter and Charts for Confluence'.

2. Configure the app:

Selected Application:	<b>Custom OpenId</b>	<b>Import Details</b>	<b>Setup Guide</b>
Provider ID: <b>4f6b30c1-eba8-4b89-ac02-4a4b7a137b97</b>			
Custom App Name: <input type="text" value="Casdoor SSO"/>			
Client Id: <input type="text" value="014ae4bd048734ca2dea"/>			
Client Secret: <input type="text" value="f26a4115725867b7bb7b668c81e1f8f7fae1544d"/>			
Scope: <input type="text" value="openid profile email"/>			
Authorize Endpoint: <input type="text" value="https://door.casdoor.com/login/oauth/authorize"/>			
Access Token Endpoint: <input type="text" value="https://door.casdoor.com/api/login/oauth/access_token"/>			
Logout Endpoint: <input type="text" value="Enter the Logout Endpoint URL"/> <p style="font-size: small; margin-top: 5px;">           Enter the Logout endpoint of your OAuth/OpenID Provider. Leave blank if Logout endpoint not supported by provider.            e.g. If Keycloak Logout endpoint is configured with {hostname}/auth/realm/{realm-name}/{protocol}/openid-connect/logout URL then on!         </p>			

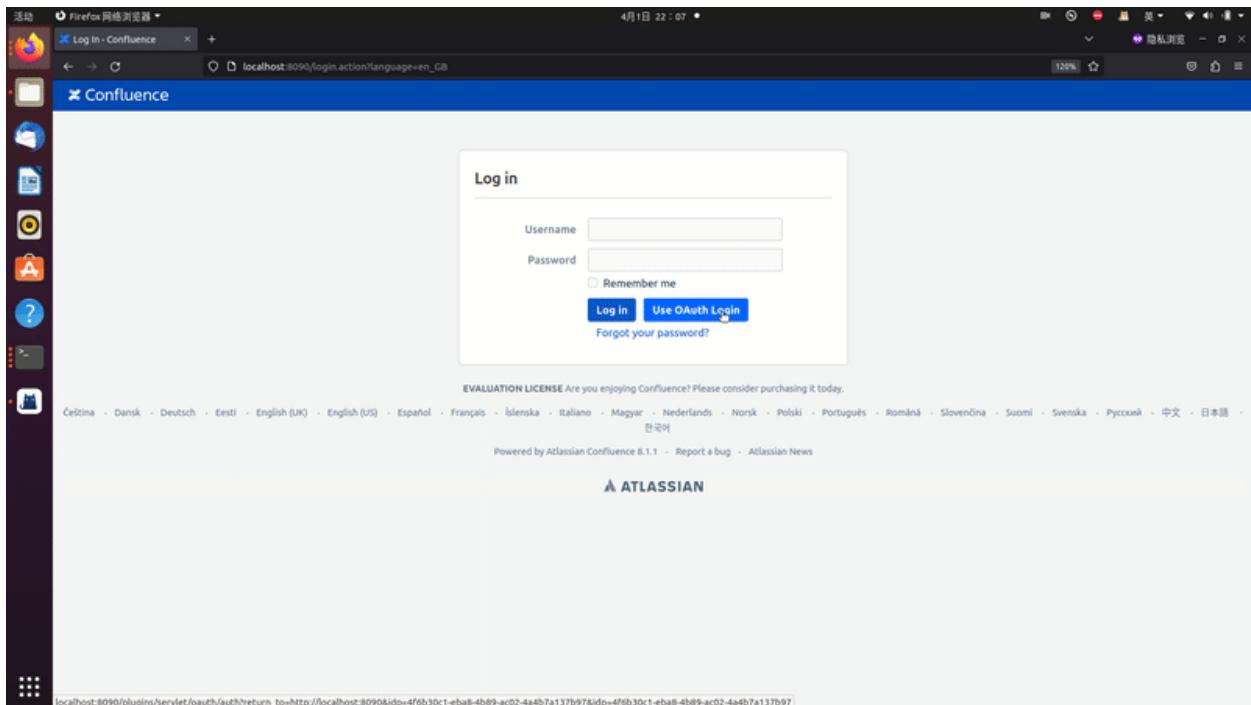
3. Set **Selected Application** to Custom OpenID.
4. Retrieve the Client ID and Client Secret from the Casdoor application page.

Configure the following settings for Confluence:

- **Token server URL**: `http://CASDOOR_HOSTNAME/api/login/oauth/access_token`
- **Authorization server URL**: `http://CASDOOR_HOSTNAME/login/oauth/authorize`
- **UserInfo server URL**: `http://CASDOOR_HOSTNAME/api/get-account`
- **Scopes**: `address phone openid profile offline_access email`

You can configure more advanced authorization settings later. For now, check if OpenID actually works.

Log out of Confluence and test SSO:



# RuoYi

Casdoor can be easily integrated with RuoYi-cloud.

## Step 1: Deploy Casdoor

First, deploy Casdoor.

You can refer to the Casdoor official documentation for the [Server Installation](#).

After successful deployment, ensure the following:

- The Casdoor server is running at <http://localhost:8000>.
- Open your favorite browser and visit <http://localhost:7001> to access the Casdoor login page.
- Test the login functionality by entering `admin` and `123`.

Next, you can quickly implement a Casdoor-based login page in your own app following these steps.

## Step 2: Configure Casdoor

To configure Casdoor, please follow these steps:

1. Open Casdoor in a browser by clicking [here](#). It is recommended to use a different browser than your development browser.
2. Configure an organization, an application, and the Synchronizer in Casdoor. You can find detailed instructions on how to do this [here](#).

Here are some additional points to keep in mind:

1. When editing the syncer, make sure to check the table columns:

Table columns 	Add	Column name	Column type	Casdoor column	Is hashed	Action
		user_id	integer	Id	<input checked="" type="checkbox"/>	  
		dept_id	integer	Affiliation	<input checked="" type="checkbox"/>	  
		user_name	string	Name	<input checked="" type="checkbox"/>	  
		nick_name	string	DisplayName	<input checked="" type="checkbox"/>	  
		user_type	string	Type	<input checked="" type="checkbox"/>	  
		email	string	Email	<input checked="" type="checkbox"/>	  
		phonenumber	string	Phone	<input checked="" type="checkbox"/>	  
		sex	string	Gender	<input checked="" type="checkbox"/>	  
		avatar	string	Avatar	<input checked="" type="checkbox"/>	  
		password	string	Password	<input checked="" type="checkbox"/>	  
		del_flag	string	IsDeleted	<input checked="" type="checkbox"/>	  
		login_ip	string	CreatedIp	<input checked="" type="checkbox"/>	  
		create_time	string	CreatedTime	<input checked="" type="checkbox"/>	  
		password	string	Password	<input checked="" type="checkbox"/>	  

2. When editing the organization, make sure to select the correct password type:

Password type  :

3. Lastly, ensure that you have enabled soft deletion.

Please make sure to follow these instructions carefully to properly configure Casdoor.

## Step 3. Reform your front-end

### 3.1 Jump to Casdoor's login page

We can use a front-end SDK, taking vue-sdk as an example here. After you initialize vue-sdk, you can obtain the Casdoor login page URL by using the `getSignInUrl()` function.

You can link it in the way you prefer, and feel free to delete any original code from

Ruoyi-Cloud that is no longer necessary, such as the original account and password el-input.

## 3.2 Accept the code and state returned by Casdoor

After successfully logging in through Casdoor, Casdoor sends the code and state to the page we set up. We can retrieve the code and state using the create() function.

```
created() {
    let url = window.document.location.href; // get URL
    let u = new URL(url);
    this.loginForm.code = u.searchParams.get('code'); // get code
    and state
    this.loginForm.state = u.searchParams.get('state');
    if (this.loginForm.code != null && this.loginForm.state != null) { // if code and state are not null, execute handleLogin
        this.handleLogin();
    }
}
```

For RuoYi-Cloud, we simply modify its original method of sending the account and password to send the code and state instead. Therefore, the change is only in what is sent to the backend, in relation to the original login.

## Step 4: Refactor your back-end

### 4.1 Accept the code and state returned by the front-end

```
@PostMapping("login")
```

In this method, we are using the casdoor-SpringBoot-sdk method and making slight modifications to the RuoYi-Cloud method.

For example, the RuoYi-Cloud original method registers an account with a password. I have changed it to register an account using the `casdoorRegister` method.

I have also added a method `getUserByCasdoorName` to check if the account exists, and changed the method `executeUserInfo` to `executeWithAccount` to reflect this change.

This is an easy modification, as we only need to remove the part that checks the password.

## Step 5: Summary

### 5.1 Front-end

- The existing login and register pages need to be removed.
- Additionally, the front-end needs to accept code and state parameters and send them to the back-end.

### 5.2 Back-end

The RuoYi back-end already has a well-implemented login and registration function. We just need to make some minor modifications, which makes the process highly convenient.

# Step 6: Detailed Steps

1. Deploy and configure Casdoor. Be sure to select the bcrypt password type for the organization, as RuoYi-Cloud also uses bcrypt for passwords.
2. Use Casdoor syncers to copy database users to your Casdoor organization. This will import the original accounts into Casdoor.
3. After deploying Casdoor, make changes to the front-end. Disable the RuoYi check code.

```
// checkcode switch  
captchaEnabled: false,  
// register switch  
register: true,
```

Note that the RuoYi-Cloud captcha needs to be disabled in Nacos again. Also, the RuoYi-Cloud registration function needs to be enabled by setting `sys.account.registerUser` to `true`.

4. Add a button for users to log in with Casdoor, and modify the data's `loginForm`.

```
// el-button  
<a href="http://localhost:7001/login/oauth/authorize?client_id=d509b6b3edc8a3d4cce9&response_type=code&redirect_uri=http%3A%2F%2Flocalhost:7001/casdoor">casdoor</a>  
  
loginForm: {  
  code: "",  
  state: ""  
},
```

Here, I have written the URL, but you can obtain it using the Casdoor-Vue-SDK or Casdoor-SpringBoot-SDK.

5. Since we are no longer using the original login method, delete the cookie and checkcode methods.

The new `created` function should look like this:

```
created() {
  let url = window.document.location.href; // Get the URL
  let u = new URL(url);
  this.loginForm.code = u.searchParams.get('code'); // Get
the code and state
  this.loginForm.state = u.searchParams.get('state');
  if (this.loginForm.code != null && this.loginForm.state != null) { // If code and state are not null, execute handleLogin
    this.handleLogin();
  }
}
```

6. In fact, we only need to change the parameter we send to the back-end and delete the unnecessary functions. No other changes are necessary.

```
handleLogin() {
  console.log("进入handleLogin")
  this.$store.dispatch("Login", this.loginForm).then(() => {
    this.$router.push({ path: this.redirect || "/" }).catch(()=> {});
  }).catch(() => {
    this.loading = false;
    if (this.captchaEnabled) {
      this.getCode();
      console.log(this.getCode)
    }
  });
}
```

```
  Login({ commit }, userInfo) {
    const code = userInfo.code
    const state = userInfo.state
    return new Promise((resolve, reject) => {
      login(code, state).then(res => {
        console.log("LOGIN")
        let data = res.data
        setToken(data.access_token)
        commit('SET_TOKEN', data.access_token)
        setExpiresIn(data.expires_in)
        commit('SET_EXPIRES_IN', data.expires_in)
        resolve()
      }).catch(error => {
        reject(error)
      })
    })
  },

```

```
export function login(code, state) {
  return request({
    url: '/auth/login',
    headers: {
      isToken: false
    },
    method: 'post',
    data: {code, state}
  })
}
```

7. Import the required dependency in the back-end.

pom.xml

```
<dependency>
  <groupId>org.casbin</groupId>
  <artifactId>casdoor-spring-boot-starter</artifactId>
  <version>1.2.0</version>
</dependency>
```

You also need to configure Casdoor in the resource file.

8. Define the callback function as the redirect function. Make changes to some methods in `sysLoginService`. Delete the password check step because it is no longer needed.

```
@PostMapping("login")
public R<?> callback(@RequestBody CodeBody code) {
    // Define a CodeBody entity with code and state
    String token =
        casdoorAuthService.getOAuthToken(code.getCode(),
            code.getState());
    CasdoorUser casdoorUser =
        casdoorAuthService.parseJwtToken(token);
    if (casdoorUser.getName() != null) {
        String casdoorUserName = casdoorUser.getName();
        if
            (sysLoginService.getUserByCasdoorName(casdoorUserName) ==
                null) {
            // If the user is not in the Ruoyi-Cloud database
            // but exists in Casdoor, create the user in the database
            sysLoginService.casdoorRegister(casdoorUserName);
        }
    }
    LoginUser userInfo =
        sysLoginService.casdoorLogin(casdoorUser.getName());
    // Get the user's information from the database
    return R.ok(tokenService.createToken(userInfo));
}
```

9. Add new methods to `SysLoginService`.

```
public LoginUser casdoorLogin(String username) {
    R<LoginUser> userResult =
```

```
public String getUserByCasdoorName(String casdoorUsername) {
    R<LoginUser> userResult =
remoteUserService.getUserInfo(casdoorUsername,
SecurityConstants.INNER);
    if (StringUtils.isNull(userResult) ||
StringUtils.isNull(userResult.getData())) {
        // If the user is not in the Ruoyi-Cloud database but
exists in Casdoor, create the user in the database
        return null;
    }
    String username =
userResult.getData().getSysUser().getUserName();
    return username;
}
```

```
public void casdoorRegister(String username) {
    if (StringUtils.isAnyBlank(username)) {
        throw new ServiceException("User must provide a
username");
    }
    SysUser sysUser = new SysUser();
    sysUser.setUserName(username);
    sysUser.setNickName(username);
    R<?> registerResult =
remoteUserService.registerUserInfo(sysUser,
SecurityConstants.INNER);
    System.out.println(registerResult);
    if (R.FAIL == registerResult.getCode()) {
        throw new ServiceException(registerResult.getMsg());
    }
    recordLogService.recordLoginInfo(username,
Constants.REGISTER, "Registration successful");
}
```



# Pulsar Manager

Casdoor can easily connect to Pulsar Manager.

The code for connecting Casdoor has already been added to Pulsar Manager, so we just need to configure the `application.yml` file in the back-end and enable the front-end switch.

## Step 1: Deploy Casdoor

First, deploy Casdoor.

You can refer to the official Casdoor documentation for the [Server Installation](#).

After a successful deployment, ensure the following:

- The Casdoor server is running successfully at <http://localhost:8000>.
- Open your favorite browser and visit <http://localhost:7001>. You should see the login page of Casdoor.
- Test the login functionality by entering `admin` and `123`.

Now, you can quickly implement a Casdoor-based login page in your own app using the following steps.

## Step 2: Configure Casdoor

To configure Casdoor, refer to [Casdoor](#) (it is recommended to use a different browser than your development browser).

You should also configure an organization and an application. You can refer to

[Casdoor](#) for detailed instructions.

## Step 2.1: Create an organization

Edit Organization Save Save & Exit

Name ⓘ :	pulsar
Display name ⓘ :	pulsar
Favicon ⓘ :	<a href="https://cdn.casbin.org/img/favicon.png">https://cdn.casbin.org/img/favicon.png</a>
Preview:	
Website URL ⓘ :	<a href="http://localhost:9527/#/login?redirect=%2F">http://localhost:9527/#/login?redirect=%2F</a>
Password type ⓘ :	plain
Password salt ⓘ :	
Phone prefix ⓘ :	+ 86

## Step 2.2: Create an application

Name ⓘ : app-pulsar  
Display name ⓘ : app-pulsar  
Logo ⓘ : [https://cdn.casbin.org/img/casdoor-logo\\_1185x256.png](https://cdn.casbin.org/img/casdoor-logo_1185x256.png)

Preview:

Home ⓘ :	<a href="#">/</a>						
Description ⓘ :							
Organization ⓘ :	pulsar						
Client ID ⓘ :	6ba06c1e1a30929fdda7						
Client secret ⓘ :	d92bbf913225ebbae9af7ba8d41fe19507eb079						
Cert ⓘ :	cert-built-in						
Redirect URLs ⓘ :	<table border="1"><thead><tr><th>Action</th><th>Redirect URLs</th><th>Add</th></tr></thead><tbody><tr><td><a href="#">^</a> <a href="#">X</a> <a href="#">D</a></td><td><a href="http://localhost:9527/callback">http://localhost:9527/callback</a></td><td><a href="#">Add</a></td></tr></tbody></table>	Action	Redirect URLs	Add	<a href="#">^</a> <a href="#">X</a> <a href="#">D</a>	<a href="http://localhost:9527/callback">http://localhost:9527/callback</a>	<a href="#">Add</a>
Action	Redirect URLs	Add					
<a href="#">^</a> <a href="#">X</a> <a href="#">D</a>	<a href="http://localhost:9527/callback">http://localhost:9527/callback</a>	<a href="#">Add</a>					

## Step 3: Enable the Pulsar Manager front-end switch

Enable this switch to send code and state to the back-end.

You can find the switch on line 80 of `pulsar-manager/front-end/src/router/index.js`.

```
- // mode: 'history', // require service support
+ mode: 'history', // require service support
```

## Step 4: Configure the back-end code

Configure Casdoor's settings in the `application.properties` file, which can be found on line 154 of `pulsar-manager/src/main/resources/application.properties`.

```
casdoor.endpoint = http://localhost:8000
casdoor.clientId = <client id from previous step>
casdoor.clientSecret = <client secret from previous step>
casdoor.certificate = <client certificate from previous step>
casdoor.organizationName = pulsar
casdoor.applicationName = app-pulsar
```

# Using Casdoor in ShenYu

ShenYu has a Casdoor plugin to enable the use of Casdoor.

## Step 1: Deploy Casdoor

Firstly, Casdoor should be deployed. You can refer to the official Casdoor documentation for [Server Installation](#).

After a successful deployment, please ensure that:

- The Casdoor server is running on <http://localhost:8000>.
- Open your preferred browser and visit <http://localhost:7001> to see the Casdoor login page.
- Login functionality is working fine by inputting `admin` and `123`.

After following the above steps, you can quickly implement a Casdoor-based login page in your app with the following steps.

## Step 2: Configure the Casdoor application

1. Create a new Casdoor application or use an existing one
2. Add your redirect URL

The screenshot shows the Casdoor application configuration interface. Key fields include:

- Name:** app-test (highlighted with a red arrow)
- Display name:** app-test
- Logo:** https://cdn.casbin.org/img/casdoor-logo\_118x256.png
- Preview:** Shows the Casdoor logo and the word "Casdoor".
- Home:** (empty)
- Description:** (empty)
- Organization:** built-in (highlighted with a red arrow)
- Client ID:** 663a84154e73d1fb156a (highlighted with a red arrow)
- Client secret:** 84209d412a338a42b789c05a3446e623cb7262d (highlighted with a red arrow)
- Cert:** cert-built-in
- Redirect URLs:**
  - Add (button)
  - Redirect URL: http://localhost:9195/http/hi (highlighted with a red arrow)
  - Redirect URL: http://localhost:9195/http/hello

### 3. On the certificate editing page, you can view your **Certificate**

**Certificate:**

Copy certificate
Download certificate

```
-----BEGIN CERTIFICATE-----
MIIE+TCCAUgBgAwIBAgIDAeJAMA0GCSqGSIb3DQEBCwUAMDYxHTABBgNVBAoTFENh
c2Rvb3IgT3JnYW5pemF0aW9uMRUwEwYDVQQDEwxDYXNkb29yIENlcnQwHhcNMjEx
MDE1MDgxMTUyWhcNNDEXMDE1MDgxMTUyWjA2M0R0wGwYDVQQKExRDYXNkb29yIe9y
Z2FuaxphdGlvbjEVMBMGA1UEAxMMQ2FzZG9vcibDZXJ0MIIiCjANBgkqhkiG9w0B
AQEFAOCAG8AMiCCgKCAGEAisInpb5E1/ymf01RfSDSSE8I7y+lw+RJi74e5ej
rq4b8zMMyk7HeHCyZr/hmNewEVXnhXu1P0mBeQ5ypp/QGo8vgEmjaETNmzkl1NjOQ
CjCYwUrasO/f/Mnl1C0j13vx6mV1kHZjSrKsMhYY1vaxTEP3+VB8Hjg3MHFWrb07
uvFMCJe5W8+0rKErZCKTR8+9VB3janeBz/zQePFVh79bfZate/hLirPK0Go9P1g
OvwloC1A3sarHTP4Qm/LQRt0rHqZFybdySpyWAQvhNaDFE7mTstRS8b/wUjNCUBD
PTSLVjc04WIIIf6Nkfx0Z7KvmbPstSj+btvqcsvRAGtvsB9h62Kptjs1Yn7GAuo
I3qt/4zoKbiURYxkQJXlvwCQsEftUuk5ew5zuPSIDRLoLByQTLbx0jLAFNfW3g/
pzSDjgd/60d6HTmvbZni4SmjdyFhXCDb1Kn7N+xTojnfaNkwep2REV+RMc0fx4Gu
hRsnlsmkmUDeylZ9aBL9oj11YEQfM2JZEq+RvtUx+wB4y8K/tD1bcY+lfnG5rBpw
IDpS262boq4SRsvb3Z7bB0w4ZxvOfj/1VLoRftPbLifobhfr/AeZMHpiKOXvfz4
yE+hqzi68wdF0VR9xYc/RbSAf7323OsjYnjjEglnUtRohnRgCpjlk/Mt2Kt84Kb0
wn8CAwEAAaAMQMA4wDAYDVR0TAQH/BAlwADANBgkqhkiG9w0BAQsFAOCAGEAn2lf
DKkLX+F1vKRO/5gJ+Plr8P5NKuQkmwH97b8CS2gS1phDyNgic4/LSdzuf4Awe6ve
C06lVdWSlis8UPUPdjmt2uMPSNjwLxG3QsrimMURNlwFLTfRem/heJe0Zgur9J1M
8haawdSdjH2RgmFoDeE2r8NVRfhbR8KnCO1ddTJKuS1N0/irHz21W4jt4rxzCvl
2nR42Fybap3O/g2jXMhNNRowZmNjgpsF7XVENCSuFO1jTywLaqjuXCg54lL7XVLG
omKNNNcc8h1FCelj/nbbGMhodnFWKDTsJcbNmcoPNHo6ixzqMy/Hqc+mWv7maAG
Jtevs3qgMZ8F9Qzr3HpUc6R3ZYWDY/xxPisuKftOPZgtH979XC4mdf0WPnOBLLqL
2DJ1zaBmjIGolvb7XNVKcUfdXYw85ZTQ5b9cli4e+6bmwyQqlwt+Ati/uFEV
XzCj70B4IALX6xau1kLepV9O1GERizYrz5P9NJNA7Ko05AVMp9w0DQTkt+LbXnZE
HHnWk8xHQKF9sR7YBPGls/Ac6tvivUa150gj/8dLRZ/veyFfGo2yZsl+hKVU5
nCCJHBcAyFnm1hdvdwEdH3jDbjNB6ciotJzrf/3VYaIWSalADosHAgMWFxFuWP+h
8XKXmzlxuHbTMQytZPDgsps5aK+S4Q9wb8RRAYo=
-----END CERTIFICATE-----
```

## Step 3: Use the Casdoor plugin in

# ShenYu

## 1. Configure the Casdoor plugin in ShenYu

## Plugin

X

\* Plugin: casdoor

### casdoor Configuration

\* application-name: app-test

\* certificate: -----BEGIN CERTIFICATE-----\nMIIE+TCCAuGgAwI

\* client\_id: 6e3a84154e73d1fb156a

\* client\_secrect: a4209d412a33a842b7a9c05a3446e623cbb7262d

\* casdoor endpoint: http://localhost:8000

\* organization-name: test

\* Role: Authentication

\* Sort: 40

Status:

Cancel

Sure

Note: As ShenYu only has a single line input box, `\n` must be added in every line

of certificate.

Certificate :

[Copy certificate](#)

[Download certificate](#)

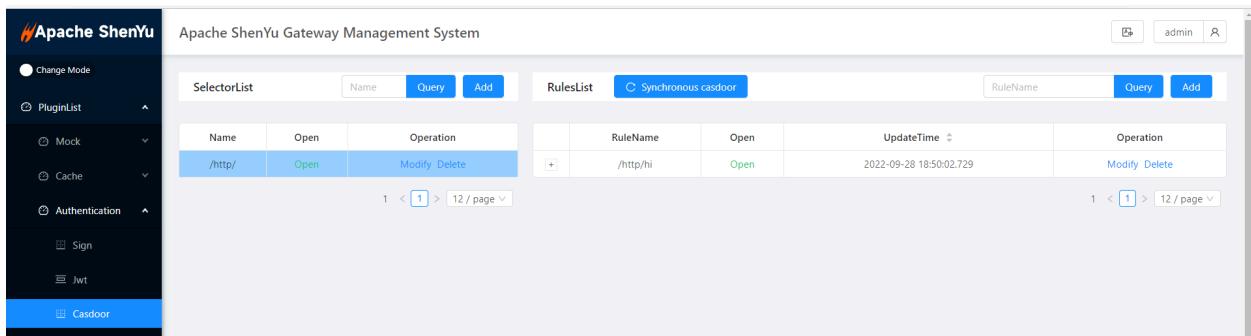
```
-----BEGIN CERTIFICATE-----\nMIIE+TCCAuGgAwIBAgIDAeJAMA0GCSqGSIb3DQEBCwUAMDYxHTAbBgNVBAoTFENh\n\nc2Rvb3IgT3JnYW5pemF0aW9uMRUwEwYDVQQDEwxDYXNkb29yIENlcnQwHhcNMjEx\n\ncMDE1MDgxMTUyWhcNNDExMDE1MDgxMTUyWjA2MR0wGwYDVQQKExRDYXNkb29yIE9y\n\nZ2FuaxphdGlvbjEVMBMGA1UEAxMMQ2FzZG9vcIBDZXJ0MIIICljANBgkqhkiG9w0B\n\nAQEEAAOCAg8AMIICAgKCAgEAAsInpb5E1/yM0f1RfSDSSE8IR7y+lw+RJjI74e5ej\n\nrq4b8zMYk7HeHCyZr/hmNewEVXnhXu1P0mBeQ5yp/QGo8vgEmjAETNmzkl1NjOQ\n\nCjCYwUrasO/f/Mnl1C0j13vx6mV1kHZjsRksMhYY1vaxTEP3+VB8Hjg3MHFWrb07\n\nuvFMCje5W8+0rKErZCKTR8+9VB3janeBz//zQePFVh79bfZate/hLirPK0Go9P1g\n\nOwwloC1A3sarHTP4Qm/LQRt0rHqZFybdySpyWAQvhNaDFE7mTstRSBb/wUjNCUBD\n\nPTSLVjC04WIISf6Nkfx0Z7KvmbPstSj+btvcqsvRAGtvdsB9h62Kptjs1Yn7GAuo\n\nl3qt/4zoKbiURYxkQJXlvwCQsEftUuk5ew5zuPSIDRLoLByQTLbx0jqLAFnfW3g/\n\npzSDjgd/60d6HTmvbZni4SmjdyFhXCDb1Kn7N+xTojnfakNkweP2REV+RMc0fx4Gu\n\nhRsnLsmkmUDeylZ9aBL9oj11YEQfM2JZEq+RVtUx+wB4y8K/tD1bcY+IfnG5rBpw\n\nIDpS262boq4SRsvb3Z7b0w4ZxvOfJ/1VLoRftjPbLif0bhfr/AeZMHplKOXvfz4\n\nyE+hqzi68wdF0VR9xYc/RbSAf7323OsjYnjjEglnUtRohnRgCpjlk/Mt2Kt84Kb0\n\nwn8CAwEAAaMQMA4wDAYDVR0TAQH/BAlwADANBgkqhkiG9w0BAQsFAAOCAgEAn2If\n\nDKkLX+F1vKRO/5gj+Plr8P5NKuQkmwH97b8CS2gS1phDyNglc4/LSdzuf4Awe6ve\n\nC06IVdWSlis8UPUPdjmT2uMPSNjwLxG3QsrimMURNnwFILTfRem/heJe0Zgur9J1M\n\n8haawdSdjH2RgmFoDeE2r8NVRfhbR8KnCO1ddTJKuS1N0/irHz21W4jt4rxzCvl\n\n2nR42Fybap3O/g2JXMhNNROwZmNjgpsF7XVENCSuFO1jTywLaqjuXCg54IL7XVLG\n\nomKNNNcc8h1FCeKj/nnbGMhodnFWKDTSJcbNmcOPNHo6ixzqMy/Hqc+mWYv7maAG\n\nJtevs3qgMZ8F9Qzr3HpUc6R3ZYWDY/xxPisuKftOPZgtH979XC4mdf0WPnOBLql\n\n2DJ1zaBmjijGolvb7XNVKcUfDXYw85TZQ5b9cl4e+6bmyWqQltlw+Ati/uFEV\n\nXcJ70B4IALX6xau1kLepV9O1GERizYRz5P9NJNA7KoO5AVMp9w0DQTkt+LbXnZE\n\nHHnWky8xHQKZF9sR7YBPGLs/Ac6tviv5ua15OgJ/8dLRZ/veyFfGo2yZsl+hKVU5\n\nnCCJHBcAyFnm1hdvdwEdH33jDBjNB6ciotJZrf/3VyalWSalADosHAgMWfXuWP+h\n\n8XKXmzlxuHbTMQYtZPDgspS5aK+S4Q9wb8RRAYo=\n-----END CERTIFICATE-----
```

 here not need add \n

You can copy it and paste it into the certificate of the ShenYu Casdoor config.

You don't need to save it in the Casdoor certificate editing page, as it is only for copying.

## 2. Configure the ShenYu Casdoor plugin

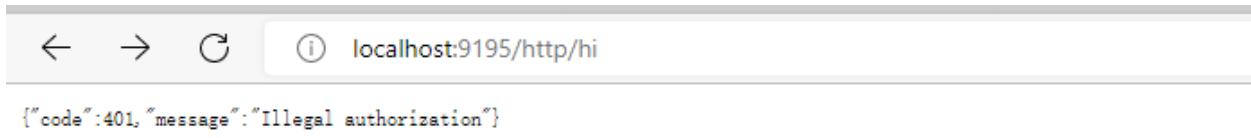


The screenshot shows the Apache ShenYu Gateway Management System interface. On the left, there's a sidebar with 'Change Mode' (radio button), 'PluginList' (selected), and a list of plugins: Mock, Cache, Authentication (Sign, Jwt), and Casdoor (highlighted in blue). The main area is titled 'Apache ShenYu Gateway Management System' and shows the 'RulesList' for the 'Synchronous casdoor' plugin. It has two tabs: 'SelectorList' and 'RulesList'. The 'RulesList' tab is active, showing a table with columns: Name, Open, Operation, RuleName, Open, UpdateTime, and Operation. There is one row: '/http/' (Open, Modify Delete), '/http/hi' (Open), 2022-09-28 10:50:02.729, and Modify Delete. Below the table are pagination controls: '1 < 1 > 12 / page'.

You can configure what you need for the Casdoor config.

## 3. Getting the service and using it

### 3.1 Directly visit the Web



The screenshot shows a browser window with the address bar containing 'localhost:9195/http/hi'. The page content displays a JSON response: {"code":401, "message":"Illegal authorization"}

### 3.2 Use Casdoor Login

localhost:7001/login/oauth/authorize?client\_id=6e3a84154e73d1fb156a&response\_type=code&redirect\_uri=http://localhost:9195/http/hi&scope=read&state=app-test A a



Continue with :



Or sign in with another account :

username, Email or phonePassword

Auto sign in [Forgot password?](#)

Sign In

No account? [sign up now](#)



localhost:9195/http/hi?code=822607b015cca2515b2b&state=app-test

hi! null! I'm Shenyu-Gateway System. Welcome!

### 3.3 Carry the token in Headers

The screenshot shows the Postman interface with a request to `http://localhost:9195/http/hi`. The **Headers (8)** tab is selected, displaying the following configuration:

Key	Description
Postman-Token	<calculated when request is sent>
Host	<calculated when request is sent>
User-Agent	PostmanRuntime/7.29.2
Accept	*
Accept-Encoding	gzip, deflate, br
Connection	keep-alive
Authorization	eyJhbGciOiJSUzI1NiIsImtpZCI6ImNlcnQtYn... <span style="color:red">Your token</span>

The response body contains the message: `1 hi! null! I'm Shenyu-Gateway System. Welcome!`

### 3.4 Save name, ID and organization in Headers

This makes it easier to use them in the future.

# ShardingSphere

[shardingsphere-elasticjob-ui](#) has integrated Casdoor. You can use it after configuring it.

## Step 1: Deploy Casdoor

Firstly, Casdoor should be deployed.

You can refer to the Casdoor official documentation for the [Server Installation](#).

After a successful deployment, make sure:

- The Casdoor server is successfully running on <http://localhost:8000>.
- Open your favorite browser and visit <http://localhost:7001>. You will see the login page of Casdoor.
- Input `admin` and `123` to test if the login functionality is working fine.

Then, you can quickly implement a Casdoor-based login page in your own app with the following steps.

## Step 2: Configure Casdoor application and configure application in ShardingSphere

1. Create or use an existing Casdoor application

Name ⓘ: ShardingSphere 

Display name ⓘ: ShardingSphere

Logo ⓘ:  https://cdn.casbin.org/img/casdoor-logo\_1185x256.png

Preview:

Home ⓘ: 

Description ⓘ:

Organization ⓘ: ShardingSphere 

Client ID ⓘ: 3ed79fa530645fb0d3653 

Client secret ⓘ: 54633c82b7796a4332c6976864c6c16bc3b05556 

Cert ⓘ: cert-built-in 

Redirect URLs ⓘ:  Redirect URLs 

Redirect URL:  http://localhost:8080 

The RedirectURLs depend on the URL you need to redirect to. The selected data will be used in the next step.

2. On the certificate editing page, you can see your **Certificate**

Certificate [?](#) : Private

[Copy certificate](#) [Download certificate](#)

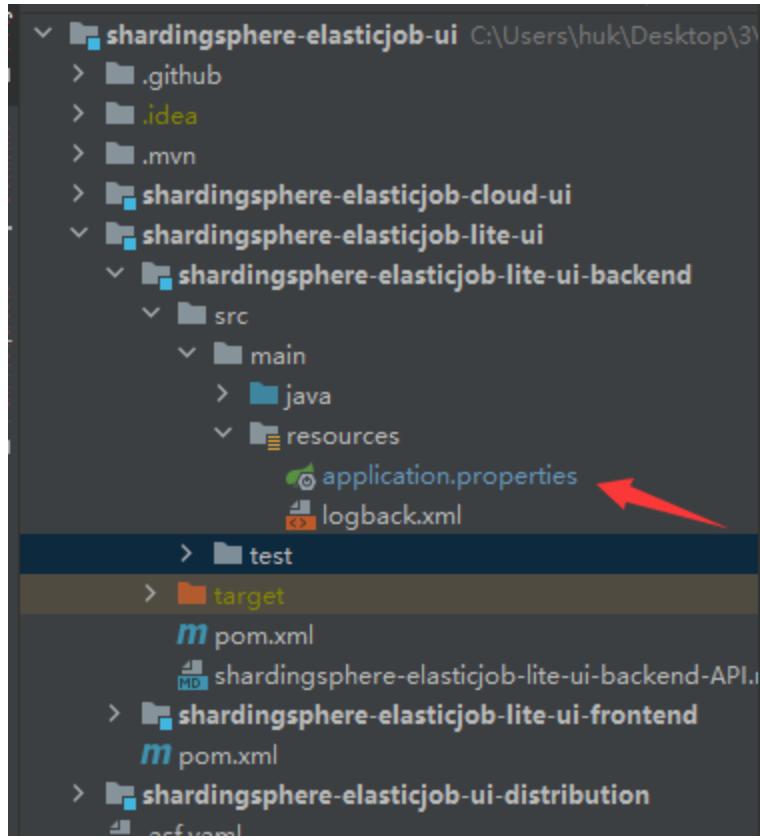
-----BEGIN CERTIFICATE-----

```
MIIIE+TCCAUgAwIBAgIDAeJAMA0GCSqGSIb3DQEBCwUAMDYxHTAbBgNVBAoTFENhc2Rvb3IgT3JnYW5pemF0aW9uMRUwEwYDVQQDEwxDYXNkb29yIENIcnQwHhcNMjExMDE1MDgxMTUyWhcNNDEmDE1MDgxMTUyWjA2MR0wGwYDVQQKExRDYXNkb29yIE9yZ2FuaxphdGlvbjEVMBMGA1UEAxMMQ2FzZG9vcibDZXJ0MIICljaNBgkqhkiG9w0BAAQFAAOCAg8AMIIICgkCAGEAstnpb5E1/ym0f1RfSDSSE8IR7y+lw+Rjji74e5ejrq4b8zMYk7HeHCyZr/hmNEwEVXnhXu1P0mBeQ5yp/QGo8vgEmjAETNmzkl1NjOQCjCYwUraso/f/Mn1C0j13vx6mV1kHZjSrKsMhYY1vaxTEP3+VB8Hjg3MHFWrb07uvFMCje5W8+0rKErZCKTR8+9VB3janeBz/zQePFVh79bfZate/hLirPK0Go9P1gOvwloC1A3sarHTP4Qm/LQRt0rHqZFybdySpyWAQvhNaDFE7mTstRSBb/wUjNCUBDPTSLVjC04WIISf6Nkfx0Z7KvmbPstSj+btcqsvRAGtvdsB9h62Kptjs1Yn7GAuoI3qt+4zoKbiURYxkQJXlvwCQsEftUuk5ew5zuPSIDRLoLByQTLbx0jqLAFNfW3gpzSDjgd/60d6HTmvbZni4SmjdyFhXCDb1Kn7N+xTojnfaNkwep2REV+RMc0fx4GuhRsnLsmkmUDeylZ9aBL9oj11YEQfM2JZEq+RVtUx+wB4y8K/tD1bcY+IfnG5rBpwIDpS262boq4SRsvb3Z7bB0w4ZxvOfj/1VLoRftjPbLif0bhfr/AeZMHpIKOXvfz4yE+hqzi68wdF0VR9xYc/RbSAf7323OsjYnjEgInUtRohnRgCpjlk/Mt2Kt84Kb0wn8CAwEAAaMQMA4wDAYDVR0TAQH/BAIwADANBgkqhkiG9wOBAQsFAAOCAgEAn2IfDKkLX+F1vKRO+5gJ+Plr8P5NKuQkmwH97b8CS2gS1phDyNgIc4/Lsdzuf4Awe6veC06IVdWSlis8UPUPdjmt2uMPSNjwLxG3QsrimMURNwFILTfRem/heJe0Zgur9J1M8haawdSdJjH2RgmFoDeE2r8NVRfhbR8KnCO1ddTJKuS1N0/irHz21W4jt4rxzCv12nR42FybaP3O/g2JXMHNNR0wZmNjgpsF7XVENCSuFO1jTywLaqjuXCg54l7XVLGomKNNNCc8h1FCeKj/nnbGMhodnFWKDTsJcbNmcOPNHo6ixzqMy/Hqc+mWYv7maAGJtevs3qgMZ8F9Qzr3HpUc6R3ZYWDY/xxPisuKftOPZgtH979XC4mdf0WPnOBLql2DJ1za8mjigJolvb7XNVKcUfdXYw85ZTZQ5b9clI4e+6bmyWqQltwt+Ati/uFEVXzCj70B4IALX6xau1kLEpV9O1GERizYRz5P9NJNA7KoO5AVMp9w0DQTkt+LbXnZEHHnWKy8xHQKZF9sR7YBPGLs/Ac6tviv5Ua15OgJ/8dLRZ/veyFfGo2yZsl+hKVU5nCCJHBcAyFn1hdvdwEdH33jDBjNB6ciotJZrf/3VYalWSalADosHAgMWfXuWP+h8XXXmzlkuHbTMQYtZPDgsps5aK+S4Q9wb8RRAYo=
```

-----END CERTIFICATE-----

### 3. Configure the application in ShardingSphere

First, we need to find the application.properties that we need to configure.



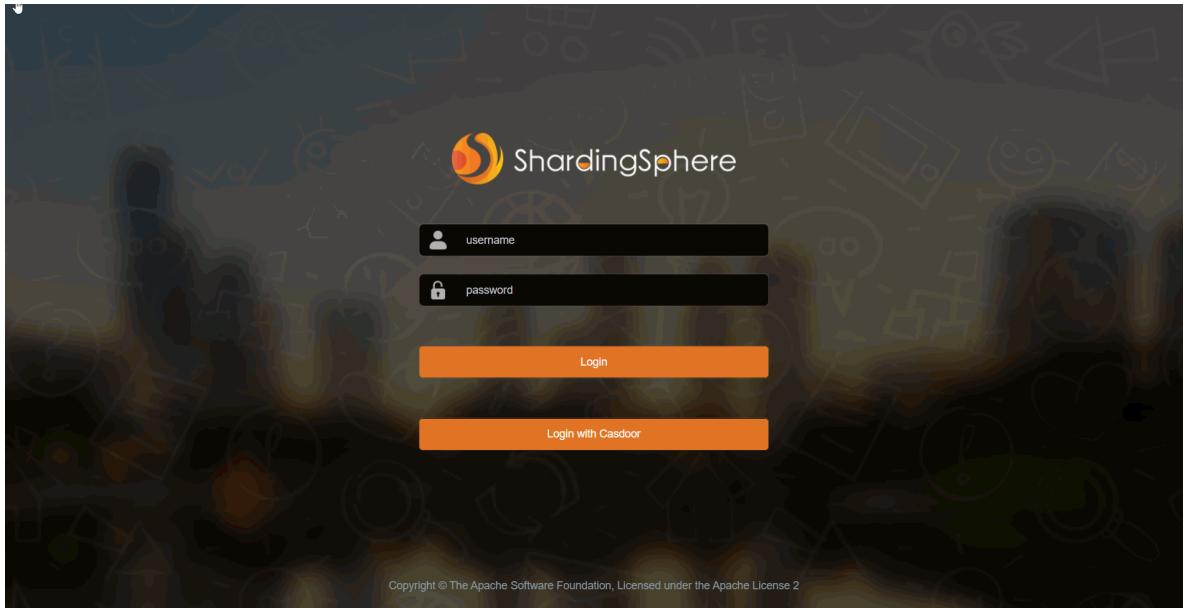
Next, we need to copy the data from the Casdoor application and paste it into the application.

```

casdoor.endpoint=http://localhost:7001
casdoor.client-id=3ed79fa530645fdb3653
casdoor.client-secret=54633c82b7796a4332c6976864c6c16bc3b05556
casdoor.certificate=\n
-----BEGIN CERTIFICATE-----\n\
MIIE+TCCAUgAwIBAgIDAeJAMA0GCSqGSIb3DQEBCwUAMDYxHTAbBgNVBAoTFENh\n\
c2Rvb3IgT3JnYW5pemF0aW9uMRUwEwYDVQQDEwxDYXNkb29yIENlcnQwHhcNMjEx\n\
MDE1MDgxMTUyWhcNNDExMDE1MDgxMTUyWja2MR0wGwYDVQQKExRDYXNkb29yIE9y\n\
Z2FuaXphdGlvbjEVMBMGa1UEAxMMQ2FzZG9vcIBDZXJ0MIICIjANBgkqhkiG9w0B\n\
AQEFAOCAg8AMIIICgKCAGeAsInpb5E1/ym0f1RfSDSSE8IR7y+lw+RJjI74e5ej\n\
rq4b8zMk7HeHCyZr/hmNEwEVXnhXu1P0mBeQ5ypp/QGo8vgEmjAE TNmzkI1Nj0Q\n\
CjCYwUras0/f/MnI1C0j13vx6mV1kHZjSrKsMhYY1vaxTEP3+VB8Hjg3MHFWrb07\n\
uvFMCJe5W8+0rKErZCKTR8+9VB3janeBz//zQePFVh79bFZate/hLirPK0Go9P1g\n\
OvwIoC1A3sarHTP4Qm/LQRt0rHqZFybdySpyWAQvhNaDFE7mtStRSBb/wUjNCUBD\n\
PTSLvjC04W1lsf6Nufx0Z7KvmbPstSj+btvccsvRAGtvdsB9h62Kptjs1Yn7GAuo\n\
I3qt/4zoKbiURYxkQJXIvwCQsEftUuk5ew5zuPS1DRLoLByQTLbx0JqLAFNfW3g/\n\
pzSDjgd/60d6HTmvbZni4SmidyFhXCDb1Kn7N+xTojnfaNkwep2REV+RMc0fx4Gu\n\
hRsnLsmkmUDeyIZ9aBL9oj1YEQfM2JZEq+RVtUx+wB4y8K/tD1bcY+IfnG5rBpw\n\
IDpS262boq4SRSpb3Z7bB0w4Zxv0fJ/1VL0RftjPbLIf0bhfr/AeZMHpIK0Xvfz4\n\
yE+hqzi68wdF0VR9xYc/RbSAf73230sjYnjjEgInUtRohnRgCpjIk/Mt2Kt84Kb0\n\
wn8CAwEAaMQMA4wDAYDVR0TAQH/BAIwADANBgkqhkiG9w0BAQsFAAOCAgEAn2lf\n\
DKkLX+F1vKRO/5gJ+Plr8P5NKuQkmwH97b8CS2gS1phDyNgIc4/LSdzuf4Awe6ve\n\
C061VdWSIis8UPUPdjmt2uMPSNjwLxG3QsrimMURNwFLLTfRem/heJe0Zqur9J1M\n\
8aaawdSdJjh2RgmFoDeE2r8NVRfhbR8KnC01ddTJKuS1N0/irHz21W4jt4rxzCvl\n\
2nR42Fybap30/g2JXMhNNR0wZmNjgpsF7XVENCSuF01jTywLaqjuXcg54IL7XVLG\n\
omKNNNcc8h1FCeKj/nnbGMhodnFWKDTsJcbNmcoPNHo6ixzqMy/Hqc+mWYv7maAG\n\
Jtevs3qgMZ8F9Qzr3HpUc6R3ZYWDY/xxPisuKftOPZgtH979XC4mdf0WPn0BLql\n\
2DJ1zaBmjiGJolyb7XNVKcUfDXYw85TZQ5b9clI4e+6bmyWqQItlw+Ati/uFEV\n\
XzCj70B4lALX6xau1kEpV901GERizYRz5P9NJNA7Ko05AVMp9w0DQTkt+LbXnZE\n\
HHnWKy8xHQKZF9sR7YBPGls/Ac6tviv5Ua150gJ/8dLRZ/veyFFGo2yZsI+hKVU5\n\
nCCJHBcAyFnmlhdvdwEdH33jDBjNB6ciotJZrf/3VYaIWSalADosHAgMWfXuWP+h\n\
8XKXmzlxuHbTMQYtZPDgspS5aK+S4Q9wb8RRAYo=\n
-----END CERTIFICATE-----\n
casdoor.organization-name=ShardingSphere
casdoor.application-name=ShardingSphere

```

#### 4. Test it



# Apache IoTDB

Casdoor can easily connect to [Apache IoTDB](#).

The code for connecting Casdoor has already been added in [Apache IoTDB Web Workbench](#), so all we need to do is configure the application.yml file in the back-end and activate the front-end switch.

## Step 1: Deploy Casdoor

First, deploy Casdoor.

You can refer to the official Casdoor documentation for the [Server Installation](#).

After deploying successfully, ensure that:

- The Casdoor server is running successfully at <http://localhost:8000>.
- Open your preferred browser and visit <http://localhost:7001>, where you will see the Casdoor login page.
- Test the login functionality by entering `admin` and `123`.

With these steps completed, you can now quickly implement a Casdoor-based login page in your own application.

## Step 2: Configure Casdoor

To configure Casdoor, refer to [casdoor](#) (It is recommended not to use the same browser you are developing in to configure Casdoor's browser).

You should also create an organization and an application. Refer to [casdoor](#) for

instructions.

## 2.1 Create an organization

Name ⓘ: IoTDB

Display name ⓘ: IoTDB

Favicon ⓘ: URL ⓘ: <https://cdn.casbin.org/img/favicon.png>

Preview: 

Website URL ⓘ: <https://door.casdoor.com>

Password type ⓘ: plain

Password salt ⓘ:

## 2.2 Create an application

Name ⓘ: app\_IoTDB

Display name ⓘ: app\_IoTDB

Logo ⓘ: URL ⓘ: [https://cdn.casbin.org/img/casdoor-logo\\_1185x256.png](https://cdn.casbin.org/img/casdoor-logo_1185x256.png)

Preview: 

Home ⓘ:

Description ⓘ:

Organization ⓘ: built-in

Client ID ⓘ: 6f561b83d119be3e1e3c

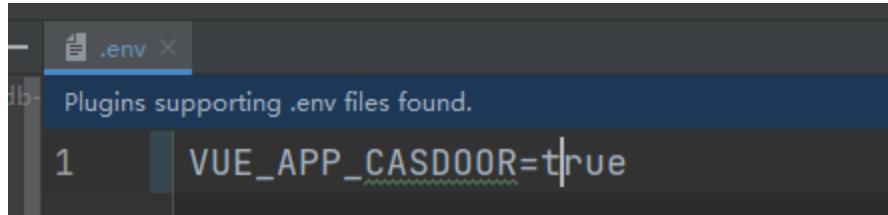
Client secret ⓘ: 242082e823b31a9b0d3a0a4a5a80cd5e415c75f7

Cert ⓘ: cert-built-in

# Step 3: Activate Apache IoTDB Web Workbench front-end switch

Open this switch to send the code and state to the back-end.

This switch can be found in `iotdb-web-workbench/fronted/.env` file.



```
.env
Plugins supporting .env files found.
1 | VUE_APP_CASDOOR=true
```

## Step 4: Configure the back-end code

You need to configure Casdoor's settings in the iotdb-web-workbench/backend/src/main/resources/application.properties file.

```
casdoor.endpoint = http://localhost:8000
casdoor.clientId = <client id from previous step>
casdoor.clientSecret = <client secret from previous step>
casdoor.certificate=<client certificate from previous step>
casdoor.organizationName=IoTDB
casdoor.applicationName=app-IoTDB
```

# Result

The image is a composite of two screenshots. On the left, there is a photograph of a factory conveyor belt system, showing several large, dark cylindrical components and a bright yellow rectangular object being processed. On the right, there is a screenshot of the IoTDB WorkBench login page. The page has a header with the IoTDB logo and "WorkBench". Below the header, it says "Welcome To IoTDB WorkBench". There are two input fields: one for "Account" with the placeholder "Please Input Account" and one for "Password" with placeholder "\*\*\*\*\*". To the right of the password field is a "Forgot Password?" link. At the bottom of the page are two buttons: a teal "Sign In" button and a green "Sign In With Casdoor" button with a small circular icon.

# Apache DolphinScheduler

Casdoor is one of the supported login methods for [Apache DolphinScheduler](#).

## Step 1: Deploy Casdoor

Firstly, Casdoor should be deployed. You can refer to the Casdoor official documentation for [Server Installation](#).

After a successful deployment, please ensure that:

- The Casdoor server is running successfully at <http://localhost:8000>.
- Open your favorite browser and visit <http://localhost:7001>. You will see the login page of Casdoor.
- Test the login functionality by inputting "admin" and "123".

Once the deployment is completed, you can quickly implement a Casdoor-based login page in your own app by following the steps below.

## Step 2: Configure Casdoor Application

1. Create a new Casdoor application or use an existing one.
2. Add your redirect URL (You can find more details about how to obtain the redirect URL in the next section).

Name [?](#) : application\_a6ftas → your application name

Display name [?](#) : New Application - a6ftas

Logo [?](#) : URL [?](#) : [https://cdn.casbin.org/img/casdoor-logo\\_1185x256.png](https://cdn.casbin.org/img/casdoor-logo_1185x256.png)

Preview: 

Home [?](#) :

Description [?](#) :

Organization [?](#) : organization\_carg1b → your organization name

Client ID [?](#) : 3ed7314825ecf955cb19 → your client id

Client secret [?](#) : ee9314ea228... → your client secret

Cert [?](#) : cert-built-in

Redirect URLs [?](#) : Redirect URLs Add  
Redirect URL [?](#) http://localhost:3000/callback → your redirect url

3. Add the desired provider and fill in other necessary settings.

On the application settings page, you will find two important values: `Client ID` and `Client secret`, as shown in the picture above. We will use these values in the next step.

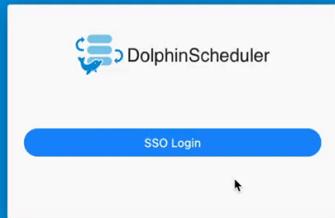
Open your favorite browser and visit `http://CASDOOR_HOSTNAME/.well-known/openid-configuration` to view the OIDC configuration of Casdoor.

# Step 3: Configure DolphinScheduler

| dolphinscheduler-api/src/main/resources/application.yaml

```
security:
  authentication:
    # Authentication types (supported types: PASSWORD, LDAP,
    CASDOOR_SSO)
    type: CASDOOR_SSO
  casdoor:
    # The URL of your Casdoor server
    endpoint:
    client-id:
    client-secret:
    # The certificate may be multi-line; you can use `|-` for ease
    certificate:
    # The organization name you added in Casdoor
    organization-name:
    # The application name you added in Casdoor
    application-name:
    # The DolphinScheduler login URL
    redirect-url: http://localhost:5173/login
```

Now, DolphinScheduler will automatically redirect you to Casdoor for authentication.



# FireZone

Casdoor can use the OIDC protocol as the IDP to connect various applications. Here, we will use FireZone as an example to show you how to use OIDC to connect to your applications.

## Step 1: Deploy Casdoor and FireZone

Firstly, Casdoor and FireZone should be deployed.

After a successful deployment, ensure the following:

1. Set the FireZone URL (Sigin → Security → Add OpenID Connect Provider) to FIREZONE\_HOSTNAME.

The screenshot shows the FireZone configuration interface. On the left is a dark sidebar with navigation links: Configuration (Users, Devices, Rules), Settings (Defaults, Account, Customization, Security), and Diagnostics (WAN Connectivity). The main area is titled "Site Settings" and contains the following sections:

- Site Defaults**:
  - Allowed IPs**: 172.21.0.0/16, 172.16.0.0/16
  - DNS Servers**: 172.16.250.155
  - Endpoint**: FIREZONE\_HOSTNAME (highlighted with a red arrow)
  - Persistent Keepalive**: 0
  - MTU**: 1280

2. Casdoor can be logged in and used normally.
3. `CASDOOR_HOSTNAME`: <http://localhost:8000>, if you deploy Casdoor using the default `app.conf`.

## Step 2: Configure Casdoor application

1. Create a new Casdoor application or use an existing one.
2. Add a redirect URL:

For example, if the Configid in the FireZone Provider is TEST, the redirect URL should be `http://[FIREZONE_HOST]/auth/oidc/[PROVIDER_CONFIG_ID]/callback/`.

The screenshot shows the configuration page for a Casdoor application. The fields are as follows:

- Home :** `http://localhost:8080` (highlighted with a red box)
- Description :** (empty)
- Organization :** `built-in`
- Client ID :** `0159c45127541d48e433` (highlighted with a red box)
- Client secret :** `add1be9982640e048fcf46770d75674b918484af` (highlighted with a red box)
- Cert :** `cert-built-in`
- Redirect URLs :**
  - `Add` (button)
  - `Redirect URI` (button)
  - `http://localhost:8080/auth/oidc/TEST/callback/` (highlighted with a red box)

Open your favorite browser and visit: `http://[CASDOOR_HOSTNAME]/.well-known/openid-configuration`, and you will see the OIDC configuration of Casdoor.

3. Configure FireZone: Security → Add OpenID Connect Provider

OIDC Config

Config ID  
TEST

Label  
TEST

Scope  
openid email profile

Response type  
code

Client ID  
0159c45127541d48e433

Client secret  
add1be9982640e048fcf46770d75674b918484af

Discovery Document URI  
http://localhost:8000/.well-known/openid-configuration

Auto create users

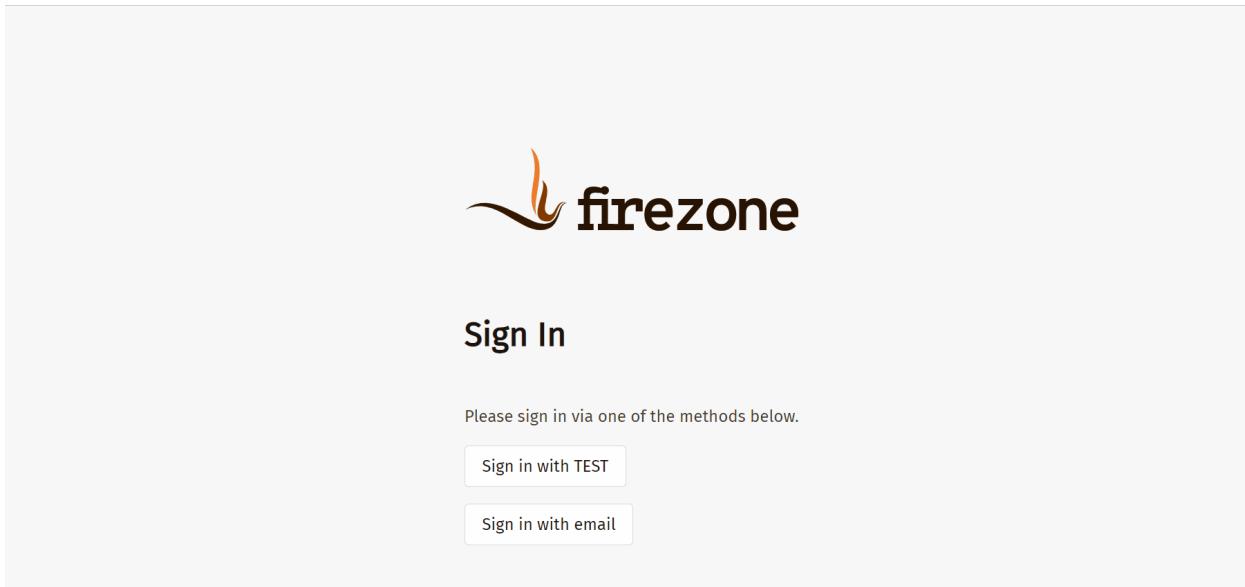
Save

- Discovery Document URI: The FireZone Provider Discovery Document URI should be https://[CASDOOR\_HOST]/.well-known/openid-configuration.
- Scopes: openid email profile
- ConfigID: The ConfigID should be the PROVIDER\_CONFIG\_ID of the

redirect URL and should correspond to the Casdoor redirect URL.

- `Auto-create users`: Successful login will automatically create a user.

## Log out of FireZone and test SSO



# Cloud Foundry

Before the integration, we need to deploy Casdoor locally.

Then, we can quickly implement a Casdoor-based login page in our own app with the following steps.

## Step 1: Configure Casdoor application

1. Create or use an existing Casdoor application.
2. Add a redirect URL: `http://CASDOOR_HOSTNAME/login`



3. Copy the client ID; we will need it in the following steps.

## Step 2: Add a user in Casdoor

Now that you have the application, but not a user, you need to create a user and assign the role.

Go to the "Users" page and click on "Add user" in the top-right corner. This opens a new page where you can add the new user.

Save the user after adding a username and the organization "Cloud Foundry" (other details are optional).

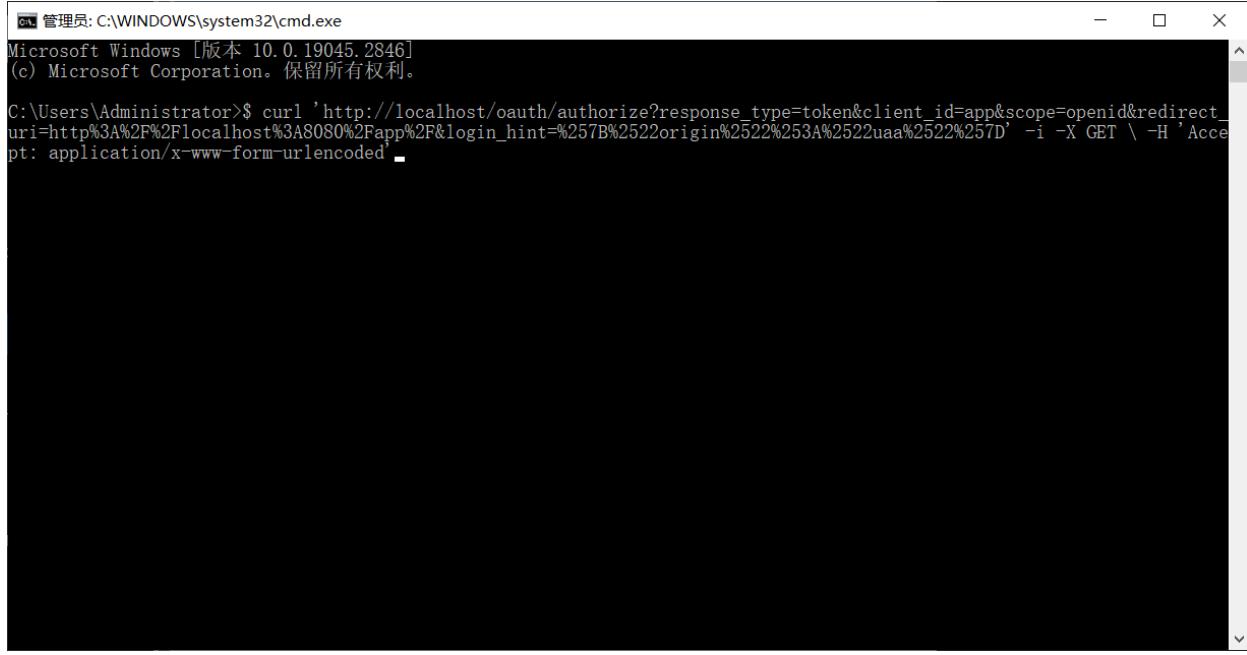
Now, you need to set up a password for your user, which you can do by clicking on "Manage your password".

Choose a password for your user and confirm it.

## Step 3: Build the Cloud Foundry App

Start the Cloud Foundry by following these steps.

- `$ git clone git://github.com/cloudfoundry/uaa.git`
- `$ cd uaa`
- `$ ./gradlew run`

A screenshot of a Windows Command Prompt window titled "管理员: C:\WINDOWS\system32\cmd.exe". The window shows the following command being run:  
C:\Users\Administrator>\$ curl 'http://localhost/oauth/authorize?response\_type=token&client\_id=app&scope=openid&redirect\_uri=http%3A%2F%2Flocalhost%3A8080%2Fapp%2F&login\_hint=%257B%2522origin%2522%253A%2522uaa%2522%257D' -i -X GET \ -H 'Accept: application/x-www-form-urlencoded'  
The command is intended to fetch an OAuth token from a local server, but the output is completely blacked out.

## Step 4: Integrate Casdoor

Now open another command line and input:

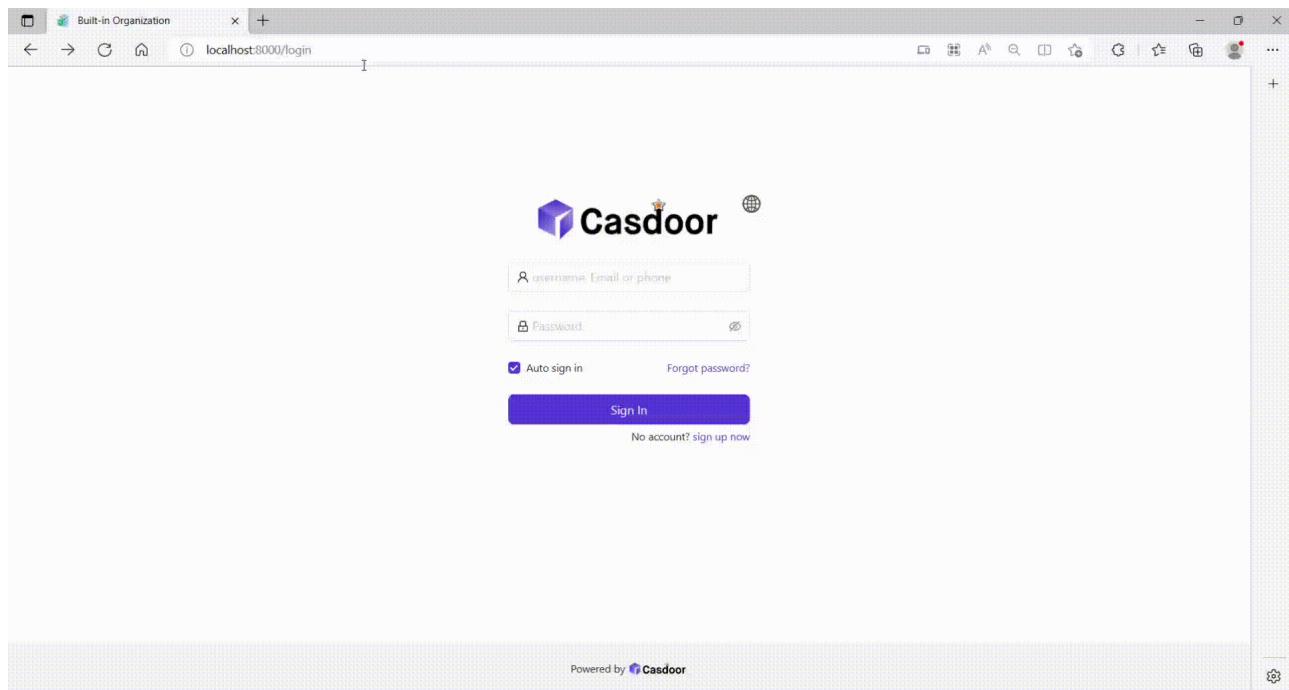
```
curl '<http://localhost/oauth/
authorize?response_type=token&client_id=app&scope=openid&redirect_uri=http%3A%2F%2Flocalhost%3A8080%2Fapp%2F>' 
-i -X GET \
-H 'Accept: application/x-www-form-urlencoded'
```

We have already obtained the client ID and redirect URI before; we input these parameters.

Parameter	Type	Constraints	Description
response_type	String	Required	Space-delimited list of response types. Here, token , i.e. an access token
client_id	String	Required	a unique string representing the registration information provided by the client
scope	String	Optional	requested scopes, space-delimited
redirect_uri	String	Optional	redirection URI to which the authorization server will send the user-agent back once access is granted (or denied), optional if pre-registered by the client

Execute the command, and we can get the result below, which means that we have successfully integrated Casdoor with Cloud Foundry.

```
HTTP/1.1 302 Found
Content-Security-Policy: script-src 'self'
Strict-Transport-Security: max-age=31536000
Set-Cookie: X-Uaa-Csrf=09mMqMDhcwHGLMufnb4YA1; Path=/; Max-Age=86400; Expires=Fri, 5 May 2023 14:53:54 GMT; HttpOnly; SameSite=Lax
Cache-Control: no-store
Content-Language: en
X-XSS-Protection: 1; mode=block
X-Frame-Options: DENY
X-Content-Type-Options: nosniff
Location: http://localhost:8080/app/#token_type=bearer&access_token=eyJhbGciOiJIUzI1NiIsImprdsI6Imh0dHBzO18vbG9jYWxob3N0OjgwODAvdWFhL3Rva
```



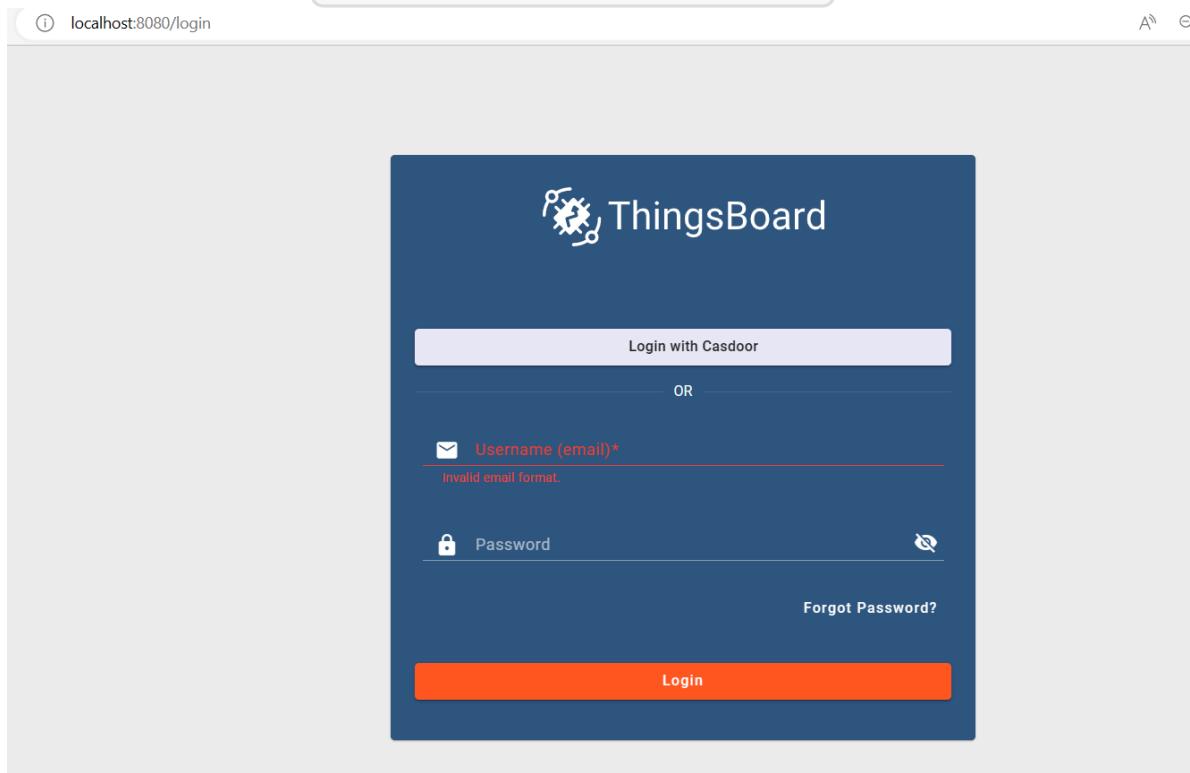
# Thingsboard

Before the integration, we need to deploy Casdoor locally.

Then, we can quickly implement a Casdoor-based login page in our own app by following these steps.

## Step 1: Configure Casdoor application

1. Create a new Casdoor application or use an existing one.
2. Add a redirect URL: `http://CASDOOR_HOSTNAME/login`



3. Copy the client ID and client secret. We will need them in the following steps.

## Step 2: Add a user in Casdoor

Now that you have the application, you need to create a user and assign a role.

Go to the "Users" page and click on "Add user" in the top right corner. This will open a new page where you can add the new user.

Save the user after adding a username and selecting the organization "Thingsboard" (other details are optional).

Next, you need to set up a password for the user. You can do this by clicking on "Manage your password".

Choose a password for the user and confirm it.

## Step 3: Prerequisites and Build Thingsboard App

First of all, Thingsboard only supports Java 11 (OpenJDK).

You can download it from the following link:

[JDK Download Page](#)

To start Thingsboard, follow these steps (for Windows system):

- Download and extract the package. [Download the package](#)
- Configure Thingsboard in \thingsboard\conf\thingsboard.yml according to your preferences, including the configuration of Kafka, PostgreSQL, and others.

- Run `install.bat -loadDemo` in the command line in the Thingsboard folder to install and add demo data.

```
C:\Program Files (x86)\thingsboard>install.bat --loadDemo  
Detecting Java version installed.  
CurrentVersion 110  
Java 11 found!  
Installing thingsboard ...  
...  
ThingsBoard installed successfully!
```

- Run `net start thingsboard` in the command line to start Thingsboard. You should see the following output:

```
The ThingsBoard Server Application service is starting.  
The ThingsBoard Server Application service was started successfully.
```

---

## Step 4: Integrate Casdoor

Now open <http://localhost:8080/> and log in to the admin account:

Account: [sysadmin@thingsboard.org](mailto:sysadmin@thingsboard.org) / Password: sysadmin

After successfully logging in, click the OAuth2 button at the bottom left of the page.

The screenshot shows the ThingsBoard Home dashboard. On the left, a sidebar menu includes: Home, Tenants, Tenant profiles, Resources (with a dropdown arrow), Notification center, Settings, Security (with a dropdown arrow), General, Two-factor authentication, and OAuth2.

The main dashboard area displays the following information:

- Tenants**: 2 (with a + button)
- Tenant profiles**: 2 (with a + button)
- CPU**: 15% | 8 cores
- Devices**: 9
- Assets**: 2
- Users**: 8
- Customers**: 3
- Realtime - last h**: A chart showing CPU usage over time, ranging from 0% to 100% with a peak around 75% at 13:40.
- Documentation**: Includes links to Getting started, Tenant profiles, API, and Widgets Library.
- Configured features**: Includes Email, SMS, Slack, OAuth 2, and 2FA.
- Transport messages**: History - last 30 days, showing 0k messages from May 02 to May 05.

Fill in the blanks as follows:

## Providers

Custom

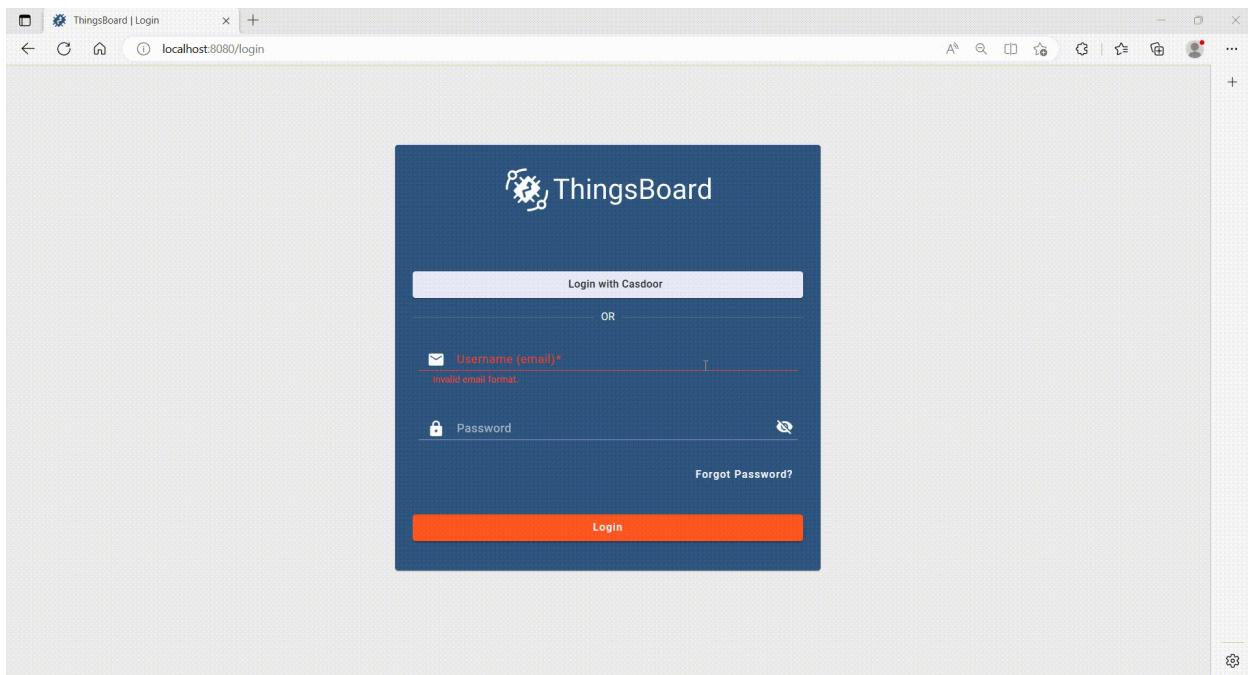
Login provider*	Custom	Allowed platforms	Web, Android, iOS
Client ID*	e324f9a3f55e1adac4ef	Client secret*	28b3f98c1f55c1cc57f74b9b1a68b5d2e79
General		Mapper	
Access token URI*	http://localhost:8000/api/login/oauth/access_token	Authorization URI*	http://localhost:8000/login/oauth/authorize
JSON Web Key URI	http://localhost:8000/.well-known/jwks	User info URI	http://localhost:8000/api/userinfo
Client authentication method*	POST		
Provider label*	Casdoor	Login button icon	
<input checked="" type="checkbox"/> Allow user creation			

You can get these values from the following link: [OIDC discovery URL](#)

```
{  
  "issuer": "https://door.casdoor.com",  
  "authorization_endpoint": "https://door.casdoor.com/login/oauth/authorize",  
  "token_endpoint": "https://door.casdoor.com/api/login/oauth/access_token",  
  "userinfo_endpoint": "https://door.casdoor.com/api/userinfo",  
  "jwks_uri": "https://door.casdoor.com/.well-known/jwks",  
  "introspection_endpoint": "https://door.casdoor.com/api/login/oauth/introspect",  
  "response_types_supported": ["code"]}
```

After filling in these blanks, you have successfully integrated Casdoor with Thingsboard. When you log in to <http://localhost:8080/>, you should see the

following:



# JavaScript

## WeChat MiniProgram

Using Casdoor in WeChat MiniProgram

# WeChat MiniProgram



INFO

Casdoor now supports WeChat Mini Program starting from version 1.41.0.

## Introduction

Since WeChat Mini Program does not support standardized OAuth, it cannot redirect to the self-hosted Casdoor webpage for login. Therefore, the process of using Casdoor for WeChat Mini Program is different from that of regular programs.

This document will explain how to integrate Casdoor into WeChat Mini Program. You can find an example for this integration on GitHub here: [casdoor-wechat-miniprogram-example](#). For more detailed information, please refer to the WeChat Mini Program [login document](#).

The configuration includes the following names:

`CASDOOR_HOSTNAME`: The domain name or IP address where the Casdoor server is deployed, e.g., <https://door.casbin.com>.

## Step 1: Deploy Casdoor

Firstly, the [Casdoor server](#) should be deployed.

After successfully deploying Casdoor, you need to ensure:

1. Casdoor can be accessed and used normally.

2. Set Casdoor's `origin` value (conf/app.conf) to `CASDOOR_HOSTNAME`.

```
conf > ⚙ app.conf
 8  dbName = casdoor
 9  redisEndpoint =
10 defaultStorageProvider =
11 isCloudIntranet = false
12 authState = "casdoor"
13 httpProxy = "127.0.0.1:10808"
14 verificationCodeTimeout = 10
15 initScore = 2000
16 logPostOnly = true
17 origin = "http://10.144.1.2:8000"|  
          CASDOOR_HOSTNAME
```

## Step 2: Configure Casdoor Application

1. Create a WeChat IDP in Casdoor and provide the `APPID` and `APPSECRET` given to you by the WeChat Mini Program development platform.

New Provider [Save](#) [Save & Exit](#) [Cancel](#)

Name [?](#) : provider\_Mini Program

Display name [?](#) : Mini Program

Category [?](#) : OAuth

Type [?](#) : WeChat Mini Program

Client ID [?](#) : \*\*\*

Client secret [?](#) : \*\*\*

Provider URL [?](#) : <https://github.com/organizations/xxx/settings/applications/1234567>

[Save](#) [Save & Exit](#) [Cancel](#)

2. Create a new Casdoor application or use an existing one.
3. Add the IDP created in the previous step to the application you want to use.

**!** TIPS

For convenience, Casdoor will treat the first WeChat type IDP in the application as the WeChat Mini Program IDP by default.

Therefore, if you want to use WeChat Mini Program in this app, do not add multiple WeChat type IDPs in one app.

# Step 3: Write WeChat MiniProgram Code

WeChat Mini Program provides an API to internally log in and obtain the code. The code should then be sent to Casdoor. Casdoor will use this code to retrieve information (such as OpenID and SessionKey) from the WeChat server.

The following code demonstrates how to accomplish the above process:

```
// Login in mini program
wx.login({
  success: res => {
    // This is the login code that needs to be sent to Casdoor
    console.log(res.code)

    wx.request({
      url: `${CASDOOR_HOSTNAME}/api/login/oauth/access_token`,
      method: "POST",
      data: {
        "tag": "wechat_miniprogram", // Required
        "client_id": "6825f4f0af45554c8952",
        "code": res.code,
        "username": this.data.userInfo.nickName, // Update user
        profile when you log in.
        "avatar": this.data.userInfo.avatarUrl,
      },
      header: {
        "content-type": "application/x-www-form-urlencoded",
      },
      success: res => {
        console.log(res)
        this.globalData.accessToken = res.data.access_token // Get
        Casdoor's access token
      }
    })
  }
})
```

It is important to note that the `tag` parameter is mandatory to inform Casdoor that this is a request from the WeChat Mini Program.

The above code includes the username and avatar URL of the WeChat Mini Program user during login. You can choose to pass these two parameters separately and then pass them to Casdoor after a successful login and obtaining the access token:

```
wx.getUserProfile({
  desc: 'share your info to Casdoor',
  success: (res) => {
    this.setData({
      userInfo: res.userInfo,
      hasUserInfo: true
    })
    console.log(app.globalData.accessToken)
    wx.request({
      url: `${CASDOOR_HOSTNAME}/api/update-user`, // Casdoor URL
      method: "POST",
      data: {
        "owner": "test",
        "name": "wechat-oGk3T5tIiMFo3SazC075f0HEiE7Q",
        "displayName": this.data.userInfo.nickName,
        "avatar": this.data.userInfo.avatarUrl
      },
      header: {
        "Authorization": "Bearer " + app.globalData.accessToken,
        // Bearer token
        "content-type": "application/json"
      },
      success: (res) => {
        console.log(res)
      }
    })
  }
})
```

Additionally, you can use the access token as a bearer token for any Casdoor operation you require.

 TIPS

Currently, Casdoor is unable to bind existing accounts to WeChat Mini Program users. After Casdoor retrieves the OpenID from WeChat, it will either create a new user if the ID does not exist, or use the existing user if it does.

# Lua



APISIX

Using Casdoor in APISIX

# APISIX

Currently, there are 2 methods to use Casdoor to connect to APISIX via APISIX plugins and protect the APIs behind APISIX: using APISIX's Casdoor plugin or using APISIX's OIDC plugin.

## Connect Casdoor via APISIX's Casdoor plugin

This plugin, `authz-casdoor`, can protect APIs behind APISIX, forcing every single request to get authenticated without modifying the code of the API.

### How to enable it

You need to specify this plugin when creating the route and provide all the required fields. Here is an example.

```
curl "http://127.0.0.1:9180/apisix/admin/routes/1" -H "X-API-KEY: edd1c9f034335f136f87ad84b625c8f1" -X PUT -d '
{
  "methods": ["GET"],
  "uri": "/anything/*",
  "plugins": {
    "authz-casdoor": {
      "endpoint_addr": "http://localhost:8000",
      "callback_url": "http://localhost:9080/anything/callback",
      "client_id": "7ceb9b7fda4a9061ec1c",
      "client_secret": "3416238e1edf915eac08b8fe345b2b95cdba7e04"
    }
  },
  "upstream": {
```

In this example, we created a route "/anything/\*" pointed to "httpbin.org:80" using APISIX's admin API, with the "authz-casdoor" plugin enabled. This route is now under the authentication protection of Casdoor.

## Attributes

Name	Type	Requirement	Default	Valid	Description
endpoint_addr	string	required			The URL of Casdoor.
client_id	string	required			The client ID in Casdoor.
client_secret	string	required			The client secret in Casdoor.
callback_url	string	required			The callback URL which is used to receive state and code.

*endpoint\_addr and callback\_url should not end with '/'*

In the configuration of the "authz-casdoor" plugin, we can see four parameters.

The first one is "callback\_url". This is the callback URL in OAuth2. It should be emphasized that this callback URL must belong to the "uri" you specified for the route. For example, in this example, <http://localhost:9080/anything/callback> obviously belongs to "/anything/\*". Only by this way, the visit toward the callback\_url can be intercepted and utilized by the plugin (so that the plugin can

get the code and state in OAuth2). The logic of the `callback_url` is implemented completely by the plugin, so there is no need to modify the server to implement this callback.

The second parameter "endpoint\_addr" is obviously the URL of Casdoor. The third and fourth parameters are "client\_id" and "client\_secret", which you can acquire from Casdoor when you register an app.

## How it works?

Suppose a new user who has never visited this route before is going to visit it (<http://localhost:9080/anything/d?param1=foo&param2=bar>). Considering that "authz-casdoor" is enabled, this visit would be processed by the "authz-casdoor" plugin first. After checking the session and confirming that this user hasn't been authenticated, the visit will be intercepted. With the original URL the user wants to visit kept, they will be redirected to the login page of Casdoor.

After successfully logging in with a username and password (or whatever method they use), Casdoor will redirect this user to the "callback\_url" with GET parameters "code" and "state" specified. Because the "callback\_url" is known by the plugin, when the visit toward the "callback\_url" is intercepted this time, the logic of the "Authorization code Grant Flow" in OAuth2 will be triggered. This means that the plugin will request the access token to confirm whether this user is really logged in. After this confirmation, the plugin will redirect this user to the original URL they want to visit, which was kept by us previously. The logged-in status will also be kept in the session.

Next time this user wants to visit the URL behind this route (for example, <http://localhost:9080/anything/d>), after discovering that this user has been authenticated previously, this plugin won't redirect this user anymore. This way, the user can visit whatever they want under this route without being interfered.

# Connect Casdoor via APISIX's OIDC plugin

Casdoor can use the OIDC protocol to connect to APISIX, and this document will show you how to do it.

The following are some of the names used in the configuration:

`CASDOOR_HOSTNAME`: Domain name or IP where the Casdoor server is deployed.

`APISIX_HOSTNAME`: Domain name or IP where APISIX is deployed.

## Step 1: Deploy Casdoor and APISIX

Firstly, deploy [Casdoor](#) and [APISIX](#).

After a successful deployment, you need to ensure:

1. Casdoor can be logged in and used normally.
2. Set Casdoor's `origin` value (conf/app.conf) to `CASDOOR_HOSTNAME`.

```
conf > ⚙ app.conf
 8  dbName = casdoor
 9  redisEndpoint =
10 defaultStorageProvider =
11 isCloudIntranet = false
12 authState = "casdoor"
13 httpProxy = "127.0.0.1:10808"
14 verificationCodeTimeout = 10
15 initScore = 2000
16 logPostOnly = true
17 | origin = "http://10.144.1.2:8000"|
          CASDOOR_HOSTNAME
```

## Step 2: Configure Casdoor application

1. Create a new Casdoor application or use an existing one.
2. Add a redirect URL: `http://APISIX_HOSTNAME/REDIRECTWHATYOUWANT`, and replace `REDIRECTWHATYOUWANT` with the desired redirect URL.
3. Select "JWT-Empty" for the Token format option.
4. Add the desired provider and configure other settings.

The screenshot shows the Casdoor application settings page. It includes fields for Client ID (07860a229bd0b162cd1a), Client secret (ea021...9373fe3e), Redirect URLs (with an entry for http://localhost:9000/callback), and Token format (selected as JWT-Empty).

On the application settings page, you will find the `Client ID` and `Client Secret` values as shown in the picture above. We will use them in the next step.

Open your favorite browser and visit: `http://CASDOOR_HOSTNAME/.well-known/openid-configuration`, where you will find the OIDC configuration of Casdoor.

## Step 3: Configure APISIX

APISIX has official [OIDC](#) support, which is implemented using [lua-resty-openidc](#).

You can customize the settings according to the APISIX OIDC documentation. The following routing settings will be used:

```
# Use your own X-Api-Key
$ curl -X POST APISIX_HOSTNAME/apisix/admin/routes -H "X-Api-Key:
edd1c9f034335f136f87ad84b625c8f1" -d '{
```

Now, visit `http://APISIX_HOSTNAME/get`, and the browser will redirect you to the Casdoor login page. After successfully logging in, you will see that a request has been sent to `httpbin.org` as shown in the screenshot below.



# PHP

## Zentao

Using Casdoor for authentication in Zentao

## Using Casdoor as an OAuth2 Server in ShowDoc

Using Casdoor as an OAuth2 server in ShowDoc

## Flarum

Using OAuth2 to connect various applications, like Flarum

## Moodle

Using OAuth to connect Moodle

# Zentao

Zentao is an agile (scrum) project management system/tool, but it does not support OIDC itself. To integrate Zentao with Casdoor SSO, we need to use a 3rd-party OIDC module called [zentao-oidc](#), and this document will show you how to do it.

## Step 1: Deploy Casdoor and Zentao

Firstly, deploy [Casdoor](#) and [Zentao](#). After a successful deployment, make sure:

1. Casdoor can be logged in and used successfully.
2. You can successfully log in and use Zentao.

## Step 2: Integrate Zentao OIDC third-party module

Install [zentao-oidc](#) by running the following command:

```
git clone https://github.com/casdoor/zentao-oidc.git
```

Alternatively, you can download the ZIP and unzip it.

This module is used to integrate Zentao with SSO for OpenId. Here's how to use it:

1. Copy the entire `oidc` directory to the module of Zentao and use it as a module of Zentao. Rename the downloaded package to "oidc".

## 2. Configure the filter.

Since the Zentao framework filters the parameters in the URL and does not allow spaces, you need to put the following code at the end of `/config/my.php`.

```
$filter->oidc = new stdclass();
$filter->oidc->index = new stdclass();
$filter->oidc->index->paramValue['scope'] = 'reg::any';
```

## 3. Modify `/module/common/model.php`.

Add 'oidc' to the anonymous access list and add a line to the `isOpenMethod` method of `model.php`.

```
public function isOpenMethod($module, $method)
{
    if ($module == 'oidc' and $method == 'index') {
        return true;
    }
}
```

## 4. If you don't want the Zentao login screen to appear, go directly to the Casdoor login screen.

Modify the last line of code in `public function checkPriv()` in `/module/common/model.php`.

```
//return print(js::locate(helper::createLink('user', 'login',
"referer=$referer")));
return print(js::locate(helper::createLink('oidc', 'index',
```

5. Modify the `setSuperVars()` method inside `framework/base/router.class.php` and comment out the following statements.

```
public function setSuperVars()  
// unset($_REQUEST);
```

## Step 3: Configure Casdoor Application

1. Create a new Casdoor application or use an existing one.
2. Add your redirect URL.

Client ID <small>?</small>	d8d7715e24f077066a20						
Client secret <small>?</small>	[REDACTED]						
Cert <small>?</small>	cert-built-in						
Redirect URLs <small>?</small>	<table border="1"><tr><td>Redirect URLs</td><td>Add</td></tr><tr><td colspan="2">Redirect URL</td></tr><tr><td colspan="2">🔗 http://127.0.0.1/zentao/oidc-index.html</td></tr></table>	Redirect URLs	Add	Redirect URL		🔗 http://127.0.0.1/zentao/oidc-index.html	
Redirect URLs	Add						
Redirect URL							
🔗 http://127.0.0.1/zentao/oidc-index.html							

3. Add the provider you want and fill in other required settings.

## Step 4: Configure Zentao

Configure the `config.php` file in the `oidc` directory.

```
$config->oidc->clientId = "<Your ClientId>";
```

Set your redirect URL in `module/oidc` in the `public function index()` method.

```
$oidc->setRedirectURL($path."/zentao/oidc-index.html");
```

 NOTE

The URL here refers to calling the 'index' method in the 'oidc' module. You also need to set a variable separator. By default, the framework uses a dash (""). Please refer to the official Zentao framework for more details.

"zentaoPHP◇◇"

# Using Casdoor as an OAuth2 Server in ShowDoc

## Using Casdoor for Authentication in ShowDoc

ShowDoc is an online API documentation and technical documentation tool that is perfect for IT teams. ShowDoc makes it easy to use Markdown syntax to write beautiful API documents, data dictionary documents, technical documents, online Excel documents, and more.

ShowDoc supports 3rd-party authentication, including OAuth2. Here is a tutorial for achieving this.

### Step 1: Create a Casdoor Application

Go to your Casdoor and add a new application called ShowDoc. Here is an example of creating the ShowDoc application in Casdoor.

[Edit Application](#)[Save](#)[Save & Exit](#)Name [?](#) :

myApplication

Display name [?](#) :

myApplication

Logo [?](#) :URL [?](#) :[https://cdn.casdoor.com/logo/casdoor-logo\\_1185x256.png](https://cdn.casdoor.com/logo/casdoor-logo_1185x256.png)

Preview:

Home [?](#) :[🔗](#)Description [?](#) :Organization [?](#) :

built-in

Client ID [?](#) :

208d745196c23df9fd5b

Client secret [?](#) :

4c89f447af77bc276431ab885463ebcb8d6efc3c

Cert [?](#) :

cert-built-in

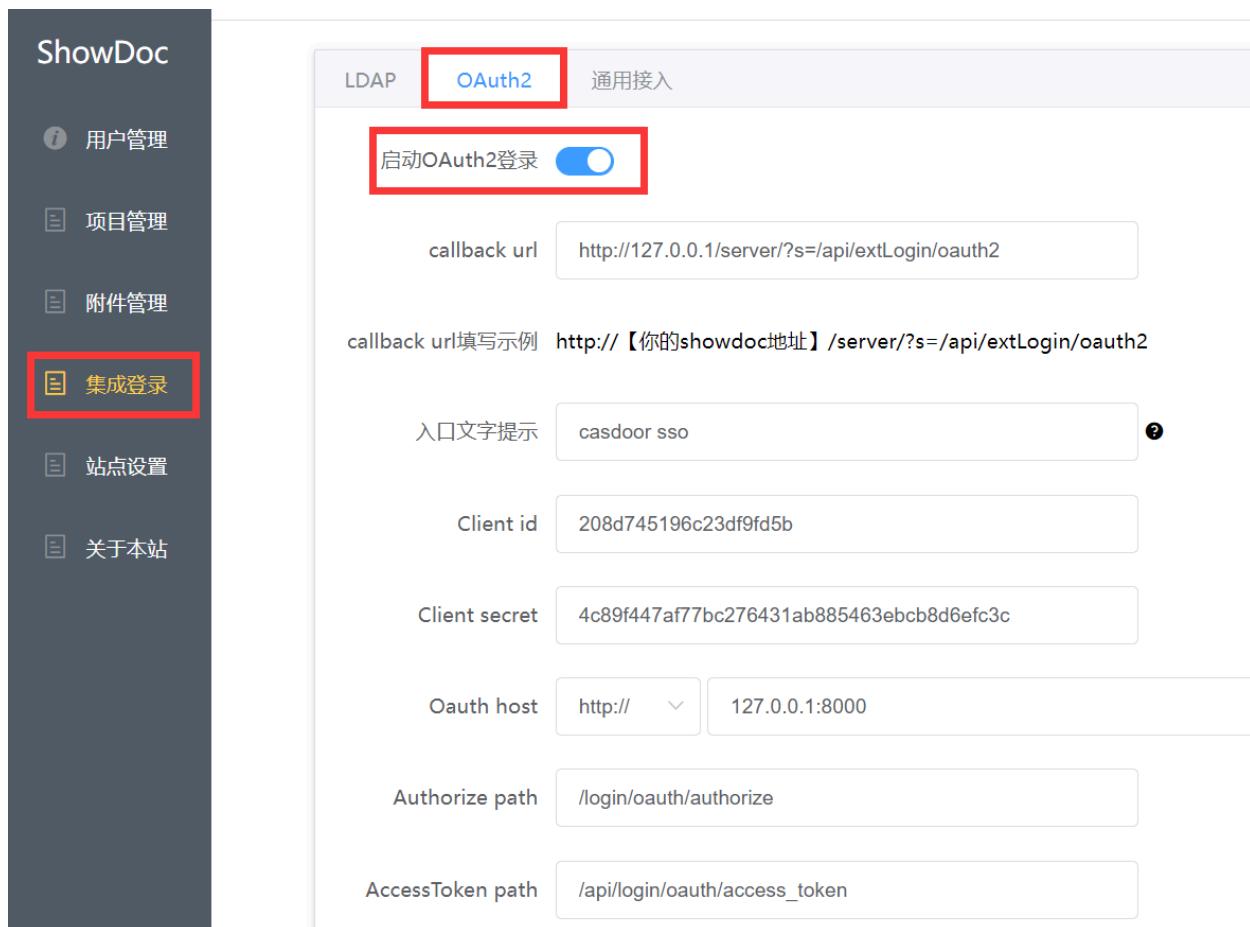
Please remember the `client ID` and `client Secret` for the next step.

**!** INFO

Please don't fill in the **callback URL** in this step. The URL depends on the configurations on **ShowDoc** in the next step. We will come back to set a correct callback URL later.

## Step 2: Configure ShowDoc

First, enable the OAuth2 login button. Then, fill in the `callback URL` as shown in the example. Fill in the `client ID` and `client secret` that were remembered in the previous step.



`Authorize path`, `AccessToken path`, and `User info path` are required. You can fill them in as shown below.

```
Authorize path: /login/oauth/authorize
AccessToken path: /api/login/oauth/access_token
User info path: /api/get-account
```

## Step 3: Configure the Callback URL in Casdoor

Go back to the application edit page in step 1 and add the `callback URL` that you filled in ShowDoc.



The screenshot shows a user interface for managing redirect URLs. At the top, there is a header with the text "Redirect URLs ?". Below the header, there is a "Redirect URLs" button and an "Add" button. Underneath these buttons, there is a section titled "Redirect URL" containing a single entry: "🔗 http://127.0.0.1/server/?s=/api/extLogin/oauth2".

## Step 4: Have a Try on ShowDoc

You should see the following on the login page:

# 登录

用户名/邮箱

密码

验证码



登录

[注册新账号](#)

[casdoor sso](#)

Congratulations! You have completed all the steps. Press the 'Casdoor SSO' button, and you will be redirected to the Casdoor login page.

# Flarum

Casdoor can use OAuth2 to connect various applications. In this example, we will show you how to use OAuth2 to connect Flarum to your applications.

Here are some configuration names you will need:

`CASDOOR_HOSTNAME`: The domain name or IP where the Casdoor server is deployed.

`Flarum_HOSTNAME`: The domain name or IP where Flarum is deployed.

## Step 1: Deploy Casdoor and Flarum

First, deploy [Casdoor](#) and [Flarum](#).

After a successful deployment, make sure:

1. You have downloaded the Flarum plugin [FoF Passport](#).
2. Casdoor can be logged in and used normally.
3. You can set `CASDOOR_HOSTNAME = http://localhost:8000` when deploying Casdoor in `prod` mode. See [production mode](#).

## Step 2: Configure Casdoor application

1. Create a new Casdoor application or use an existing one.
2. Find the redirect URL: `<CASDOOR_HOSTNAME>/auth/passport`.
3. Add the redirect URL to the Casdoor application:

The screenshot shows the 'Application Settings' section of the Casdoor interface. It includes fields for 'Client ID' (014ae4bd048734ca2dea), 'Client secret' (f26a4115725867b7bb7b668c81e1f8ffae1544d), 'Cert' (cert-built-in), and 'Redirect URLs'. The 'Redirect URLs' field contains '<your flarum install>/auth/passport' with an 'Add' button.

On the application settings page, you will find two values: `Client ID` and `Client secret`. We will use these values in the next step.

Open your favorite browser and visit: `http://CASDOOR_HOSTNAME/.well-known/openid-configuration`. You will see the OIDC configuration of Casdoor.

## Step 3: Configure Flarum

1. Install the plugin [FoF Passport](#).
2. Configure the app:

The screenshot shows the configuration page for the FoF Passport extension in Casdoor. The top navigation bar has tabs for 'Home', 'Applications', 'Users', 'Logs', and 'Help'. Below the navigation, there's a sidebar with 'FoF Passport' selected. The main content area is titled 'FoF Passport' and includes a brief description: 'The OAuth2 (and Laravel passport) compatible oauth extension'. A green toggle switch indicates the extension is 'Enabled'. The configuration fields include:

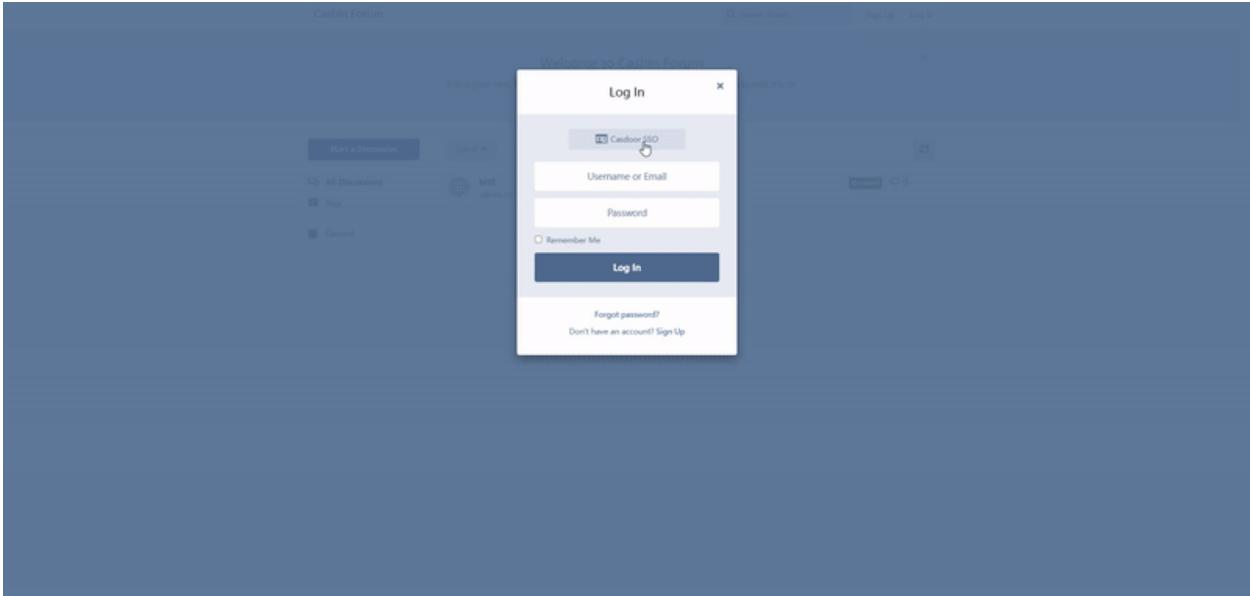
- OAuth authorization URL:** https://door.casdoor.com/login/oauth/authorize
- OAuth token URL:** https://door.casdoor.com/api/login/oauth/access\_token
- Api URL providing user details when authenticated:** https://door.casdoor.com/api/user
- OAuth application ID:** 014ae4bd048734ca2dea
- OAuth application secret:** f26a4115725867b7bb7b668c81e1f8f7fae1544d
- OAuth scopes to request:** openid profile email
- Label for login button:** Casdoor SSO
- Icon for login button:** far fa-id-card

A blue 'Save Changes' button is located at the bottom left.

3. Find the Client ID and Client Secret in the Casdoor application page.

- Token server URL: http://**CASDOOR\_HOSTNAME**/api/login/oauth/access\_token
- Authorization server URL: http://**CASDOOR\_HOSTNAME**/login/oauth/authorize
- UserInfo server URL: http://**CASDOOR\_HOSTNAME**/api/get-account
- Scopes: address phone openid profile offline\_access email

Log out of Flarum and test SSO.



# Moodle

Casdoor can be used to connect [Moodle](#) using OAuth.

The following are some configuration settings:

- `CASDOOR_HOSTNAME`: The domain name or IP where the Casdoor server is deployed.
- `Moodle_HOSTNAME`: The domain name or IP where Moodle is deployed.

## Step 1: Deploy Casdoor and Moodle

First, deploy [Casdoor](#) and [Moodle](#).

After successful deployment, ensure the following:

1. Casdoor can be logged in and used without issues.
2. You can set `CASDOOR_HOSTNAME` as `http://localhost:8000` when deploying Casdoor in `prod` mode. See [production mode](#).

## Step 2: Configure Casdoor Application

1. Create a new Casdoor application or use an existing one.
2. Find the redirect URL: `Moodle_HOSTNAME/admin/oauth2callback.php`.
3. Add the redirect URL to the Casdoor application.

For more information on OAuth, refer to [OAuth](#).

# Step 3: Configure Moodle

## 1. Locate OAuth

MyMoodle Home Dashboard My courses Site administration AU Edit mode

Site administration

General Users Courses Grades Plugins Appearance Server Reports Development

Your site is not yet registered. [Register your site](#)

**Server**

- System paths
- Support contact
- Session handling
- HTTP
- Maintenance mode
- Cleanup
- Environment
- PHP info
- Performance
- Update notifications
- File types
- OAuth 2 services**

## 2. Configure this application

MyMoodle Home Dashboard My courses Site administration AU Edit mode

Detailed instructions on configuring the common OAuth 2 services

Name: Casdoor

Client ID: 154fb67917b18c0a1850 → **your Client ID**

Client secret: 380a93b5717ab0f8545fbc → **your Client secret**

Service base URL: https://demo.casdoor.com → **your Casdoor Home**

Logo URL: https://cdn.casdoor.com/s

This service will be used: Login page and internal services

Name displayed on the login page:

Scopes included in a login request: openid profile email

Scopes included in a login request for offline access: openid profile email

Additional parameters included in a login request:

Additional parameters included in a login request for offline access:

Login domains:

Require email verification

I understand that disabling email verification can be a security issue.

**Save changes** Cancel

## 3. Configure this mapping

## User field mappings for issuer: Casdoor

External field name	Internal field name	Edit
address	address	
email	email	
name	firstname	
phone	phone1	
picture	picture	
preferred_username	username	

Create new user field mapping for issuer "Casdoor"

## 4. Locate the OAuth2 plugin

General    Users    Courses    Grades    Plugins    Appearance    Server    Reports    Development

Your site is not yet registered. [Register your site](#)

**Plugins** [Install plugins](#) [Plugins overview](#)

**Activity modules**

- Manage activities
- Common activity settings
- Assignment
- Assignment settings
- Submission plugins
  - Manage assignment submission plugins
  - File submissions
  - Online text submissions
- Feedback plugins
  - Manage assignment feedback plugins
  - Feedback comments
  - Annotate PDF
  - File feedback
  - Offline grading worksheet
- Book
- Chat
- Database
- External tool
- Manage tools
- Feedback
- File
- Folder
- Forum
- Glossary
- HSP
- IMS content package
- Lesson
- Page
- Quiz
- General settings
- Safe Exam Browser templates
- Safe Exam Browser access rules
- SCORM package
- Text and media area
- URL
- Workshop

**Admin tools**

- Manage admin tools
- Accessibility
- Brickfield registration
- Accessibility toolkit settings
- Reports
- Recycle bin

**Antivirus plugins** [Manage antivirus plugins](#)

**Authentication**

- Manage authentication
- Email-based self-registration
- Manual accounts
- OAuth 2

## 5. Enable the OAuth2 plugin

### Manage authentication

#### Available authentication plugins

Name	Users	Enable	Up/Down	Settings	Test settings	Uninstall
Manual accounts	2			<a href="#">Settings</a>		
No login	0					
Email-based self-registration	0			<a href="#">Settings</a>		<a href="#">Uninstall</a>
OAuth 2	8			<a href="#">Settings</a>	<a href="#">Test settings</a>	

## 6. If you want to prevent the editing of Casdoor's email

### Lock user fields

You can lock user data fields. This is useful for sites where the user data is maintained by the administrators manually by editing user records or uploading using the 'Upload users' facility. If you are locking fields that are required by Moodle, make sure that you provide that data when creating user accounts or the accounts will be unusable.

Consider setting the lock mode to 'Unlocked if empty' to avoid this problem.

Lock value (First name) auth_oauth2   field_lock_firstname	<input type="button" value="Unlocked"/> Default: Unlocked
Lock value (Last name) auth_oauth2   field_lock_lastname	<input type="button" value="Unlocked"/> Default: Unlocked
Lock value (Email address) auth_oauth2   field_lock_email	<input type="button" value="Locked"/> Default: Unlocked
Lock value (City/town) auth_oauth2   field_lock_city	<input type="button" value="Unlocked"/> Default: Unlocked
Lock value (Country) auth_oauth2   field_lock_country	<input type="button" value="Unlocked"/> Default: Unlocked
Lock value (Language) auth_oauth2   field_lock_lang	<input type="button" value="Unlocked"/> Default: Unlocked

here is switch to lock email

For more information on Moodle, refer to [Moodle](#) and [Fields mapping](#).

Log out of Moodle and test SSO.

## MyMoodle Website



# Ruby



GitLab

Using Casdoor for authentication in a self-developed GitLab server

# GitLab

Casdoor can use the OIDC protocol to link to a self-deployed GitLab server, and this document will show you how to do it.

## ⚠ CAUTION

As the [GitLab docs](#) state, GitLab only works with OpenID providers that use HTTPS, so you need to deploy Casdoor with HTTPS, such as putting Casdoor behind an NGINX reverse proxy with an SSL certificate setup. Casdoor itself only listens on port 8000 by default via HTTP and has no HTTPS-related functionality.

The following are some of the names mentioned in the configuration:

`CASDOOR_HOSTNAME`: The domain name or IP where the Casdoor server is deployed, e.g., `https://door.casbin.com`.

`GITLAB_HOSTNAME`: The domain name or IP where GitLab is deployed, e.g., `https://gitlab.com`.

## Step 1: Deploy Casdoor and GitLab

Firstly, Casdoor and GitLab should be deployed.

After a successful deployment, you need to ensure:

1. Casdoor can be logged into and used normally.
2. Set Casdoor's `origin` value (`conf/app.conf`) to `CASDOOR_HOSTNAME`.

```
conf > ⚙ app.conf
 8  dbName = casdoor
 9  redisEndpoint =
10 defaultStorageProvider =
11 isCloudIntranet = false
12 authState = "casdoor"
13 httpProxy = "127.0.0.1:10808"
14 verificationCodeTimeout = 10
15 initScore = 2000
16 logPostOnly = true
17 origin = "http://10.144.1.2:8000"| CASDOOR_HOSTNAME
```

## Step 2: Configure Casdoor application

1. Create or use an existing Casdoor application.
2. Add a redirect URL: [http://GITLAB\\_HOSTNAME/users/auth/openid\\_connect/callback](http://GITLAB_HOSTNAME/users/auth/openid_connect/callback).
3. Add the provider you want and supplement other settings.

Description <a href="#">?</a> :	GitLab	
Organization <a href="#">?</a> :	built-in	
Client ID <a href="#">?</a> :	eab9...35b6	Client ID
Client secret <a href="#">?</a> :	95e71...b3a0188a5	Client secret
Redirect URLs <a href="#">?</a> :	<a href="#">Add</a>	
<a href="#">Redirect URL</a>		
<a href="http://GITLAB_HOSTNAME/users/auth/openid_connect/callback">http://GITLAB_HOSTNAME/users/auth/openid_connect/callback</a>		GitLab redirect url

Notably, you can get two values on the application settings page: [Client ID](#) and [client secret](#) (see the picture above), and we will use them in the next step.

Open your favorite browser and visit: [http://\*\*CASDOOR\\_HOSTNAME\*\*.well-known/openid-configuration](http://<CASDOOR_HOSTNAME>.well-known/openid-configuration), where you will see the OIDC configuration of Casdoor.

## Step 3: Configure GitLab

You can follow the steps below to set this up, or make custom changes according to [this document](#) (e.g., if you are installing GitLab using source code rather than the Omnibus).

1. On your GitLab server, open the configuration file.

```
sudo editor /etc/gitlab/gitlab.rb
```

2. Add the provider configuration. (The HOSTNAME URL should include http or https)

```
gitlab_rails['omniauth_providers'] = [
  {
    name: "openid_connect",
    label: "Casdoor", # optional label for the login
button, defaults to "Openid Connect"
    args: {
      name: "openid_connect",
      scope: ["openid", "profile", "email"],
      response_type: "code",
      issuer: "<CASDOOR_HOSTNAME>",
      client_auth_method: "query",
      discovery: true,
      uid_field: "preferred_username",
      client_options: {
        identifier: "<YOUR CLIENT ID>",
        secret: "<YOUR CLIENT SECRET>",
        redirect_uri: "<GITLAB_HOSTNAME>/users/auth/"
      }
    }
  }
]
```

3. Reboot your GitLab server.
4. Each registered user can open `GITLAB_HOSTNAME/-/profile/account` and connect the Casdoor account.

User Settings > Account

Two-Factor Authentication  
Status: Disabled

Enable two-factor authentication

Social sign-in  
Activate signin with one of the following services

Connected Accounts  
Click on icon to activate signin with one of the following services

**Connect Casdoor**

5. Finish. Now, you can log in to your own GitLab using Casdoor.

## GitLab

### A complete DevOps platform

GitLab is a single application for the entire software development lifecycle. From project planning and source code management to CI/CD, monitoring, and security.

This is a self-managed instance of GitLab.

Username or email

Password

Remember me      [Forgot your password?](#)

**Sign in**

Don't have an account yet? [Register now](#)

Sign in with

**Casdoor**

Remember me

**Casdoor**

# Haskell



Hasura

Before the integration, we need to deploy Casdoor locally.

# Hasura

Before the integration, we need to deploy Casdoor locally.

Then we can quickly implement a Casdoor-based login page in our own app with the following steps.

## Configure Casdoor application

1. Create or use an existing Casdoor application.
2. Add a redirect URL: `http://CASDOOR_HOSTNAME/login`



The screenshot shows a table titled "Redirect URLs" with one row. The "Redirect URL" column contains `http://localhost:8080/login`. There are "Edit" and "Delete" buttons in the "Action" column.

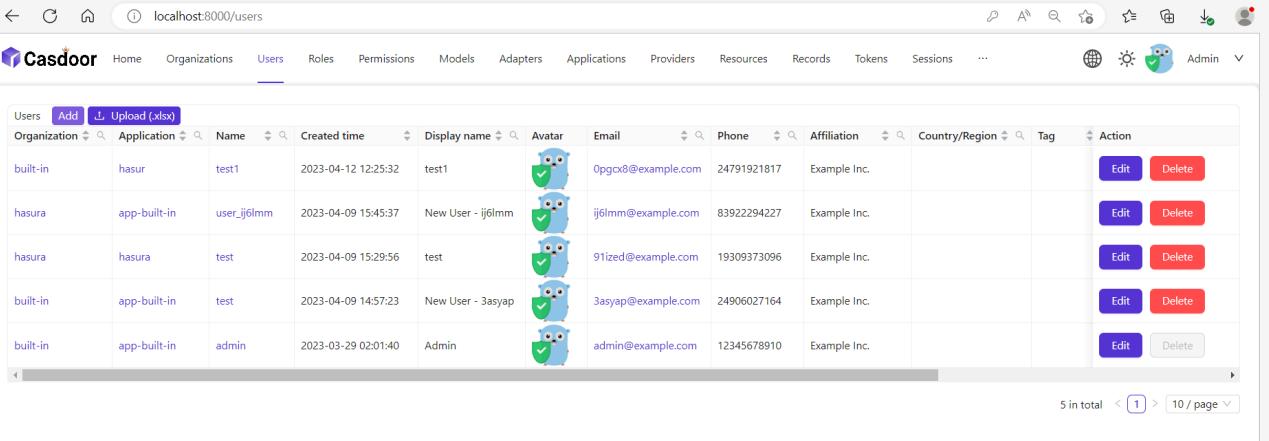
Redirect URLs	Action
<code>http://localhost:8080/login</code>	<button>Edit</button> <button>Delete</button>

3. Copy the client ID; we will need it in the following steps.

## Add a user in Casdoor

Now that you have the application, but not a user. That means you need to create a user and assign the role.

Go to the "Users" page and click on "Add user" in the top right corner. That opens a new page where you can add the new user.



The screenshot shows a table of users with the following data:

Organization	Application	Name	Created time	Display name	Avatar	Email	Phone	Affiliation	Country/Region	Tag	Action
built-in	hasur	test1	2023-04-12 12:25:32	test1		0pgx8@example.com	24791921817	Example Inc.			<button>Edit</button> <button>Delete</button>
hasura	app-built-in	user_ij6imm	2023-04-09 15:45:37	New User - ij6imm		ij6imm@example.com	83922294227	Example Inc.			<button>Edit</button> <button>Delete</button>
hasura	hasura	test	2023-04-09 15:29:56	test		91ized@example.com	19309373096	Example Inc.			<button>Edit</button> <button>Delete</button>
built-in	app-built-in	test	2023-04-09 14:57:23	New User - 3asyap		3asyap@example.com	24906027164	Example Inc.			<button>Edit</button> <button>Delete</button>
built-in	app-built-in	admin	2023-03-29 02:01:40	Admin		admin@example.com	12345678910	Example Inc.			<button>Edit</button> <button>Delete</button>

At the bottom, there is a message: "5 in total < 1 > [ 10 / page ]".

Save the user after adding a username and adding the organization Hasura (other details are optional).

Now you need to set up a password for your user, which you can do by clicking "manage your password."

Choose a password for your user and confirm it.

# Build the Hasura App

Start the Hasura by Docker or Hasura Cloud.

Now create a `users` table with the following columns:

- `id` of type Text (Primary Key)
- `username` of type Text

Refer to the image below for reference.

The screenshot shows the Hasura Data Manager interface. On the left, there's a sidebar with 'Data Manager' and 'Databases (1)'. Under 'Databases', it lists 'default' and 'public'. The 'SQL' tab is selected. In the main area, the title is 'Add a New Table'. The 'Table Name' field contains 'users'. The 'Table Comment' field contains 'comment'. Under 'CONFIGURE FIELDS', there's a section for 'Columns' with three rows. Each row has a column name ('id', 'username', 'column\_name'), a type ('Text'), and a dropdown for 'default\_value'. To the right of each dropdown are checkboxes for 'Nullable' and 'Unique'. Below the columns is a button '+ Frequently used columns'. Under 'TABLE PROPERTIES', there's a 'Primary Key' section with a dropdown set to 'id'. There's also a 'Foreign Keys' section. A yellow circular icon with a hand icon is in the bottom right corner.

The next step is to create a `user` role for the app. Users should be able to see only their records but not other people's records.

Configure the `user` role as shown in the image below. For more information, read about [configuring permission rules in Hasura](#).

The screenshot shows the Hasura Cloud interface for managing database permissions. The top navigation bar includes tabs for API, DATA, ACTIONS, REMOTE SCHEMAS, EVENTS, and MONITORING. The current view is under the DATA tab. A sub-menu for 'Databases (1)' is open, showing 'default' and 'public'. Under 'public', there is a table named 'users'. The main content area displays a grid of permissions for roles 'admin' and 'user' across actions insert, select, update, and delete.

Role	insert	select	update	delete
admin	✓	✓	✓	✓
user	✗	✗	✗	✗

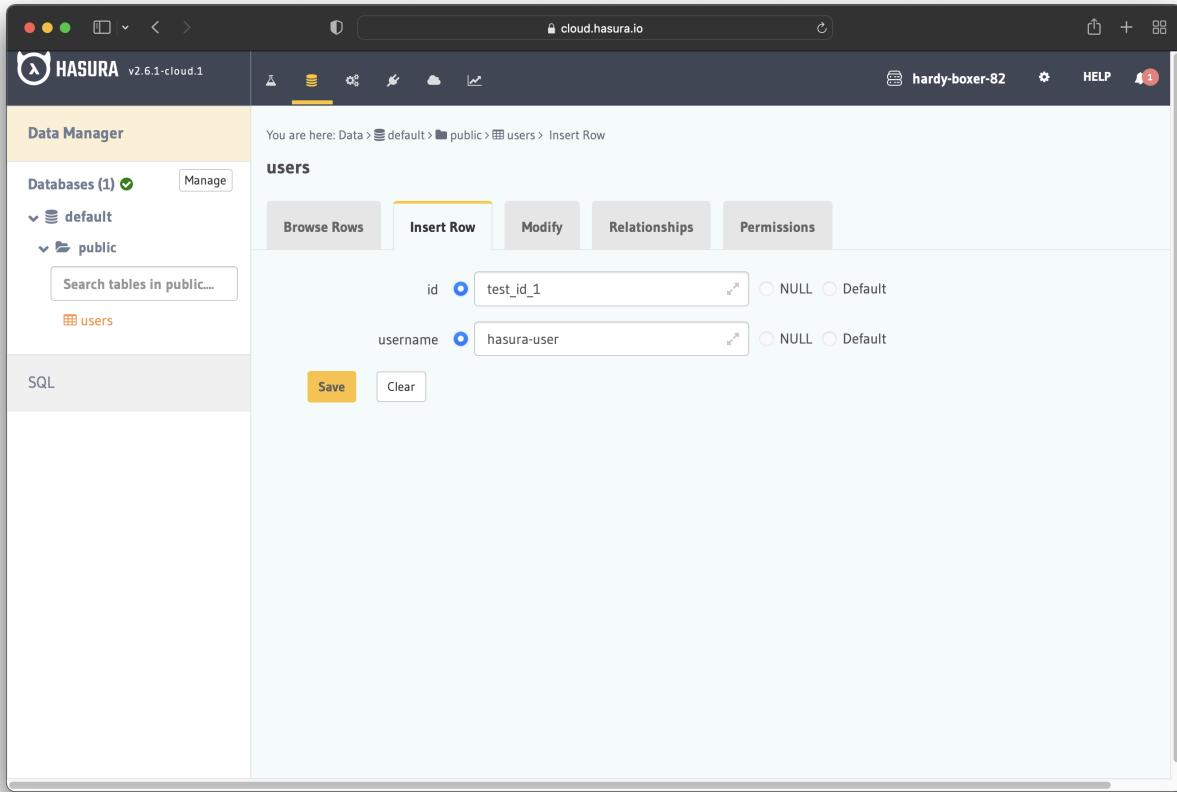
A detailed modal window is open for the 'user' role's 'select' permission on the 'users' table. It shows a custom check condition:

```
1  {"id": {"_eq": "X-Hasura-User-Id"}}
```

This condition filters rows where the 'id' column equals the header 'X-Hasura-User-Id'. Below this, there are sections for 'Column select permissions' (allowing access to 'id' and 'username') and 'Annotation queries permissions' (disabled).

This way, users cannot read other people's records. They can only access theirs.

For testing purposes, add a dummy user. This is to ensure that when you use the JWT token, you only see your user's details and not other users' details.



Now you need to set the `JWT_SECRET` in Hasura.

## Configure Hasura with Casdoor

In this step, you need to add the `HASURA_GRAPHQL_JWT_SECRET` to Hasura.

To do so, go to the Hasura docker-compose.yaml and then add the new `HASURA_GRAPHQL_JWT_SECRET` as below.

The `HASURA_GRAPHQL_JWT_SECRET` should be in the following format:

```
HASURA_GRAPHQL_JWT_SECRET: '{"claims_map": {  
    "x-hasura-allowed-roles": ["user", "editor"],  
    "x-hasura-default-role": "user",  
    "x-hasura-user-id": "userID"  
}, "jwk_url": "https://door.casdoor.com/.well-known/jwks"}'
```

Save the change and reload the docker.

```
## enable debugging mode. It is recommended to disable this in production
HASURA_GRAPHQL_DEV_MODE: "true"
HASURA_GRAPHQL_ENABLED_LOG_TYPES: startup, http-log, webhook-log, websocket-log, query-log
HASURA_GRAPHQL_ADMIN_SECRET: myadminsecretkey
HASURA_GRAPHQL_JWT_SECRET: '{"claims_map": {
  "x-hasura-allowed-roles": ["user", "editor"],
  "x-hasura-default-role": "user",
  "x-hasura-user-id": "4ec7ccee-ec7b-4191-a78d-e11f50686f8b"
}, "jwk_url": "https://door.casdoor.com/.well-known/jwks"}
```

## Retrieve the JWT Token

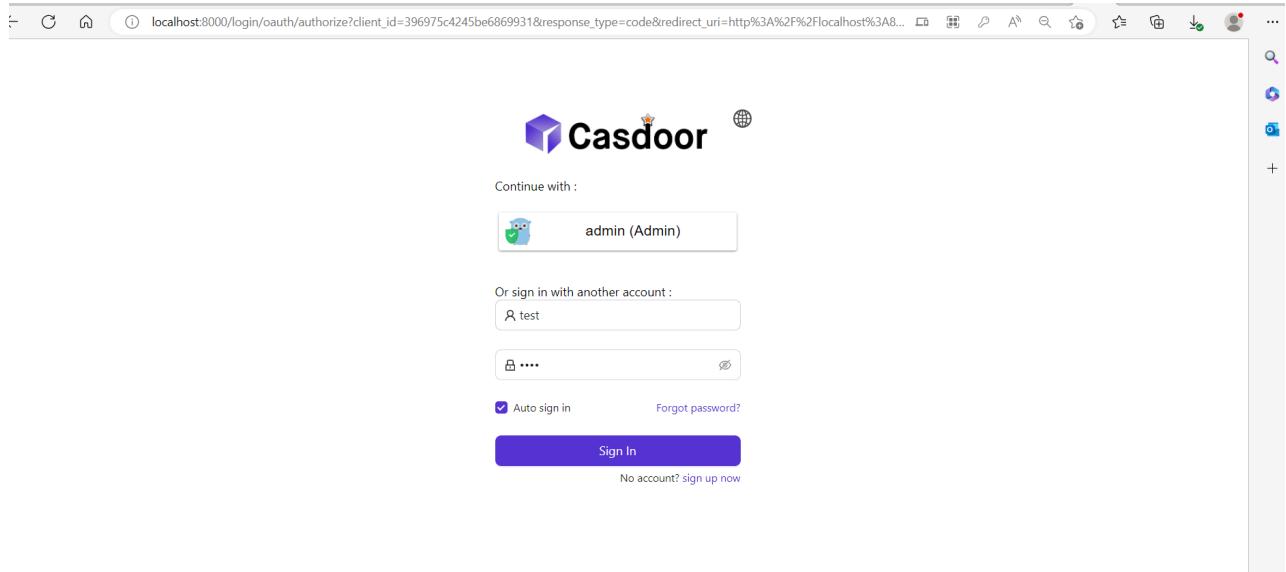
Since there is no client implementation, you can get your access token by making a request by the below URL:

```
http://localhost:8000/login/oauth/authorize?client_id=<client
ID>&response_type=code&redirect_uri=http%3A%2Flocalhost%3A8080%2Flogin&scope=read&state=app-
built-in<public certificate>>
```

Change the client ID to the ID you copied before and input the public certificate of Casdoor, which you can find in Casdoor/Certs.

Then input the username and password you created for Hasura before.

Click "Sign in."



Go back to the Casdoor/Token page.

localhost:8000/tokens

Name	Created time	Application	Organization	User	Authorization code	Access token	Action
b6ea3e35-abcf-41d8-a1a2-01f0fd8264b	2023-04-12 13:06:53	hasura	hasura	test	433b504b4f6a593e4a11	eyJhbGciOiJSUz1NilsImtpZC16lmNcnQtYnVpbHQtaW4lLC0e	<button>Edit</button> <button>Delete</button>
16024557-df21-4779-bfb9-959e5dae078c	2023-04-12 12:51:47	hasur	built-in	test1	2879fbcc282019cf7f23c	eyJhbGciOiJSUz1NilsImtpZC16lmNcnQtYnVpbHQtaW4lLC0e	<button>Edit</button> <button>Delete</button>
f3cb1070-c2d4-40f0-8bc0-59919d26d162	2023-04-11 15:04:00	hasura	hasura	test	2a370971798d403fc6ef	eyJhbGciOiJSUz1NilsImtpZC16lmNcnQtYnVpbHQtaW4lLC0e	<button>Edit</button> <button>Delete</button>
64993582-2322-4df7-ab20-cb23201bc77b	2023-04-11 00:37:22	springboot	built-in	admin	a2396037c3ba4fd9221e	eyJhbGciOiJSUz1NilsImtpZC16lmNcnQtYnVpbHQtaW4lLC0e	<button>Edit</button> <button>Delete</button>
f65a3813-a655-47f0-9c9a-f08ce4607815	2023-04-11 00:31:37	springboot	built-in	admin	d048c7f9cd1469fd829d	eyJhbGciOiJSUz1NilsImtpZC16lmNcnQtYnVpbHQtaW4lLC0e	<button>Edit</button> <button>Delete</button>
5828069e-15eb-4c92-933c-feeda8ed621c	2023-04-11 00:06:54	springboot	built-in	admin	7cc27dc752cc4188ac8d	eyJhbGciOiJSUz1NilsImtpZC16lmNcnQtYnVpbHQtaW4lLC0e	<button>Edit</button> <button>Delete</button>
2277e0f2-7e78-462f-a654-3c53759784af	2023-04-11 00:05:17	springboot	built-in	admin	56141e709a06931b7faa	eyJhbGciOiJSUz1NilsImtpZC16lmNcnQtYnVpbHQtaW4lLC0e	<button>Edit</button> <button>Delete</button>
55bd324a-6039-40f6-b707-2a55d78ae911	2023-04-11 00:05:07	springboot	built-in	admin	9a1413bc172591a64353	eyJhbGciOiJSUz1NilsImtpZC16lmNcnQtYnVpbHQtaW4lLC0e	<button>Edit</button> <button>Delete</button>
4b30acbe-fa22-4387-8098-9a46e70f6972	2023-04-10 23:59:19	springboot	built-in	admin	88b0997b675917f20fdc	eyJhbGciOiJSUz1NilsImtpZC16lmNcnQtYnVpbHQtaW4lLC0e	<button>Edit</button> <button>Delete</button>

Find the Username you input before, then click "edit."

Copy the Access Token.

Edit Token		<button>Save</button>	<button>Save &amp; Exit</button>
Name:	<input type="text" value="b6ea3e35-abcf-41d8-a1a2-01f0fd8264b"/>		
Application:	<input type="text" value="hasura"/>		
Organization:	<input type="text" value="hasura"/>		
User:	<input type="text" value="test"/>		
Authorization code:	<input type="text" value="433b504b4f6a593e4a11"/>		
Access token:	<input type="text" value="eyJhbGciOiJSUz1NilsImtpZC16lmNcnQtYnVpbHQtaW4lLC0eXAIoIKV1QifQ.eyJvd25ciI6lmhhc3VyYSlsm5hbWUiOj0ZXN0IwiY3JlyXRIZFRpbWUiOilyMDIzLTA0LTAsVDE1Oj50JU2KzA4OjAwliwidXBkYXRIZFRpbWUiOiiLCjPZC16jRly"/>		
Expires in:	<input type="text" value="604800"/>		
Scope:	<input type="text" value="read"/>		
Token type:	<input type="text" value="Bearer"/>		
<button>Save</button>		<button>Save &amp; Exit</button>	

Now you can use the access token to make the authenticated request. Hasura returned the appropriate user rather than returning all the users from the database.

Hasura v2.22.0 API DATA ACTIONS REMOTE SCHEMAS EVENTS SETTINGS HELP Allow List

GraphQL REST

> GraphQL Endpoint  
✓ Request Headers

ENABLE	KEY	VALUE
<input type="checkbox"/>	Hasura-Client-Name	casdoor
<input checked="" type="checkbox"/>	content-type	application/json
<input type="checkbox"/>	x-hasura-admin-secret	*****
<input checked="" type="checkbox"/>	Authorization	Bearer eyJhbGciOiJSUzI1NiIsImtpZCI6ImNlcnQtYnVpbHQtaW4iLCJ0eXAiOiJKV1QiLCJyIvd25ciI6Imhhc3VyYSlsImShbWL
Enter Key		Enter Value

Explorer X GraphiQL ▶ Prettify History Explorer Code Exporter REST Derive action Analyze ◀ Docs

query MyQuery {  
 users {  
 id  
 username  
 }  
}

1 {  
 "data": {  
 "users": [  
 {  
 "id": "4ec7cce-ec7b-4191-a78d-e11f50686f8b",  
 "username": "test"  
 }  
 ]  
 }  
}

QUERY VARIABLES

# Python



JumpServer

Using CAS to connect JumpServer

# JumpServer

Casdoor can be used to connect JumpServer.

The following are some of the names in the configuration:

`CASDOOR_HOSTNAME`: The domain name or IP where Casdoor server is deployed.

`JumpServer_HOSTNAME`: The domain name or IP where JumpServer is deployed.

## Step 1: Deploy Casdoor and JumpServer

Firstly, deploy Casdoor and JumpServer.

After successful deployment, ensure the following:

1. Casdoor can be logged in and used normally.
2. You can set `CASDOOR_HOSTNAME` to `http://localhost:8000` when deploying Casdoor in `prod` mode. See [production mode](#).

## Step 2: Configure Casdoor application

1. Create a new Casdoor application or use an existing one.
2. Find a redirect URL: `CASDOOR_HOSTNAME/cas/your_organization/your_application/login`.
3. Add your redirect URL to the Casdoor application: `JumpServer_HOSTNAME`.

For more information about [CAS](#), refer to the documentation.

# Step 3: Configure JumpServer

## 1. Find Auth:

JumpServer

Administrator

Settings

Basic

Email

Auth

Message

Terminal

Applets

Security

Period clean

Tools

Tasks

Other

License

Auth

Basic

CAS

Enable CAS Auth

Server url

Proxy server url

Version

Basic

Logout completely

User attr map

```
1 = [  
2   "uid": "username"  
3 ]
```

Create user if not

Reset

Submit

## 2. Configure this app:

JumpServer

Administrator

Settings

Basic

Email

Auth

Message

Terminal

Applets

Security

Period clean

Tools

Tasks

Other

License

Auth

Basic

CAS

Enable CAS Auth

your casdoor

your orgnazition

your application

Server url

Proxy server url

Version

Basic

Logout completely

User attr map

```
1 = [  
2   "uid": "username"  
3 ]
```

Create user if not

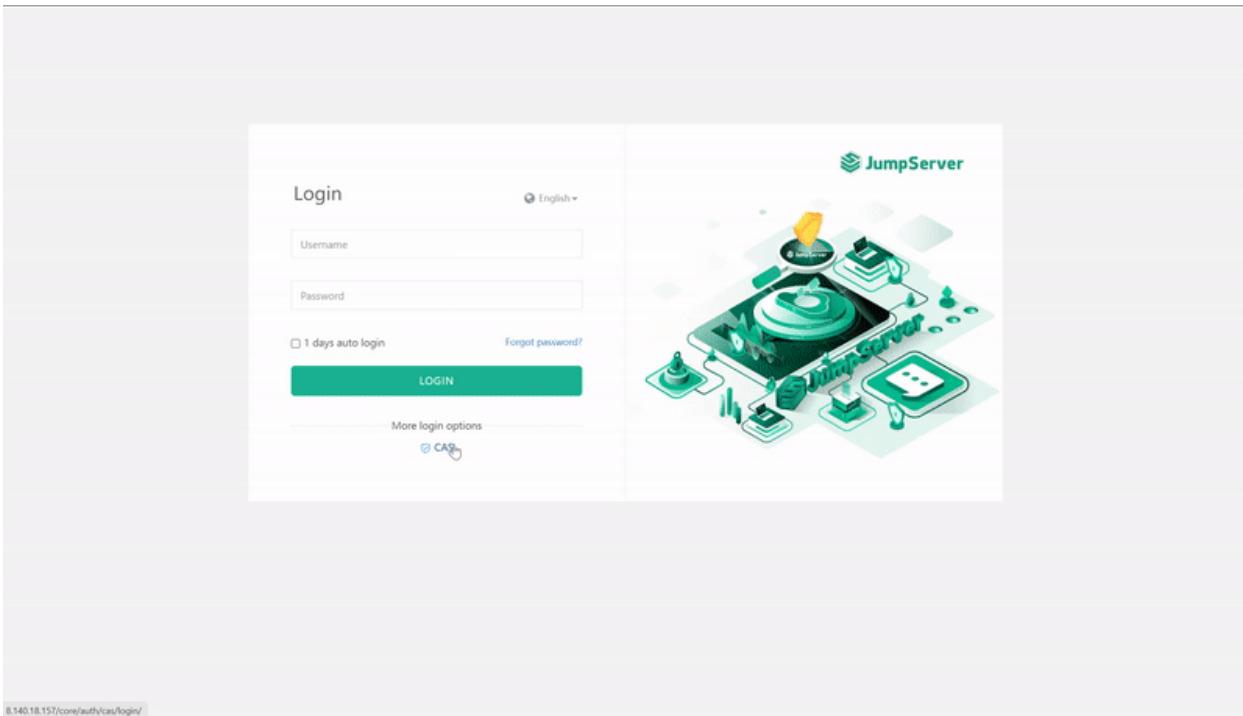
Reset

Submit

- `/login` endpoint: <https://door.casdoor.com/cas/casbin/cas-java-app/login>.
- `/logout` endpoint: <https://door.casdoor.com/cas/casbin/cas-java-app/logout>.
- `/serviceValidate` endpoint: <https://door.casdoor.com/cas/casbin/cas-java-app/serviceValidate>.
- `/proxyValidate` endpoint: <https://door.casdoor.com/cas/casbin/cas-java-app/proxyValidate>.

For more information about [CAS](#) and [JumpServer](#), refer to the documentation.

Log out of JumpServer and test SSO:



# Monitoring

## Web UI

Monitor runtime information on the Casdoor web page

## Prometheus

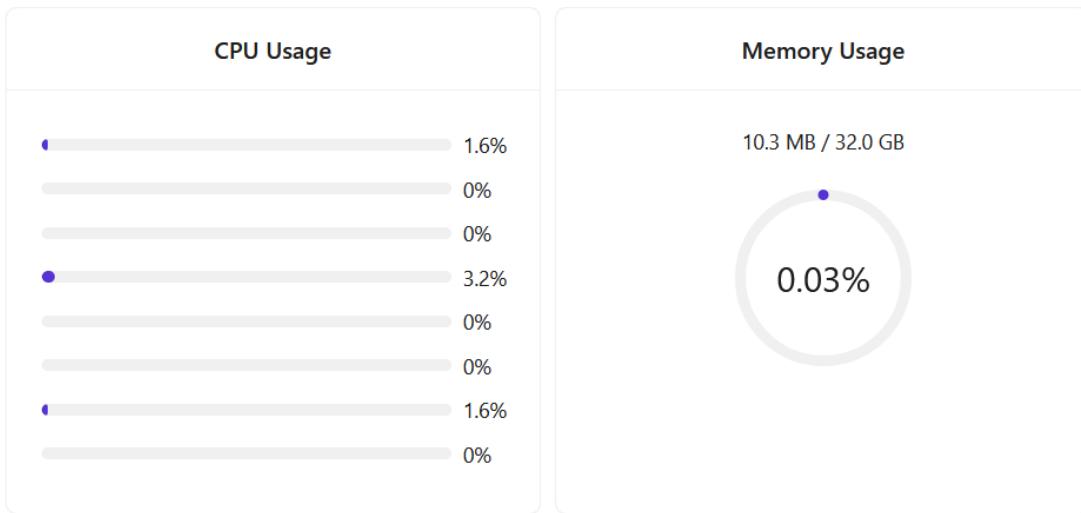
Use Prometheus to collect information about running Casdoor.

# Web UI

You can monitor the runtime information of Casdoor on the [Casdoor web page](#), including CPU Usage, Memory Usage, API Latency, and API Throughput.

On the UI, you can view the following information:

- CPU Usage and Memory Usage



- API Latency, including count times and average latency

API Latency				
Method	Endpoint	Latency (ms)	Avg Latency (ms)	Throughput (req/s)
GET	/api/get-cert	3	0.667	
GET	/api/get-certs	27	1.333	
GET	/api/get-chats	27	1.519	
GET	/api/get-default-application	3	5.333	
GET	/api/get-email-and-phone	1	1.000	
GET	/api/get-global-providers	58	1.202	

- API Throughput, including total throughput and throughput per API

API Throughput			
Total Throughput: 2			
Name	Method	Throughput	
/api/get-prometheus-info	GET	1	
/api/get-system-info	GET	1	

# Prometheus

To collect Casdoor's runtime metrics, such as API Throughput, API Latency, CPU Usage, Memory Usage, and more, you need to configure your Prometheus profile.

```
global:  
  scrape_interval: 10s # The time interval for fetching metrics  
  
scrape_configs:  
  - job_name: 'prometheus'  
    static_configs:  
      - targets: ['localhost:9090']  
  - job_name: 'casdoor' # Name of the application to be monitored  
    static_configs:  
      - targets: ['localhost:8000'] # Back-end address of Casdoor deployment  
    metrics_path: '/api/metrics' # Path for collecting indicators
```

After successful configuration, you will find the following information in Prometheus:



# Internationalization

Casdoor supports multiple languages. By deploying the translations to [Crowdin](#), we can provide support for Spanish, French, German, Chinese, Indonesian, Japanese, Korean, and more.

Casdoor utilizes the official Crowdin CLI to synchronize translations from Crowdin. If you wish to add support for additional languages, please submit your proposal in [our community](#). Moreover, if you would like to contribute to expediting the translation work, kindly consider assisting us in translating on [Crowdin](#).

# Contributor Guide

Welcome to Casdoor! This document serves as a guideline on how to contribute to Casdoor.

If you find any incorrect or missing information, please leave your comments or suggestions.

## Get Involved

There are many ways to contribute to Casdoor. Here are some ideas to get started:

- Use Casdoor and report issues. When using Casdoor, report any issues - whether they're bugs or proposals - on [GitHub Discussions](#) or on [Discord](#) before filing an issue on GitHub.



Please use English to describe the details of your problem when reporting an issue.

- Help with documentation. Starting your contribution work with docs is a good choice.
- Help solve issues. We have a table that contains easy tasks suitable for beginners under [Casdoor Easy Tasks](#), with different levels of challenges labeled with different tags.

# Contributing

If you are ready to create a PR, here is the workflow for contributors:

1. Fork to your own repository.
2. Clone your fork to a local repository.
3. Create a new branch and work on it.
4. Keep your branch in sync.
5. Commit your changes. Make sure your commit message is concise.
6. Push your commits to your forked repository.
7. Create a pull request from your branch to our **master** branch.

# Pull Requests

## Before You Get Started

Casdoor uses GitHub as its development platform, and pull requests are the primary source of contributions.

Here are some things you need to know before opening a pull request:

- You need to sign the CLA when you first create a pull request.
- Explain why you are submitting the pull request and what it will do to the repo.

- Only one commit is allowed. If the PR does more than one thing, please split it.
- If there are any newly added files, please include the Casdoor license at the top of the new file(s).

```
// Copyright 2022 The Casdoor Authors. All Rights Reserved.  
//  
// Licensed under the Apache License, Version 2.0 (the "License");  
// you may not use this file except in compliance with the License.  
// You may obtain a copy of the License at  
//  
//     http://www.apache.org/licenses/LICENSE-2.0  
//  
// Unless required by applicable law or agreed to in writing,  
// software  
// distributed under the License is distributed on an "AS IS"  
// BASIS,  
// WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or  
// implied.  
// See the License for the specific language governing permissions  
// and  
// limitations under the License.
```

## Semantic PRs

Your pull requests should follow the Conventional Commits spec. The basic requirement is that only the PR title or at least one commit message. For example, three commonly used PR titles are given below:



### CAUTION

PR titles must be in lowercase.

1. fix: a commit of the type `fix` patches a bug in your codebase.

fix: prevent racing of requests

2. **feat:** a commit of the type `feat` introduces a new feature to the codebase.

feat: allow provided config object to extend other configs

3. **docs:** a commit of the type `docs` adds or improves documentation.

docs: correct spelling of CHANGELOG

For more details, please refer to the [Conventional Commits](#) page.

## Linking PRs with Issues

You can link a pull request to an issue to show a fix is in progress and to automatically close the issue when the pull request is merged.

### Linking a Pull Request to an Issue Using a Keyword

You can link a pull request to an issue by using a supported keyword in the pull request's description or in a commit message. The pull request **must be** on the default branch.

- close
- fix
- resolve

An issue in the same repository, for instance:

Fix: #902

For more details, please refer to [Linking a Pull Request to an Issue](#).

## Modifying PRs

Your PR may need revision. Please modify the same PR when the code needs changes; don't close the PR and open a new one. Here is an example:

- Modify the code on your local.
- Modify your commit.

```
git commit --amend
```

- Push to your remote repository.

```
git push --force
```

Then, you will have successfully modified the PR!

## Code Related

Some Principles:

- Readability: important code should be well-documented. Code style should comply with the existing one.

## Naming Convention

For instance, `signupUrl` for variable names, `Signup URL` for UI.

## How to Update i18n Data?

Please note that we use [Crowdin](#) as a translating platform and i18next as a translating tool. When you add strings using i18next in the `web/` directory, you can run the `i18n/generate_test.go` to auto-generate `web/src/locales/**/data.json`.

Run `i18n/generate_test.go`:

```
cd i18n && go test
```

All languages are filled in English by default. After your PR has been merged, you are encouraged to help translate the newly added strings in `web/src/locales/zh/data.json` by [Crowdin](#).

 CAUTION

If you are not familiar with a language, please do not translate it; keep the file as it is.

## License

By contributing to Casdoor, you agree that your contributions will be licensed under the Apache License.