



# 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 the application users.

# Casdoor features:

1. Front-end and back-end separate architecture, developed by Golang, Casdoor supports high concurrency, provides web-based managing UI and supports multiple languages(Chinese, English).
2. Casdoor supports third-party applications login, such as GitHub, Google, QQ, WeChat, etc., and supports the extension of third-party login with plugins.
3. With [Casbin](#) based authorization management, Casdoor supports ACL, RBAC, ABAC, RESTful accessing control models.
4. Phone verification code, email verification code and password retrieval functions.
5. Accessing logs auditing and recording.
6. Alibaba Cloud, Tencent Cloud, Qiniu Cloud image CDN cloud storage.
7. Customizable registration, login, and password retrieval pages.
8. Casdoor supports integration with existing systems by db sync, so users can transition to Casdoor smoothly.
9. Casdoor supports mainstream databases: MySQL, PostgreSQL, SQL Server, etc., and supports the extension of new databases with plugins.

# How it works:



## Step 0 (Pre-knowledge)

1. Casdoor's authorization process is built upon the OAuth 2.0 protocol, therefore it's highly recommended to take a brief look at how indeed does OAuth 2.0 works. An [introduction](#) to OAuth 2.0.

## Abstract Protocol Flow



## Step 1 (Authorization Request)

Your Application (could be a website or whatever) should compose an URL in this format

`endpoint/login/oauth/`

`authorize?client_id=xxx&response_type=code&redirect_uri=xxx&scope=read&state=xxx`.

In the URL replace `endpoint` with your Casdoor's host URL, and replace `xxx` with your own info.

### ⓘ HINTS

How to fill out the `xxx` parts?

- For `client_id`: you can find this under each single Application
- For `redirect_uri`: you should set this to your own Application's callback URL, with this info, Casdoor can know where to send info back after authorization
- For `state`: you should fill this out with your Application name

The Application will speak to the user: *"Hey, now I need some resources and I need your permission to take these resources, Do you mind going to this URL and filling out your*

*username and password for me?"*

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

## Step 2 (Authorization Grant)

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

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 in my database, and I will send the `code` and `state` back to the Application using the callback URL (`redirect_uri`)*"

With these two keywords sent back to your Application, the authorization is now granted to the app, and thus `Authorization Grant` is completed.



Casdoor also provides third-party logins, in this case, you will not see the credentials entry page but a list of third-party providers. You can login to your app using these providers, with Casdoor as a middle layer (middleware).

## Step 3 (Authorization Grant)

In this step, your Application already has the code in hand from Step 2, and it will speak to Casdoor: "*Hey, now the user agreed to give me the `code`, do you wanna check this `code` out and give me the `access_token`?*"

## Step 4 (Access Token)

In this step, Casdoor speaks back to the Application: "*You know what, this `code` seems legit, you must be the right Application. Come here, it's the `access_token`.*" With this `code`,

Casdoor knows that it is an authorized Application (authorization given by the correct user in Step 2) trying to get the `access_token` (, which will be used later to get more useful things).

## Step 5 (Access Token)

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

And your Application turns to the `Resource Server`: "Hey buddy, wanna check this `access_token` out? I got this from Casdoor and do you want to see if this is the correct one you had with Casdoor?"

## Step 6 (Protected Resource)

The `Resource Server` speaks back to your Application: "Not bad ~ it seems just like the one I had with Casdoor, and Casdoor says whoever holds this `access_token` can have these `Protected Resources`. Now, you take it!"

And this is basically how Casdoor works with your Application.

### HINT

Casdoor can play both `Authorization Server` and `Resource Server` parts, i.e. Casdoor authorizes our Application to get resources (e.g. usually the current logged in user's info) 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 Casbin web apps. It uses Casdoor as authentication.

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

## Casnnode

Casnnode is the official forum developed by Casbin community.

It uses Casdoor as authentication platform and manage members.

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

## Architecture

Casdoor contains 2 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 Casdoor's administrator, you should get familiar with at least 4 core concepts: Organization, User, Application and Provider.

```
graph LR; subgraph Organization-1; Applications-1; Users-1; end; subgraph Organization-2; Applications-2; Users-2; end; subgraph Users-1; Resources-1; Permissions-1; end; subgraph Users-2; Resources-2; Permissions-2; end; subgraph Providers; SMS; OAuth; SAML; Email; end; subgraph SMS; AWS\\nAliyunCloud; end; subgraph OAuth; Github\\nGoogle\\nFacebook\\nWeChat; end; subgraph SAML; Keycloak\\nAliyunIDaaS; end; subgraph Applications-1; Forum; CMS; end; subgraph Applications-2; OA; end; Organization-1 --> Applications-1; Applications-1-->Providers; Applications-2-->Providers;
```



TIP

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

## Organization

In Casdoor, an organization is a container for users and applications. E.g., 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 as follows:

```
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

A user in Casdoor can log into an application. One user can only belong to one organization, but can have the ability to log into multiple applications that owned by the organization. Currently there are two types of users in Casdoor:

- Users under `built-in` organization, like `built-in/admin`: the global administrators, have the full administrator power on the Casdoor platform.
- Users under other organizations, like `my-company/alice`: normal users, can only sign up, sign in, sign out, change his/her own profile, etc.

In Casdoor API, a user is usually identified as `<organization_name>/<username>`, e.g., the default administrator of Casdoor is denoted as `built-in/admin`. There is also a property in user called `id`, which is a UUID like `d835a48f-2e88-4c1f-b907-60ac6b6c1b40`, it can also be chosen as a ID for a user by an application.



TIP

If your application is only for one organization, you can just use `<username>` instead of `<organization_name>/<username>` as user ID

across your application for simplicity.

The User class definition is shown as follows:

```
type User 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"`
    UpdatedTime string `xorm:"varchar(100)" json:"updatedTime"`

    Id          string `xorm:"varchar(100)" json:"id"`
    Type        string `xorm:"varchar(100)" json:"type"`
    Password    string `xorm:"varchar(100)" json:"password"`
    PasswordSalt string `xorm:"varchar(100)" json:"passwordSalt"`
    DisplayName  string `xorm:"varchar(100)" json:"displayName"`
    Avatar      string `xorm:"varchar(500)" json:"avatar"`
    PermanentAvatar string `xorm:"varchar(500)" json:"permanentAvatar"`
    Email       string `xorm:"varchar(100) index" json:"email"`
    Phone       string `xorm:"varchar(100) index" json:"phone"`
    Location    string `xorm:"varchar(100)" json:"location"`
    Address     []string `json:"address"`
    Affiliation string `xorm:"varchar(100)" json:"affiliation"`
    Title       string `xorm:"varchar(100)" json:"title"`
    IdCardType  string `xorm:"varchar(100)" json:"idCardType"`
    IdCard      string `xorm:"varchar(100) index" json:"idCard"`
    Homepage   string `xorm:"varchar(100)" json:"homepage"`
    Bio         string `xorm:"varchar(100)" json:"bio"`
    Tag         string `xorm:"varchar(100)" json:"tag"`
    Region      string `xorm:"varchar(100)" json:"region"`
    Language    string `xorm:"varchar(100)" json:"language"`
    Gender      string `xorm:"varchar(100)" json:"gender"`
    Birthday    string `xorm:"varchar(100)" json:"birthday"`
    Education   string `xorm:"varchar(100)" json:"education"`
    Score       int    `json:"score"`
    Ranking     int    `json:"ranking"`
    IsDefaultAvatar bool  `json:"isDefaultAvatar"`
    IsOnline    bool  `json:"isOnline"`
    isAdmin     bool  `json:"isAdmin"`
    IsGlobalAdmin bool  `json:"isGlobalAdmin"`
    IsForbidden  bool  `json:"isForbidden"`
    IsDeleted    bool  `json:"isDeleted"`
    SignupApplication string `xorm:"varchar(100)" json:"signupApplication"`
    Hash        string `xorm:"varchar(100)" json:"hash"`
    PreHash     string `xorm:"varchar(100)" json:"preHash"`

    CreatedIp    string `xorm:"varchar(100)" json:"createdIp"`
    LastSigninTime string `xorm:"varchar(100)" json:"lastSigninTime"`
    LastSigninIp  string `xorm:"varchar(100)" json:"lastSigninIp"`

    Github      string `xorm:"varchar(100)" json:"github"`
    Google       string `xorm:"varchar(100)" json:"google"`
    QQ          string `xorm:"qq varchar(100)" json:"qq"`
    WeChat      string `xorm:"wechat varchar(100)" json:"wechat"`
    Facebook    string `xorm:"facebook varchar(100)" json:"facebook"`
    DingTalk    string `xorm:"dingtalk varchar(100)" json:"dingtalk"`
    Weibo       string `xorm:"weibo varchar(100)" json:"weibo"`
    Gitee       string `xorm:"gitee varchar(100)" json:"gitee"`
    LinkedIn   string `xorm:"linkedin varchar(100)" json:"linkedin"`
    Wecom       string `xorm:"wecom varchar(100)" json:"wecom"`
    Lark        string `xorm:"lark varchar(100)" json:"lark"`
    Gitlab      string `xorm:"gitlab varchar(100)" json:"gitlab"`
    Apple        string `xorm:"apple varchar(100)" json:"apple"`
    AzureAD    string `xorm:"azuread varchar(100)" json:"azuread"`
    Slack       string `xorm:"slack varchar(100)" json:"slack"`

    Ldap        string `xorm:"ldap varchar(100)" json:"ldap"`
}
```

# Application

An application represents a web service that needs to be protected by Casdoor. E.g., a forum site, an OA system, a CRM system are all applications.

```
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:"--" json:"organizationObj"`

    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, etc. E.g., the root login page `/login` (like: <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, just visit Casdoor server's homepage (like: <https://door.casdoor.com> for demo site) and it will automatically redirect you to `/login`. But how to get these URLs for other applications in frontend and backend code? You can either concatenate strings by yourself or call some utility functions provided by Casdoor SDKs to get the URLs:

### 1. By concatenating string manually:

- 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
  - Signin for the specified organization: `<your-casdoor-hostname>/login/<your-organization-name>`
  - Signin 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. Use frontend SDK (for frontend Javascript code using React, Vue or Angular):

`getSignupUrl()` and `getSigninUrl()`: <https://github.com/casdoor/casdoor-javascript-sdk/blob/3d08d726bcd5f62d6444b820596e2d8472f67d97/src/sdk.ts#L50-L63>

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

`GetSignupUrl()` and `GetSigninUrl()`: <https://github.com/casdoor/casdoor-go-sdk/blob/f3ef1adff792e9a06af5682e0a3af9436ed24ed3/auth/url.go#L23-L39>

## Provider

Casdoor is a federated single-sign-on system, which supports multiple identity providers via OIDC, OAuth and SAML. Casdoor can also send verification code or other notifications to users via Email or SMS (Short Message Service). Casdoor uses the concept: `Provider` to manage all these third-party connectors.

Currently, All providers supported by Casdoor can be found here: </docs/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"`
}
```

## How does Casdoor manage itself?

When you run Casdoor for the first time, Casdoor will create some built-in objects to help the administrator to manage Casdoor itself:

- A built-in organization named `built-in`.
- A user named `admin` in the `built-in` organization.
- A built-in application named `app-built-in`, owned by the `built-in` organization, representing Casdoor itself (Casdoor is actually also an application).

All the users under `built-in` organization, including `admin` will have the full administrator power on the Casdoor platform by default. So if you have multiple administrators, then create new accounts under `built-in` organization. Otherwise, remember to close the sign up channel for the `app-built-in` application.

 CAUTION

The built-in objects are already forbidden to rename or delete in both web UI or RESTful API. Casdoor has hard-coded these reserved names in many places. Do not try to rename or delete them in any way like modifying the DB, otherwise the whole system may crash.

# Server Installation

## Requirements

### OS

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

### Environment

- Go 1.6+
- Node.js LTS (16 or 14)
- Yarn 1.x

 INFO

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

 CAUTION

For Chinese users, in order to download the Go dependency packages successfully, you need to use a Go proxy by Configuring the GOPROXY environment variable. We strongly recommend: <https://goproxy.cn/>

## Database

Casdoor uses [XORM](#) to talk to the database. Based on [Xorm Drivers Support](#),

Casdoor currently provides support for following databases:

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

## Download

The source code of Casdoor is hosted at GitHub: <https://github.com/casdoor/casdoor>. Both the Go backend code and React frontend code are inside the 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 Casdoor | Golang + Beego + XORM | <a href="https://github.com/casdoor/casdoor">https://github.com/casdoor/casdoor</a>                                 |

Casdoor supports [Go Modules](#). To download the code, you can just simply clone the code via git:

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

# Configuration

## Configure Database

Casdoor supports mysql, mssql, sqlite3, postgres. Casdoor uses mysql by default. If you use another database, please modify the import package in [object/adapter](#).

### MySQL:

Casdoor will store its users, nodes and topics information in a MySQL database named: `casdoor`. If the database does not exist, it needs to 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:

Since we must choose a database when opening Postgres with xorm, you should prepare a database manually before running Casdoor.

Let's assume that you have already prepared a database called `casdoor`, then you should specify `app.conf` like this:

```
driverName = postgres
```

### INFO

For PostgreSQL, make sure `dataSourceName` has non-empty `dbName` and leave the standalone `dbName` field empty like the above example.

## Sqlite3

First you should comment out the mysql package import and uncomment the sqlite3 package import in `object/adapter.go`. Like this:

```
//_ "github.com/go-sql-driver/mysql" // db = mysql  
_ "github.com/mattn/go-sqlite3" // db = sqlite3
```

Then you should specify `app.conf` like this:

```
driverName = sqlite3  
dataSourceName = "file:casdoor.db?cache=shared&mode=memory"  
dbName =
```

## Via Ini file

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

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

- `appname` is the application name, which currently has no practical use
- `httpport` is the port that your back-end application is listening on
- `runmode` is `dev` or `prod`
- `SessionOn` decides whether to enable session, used by default.
- `driverName`, `dataSourceName` and `dbName` are introduced before, please see [Configure Database](#).
- `verificationCodeTimeout` set the expiration time of the verification code.  
After the expiration, the user needs to obtain it again

Despite all the configurable fields, 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, applications and so on.

- `tableNamePrefix` is prefix of the table when using adapter.
- `showSql` : show SQL statement or not on logger if log level is great 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 `./tmp` folder. For using Redis as Beego session storage, an example for this value would be: `redis.example.com:6379`. If Redis password is enabled, use `redis.example.com:6379, db, password`. See more details at: <https://beego.vip/docs/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 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](#) [Steam](#) as OAuth Provider which will be restricted by the network in some areas.

- `initScore` is the initial score of each user. Each user has a score attribute. Score is used by [Casnode](#). Score does not control anything in Casdoor.
- `logPostOnly` is used to identify whether only use post method to add a record.
- `origin` is the origin backend domain name.
- `staticBaseUrl` is address of the static image when the system initializes the database.

## Via Environment Variables

All configuration items defined by Casdoor in the ini file mentioned above can be chosen to configuration via environmental variables, so can 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 environmental variables.

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

Besides, `export` derivatives are also a possible method. The names of environmental variables should be exactly the same with the names you want to use in the ini file.

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

# Run

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

## Development mode

### Backend

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

```
go run main.go
```

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

### Frontend

Casdoor's frontend is a very classic [Create-React-App \(CRA\)](#) project. It runs at 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 Casdoor dashboard with the default global admin account: `built-in/admin`

```
admin
```

# Production mode

## Backend

Build Casdoor Go backend code into executable and start it.

For Linux:

```
go build  
./casdoor
```

For Windows:

```
go build  
casdoor.exe
```

## Frontend

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

In prod environment, the frontend files is first built by `yarn build` and served in port 8000, so if you want to go to Casdoor login page, you need to set Casdoor link as `http://SERVER_IP:8000` (If you are using reverse proxy, you need to set the link as your domain).

Take our official forum Casnode as an example:

Casnode uses Casdoor to handle authentication.

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

And when we put Casnode to prod environment, we set the `serverUrl` as `https://door.casdoor.com`, so users can signin or signup using Casdoor.

```
14 import * as ConfBackend from "./backend/ConfBackend.js"
15
16 export const AuthConfig = {
17   // serverUrl: "https://door.casbin.com",
18   serverUrl: "http://localhost:7001",
19   clientId: "014ae4bd048734ca2dea",
20 }
```

# (Optional) Try with Docker

## Requirements

### Hardware

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

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

### OS

All OSes (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](#)

Users of all OSes must ensure that the docker-engine version  $\geq$  17.05. It is because we use multi-stage build feature in docker-compose.yml, which was supported in 17.05 and above versions. See <https://docs.docker.com/develop/develop-images/multistage-build/> for more information.

If you also use docker-compose, please ensure that docker-compose version >= 2.2. For Linux users, you also need to make sure that docker-compose is installed, given that it is separated from docker-engine.

## Get the image

We have provided two DockerHub images:

| Name               | Description  | Suggestion   |
|--------------------|--|--|
| casdoor-all-in-one | Both Casdoor and a MySQL database are inside the image | Already includes a toy database and only for test purpose    |
| casdoor            | Only Casdoor is inside the image                       | Can be connected to your own database and used in production |

1. casbin/casdoor-all-in-one, in which casdoor binary, a mysql database and all necessary configurations are packed up. This image is for new users to have a trial on casdoor quickly. With this image you can start a casdoor immediately with one single command (or two) without any complex configuration. Note: we DO NOT recommend you to use this image in productive environment

### Option-1: Use the toy database

Run the container with port 8000 exposed to host. It will automatically pull the image if it doesn't exist in 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 speed compared to DockerHub. However, it has a known issue that the `latest` tag provided by those services is not up-to-date. It probably results in a very old image by fetching the `latest` tag. To mitigate this issue, you can specify the image version number explicitly by 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`, `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 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 speed compared to DockerHub. However, it has a known issue that the `latest` tag provided by those services is not up-to-date. It probably results in a very old image by fetching the `latest` tag. To mitigate this issue, you can specify the image version number explicitly by 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`, `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 level directory of 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 by docker-compose:

```
docker-compose up
```

That's it! ✨

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

admin

*Note: if you dive deeper into the docker-compose.yml, you may be puzzled by the environment variable we created in it called "RUNNING\_IN\_DOCKER". When database 'db' is created via docker-compose, it is available on localhost of your pc but not localhost of the casdoor container. To prevent you from the troubles caused by modifying app.conf which are pretty difficult for a new user, we provided this environment variable and pre-assigned it in docker-compose.yml. When this environment variable is true, localhost will be replaced with host.docker.internal so that you casdoor can visit the db.*

## Option-3 Try directly with 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 speed compared to DockerHub. However, it has a known issue that the `latest` tag provided by those services is not up-to-date. It probably results in a very old image by fetching the `latest` tag. To mitigate this issue, you can specify the image version number explicitly by 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`, `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.



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 it.

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

```
admin  
123
```

# Casdoor Public API

Casdoor is developed in a frontend and backend separated manner (in contrast to JSP or PHP). The Go backend only exposes its functionality via RESTful API. The React frontend code consumes the RESTful API to render the web UI and perform actions. We call the RESTful API as `Casdoor Public API`. The API can usually be used by:

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

The full reference of `Casdoor Public API` can be viewed at Swagger:  
<https://door.casdoor.com/swagger> . This Swagger docs are automatically generated by Beego's Bee tool.



&gt;

Deployment

# Deployment



## Data Initialization

How to initialize Casdoor data from files



## Hosting Static Files in CDN

Hosting frontend static files in the CDN



## Hosting Static Files in Intranet

How to deploy Casdoor static resource



## DB Migration

Handle DB Migration in Casdoor

# Data Initialization

If you are deploying Casdoor with other services as a whole application, you may want to provide an **out-of-box** feature for users (User can directly use the application without any configuration).

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

## How to use

If there is one configuration file named as `init_data.json` at the root directory of Casdoor, it will be used to initialize data in Casdoor. What you should do is just to put this file at the root directory where Casdoor will run.

If you use official docker image of Casdoor, the following 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` 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 may 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` at 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 mapping to and their documentation:

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

If you still feel confused of filling this template, you can call restful api or use the debug mode of your browser to see the response of `GetXXX` to these objects. These response are in the same format as `init_data.json`.

# Hosting Static Files in CDN

Frontend static resource (.js, .css files) are in `web/build/static/`. If you want to deploy it in a CDN service of a public cloud, Casdoor provides a script for you to deploy frontend static files easily. Please follow the steps below.

 NOTE

We assume you have already built the frontend code of Casdoor. If not yet, please follow: [document](#).

## Preparation

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

 CAUTION

When you fill in the field `Domain`, please end with '/'

Domain  : `https://cdn.casbin.com/casdoor/`

## Usage

The script is at [deployment/deploy\\_test.go](#).

In `deploy_test.go`, you need to modify the parameter `id` in `GetProvider()`. The format of provider `id` is `<owner>/<name>`

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

Then use the following commands to run the script:

```
cd deployment
go test
```

If the execution succeeds, you will see:

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

## How it works

The script will:

- It will upload all the files in folders: `css/` and `js/` to the CDN service pointed by the storage provider.
- Replace all the URLs of `.css` and `.js` files in the `web/build/index.html` with the URLs hosted in the CDN.

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



# Hosting Static Files in Intranet

If you are deploying Casdoor on an [Intranet](#), you may not be able to access the static resource directly over the Internet. You need to deploy static resources where you can access them, and then modify the configuration in Casdoor in 3 places.

## Deploy static resource

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

Clone the repository and deploy it on a web servers. Make sure you can access the resource.

## 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](#), set `staticBaseUrl` to your deployed address.

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

# DB Migration

When the database is upgraded, it is easy to have a data crash, for example, we need to delete an old field. Fortunately, the [xorm](#) used by Casdoor will help us with a lot of database migration problems. But we still need to handle some schema and data migrations ourselves, such as a field name changed

 NOTE

You can understand xorm Schema operation in [xorm docs](#)

## How it works

As mentioned above, when a field name changes, xorm will not be able to do anything, but xorm provides a [migrate](#) package to help us solve this problem.

You can write code like this to handle field renaming:

```
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 {

```

What we want to achieve is: rename `p_type` to `ptype`. But since xorm does not support field renaming, we can only use a more complicated way: assign the value of `p_type` to `ptype`, and then delete the `p_type` field.

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

When the project is started again, the database will check the existing `ID` field in the table and will not perform operations with the same `ID`.



> How to Connect to Casdoor

# How to Connect to Casdoor

## Overview

Connect your app to Casdoor

## Standard OIDC Client

Using OIDC discovery to migrate to Casdoor

## Casdoor SDK

Using Casdoor SDK instead of standard OIDC protocol

## How to Enable Single Sign-On

Enable Single Sign-On

## Vue SDK

Casdoor Vue SDK

## Desktop SDKs

3 items

## Casdoor Plugin

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

## OAuth 2.0

Using AccessToken to authenticate clients

## CAS

Using Casdoor as CAS server

 **SAML**

Using Casdoor as SAML IdP

 **WebAuthn**

Use WebAuthn in Casdoor

# Overview

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

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

- OAuth 2.0 (OIDC)
- SAML

As Identity Provider (IdP), Casdoor supports 4 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:

1. The protocol is simple and easy to implement, and can solve many scenarios.
2. High maturity and extensive community support

Therefore, your application will talk to Casdoor via OAuth 2.0 (OIDC). Specifically, there are three ways for connecting to Casdoor:

## Standard OIDC client

**Standard OIDC client**: use a standard OIDC client implementation, which is usually 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 has fulfilled the OIDC protocol completely. If your application is already running against another OAuth 2.0 (OIDC) identity provider via a **standard OIDC client library**, and you want to migrate to Casdoor, using OIDC discovery will be very easy for you to switch to Casdoor.

## Casdoor SDK

[Casdoor SDK](#): For most programming languages, Casdoor will provide easy-to-use SDK library on top of OIDC, with supporting extended functionality which are only available in Casdoor.

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 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, then use it. It will be much easier to use a plugin than manually invoking Casdoor SDK because the former is specially made for the platform.

plugin:

- [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 that 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 SAML IdP. Up to now the Casdoor has supported the main features of SAML 2.0. More details see [SAML](#).

Example:

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

Suggestion:

1. The protocol is **powerful** and covers many scenarios, which can be said to be one of the most comprehensive SSO protocols.
2. The protocol is **too large**, and there are 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** because of

- ▶ 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 permit 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, 3.0 features. More details see [CAS](#).

### Suggestion:

1. The protocol itself is relatively lightweight and easy to implement, but it can 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. 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 [Integrations table](#).

# Standard OIDC Client

# OIDC discovery

Casdoor has fulfilled the OIDC protocol completely. If your application is already running against another OAuth 2.0 (OIDC) identity provider via a standard OIDC client library and you want to migrate to Casdoor, using OIDC discovery will be very easy for you to switch to Casdoor. Casdoor's OIDC discovery URL is:

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

E.g., the OIDC discovery URL for the demo site is: <https://door.casdoor.com/.well-known/openid-configuration>, with the following content:

# List of OIDC client libraries

Here we list a few OIDC client libraries for some 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> |

The above table is far from being complete. For a full list of OIDC client libraries, please see more details at:

1. <https://oauth.net/code/>
2. <https://openid.net/>
  - i. Certified OpenID Connect Implementations
  - ii. Uncertified OpenID Connect Implementations





# Casdoor SDK

## 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](#)

| Frontend SDK     | Description                   | SDK code                            | Example code   |
|------------------|-------------------------------|-------------------------------------|--|
| Javascript SDK   | For websites                  | <a href="#">casdoor-js-sdk</a>      | <a href="#">Casnode</a> , <a href="#">Casbin-OA</a> , <a href="#">Confita</a>                                  |
| 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>  |
| Electron SDK     | For Electron apps             | <a href="#">casdoor-js-sdk</a>      | <a href="#">casdoor-electron-example</a>   |
| .NET Desktop SDK | For .NET desktop apps         |                                     | WPF: <a href="#">casdoor-dotnet-desktop-example</a> , WinForms: <a href="#">casdoor-dotnet-winform-example</a> |
| React SDK        | For React websites            | <a href="#">casdoor-react-sdk</a>   |  |
| Vue SDK          | For Vue websites              | <a href="#">casdoor-vue-sdk</a>     | <a href="#">casdoor-python-vue-sdk-example</a>   |
| Angular SDK      | For Angular 1.0, 2.0 websites | <a href="#">casdoor-angular-sdk</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>   |

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

| 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 |
| Node.js SDK | For Node.js backends | casdoor-nodejs-sdk |  |
| Python SDK  | For Python backends  | casdoor-python-sdk | casdoor-python-vue-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                                     |
| Dart SDK    | For Dart backends    | casdoor-dart-sdk   |  |
| Cpp SDK     | For Cpp backends     | casdoor-cpp-sdk    | casdoor-cpp-qt-example                                   |

For a full list of the official Casdoor SDKs, please see: <https://github.com/casdoor?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  |

| Parameter        | Must | Description                           |
|------------------|------|---------------------------------------|
| organizationName | Yes  | The name for the Casdoor organization |
| applicationName  | No   | The name for the Casdoor application  |

### TIP

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

| Name          | Created time        | Display name      | Scope | Type | Crypto algorithm | Bit size | Expire in years | Action |   |
|---------------|---------------------|-------------------|-------|------|------------------|----------|-----------------|--------|---|
| cert_rjeegc   | 2022-02-16 11:04:10 | New Cert - rjeegc |       | JWT  | x509             | RSA      | 4096            | 20     | <button>Edit</button> <button>Delete</button> |
| cert-built-in | 2022-02-15 12:31:46 | Built-in Cert     |       | JWT  | x509             | RSA      | 4096            | 20     | <button>Edit</button> <button>Delete</button> |

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

Public key (Copy) Download public key

```
-----BEGIN CERTIFICATE-----
MIIEtTCDAuGgAwIBAgDAlEAMA0GCSqGSIb3DQEBCwUAJMDyXHTAbBgNVAoTFNh
c2Rb3tgT3JnYWPspemf0aW9UmRuIwEwYDVQDewDYXNkb29yENlcnQwHhcNMjEx
MDE1MDgxMTUyWhcNDExMDME1MDgxMTUyWja2MR0wGwYDVKQkExRDYXNkb29yE9y
Z2FvaxphdGlvbjLVMBMGA1UEAxIMQ2FzG9vcBDZXJ0MlCjAnBqkqhkiG9w0B
AQEEAAOCAg8AMlCjCggKCAgEaInpbSE1/yml0f1RSDSS8IR7y+lw+RjJ74e5ejq4b8z
rq4b8zMKYHeHCYzJhmNwEVXnXu1P0mBeQ5ypp/QGo8v9EmjAEtNmzk11NjOQjCjCyUra
CjCjyUraOs/1/Mnl1C0j13x6m6V1kh1ZjSrkSmMHYY1VaxTEP3+VBBHgj3MHFWrb07uvFMClE5
W8+0rkErzCKTR8+V9B3janeBz//zQePFVh79bZate/hlrPK069p1g
OvwloC1asarHTP40m/LR0tHq2FybdySpvWAQhvNaPEf7mTsR5Bb/wUjNCNUBD
PTSLvJ04Wllf5Nk0z7KvmbPstj+btvcvsvRAGhdsB9h62Kptjs1Yn7GAuo
13qf4zoKbiURYxKjLwvCqEfUuSev5zuPSIDRl0LyQTlxboJqlAPNfW9g/
pz5DjdG/60d6t7mvbZn45mjdyfhdCD8Kn7N-xtnjfaKwep2REV+RMcf04Gu
hRsNsmkmUDeyfZb819q11YEQfM2fZeg+RVUx+wB4y8K/ID1bCY+IfrG5fpw
IDpS262bod4RSvb3Z7bbDw4Zxv0fJ/1VLorJfjb1f0bfhr/AzeZMh/pkXvz4
y+hpz68wdf0V9Yc/RbSAf73230syijngEgnuRohnRgCpjlk/MZk284Kb0
wn8CaWwAAmAQM4wDAYDVR0TAQh/BAlwADAnBpkhkhG9w0BAQsFAAOCAgEAn2lf
DKLX+FvKRo/SgJ+Pf8PNKuQkmwH97bCS2g1phDNgj4/LsdzuIA4aw6v6
C06f1WSis8UPUPdjm72uMPSNjwLxG3QsinnMURnVfLITRem/hJe02gu91M
8hwaed5djH2Rgnf0DeE2r8hNRflr8RknCO1ddTjk1S1N0/ihr21W4j4rxzCvL
2nR4Fybab30/g2jMnNnR0wZmNjggsf7XVENCSuFO1jTywLaqujCg54L7XVLG
omKNNNNcc8h1FCEk/jrnbgmhoohfWKDTsJcbImcONfNH6oxxzqMly-Hqt+mwYyMaAG
jtew3JggM2Z8P9Qzr3JpUcc63ZYyWDY/x0PsuKtOp2gtH979X4ndf0WPnOBQl
2D12abmjjGolb7XNVKclUDXYw85ZTQ5b9c14e+6bmwyQq0ltwt+At/uFEV
XzG7084IALXexau1kLepv9o1GERuzYrZp59UNA7Ko05AVMp9wDDTkt+lxznE
HhInWky8hQKZf9sR7YBPGls/A6tviv5Ua15OgJ/bdRZ/veyFGo2yZsl+hKV5
nCJHbcAyfnn1hvdwEdH3jDBjNB6ciotJzr/3VyalWsaDhosHaGmWfxuWP+h
8XKnmzkuHbTMQY1ZDgsp55A+54Q9wb8RRAY=
```

-----END CERTIFICATE-----

Private key (Copy) Download private key

```
-----BEGIN PRIVATE KEY-----
MIUKQIBAAKCgEA5lnpbSE1/yml0f1RSDSS8IR7y+lw+RjJ74e5ejq4b8z
k7HeHCYzJhmNwEVXnXu1P0mBeQ5ypp/QGo8v9EmjAEtNmzk11NjOQjCjCyUra
sO/f1/Mnl1C0j13x6m6V1kh1ZjSrkSmMHYY1VaxTEP3+VBBHgj3MHFWrb07uvFMClE5
W8+0rkErzCKTR8+V9B3janeBz//zQePFVh79bZate/hlrPK069p1g
OvwloC1asarHTP40m/LR0tHq2FybdySpvWAQhvNaPEf7mTsR5Bb/wUjNCNUBD
PTSLvJ04Wllf5Nk0z7KvmbPstj+btvcvsvRAGhdsB9h62Kptjs1Yn7GAuo
13qf4zoKbiURYxKjLwvCqEfUuSev5zuPSIDRl0LyQTlxboJqlAPNfW9g/
pz5DjdG/60d6t7mvbZn45mjdyfhdCD8Kn7N-xtnjfaKwep2REV+RMcf04Gu
hRsNsmkmUDeyfZb819q11YEQfM2fZeg+RVUx+wB4y8K/ID1bCY+IfrG5fpw
IDpS262bod4RSvb3Z7bbDw4Zxv0fJ/1VLorJfjb1f0bfhr/AzeZMh/pkXvz4
y+hpz68wdf0V9Yc/RbSAf73230syijngEgnuRohnRgCpjlk/MZk284Kb0
wn8CaWwAAmAQM4wDAYDVR0TAQh/BAlwADAnBpkhkhG9w0BAQsFAAOCAgEAn2lf
DKLX+FvKRo/SgJ+Pf8PNKuQkmwH97bCS2g1phDNgj4/LsdzuIA4aw6v6
C06f1WSis8UPUPdjm72uMPSNjwLxG3QsinnMURnVfLITRem/hJe02gu91M
8hwaed5djH2Rgnf0DeE2r8hNRflr8RknCO1ddTjk1S1N0/ihr21W4j4rxzCvL
2nR4Fybab30/g2jMnNnR0wZmNjggsf7XVENCSuFO1jTywLaqujCg54L7XVLG
omKNNNNcc8h1FCEk/jrnbgmhoohfWKDTsJcbImcONfNH6oxxzqMly-Hqt+mwYyMaAG
jtew3JggM2Z8P9Qzr3JpUcc63ZYyWDY/x0PsuKtOp2gtH979X4ndf0WPnOBQl
2D12abmjjGolb7XNVKclUDXYw85ZTQ5b9c14e+6bmwyQq0ltwt+At/uFEV
XzG7084IALXexau1kLepv9o1GERuzYrZp59UNA7Ko05AVMp9wDDTkt+lxznE
HhInWky8hQKZf9sR7YBPGls/A6tviv5Ua15OgJ/bdRZ/veyFGo2yZsl+hKV5
nCJHbcAyfnn1hvdwEdH3jDBjNB6ciotJzr/3VyalWsaDhosHaGmWfxuWP+h
8XKnmzkuHbTMQY1ZDgsp55A+54Q9wb8RRAY=
-----END PRIVATE KEY-----
```

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

The screenshot shows the Casdoor application configuration interface. The 'Edit Application' screen has fields for Name (app-built-in), Display name (Casdoor), Logo (URL: https://cdn.casbin.com/logo/logo\_1024x256.png), Home (https://casdoor.org), Description, Organization (built-in), Client ID (c2ab05e8460fd3ff9dde), Client secret (c9199f102508f08f9d253638f1a72b4c3e926d05), and Cert (cert-built-in). A red arrow points to the 'cert-built-in' option in the dropdown menu for the Cert field.

## 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?");
}
```

In the entrance file of your frontend code (like `index.js` or `app.js` in React), you need to initialize the `casdoor-javascript-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";
import {withRouter} from "react-router-dom";
import * as Setting from "./Setting";

class AuthCallback extends React.Component {
  constructor(props) {
    super(props);
    this.state = {
      classes: props,
      msg: null,
    };
  }

  componentWillMount() {
    this.login();
  }

  login() {
    Setting.signin().then((res) => {
      if (res.status === "ok") {
        Setting.showMessage("success", `Logged in successfully`);
        Setting.goToLink("/");
      } else {
        this.setState({
          msg: res.msg,
        });
      }
    });
  }

  render() {
    return (
      <div style={{textAlign: "center"}>
        {this.state.msg === null ? (
          <Spin
            size="large"
            tip="Signing in..."
            style={{paddingTop: "10%"}}
          />
        ) : (
          <div style={{display: "inline"}>
            <Result
              status="error"
              title="Login Error"
              subTitle={this.state.msg}
              extra={[
                <Button type="primary" key="details">
```

### 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, you just need to:

- Enable Auto signin button.
- Fill in the URL for home page.
- Add a **Silent Signin** 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 enable the auto signin, the selection box will not display, the logged user will log in directly.

## Configure

1. Fill the field **home**. 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 Auto signin button.

Password ON [?](#) :

Enable signup [?](#) :

Signin session [?](#) :

Auto signin [?](#) :

Enable code signin [?](#) :

Enable WebAuthn signin [?](#) :

# Add Silent Signin

In fact, we implement auto login by carrying parameters on the URL. So your applications need to have a method to trigger the login after jumping to the URL. We provide [casdoor-react-sdk](#) for you to quickly implement the feature. You can see 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 HomePage to determine whether you need to log in silently(automatically) by the parameter `silentSignin`. If `silentSignin === 1`, the function returns the `SilentSignin` component, it will help you initiate a login request. And since you have auto-login enabled, users will log in automatically without clicking.

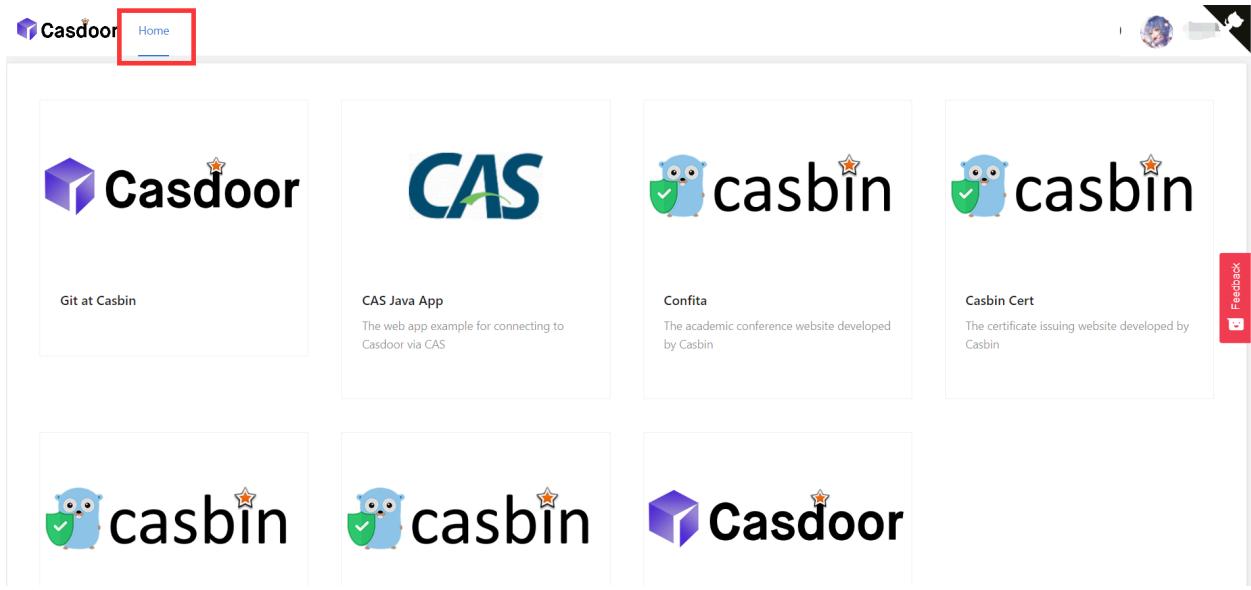
# Using SSO

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

 INFO

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

Open the profile page and go to the home page. You will see other apps in the organization.



Click the application panel, will jump to the url you set in configuration and automatically log in to the application.

# Vue SDK

Casdoor Vue SDK is designed for Vue2 and Vue3 which is very convenient to use.

The Vue SDK is based on casdoor-js-sdk, you can also use the casdoor-js-sdk directly which will be more customizable.

This plugin is still in development. If you have any questions and suggestions, please contact us at [issue](#)

We will show you the steps below.

if you still don't know how to use it after reading README.md, you can go to the example: [casdoor-python-vue-sdk-example](#) for more details.

The example' front-end is built with casdoor-vue-sdk, and the back-end is built with casdoor-python-sdk, you can see the source code in the example.

## Installation

```
# NPM  
npm i casdoor-vue-sdk  
  
# Yarn  
yarn add casdoor-vue-sdk
```

# Init SDK

Initialization requires 5 parameters, which are all string type:

| Name (in order)  | Must | Description   |
|------------------|------|---|
| serverUrl        | Yes  | your Casdoor server URL   |
| 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 connected with your Casdoor application                              |
| redirectPath     | No   | the path of the redirect URL for your Casdoor application, will be <code>/callback</code> if not provided |

install:

For Vue3:

```
// in main.js
import Casdoor from 'casdoor-vue-sdk'
const config = {
  serverUrl: "http://localhost:8000",
  clientId: "4262bea2b293539fe45e",
  organizationName: "casbin",
  appName: "app-casnnode",
  redirectPath: "/callback",
```

For Vue2:

```
// 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();
    }
  }
}</script>
```

## Auto Fix

If the `postinstall` hook doesn't get triggered or you have updated the Vue version, try to run the following command to resolve the redirecting.

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

More info about Vue version switch at: [vue-demi docs](#)



> How to Connect to Casdoor > Desktop SDKs

# Desktop SDKs



## Electron App

An Electron app example for Casdoor



## Dotnet Desktop App

An Dotnet desktop app example for Casdoor



## Qt Desktop App

An Qt desktop app example for Casdoor

# Electron App

An [Electron app example](#) for Casdoor.

## How to run example

### Initialization

You need to initialize 6 parameters, which are all 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 run this app.

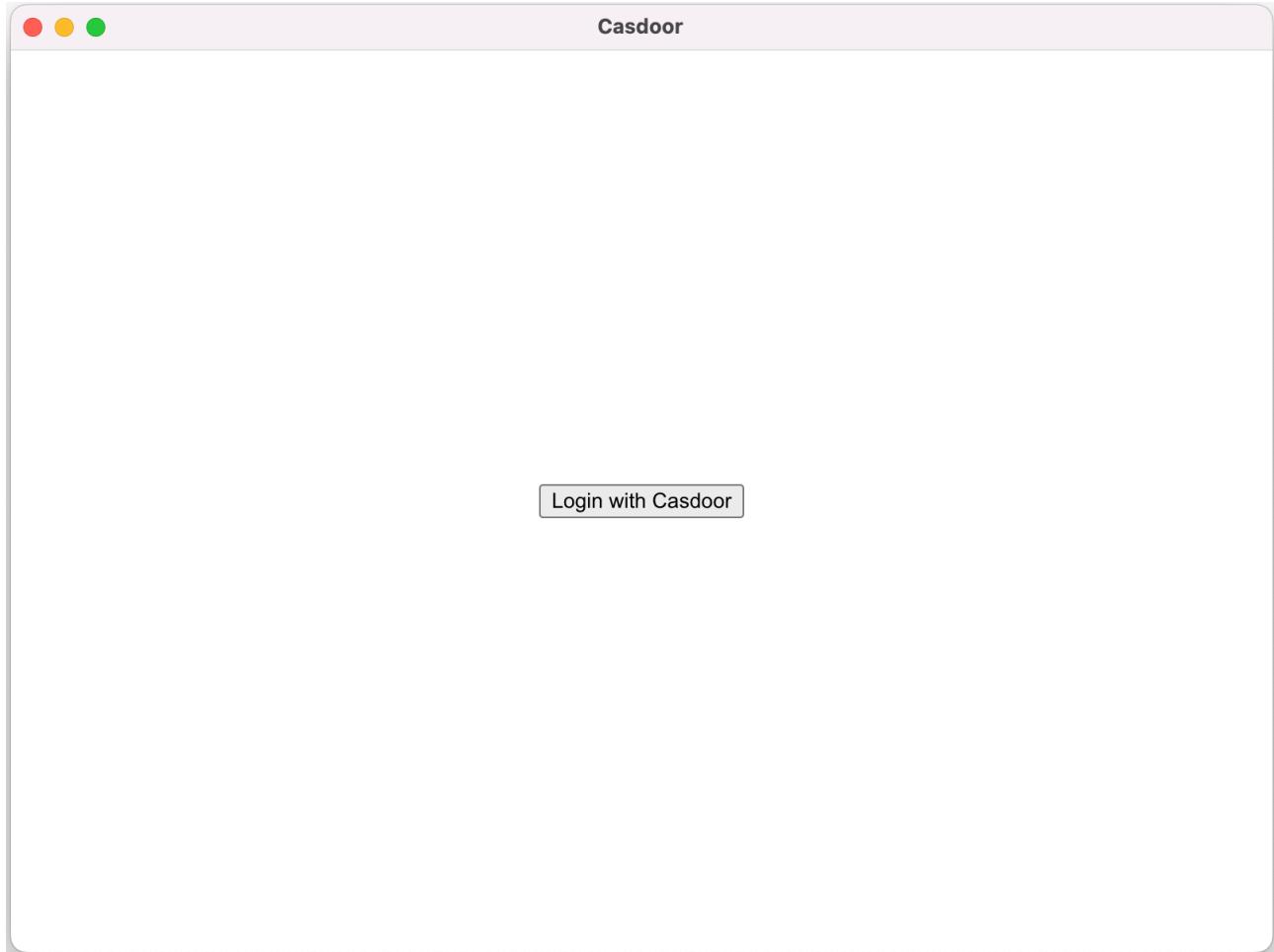
`npm run make` or `yarn make`

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

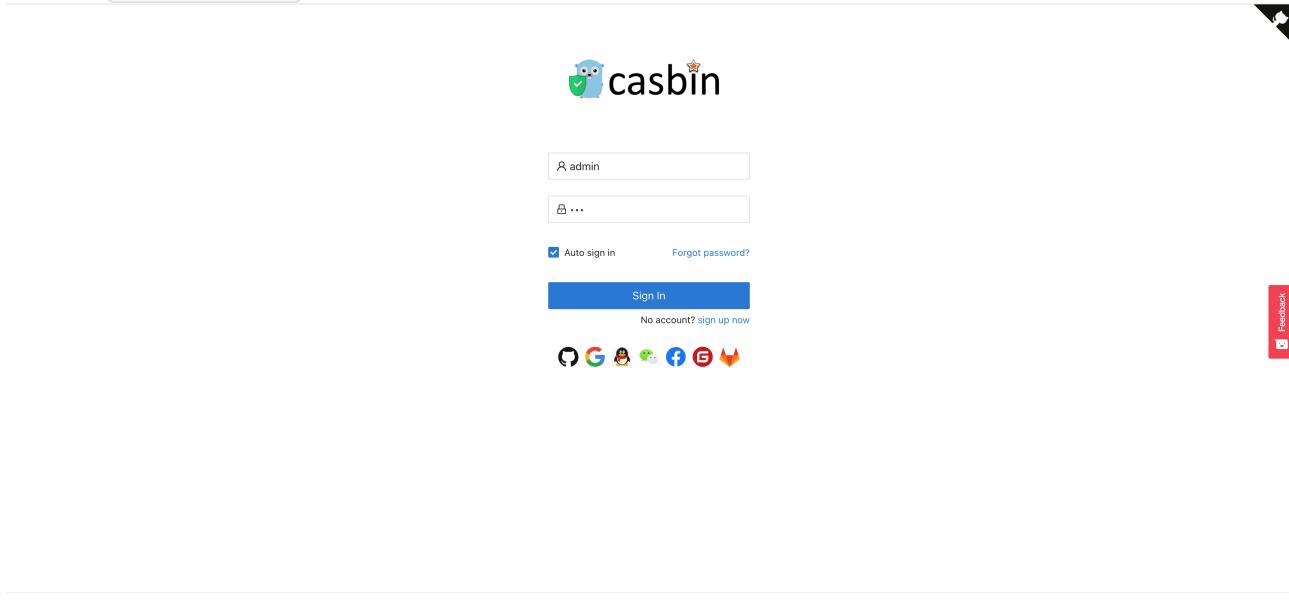
```
// Example for macOS out/
└── out/make/zip/darwin/x64/casdoor-electron-example-darwin-x64-1.0.0.zip
└── ...
└── out/casdoor-electron-example-darwin-x64/casdoor-electron-example.app/Contents/MacOS/casdoor-electron-example
```

### Preview

After you run this electron application, a new window will be showed on your desktop.

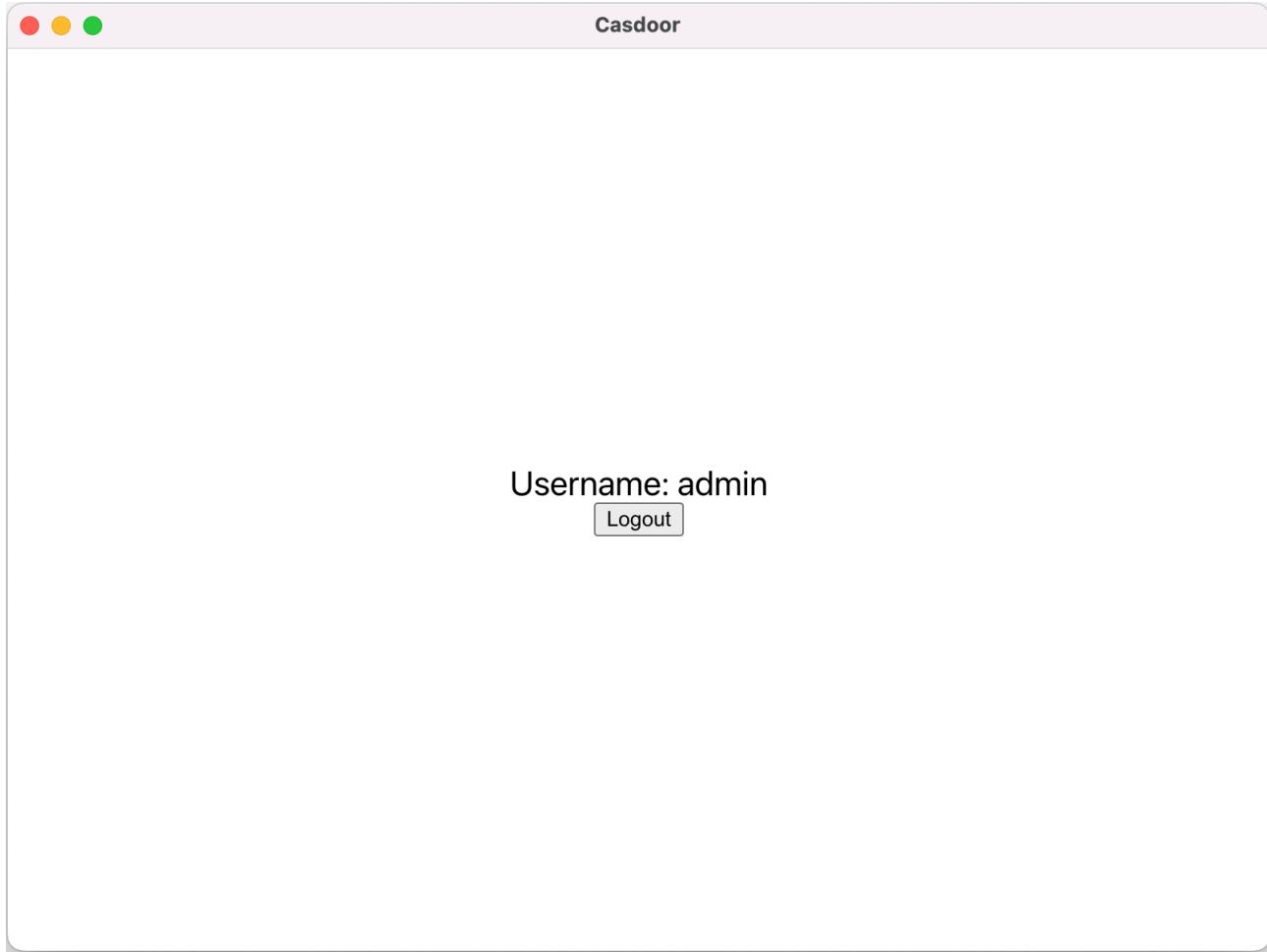


If you click `Login with Casdoor` button, your default browser will be opened automatically and show the login page.

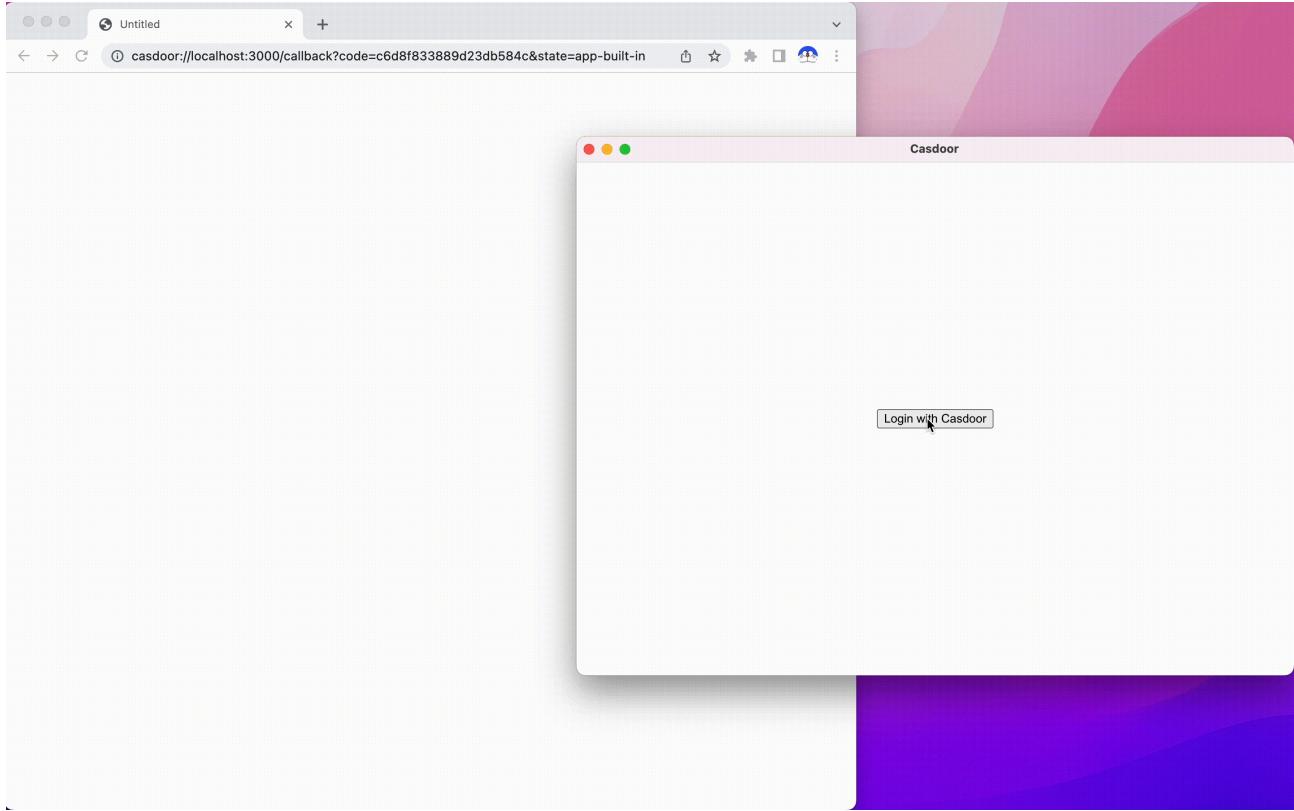


Made with ❤ by Casdoor

After you login successfully, your electron application will be opened and your user name will be showed on your application.



You can preview the whole process by the gif image below.



## How to integrate

### 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 help the browser to open your electron application and send the login info to the electron application.

### Open the login url by 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 5 parameters.

## Listen to the open application event

After you login successfully in the browser, the browser will open your electron application. You need to 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: `${userInfoUrl}?accessToken=${data.access_token}`,
    });
    return resp.data;
}
```

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



# Dotnet Desktop App

An [Dotnet desktop app example](#) for Casdoor.

## How to run example

### Prerequisites

[dotnet6 sdk](#)

[webview2 runtime](#) (It's already preinstalled in your windows generally)

### Initialization

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

| Name     | Description                               | File                                |
|----------|---|-------------------------------------|
| Domain   | Your Casdoor server host/domain           | <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> |

| Name         | Description  | File                |
|--------------|--|---------------------|
| CallbackUrl  | The path of the callback URL for your Casdoor application, will be <code>casdoor://callback</code> if not provided | CasdoorVariables.cs |
| ClientSecret | The Client Secret of your Casdoor application  | CasdoorVariables.cs |

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.

# 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

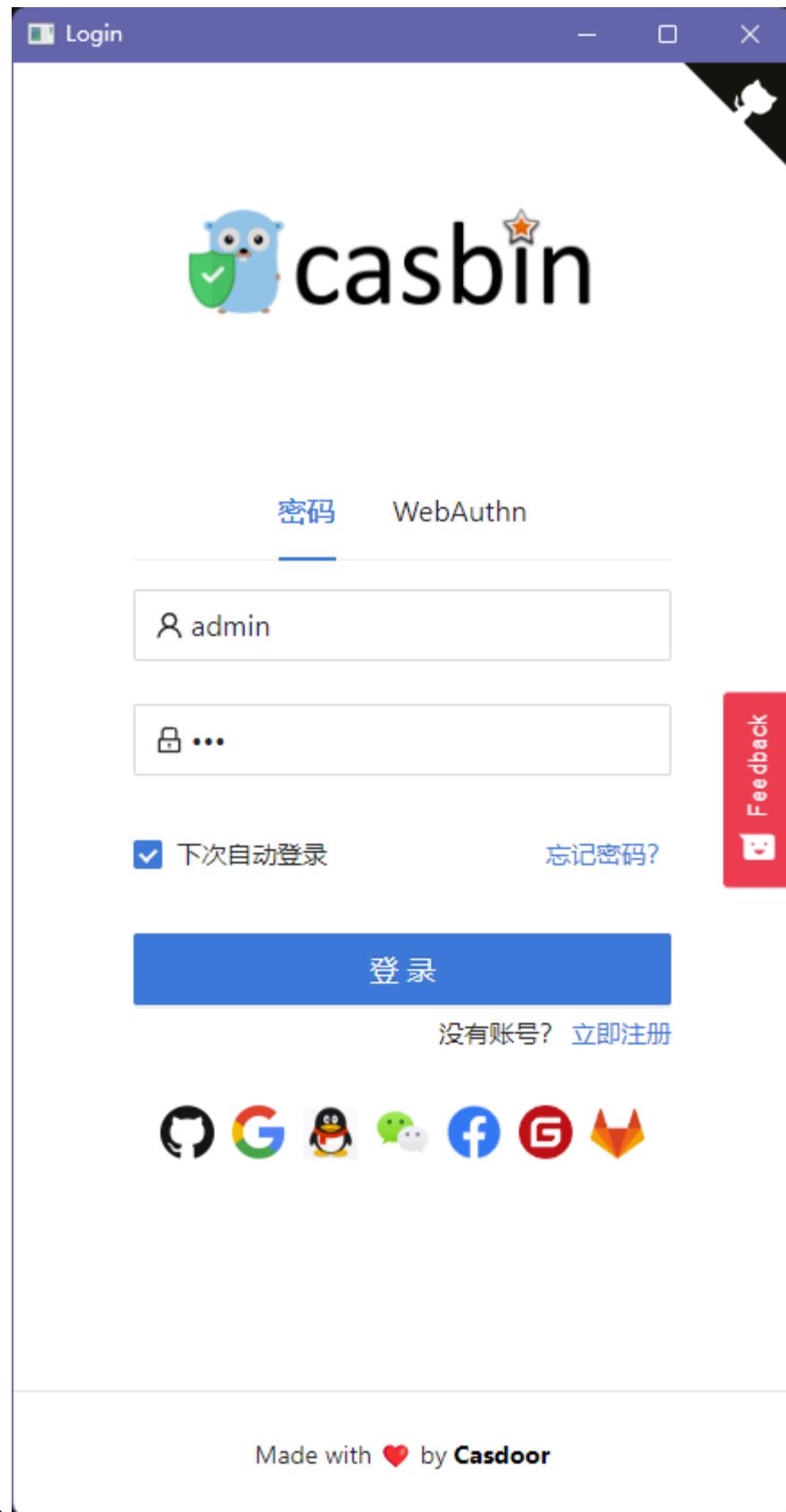
# Preview

After you run this dotnet desktop application, a new window will be showed on

your desktop.

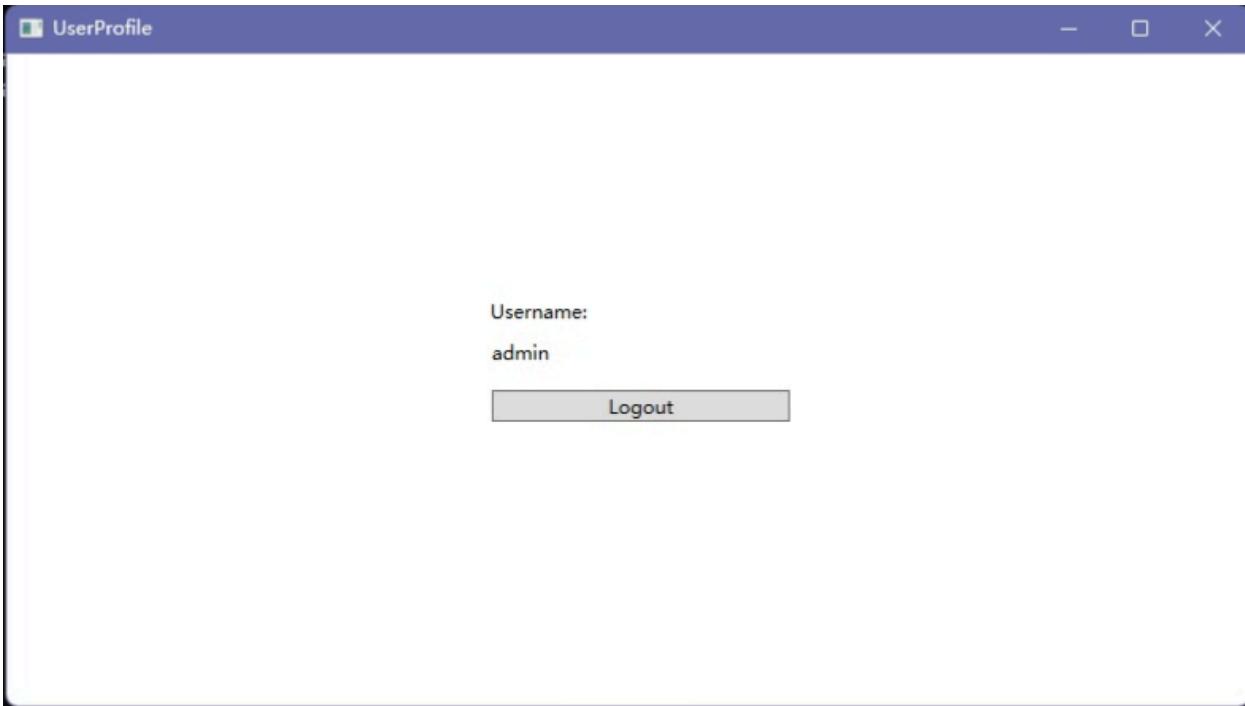


If you click `Casdoor Login` button, a login window will be showed on your

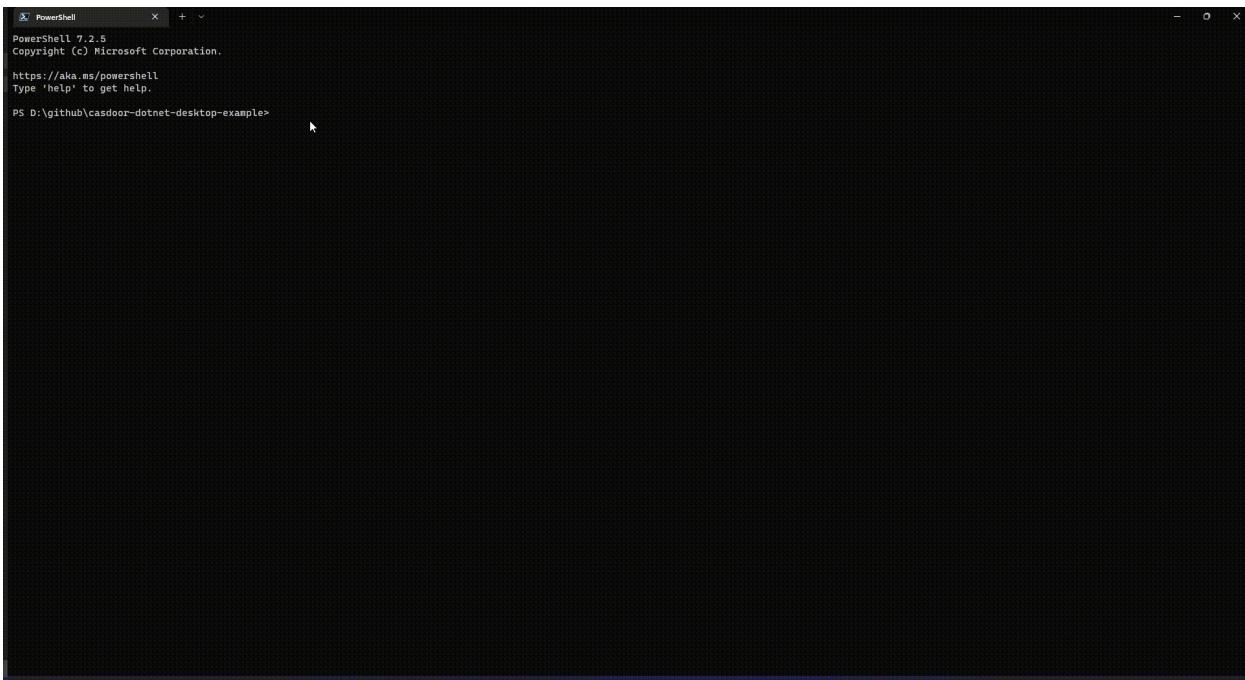


desktop.

After you login successfully, a user profile window will be showed on your desktop. It displays your user name.



You can preview the whole process by the gif image below.



# How to integrate

## Open the login window

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

## Use auth code to get the 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",
```



# Qt Desktop App

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

## How to run example

### Prerequisites

[Qt6 sdk](#)

[OpenSSL toolkit](#)

### Initialization

You need to initialize 7 parameters, which are all string type:

| Name          | Description                                       | File                         |
|---------------|---|------------------------------|
| endpoint      | Your Casdoor server host/domain                   | <a href="#">mainwindow.h</a> |
| client_id     | The Client ID of your Casdoor application         | <a href="#">mainwindow.h</a> |
| client_secret | The Client Secret of your Casdoor application     | <a href="#">mainwindow.h</a> |
| certificate   | The public key for the Casdoor application's cert | <a href="#">mainwindow.h</a> |

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

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

## Running

### Qt Creator

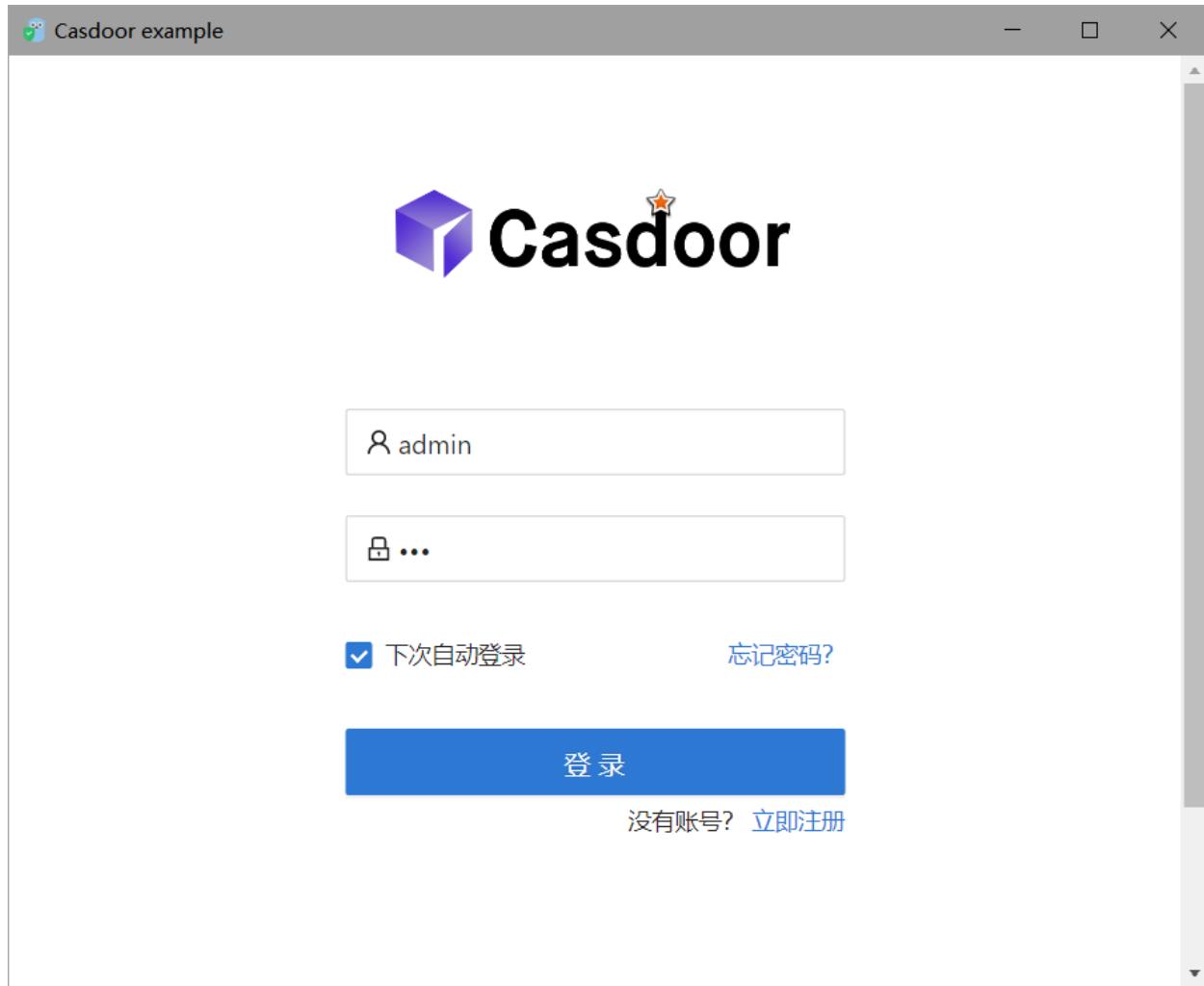
1. Open casdoor-cpp-qt-example.pro
2. Set the `INCLUDEPATH` of OpenSSL in casdoor-cpp-qt-example.pro
3. Press Ctrl + R to start

## Preview

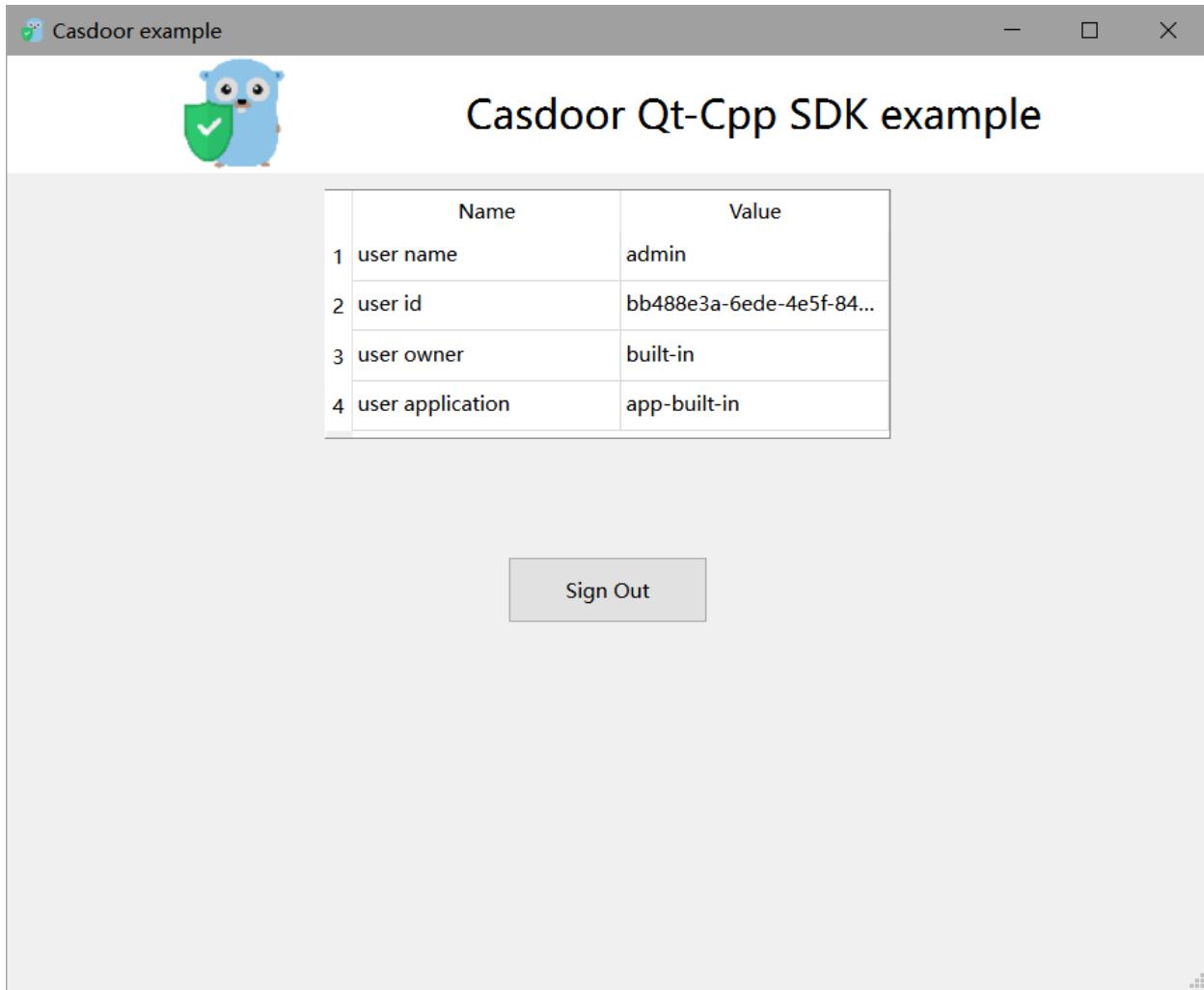
After you run this Qt desktop application, a new window will be showed on your desktop.



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



After you login successfully, a user profile window will be showed on your desktop, it dispaly your user information.



You can preview the whole process by the gif image below.



# How to integrate

## Open the login window

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

## Listen 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()));
```

## Use auth code to get the user info

```
// Get 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, like Java's SpringBoot, PHP's WordPress, Python's Odoo etc.

| 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 full list of the official Casdoor plugins, please see: [Casdoor repositories](#).

# OAuth 2.0

## Introduction

Casdoor supports AccessToken to authenticate clients. In this section, we will show you how to get AccessToken, how to verify AccessToken and how to use AccessToken.

## How to get AccessToken

You have two ways to get the AccessToken: you can use the [Casdoor SDK](#), for details please refer to the SDK documentation, here we will mainly show you how to use the API to get the AccessToken.

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.

The screenshot shows the Casdoor configuration interface. On the left, there are two sections: "Grant types" and "Providers". The "Grant types" section contains four items: "Authorization Code" (selected), "Password", "Client Credentials", and "Token". The "Providers" section contains five items: "Authorization Code", "Password", "Client Credentials", "Token" (selected), and "ID Token".

## 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, include name, displayName, 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 [OIDC standard](#)

After your user has authenticated with casdoor, casdoor will redirect him 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 [PKCE](#) feature, when getting the authorization code, you can add two parameters to enable PKCE:

```
&code_challenge_method=S256&code_challenge=YOUR_CHALLENGE
```

When getting the token you need to pass `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 him to:

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

Casdoor also supports `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.

## RefreshToken

Maybe you want to update your accessToken, then you can use the `refreshToken` you got above.

First you need to set the expiration time of refreshToken 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 the response like:

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

## How to verify AccessToken

Casdoor currently has support for [token introspection](#) endpoint. Currently the endpoint is protected by Basic Authoritarian(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 get the following response like:

```
{  
    "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, 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, returning corresponding user information according to the scope. You will get the same response like:

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

If you expect more user's information, adding scope when getting AccessToken in step [Authorization Code Grant](#).

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

- `/api/userinfo`: returns user information as part of OIDC protocol. Less information is returned, including only the basic information in OIDC standards. Please see [available scopes](#) that Casdoor supports.
- `/api/get-account`: gets the user object for the currently logged-in account. It is a Casdoor-only API to obtain all information of the `user` in Casdoor.

# CAS

## Using Casdoor as CAS server

Casdoor now can be used as CAS server. Up to now the casdoor has supported the feature of CAS3.0 .

### Overview

The prefix of CAS endpoint in Casdoor is `<Endpoint of casdoor>/cas/<organization name>/<application name>`, which means:

Suppose the endpoint of Casdoor is `https://door.casdoor.com`, which contains an application called `cas-java-app` which belongs to an organization called `casbin`, and if we are trying to let user login in via CAS, then

- `/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`

See <https://apereo.github.io/cas/6.0.x/protocol/CAS-Protocol-Specification.html> for more information about CAS and its different versions, as well as parameters for these endpoints.

### An example

Here is an offical example <https://github.com/apereo/cas-sample-java-webapp>, which contains an example web app utilizing the offical CAS java client <https://github.com/apereo/java-cas-client>. By going through this example, we will illustrate how to connect to Casdoor via CAS.

 NOTE

Note: Currently Casdoor only support all three versions of CAS: CAS 1.0 & 2.0 & CAS 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>
```

Suppose you want to protect this web app via CAS 2.0, you are supposed to change CAS Validation Filter to the following content.

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

If you want to use CAS 1.0, use

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

For all the appearances of parameter 'casServerUrlPrefix', change them to

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

For all the appearances of parameter 'casServerLoginUrl' 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 <https://github.com/apereo/java-cas-client> for detailed information.

 NOTE

Actually, we have already have this demo app run on <https://cas-java-app.casdoor.com>. You can visit here to experience using Casdoor via CAS.

# SAML

## Using Casdoor as SAML IdP

Casdoor now can be used as SAML IdP. Up to now the Casdoor has supported the main feature of SAML 2.0 .

### Overview

The metadata of SAML endpoint in Casdoor is `<Endpoint of casdoor>/api/saml/metadata?application=<organization name>/<application name>`. And you can also find the metadata in the application edit page.

The screenshot shows the Casdoor application edit page for an application named "app-built-in". The "SAML Metadata" field contains the XML code for the SAML metadata, which includes the Entity ID, protocol support, and certificate information. Below this, the "Providers" section shows a single provider named "email" of type "Email".

| Name  | Category | Type | canSignUp | canSignIn | canUnlink | prompted | Action |
|-------|----------|------|-----------|-----------|-----------|----------|--------|
| email | Email    |      |           |           |           |          |        |

Suppose the endpoint of Casdoor is `https://door.casdoor.com`, which contains an application called `app-built-in` which belongs to an organization called `built-in`.

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

The `gosaml2` is a SAML 2.0 implementation for Service Providers based on etree and goxmldsig, a pure Go implementation of XML digital signatures. And we use this library to test the SAML 2.0 in Casdoor as 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)
    }
}
```

Run the above codes and the console will display the following message.

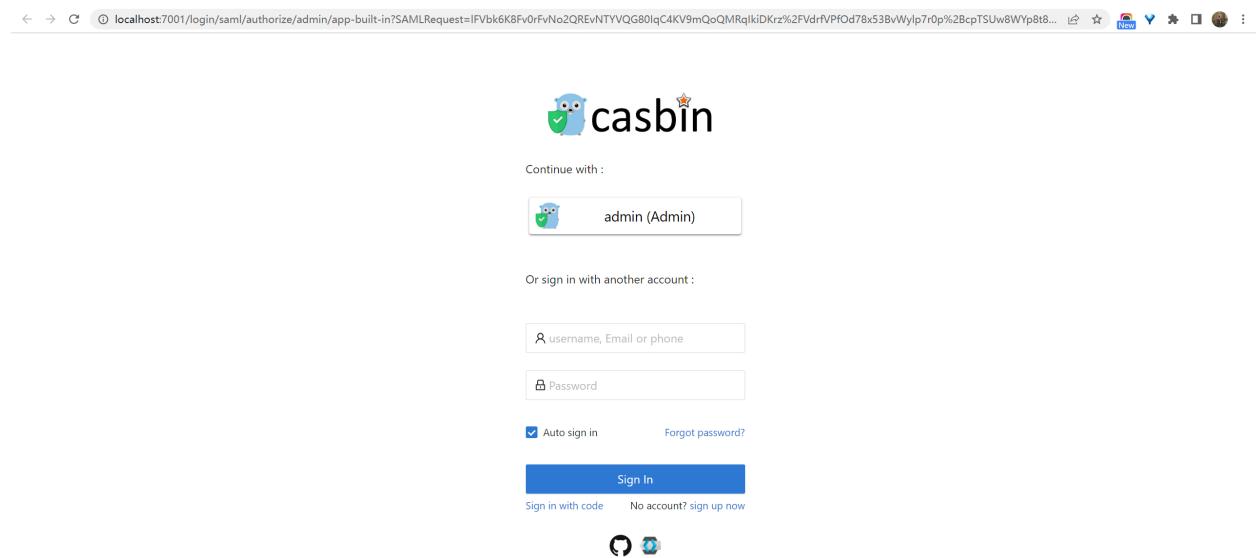
Visit this URL To Authenticate:

<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, the login page of Casdoor will display.



You will get the response messages as below after authenticating.

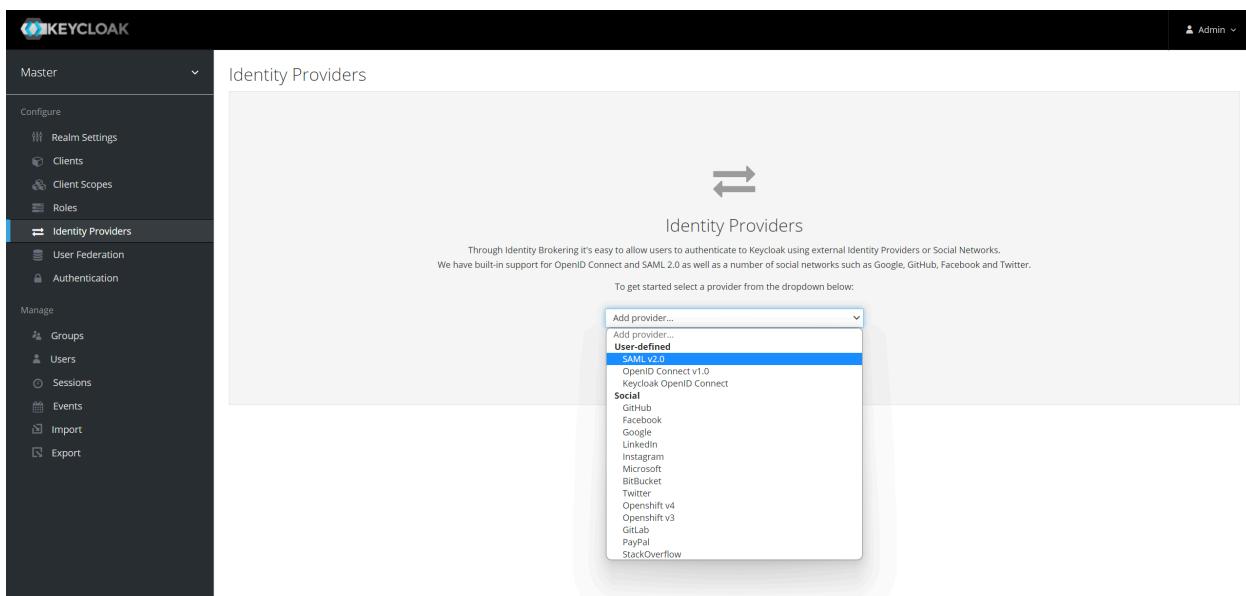


# Casdoor as a SAML IdP in keycloak

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

## Add SAML IdP in Keycloak

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



### INFO

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

Enter the **Alias** and the **Import from URL** in Keycloak IdP edit page. The content of **Import from URL** can be found in 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**

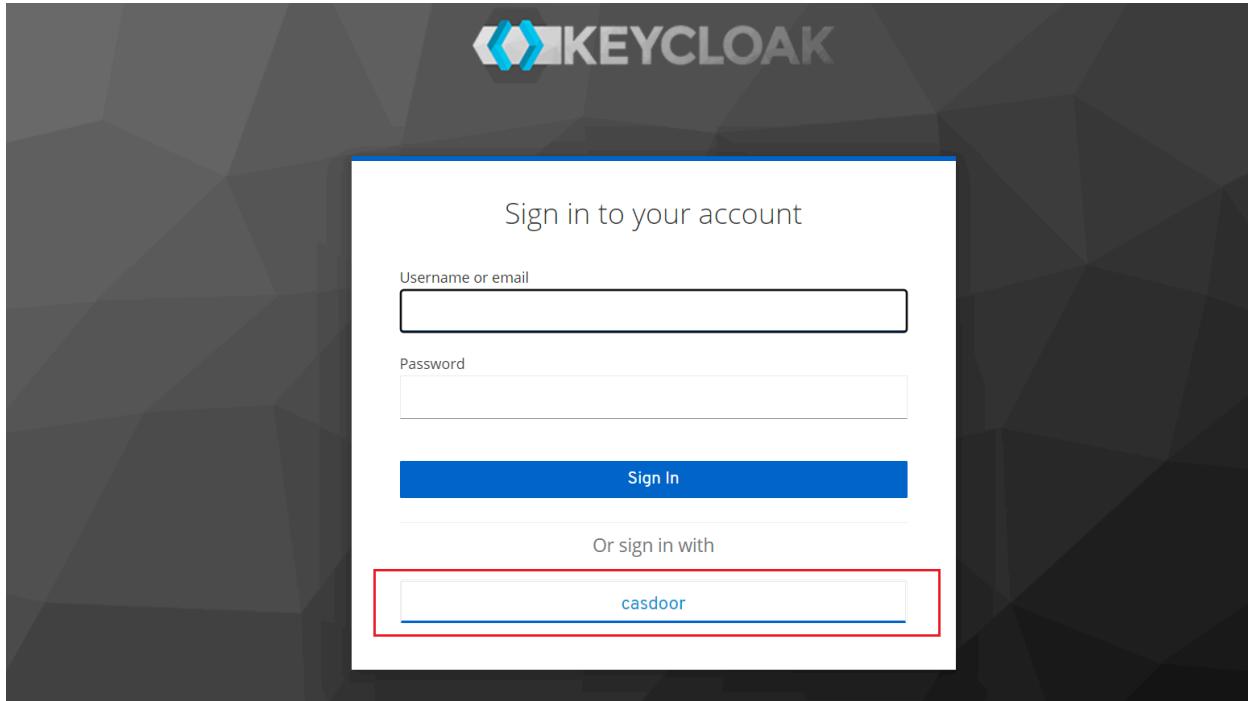
You should remember the Service Provider Entity ID and then save the configuration.

# Configure SAML application in Casdoor

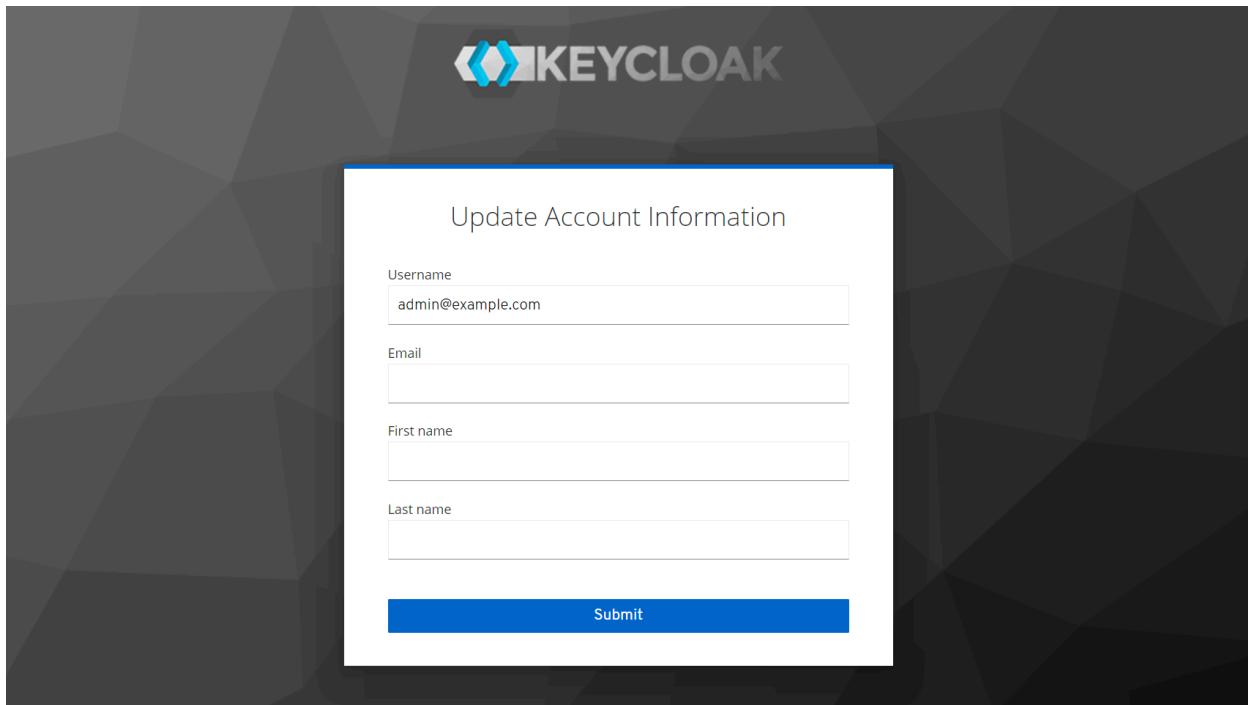
In the application edit page, add a redirect URL which the content of it is Service Provider Entity ID in Keycloak. And you should enable SAML compress for Keycloak.

## Login using Casdoor SAML

Open the Keycloak login page and you can find the additional button that allows you to login to Keycloak using the Casdoor SAML provider.



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



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





# WebAuthn

## Overview

We are delighted to inform the Casdoor's customers that Casdoor now supports logging in with WebAuthn, which means, you may be able to log in with your biological identifications like fingerprints or facial recognition even U-disks, provided that your device support these cool authorization method and WebAuthn.

## What is WebAuthn?

The Web Authentication API (also known as WebAuthn: <https://webauthn.io/>) is a specification written by the W3C and FIDO, with the participation of Google, Mozilla, Microsoft, Yubico, and others. The API allows servers to register and authenticate users using public key cryptography instead of a password. It allows servers to integrate with the strong authenticators now built into devices, like Windows Hello or Apple's Touch ID.

To be concise, WebAuthn asks users to generate a public key - private key pair, and hand over 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 its private key and send back the result. After receiving the result, the website will try to use the public key to decrypt, and if the decrypted number is the same as the random number generated before, the user will be regarded as a legal user and he will be allowed to log in. We call the public key combined with necessary information (like username or information about user's authorizer ) the Webauthn Credential, which is exactly what is stored by the website.

The public key - private key pair is exclusively uniquely distinguished three information: (user's username, user's authorizer, and the website's url). This means, if the (user's username, user's authorizer, and the website's url) is all the same, the key pair should be identical, and vice versa.

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

## How to use WebAuthn in casdoor?

In the login page, you must have already seen the choice of using WebAuthn to login in. But considering that you haven't got a Webauthn credential (webauth password, if this inaccurate explanation can make you understand better) yet, so in this tutorial, we are going to show you how to create and manage a credential first and then, how to log in with the credential.

**Step0: modify the configurations and turn on the WebAuthn authentication**

In conf/app.conf you can see

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

Please ensure this configuration is EXACTLY the url of your website

**Only https is supported for WebAuthn unless you are using localhost**

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

**Step 1: go to "my account" page**

Step 1: go to account page. On this page, you shall see the "Add WebAuthn Credential" Button and a list manifesting all the Webauthn credentials you have

previously registered.

The screenshot shows a user interface for managing credentials. 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 with the text "(empty)" and a "Link" button. Under "WebAuthn credentials", there's a table with one row. The row contains a GitHub icon, the text "GitHub:", and a "Delete" button. The table has columns for "WebAuthn credentials" and "Action". In the "WebAuthn credentials" column, there's a long string of characters: "0AUzbyDy1SCxNyW3vkNJP1feXhwm/pHBDmMoSzRRNvg=". The "Action" column has a red-bordered "Delete" button. Below the table, there are sections for "Roles" and "Permissions". Under "Roles", there are four toggle switches: "Is admin" (off), "Is global admin" (on), "Is forbidden" (off), and "Is deleted" (off). Under "Permissions", there are also four toggle switches: "Is admin" (off), "Is global admin" (on), "Is forbidden" (off), and "Is deleted" (off). At the bottom, there are two buttons: "Save" and "Save & Exit".

Press the button and then follow the instructions of your device to register a new credential into casdoor.

You can remove any credentials via the "delete" button in the list.

## Step 2: log in via WebAuthn

Before this step starts, make sure you have logged out the casdoor.

Go to the log in page, choose the wenauthn login method, enter your username and press the login button, and follow the instructions of your device.

(For example, if you use fingerprint and Window Hello, you are supposed to see something like this)

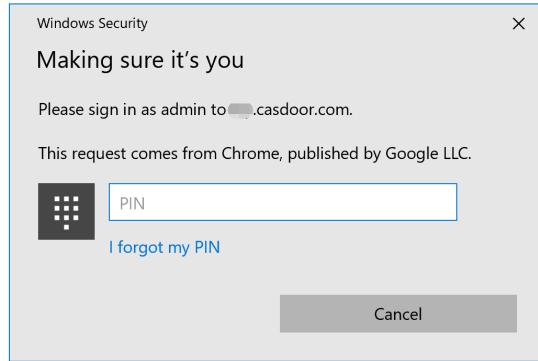


Windows Security

>Password [WebAuthn](#)

Auto sign in [Forgot password?](#)

[Sign in with WebAuthn](#)



Then you will see that you have already logged in.



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Developer Guide

# Developer Guide



## Frontend

Casdoor frontend development guide



## Generating Swagger Files

Generating Swagger Files

# Frontend

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

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

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

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

Inside `/src`, there are several important files or folders as follows:

| File/Directory | Description                               |
|----------------|---|
| account        | the "My profile" page for logged-in users |

| File/Directory          | Description  |
|-------------------------|--|
| auth                    | all code related to authentication, like OAuth, SAML, sign up page, sign in page, forget password page, etc.   |
| backend                 | the SDK for calling Go backend API, contains all the <code>fetch()</code> calls  |
| basic                   | the homepage (dashboard page) for Casdoor, it 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 entrance JS file, containing all routes  |
| Setting.js              | the utility functions used by other code   |
| OrganizationListPage.js | the page for the organization list, similar to all other XXXListPage.js  |
| OrganizationEditPage.js | the page for editing one organization, similar to all other XXXEditPage.js   |

# Generating Swagger Files

## Overview

As we know, beego framework provides support for generating swagger file in order to clarify the api via the command line tool called "bee". Casdoor is built based on beego too. However, we found that the swagger files generated by bee failed to categorize the apis with "@Tag" label, so we modified the original bee to implement the function.

## How to write the comment

Most rules are exactly identical to the original bee comment formats, and 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() {
```

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

## How to generate the swagger file

0. write comments for api in 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

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

3. copy mybee to the base directory of casdoor
4. in that directory, run

```
mybee generate docs
```

Then you will find the new swagger files are generated.



> Organizations

# Organizations



## Overview

Casdoor basic unit — organization



## Account Customization

Customizing users' account items

# Overview

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

In the config of [applications](#) and [providers](#), choosing an organization is important, 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 [LDAP](#).

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

| Name     | Algorithm              | Description  | Scenario                |
|----------|------------------------|--|-------------------------|
| plain    | -                      | The password will be stored in cleartext. (default)  | -                       |
| salt     | <a href="#">SHA256</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> |
| bcrypt   | <a href="#">bcrypt</a> | <a href="#">bcrypt</a> is a password-hashing   | <a href="#">Spring</a>  |

| Name        | Algorithm   | Description  | Scenario  |
|-------------|---|--|---|
|             |   | function and is used to hash and salt passwords securely.  | <a href="#">Boot</a> ,<br><a href="#">WordPress</a> |
| pbkdf2-salt | <a href="#">SHA256</a><br>and<br><a href="#">PBKDF2</a> | <a href="#">PBKDF2</a> is a simple cryptographic key derivation function, which is resistant to dictionary attacks and rainbow table attacks. It's originally implemented in Casdoor for Keycloak syncer. Select this option if you import users by Keycloak syncer. | <a href="#">Keycloak</a>                            |

# Account Customization

## Introduction

In an organization, you can customize users' account items. This includes whether each item is visible. If visible, 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 item has 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 with view the account item.                   |
| ModifyRule  | Rule Items       | Select a rule to use with modify the account item.                 |

Enter the Organization Edit page, you will find the following:

| Account items <small>(1)</small> |              | Add | visible                             | viewRule | modifyRule | Action  |
|----------------------------------|--------------|-----|-------------------------------------|----------|------------|---|
| Name                             | 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       |    |

Casdoor provides very simple operations to configure:

- Set the item to be visible or invisible

| Account items |              | Add | visible                             | viewRule | modifyRule |   |
|---------------|--------------|-----|-------------------------------------|----------|------------|---|
| Name          | Organization |     | <input checked="" type="checkbox"/> | Public   | Admin      |    |
| ID            |              |     | <input type="checkbox"/>            | Public   | Admin      |    |
| 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:

- Public: Everyone has permission
- Self: The users has their own permission
- Admin: The administrator has permission

## Account table

The following are all the fields in account item. For a description, you can see [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



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Applications

# Applications



## Overview

Casdoor application overview



## Terminology reference

Terminology reference



## Application Config

Configure your applications authentication



## Signup Items Table

configure the signup items table to create a custom registration page



## Login UI Customization

Custom the login page UI for your application

# Overview

Every application in Casdoor is called an [application](#), and 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 Web APPs, you can add them as Casdoor applications.

Users can access all applications in their organizations without login 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, and you can even customize the signup items of the application, etc.

In this chapter you will learn how to start an application of your own, everything 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 display to public
- `Logo` Application logos will display on the login and sign up page
- `HomepageUrl` The url of the application homepage
- `Description` Describe the application
- `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 user logged in successfully
- `ExpireInHours` Login will expire after hours
- `SigninUrl`
- `SignupUrl` If you provide a sign up service independently out of Casdoor, please fill the url here
- `ForgotUrl` Same as `SignupUrl`
- `AffiliationUrl`

# Application Config

After you deploy your casdoor on your server, and setup your organization, you can deploy your applications now!

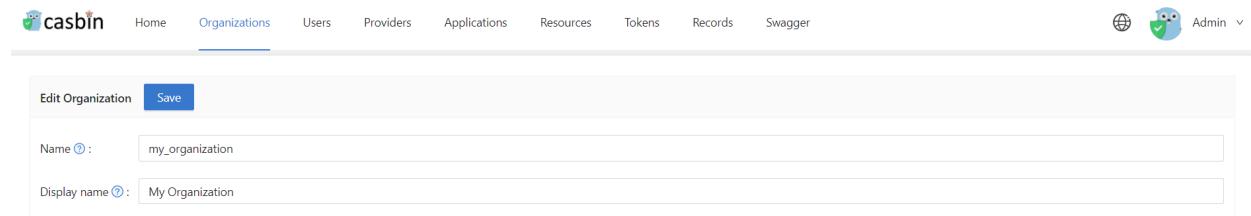
Let's see how to config your applications authentication using Casdoor!

 NOTE

Here, for example, I want to setup my Forum using [Casnode](#)

I create my application and fill some necessary configures.

Select organization I created to make users in this organization can use this application.



The screenshot shows the Casdoor application configuration interface. At the top, there is a navigation bar with links: Home, Organizations (which is highlighted), 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" with a "Save" button. There are two input fields: "Name" with the value "my\_organization" and "Display name" with the value "My Organization".

While this organization is named `my_organization`, so I choose it in 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

Then I want my users can use Casdoor to complete authentication when they are signing up, so I fill the redirect url here as <https://my-site-url.com/callback>

### ⚠ CAUTION

So here, we need to remember the `callback URL` in provider application is Casdoor's callback url, and the `Redirect URL` in Casdoor is your website callback url

### Further understanding

If I want the authentication progress to work, the detailed progress should

be like this:

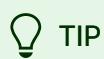
Users send a request to Casdoor, Casdoor use the **Client ID** and **Client Secret** to get authentication from GitHub, Google or other providers.

If the authentication success, GitHub callback to Casdoor to tell Casdoor authentication success, so the GitHub authorization callback URL should be my Casdoor callback URL which is <http://your-casdoor-url.com/callback>, then Casdoor tells the application authentication success which means the Casdoor callback URL should be my application callback URL, that is <http://your-site-url.com/callback>.

Then you can add which third party apps can sign up by adding providers and setting its properties.

| Providers                         | Add                              | Name                             | canSignUp                        | canSignIn                           | canUnlink                           | prompted                            | Action                   |                                  |                                  |                                  |
|-----------------------------------|----------------------------------|----------------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|----------------------------------|----------------------------------|----------------------------------|
| provider_casbin_email             | <input type="button" value="^"/> | <input type="button" value="v"/> | <input type="button" value="d"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="button" value="^"/> | <input type="button" value="v"/> | <input type="button" value="d"/> |
| provider_casbin_sms               | <input type="button" value="^"/> | <input type="button" value="v"/> | <input type="button" value="d"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="button" value="^"/> | <input type="button" value="v"/> | <input type="button" value="d"/> |
| provider_storage_aliyun_oss       | <input type="button" value="^"/> | <input type="button" value="v"/> | <input type="button" value="d"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="button" value="^"/> | <input type="button" value="v"/> | <input type="button" value="d"/> |
| provider_casdoor.github_localhost | <input type="button" value="^"/> | <input type="button" value="v"/> | <input type="button" value="d"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="button" value="^"/> | <input type="button" value="v"/> | <input type="button" value="d"/> |
| provider_casdoor.github           | <input type="button" value="^"/> | <input type="button" value="v"/> | <input type="button" value="d"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="button" value="^"/> | <input type="button" value="v"/> | <input type="button" value="d"/> |
| provider_casdoor.google           | <input type="button" value="^"/> | <input type="button" value="v"/> | <input type="button" value="d"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="button" value="^"/> | <input type="button" value="v"/> | <input type="button" value="d"/> |
| provider_casdoor.qq               | <input type="button" value="^"/> | <input type="button" value="v"/> | <input type="button" value="d"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="button" value="^"/> | <input type="button" value="v"/> | <input type="button" value="d"/> |
| provider_casdoor_wechat           | <input type="button" value="^"/> | <input type="button" value="v"/> | <input type="button" value="d"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="button" value="^"/> | <input type="button" value="v"/> | <input type="button" value="d"/> |
| provider_casdoor.facebook         | <input type="button" value="^"/> | <input type="button" value="v"/> | <input type="button" value="d"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="button" value="^"/> | <input type="button" value="v"/> | <input type="button" value="d"/> |
| provider_casdoor.gitee            | <input type="button" value="^"/> | <input type="button" value="v"/> | <input type="button" value="d"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="button" value="^"/> | <input type="button" value="v"/> | <input type="button" value="d"/> |
| provider_casdoor.gitlab           | <input type="button" value="^"/> | <input type="button" value="v"/> | <input type="button" value="d"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="button" value="^"/> | <input type="button" value="v"/> | <input type="button" value="d"/> |

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, so users can only access 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. And we can add or delete any signup item on this signup items table.

| Signup Items : |    | Add | visible                             | required                            | prompted                 | rule        | Action   |
|----------------|----|-----|-------------------------------------|-------------------------------------|--------------------------|-------------|--|
| Name           | ID |     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                          | Random      | <input type="button" value="^"/> <input type="button" value="v"/> <input type="button" value="□"/> |
| Username       |    |     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                          |             | <input type="button" value="^"/> <input type="button" value="v"/> <input type="button" value="□"/> |
| Display name   |    |     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                          | First, last | <input type="button" value="^"/> <input type="button" value="v"/> <input type="button" value="□"/> |
| Password       |    |     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                          |             | <input type="button" value="^"/> <input type="button" value="v"/> <input type="button" value="□"/> |
| ID card        |    |     | <input type="checkbox"/>            |                                     | <input type="checkbox"/> |             | <input type="button" value="^"/> <input type="button" value="v"/> <input type="button" value="□"/> |
| Email          |    |     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                          | Normal      | <input type="button" value="^"/> <input type="button" value="v"/> <input type="button" value="□"/> |
| Agreement      |    |     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                          |             | <input type="button" value="^"/> <input type="button" value="v"/> <input type="button" value="□"/> |

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

| Column Name | Selectable Value | Description   |
|-------------|------------------|---|
| Name        | -                | Signup item name.   |
| visible     | True / False     | Select whether this signup item is visible on the registration page.          |
| required    | True / False     | Select whether this signup item is mandatorily required.                      |
| prompted    | True / False     | Select whether to give a prompt when user forget to fill in this signup item. |

| Column Name | Selectable Value  | Description   |
|-------------|---|---|
| rule        | <input type="button" value="Rule"/><br><input type="button" value="Items"/> | Select a rule to use with this signup item. The rule is to add some customization to this signup item. The detailed rules are described in the table below. |
| Action      | -   | Users can take some action here, such as moving this signup item up, moving this signup item down, or deleting this signup item.                            |

So far, the signup items that support configuration rules include ,  and .

| Item Name    | Selectable Rules   | Description   |
|--------------|--|---|
| ID           | <input type="button" value="Random"/> /<br><input type="button" value="Incremental"/>  | Select whether the user ID is randomly generated or incremented.  |
| Display name | <input type="button" value="None"/> / <input type="button" value="Real name"/> /<br><input type="button" value="First, last"/> | Choose the presentation of the display name. Choose <input type="button" value="None"/> will show <input type="button" value="Display name"/> . Choose <input type="button" value="Real name"/> will show <input type="button" value="Real name"/> . Choose <input type="button" value="First, last"/> will show <input type="button" value="First name"/> and <input type="button" value="last name"/> . |
| Email        | <input type="button" value="Normal"/> / <input type="button" value="No verification"/>   | Select whether to verify the verification code of the mailbox. Choose <input type="button" value="Normal"/> will verify the email code. Choose <input type="button" value="No verification"/> will not verify the email code.   |

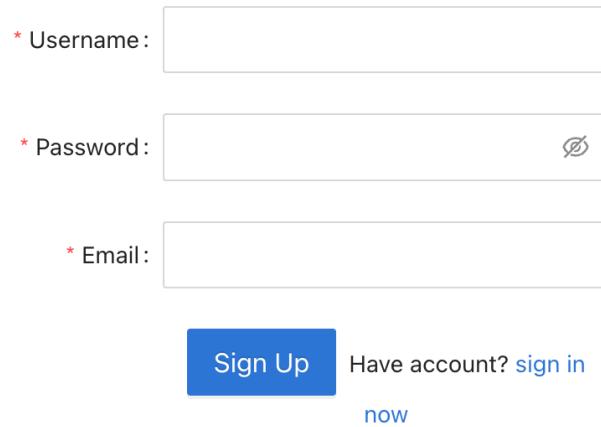
### NOTE

Here, for example, I want to setup my own registration page bring a mailbox but do not require a mail verification code.

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

| Signup items <small>(1)</small> : | Add | visible | required | prompted | rule            | Action |  |  |
|-----------------------------------|-----|---------|----------|----------|-----------------|--------|--|--|
| Name                              |     |         |          |          | Incremental     |        |  |  |
| ID                                |     |         |          |          |                 |        |  |  |
| Username                          |     |         |          |          |                 |        |  |  |
| Password                          |     |         |          |          |                 |        |  |  |
| Email                             |     |         |          |          | No verification |        |  |  |

And I selected the email row's rule item to `No verification`. As a result, the generated preview registration page can get the expected effect.



The image shows a registration form with three input fields: "Username", "Password", and "Email", each with a required asterisk. Below the form is a blue "Sign Up" button and a link to "sign in now".

\* Username:

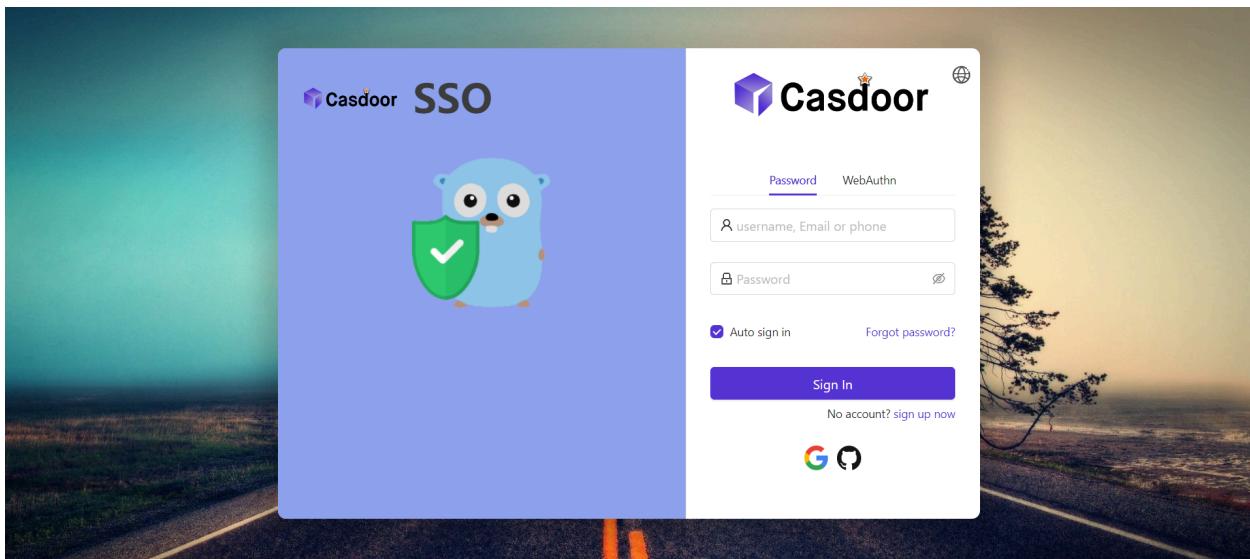
\* Password:  

\* Email:

**Sign Up** Have account? [sign in now](#)

# Login UI Customization

You have created applications. Here will show you how to customization the login page UI of the applications. In this guide we will create the following application login page:



Let's start!

## Part1: Background image

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



Password WebAuthn

username, Email or phone

Password

Auto sign in [Forgot password?](#)

No account? [sign up now](#)



Powered by Casdoor

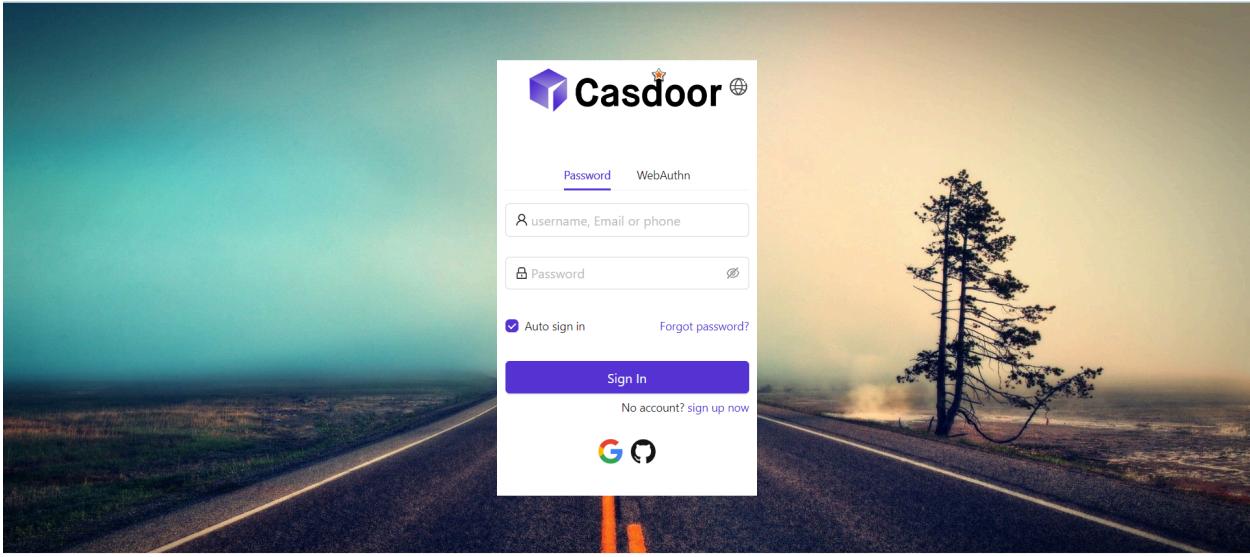
- **Background URL** The background image url.

Choose the background image you like and fill the **Background URL**. The preview area will display the image, if you fill the valid url.

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

## Part2: Custom login panel

Here's where you were at the end of the 1st part:



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Now you need to add some css to make the panel look nice. You can copy the code below and paste it in the field `Form CSS`.

```
<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 you edit the `form CSS`, if value is empty, the editor will show the default value. But it is not fill in the field. You need to copy the content and paste.

After fill the `form CSS`, don't forget to save the config at the bottom. Ok, let's see the effect.



## Part3: Panel position

Now the login page is much prettier than the beginning. 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:



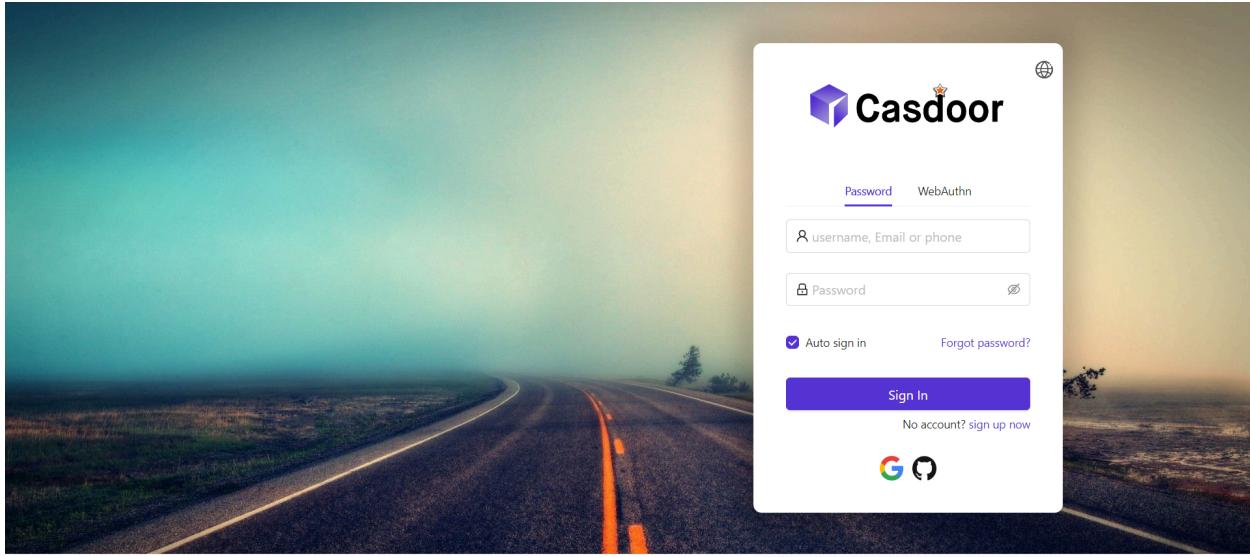
Form CSS ? :

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

Form position ? :

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

For example, select the Right button:



Powered by Casdoor

## Part4: Enable the side panel

You will see now how you can enable a side panel and custom the style.

First, select the button. In enable side panel mode, the panel will in center.

Form position [?](#) :

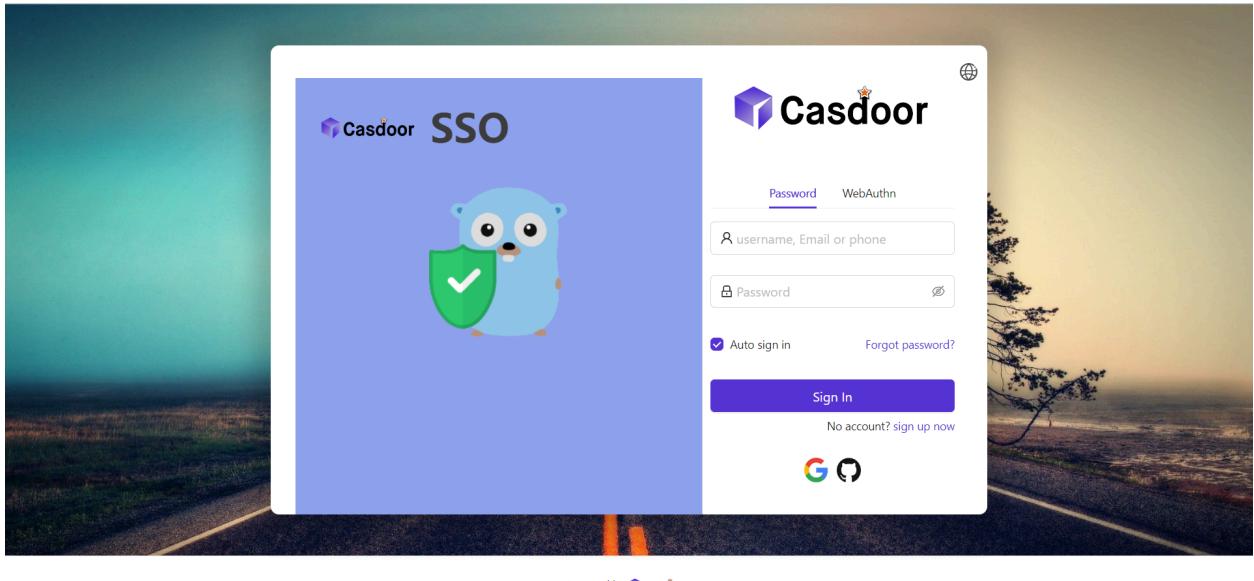
|      |        |       |                   |
|------|--------|-------|-------------------|
| Left | Center | Right | Enable side panel |
|------|--------|-------|-------------------|

Side panel HTML [?](#) :

Then edit the `Side panel HTML`, it decides what content will show in the side panel. Same as the `Form CSS`, we provide a default template. Just copy and paste.

```
<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 didn't see well.



You need to modify and add some css in `form CSS`.

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; background-color: #ffffff; box-shadow: 0 0 30px 20px rg }</style>
```

Form position :

Left   Center   Right   **Enable side panel**

Side panel HTML :

```
<style> .left-model{ text-align: center; padding: 30px; background-color: #8ca0ed; position: absolute }
```

Signup items :

Signup items **Add**

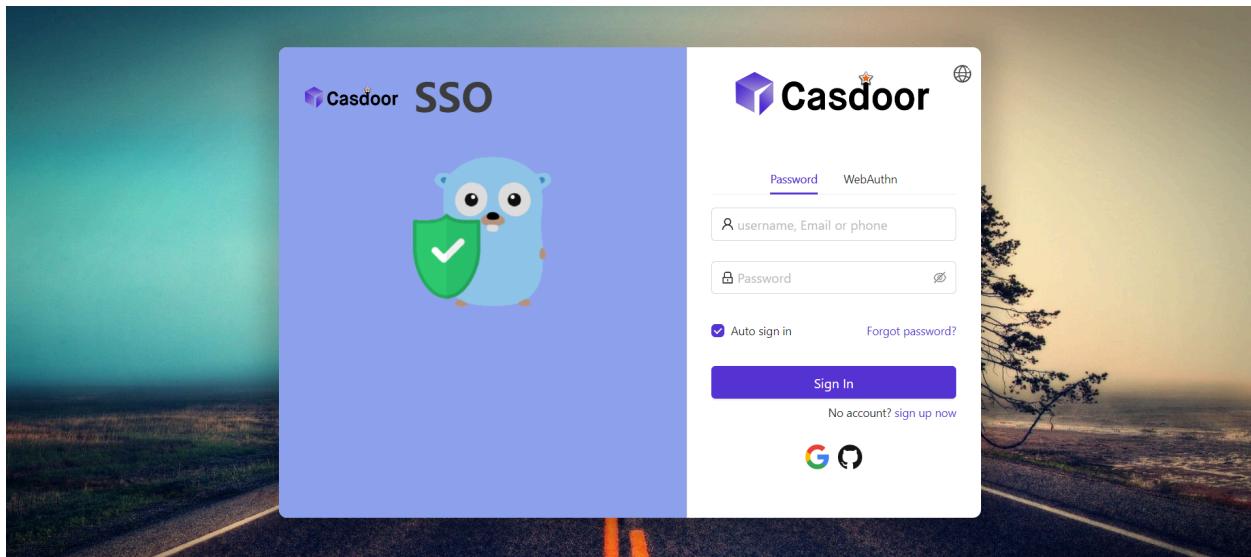
The final code is as follows.

```
<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, .login-form are the class name of div. They correspond to different areas of the page. For more details, you can check them through developer tools. After make sure the class name, you can customize the login page more flexible by writing CSS here.

Finally, we get a beautiful login page.



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# Review

OK, so let's sum it up: we have added a background image, custom the login panel style and enable the side panel.

More introduction about application in Casdoor:

- [Signup Items Table](#)
- [Application Config](#)

Thanks for reading!



&gt;

Permissions

# Permissions



## Overview

Using Casbin to manage users' access rights in organization



## Casbin Enforcement

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

# Overview

## Introduction

All users associated with a single Casdoor organization are shared between the organization's applications and therefore have access to the applications. To restrict users' access to certain applications, you can use [Permission](#) implemented by [Casbin](#).

Inside a permission, the [Sub users](#) and [Resources](#) attributes are available to check which application the user is using for login. Also, it supports to config customized models to meet the diverse needs of users.

See the following example to get a clearer picture of Casdoor's permission control for application.

## Permission for applications

Before using [Permission](#), you need to create a [Model](#) which is abstracted into a CONF file based on the PERM metamodel. You can visit the [Casbin documentation](#) for more information. We recommend using the [Casbin Online Editor](#) to design the model and check the grammar.

Click the [Models](#) tab and add a new model. In the edit page, you can config customized models such as ACL model in the [Model text](#).

```
[request_definition]
```

Home   Organizations   Users   Roles   Permissions   **Models**   Providers   Applications   Resources   Tokens   Records   Webhooks   Syncers   Certs   ...

Edit Model

Organization [?](#): built-in

Name [?](#): model-built-in

Display name [?](#): Built-in Model

Model text [?](#):

```
[request_definition]
r = sub, obj, act

[policy_definition]
p = sub, obj, act

[policy_effect]
e = some(where (p.eft == allow))

[matchers]
m = r.sub == p.sub && r.obj == p.obj && r.act == p.act
```

Is enabled [?](#):

Made with ❤ by **Casdoor**

Click the **Permissions** tab and add a new permission. In the edit page, you need to select the model, adapter, sub users, resources and actions as below.

Home   Organizations   Users   Roles   **Permissions**   Models   Providers   Applications   Resources   Tokens   Records   Webhooks   Syncers   Certs   ...

Edit Permission

Organization [?](#): built-in

Name [?](#): permission-built-in

Display name [?](#): Built-in Permission

Model [?](#): model-built-in

Adapter [?](#): permission\_rule\_builtin

Sub users [?](#): built-in/admin ✕ built-in/seriouszyx ✕ built-in/test ✕

Sub roles

Sub domains

Resource type [?](#): Application

Resources [?](#): app-built-in ✕

Actions [?](#): Read ✕ Write ✕ Admin ✕

Effect [?](#): Allow

Is enabled [?](#):

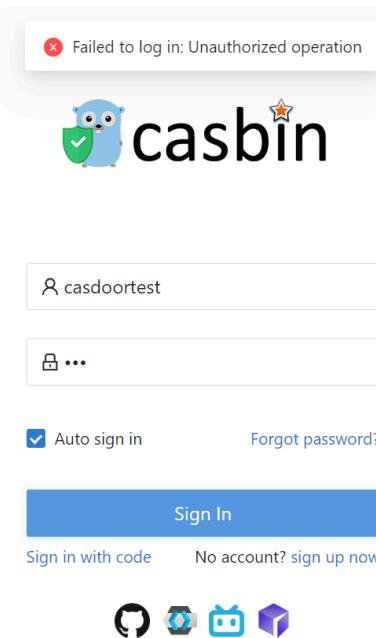
Submitter [?](#):

Approver [?](#):

### INFO

The `Adapter` field supports specifying the table name where the policies are stored. If this field is empty, the policies are stored in the `permission_rule` table. We strongly recommend specifying different Adapter for different models, because it's likely to cause conflicts for storing all policies in the same table.

After saving, the user `test`, `seriouszyx` and `admin` can login to the application `app-built-in`. The other users such as `casdoortest` cannot.

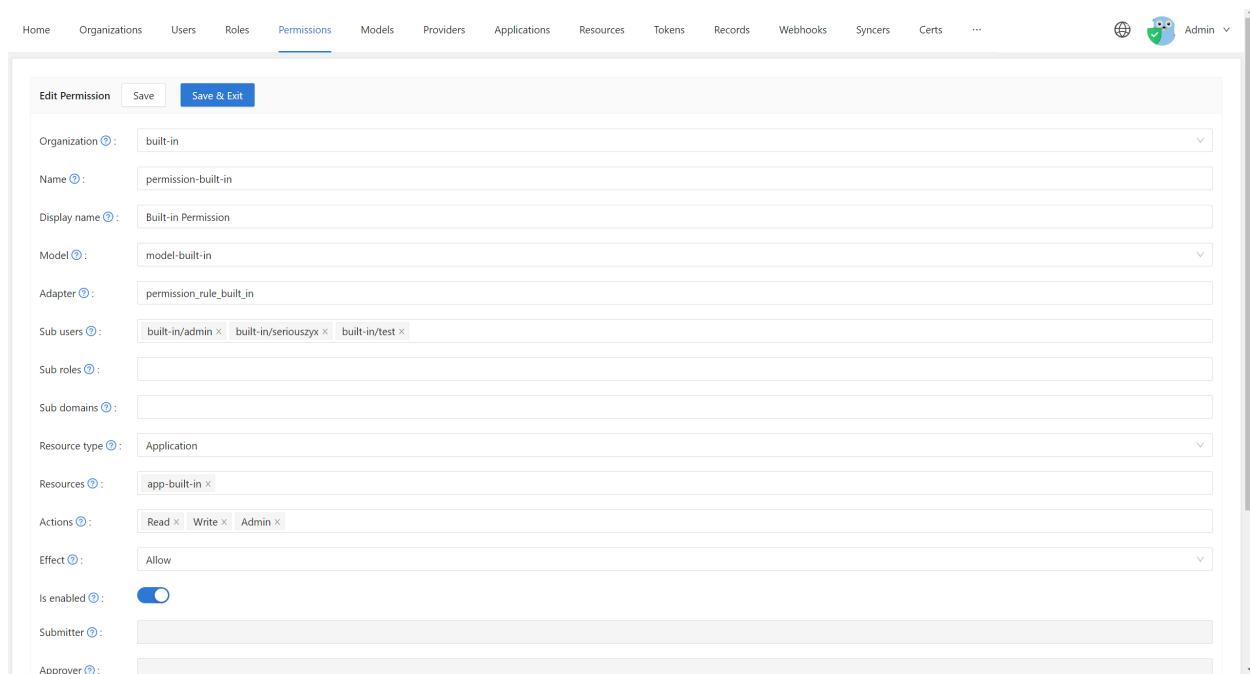


# Casbin Enforcement

## Exposed Casbin APIs

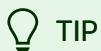
At the underlying of casdoor, each permission corresponds to a casbin enforcer. We provide some APIs to call these enforcers directly. You can use them to achieve more flexible permission management functions.

We will show some examples of using these APIs, the permission is shown below.



The screenshot shows the 'Edit Permission' page in Casdoor. The top navigation bar includes Home, Organizations, Users, Roles, Permissions (which is highlighted in blue), Models, Providers, Applications, Resources, Tokens, Records, Webhooks, Syncers, Certs, and an Admin dropdown. The main form has a 'Save' button and a 'Save & Exit' button. The fields are as follows:

- Organization: built-in
- Name: permission-built-in
- Display name: Built-in Permission
- Model: model-built-in
- Adapter: permission\_rule\_builtin
- Sub users: built-in/admin, built-in/seriouszyx, built-in/test
- Sub roles:
- Sub domains:
- Resource type: Application
- Resources: app-built-in
- Actions: Read, Write, Admin
- Effect: Allow
- Is enabled:
- Submitter:
- Approver:



### TIP

You should log in to the Casdoor and get `casdoor_session_id` from cookies.

## Enforce

Request:

```
curl --location --request POST 'http://localhost:8000/api/enforce'  
\  
--header 'Content-Type: text/plain' \  
--header 'Cookie:  
casdoor_session_id=b1888c74a7903f1813bf8c34269b0118' \  
--data-raw '{"id":"built-in/permission-built-in", "v1":"app-built-  
in", "v2":"write"}'
```

Response:

```
true
```

## BatchEnforce

Request:

```
curl --location --request POST 'http://localhost:8000/api/batch-  
enforce' \  
--header 'Content-Type: text/plain' \  
--header 'Cookie:  
casdoor_session_id=b1888c74a7903f1813bf8c34269b0118' \  
--data-raw '[{"id":"built-in/permission-built-in", "v1":"app-built-  
in", "v2":"write"}, {"id":"built-in/permission-built-in",  
"v1":"app-built-in", "v2":"read"}, {"id":"built-in/permission-  
built-in", "v1":"app-casnnode", "v2":"write"}]'
```

Response:

```
[  
    true,  
    true,  
    false  
]
```

## GetAllObjects

Request:

```
curl --location --request GET 'http://localhost:8000/api/get-all-  
objects' \  
--header 'Cookie:  
casdoor_session_id=b1888c74a7903f1813bf8c34269b0118'
```

Response:

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

## GetAllActions

Request:

```
curl --location --request GET 'http://localhost:8000/api/get-all-  
actions' \  
--header 'Cookie:  
casdoor_session_id=b1888c74a7903f1813bf8c34269b0118'
```

Response:

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

## GetAllRoles

Request:

```
curl --location --request GET 'http://localhost:8000/api/get-all-  
roles' \  
--header 'Cookie:  
casdoor_session_id=b1888c74a7903f1813bf8c34269b0118'
```

Response:

```
[  
    "role_kcx661"  
]
```



&gt;

Providers

# Providers



## Overview

Add third-party services to your application



## OAuth

19 items



## Email

Using email to complete authentication



## SMS

Using SMS to complete authentication

 Storage

2 items

 SAML

3 items

 Payment

1 items

 Captcha

5 items

# Overview

Casdoor uses providers to provide third-party services for the platform. In this chapter you will learn how to add providers for Casdoor.

Casdoor will only use providers added by the organization owner when it receives a request from a user in the organization.

Now, we have 5 kinds 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 see [OAuth](#).

- 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 local file system or cloud oss services.

- Payment Provider

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 Provider**

Casdoor supports configurable captcha in user flows. Currently, the supported captcha providers include Default Captcha, reCAPTCHA, hCaptcha and Aliyun Captcha.

# OAuth



## Overview

Add OAuth providers to your application



## Custom Provider

Add your own custom OAuth provider



## 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 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 Facebook OAuth provider to your application

 **Google**

Add Google OAuth provider 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

# Overview

Casdoor can use other OAuth applications as a signin method.

Now, Casdoor supports many OAuth application providers. Icons of providers will be shown in login and signup pages after adding to Casdoor. Here are the providers Casdoor supports:

| Google                              | Github                              | Facebook                            | Twitter                             | LinkedIn                            | Weibo                               | WeChat                              | Tencent QQ                          | Dingtalk                            | Baidu                               | Infoflow                            | Gitee                               | Steam                               | Okta                                | Email                               | SMS                                 |
|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
|                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
| <input checked="" type="checkbox"/> |

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. Navigate to your Casdoor index page
2. Click **Providers** in the top bar
3. Click **Add**, then you can see a new provider in the list top
4. Click the new provider to modify it
5. Select **OAuth** in **Category**
6. Choose the OAuth provider you need in **Type**
7. Fill the most important information, **Client ID** and **Client Secret**

## Applied in application

1. Click **Applicaton** in the top bar and choose one application, edit
2. click provider add button, select the provider you just added
3. Modify the permissions of the provider, such as allowing registration, login, and unbinding
4. Done!

# Custom Provider

## NOTE

Casdoor supports custom providers, but the custom providers must follow the standard process of 3-legged OAuth, and the return value of `Token URL` and `Userinfo URL` must follow the format specified by Casdoor.

First, go to the provider page of Casdoor, and create a new provider. Select “Custom” in the Type item. It can be seen that in addition to `Client ID` and `Client Secret`, you need to fill in `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.

Suppose we fill in `https://door.casdoor.com/login/oauth/authorize` at the `Auth URL`, then when the user logs in with this custom provider, the browser will first jump 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}
```

Then the code parameter in this URL will be recognized by Casdoor.

- `Scope` is the scope parameter carried when accessing the `Auth URL`, which is filled in according to the requirements of the custom provider.
- `Token URL` is the API address for obtaining accessToken.

After obtaining the code in the previous step, Casdoor needs to use this code to get the accessToken.

Suppose we fill in `https://door.casdoor.com/api/login/oauth/access_token` at the `Token URL`, then Casdoor will access the Token URL as follows

```
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

```
{  
  "access_token": "eyJhbGciOiJSUzI1NiIsImtpZCI6Ixxxxxxxxxxxxxx",  
  "refresh_token": "eyJhbGciOiJSUzI1NiIsInR5cCI6Ixxxxxxxxxxxxxx",  
  "token_type": "Bearer",  
  "expires_in": 10080,  
  "scope": "openid profile email"  
}
```

- `UserInfo URL` is the API address for obtaining user information by accessToken.

Suppose we fill in `https://door.casdoor.com/api/userinfo` at the `UserInfo URL`, then Casdoor will access the UserInfo URL as follows

```
curl -X GET -H "Authorization: Bearer {accessToken}" https://door.casdoor.com/api/userinfo
```

The custom provider should return at least the following

```
{
  "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 along with other third-party login providers.

# Twitter

## Twitter(still working🚧)

Twitter's application steps are somewhat troublesome, and the official restrictions are a bit strict, so it may be more difficult to apply for a developer account than other third-party platforms.

Visit [Developer Portal](#), register if you don't have an account. Twitter needs to know what you are applying for a developer account for. You must fill in it carefully, otherwise it will not pass.

After the application is approved, create an application, fill in the callback address and other information, you need to do two things, which will be set in Authentication settings section.

- Manually turn on 3-legged OAuth, for Sign in with Twitter, posting Tweets on behalf of other accounts and more.
- Enable Request email address from users, for getting user email address.

# Weibo

## Weibo✓

Weibo's developer account application is not difficult, but the speed is relatively slow. It takes about 2-3 days.

Visit [Developer Website](#), filling in basic information and waiting for a long review...

After the review is approved, you can get the Client Id and Client Secret.

# Wechat

## WeChat✓

Visit [WeChat developer platform](#), and register as a developer. After your web application or your mobile application is approved, then you get your App Id and App Secret.

Home    Organizations    Users    Roles    Permissions    **Providers**    Applications    Resources    Token:

---

Edit Provider Save Save & Exit

Name ? : provider\_79p43d

Display name ? : New Provider - 79p43d

Category ? : OAuth

Type ? : WeChat

Client ID ?  

Client secret ?  

Client ID 2 ?  

Client secret 2 ?  

Provider URL ? : <https://github.com/organizations/xxx/settings/applications/1234567>

---

Save Save & Exit

The WeChat provider offers two different sets of keys:

- The first key set is for `WeChat Open Platform` (微信开放平台), it's only for the PC scenario. It can show QR-code in PC and the user can use the mobile phone to scan the code, so the PC browser will allow to sign in with WeChat.
- The second key set is for `WeChat Media Platform` (微信媒体平台), it's only for the mobile scenario. It allows the user to log in with WeChat inside WeChat mobile APP, it will jump to your `WeChat Official Account` (微信企业号) to log in.

 TIP

We recommend setting the two key sets at the same time, and linking your `WeChat Open Platform` (微信开放平台) account and `WeChat Media Platform` (微信媒体平台) account together inside `WeChat Open Platform` (微信开放平台). So a WeChat user logged-in through PC and mobile can be recognized as the same user in Casdoor.

 NOTE

Due to the limitations of WeChat OAuth, there is currently no way to log in via WeChat in a 3rd-party mobile APP or in a mobile browser other than WeChat APP. The mobile login must happen inside WeChat APP for now.

For more detailed information, please visit [WeChat Open Platform](#).

# WeCom

## Introduction

The WeCom provides the authorized login method of OAuth, which can obtain members' identity information from the webpage opened by the WeCom terminal, eliminating the need for login.

There are two different types of applications: internal applications and third-party applications.

## Basic

To configure a WeCom provider, the following table describes the required 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 |

| Parameter | Description         |
|-----------|---------------------|
| Agent ID  | Application agentid |

(!) INFO

WeCom has two authorization methods. Silent authorization and normal authorization.

**Silent authorization:** After the user clicks the link, the page is

`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, go to `redirect_uri?code=CODE&state=STATE`

For more details, please see [document](#).

## More

For more information about internal application, please see [Internal application](#).

About Third-party application, please see [Third-party application](#).

# Tencent QQ

## Tencent QQ✓

Visit authentication platform of QQ - [Connect QQ](#).

First you need to apply to [become a developer](#). After the review is approved, follow the instructions of the platform and get your Client Id and Client Secret.

# DingTalk

## DingTalk✓

Visit [DingTalk developer platform](#) and log in using your DingTalk account. After entering the platform, follow the instructions of the platform and you will get your Client Id and Client Secret.

For more detailed information, please visit [DingTalk developer docs](#).

In addition, you need to add the following permissions to the dingtalk application:

The screenshot shows the DingTalk Developer Platform interface. The top navigation bar includes '首页', '应用开发' (highlighted with a red box), '开放能力', '开发工具', '阿里云', '基本信息', and '开发文档'. Below the navigation is a search bar and a '批量申请' button. The left sidebar contains sections like '基础信息', '应用信息', '开发管理', '权限管理' (highlighted with a red box), '应用功能', '事件与回调', '登录与分享', '安全与监控', '监控中心', '部署与发布', and '版本管理与发布'. The main content area displays a table of permissions under the '应用开发' tab. Several rows are highlighted with red boxes: 1) '个人手机号信息' (Contact.User.mobile) with status '已开通' and '移除权限' button. 2) '日历应用中日程写权限' (Calendar.Event.Write) with status '未开通' and '申请权限' button. 3) '通讯录个人信息读权限' (Contact.User.Read) with status '已开通' and '移除权限' button. Other rows include '个人支付宝绑定信息' (Contact.User.alipayAccount), '日历应用中日程读权限' (Calendar.Event.Schedule.Read), and '日历应用中日历读权限' (Calendar.Calendar.Read).

# Steam

## Steam✓

Visit [Steam WebAPI platform](#) and log in using your Steam account, then apply for an API Key for your casdoor domain or ip, and finally fill in your API Key as Client Secret into Casdoor. (ClientID does not need to be filled, and your steam account needs to have games to apply for the API)

For more detailed information, please visit [Steam WebAPI doc.](#)

# GitHub

GitHub OAuth supports both web application flow and device flow. Please continue reading to obtain OAuth credential.

First, please visit [GitHub developer settings](#) to register a new GitHub App.

## ⚠ CAUTION

Tricks: We recommend that you use GitHub Apps to replace the OAuth Apps, because GitHub Apps can add multiple redirect uri, which can bring convenience when deploying test and production environments. [GitHub](#) official also recommend using GitHub Apps instead of OAuth Apps.

## Settings / Developer settings



[GitHub Apps](#)



[OAuth Apps](#)



[Personal access tokens](#)

Then fill the GitHub App name, Homepage URL, description and Callback URL.

GitHub App name \*

Casdoor

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 \*

http://door.casdoor.com

The full URL to your GitHub App's website.

Add Callback URL

Identifying and authorizing users

The full URL to redirect to after a user authorizes an installation.

Callback URL

http://localhost:7001/callback

Delete

Callback URL

https://door.casdoor.com/callback

Delete

## ❗ SET AUTHORIZATION CALLBACK URL CORRECTLY

In GitHub App config, the `Callback URL` must be your Casdoor's callback url, and the `Redirect URL` in Casdoor should be your application callback url

For more details, please read [App config](#)

After registering your GitHub App, you can generate your `Client Secret` now!

## 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 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 third party service to complete authentication.

# Gitee

To set up Gitee OAuth provider, please go to [Gitee developer](#), if you have not created applications before, the gitee workbench would like this:



The screenshot shows the Gitee workbench interface. At the top, there is a navigation bar with links for 'Enterprise Edition' (特惠), 'College Edition' (高校版), 'Private Cloud' (私有云), 'Blog' (博客), and 'My' (我的). On the right side of the header are icons for notifications, location, and account settings. Below the header, there is a search bar with the placeholder 'Search open source'. The main content area has tabs for 'My Applications' (我的应用) and 'Authorized Applications' (已授权应用), with 'My Applications' being the active tab. A large 'No Data' message with a circular icon is displayed, indicating that no applications have been created yet. There is also a button labeled '+ Create Application' (+ 创建应用).

Then you can create your gitee app.

## 创建第三方应用

应用名称 \*

应用名称

应用描述

应用描述

应用主页 \*

你的应用主页

应用回调地址 \* +

User authorization after redirection, example: https://gitee.com/login

Fill in the name, description, homepage and callback URL and carefully choose the permissions.

### ⚠ SET AUTHORIZATION CALLBACK URL CORRECTLY

In Gitee OAuth config, the `authorization callback URL` must be your Casdoor's callback url, and the `Redirect URL` in Casdoor should be your application callback url

For more details, please read [App config](#)

Then you can create you gitee app and get `Client ID` and `Client Secrets` now!

### 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 fill the `Client ID` and `Client Secrets` in your Casdoor.

Edit Provider

Save

Name ③ :

my\_gitee\_provider

Display name ③ :

Gitee provider

Category ③ :

OAuth

Type ③ :

Gitee

Client ID ③

300ff94d994a7597850bbafb2d5dc67929676dd8e7176b029e067dc6966ef9c4

Client secret ③

\*\*\*\*\*

Now you can use Gitee as 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 Linkedin OAuth provider, please go to [Linkedin developer](#) 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 give permission to your app

After 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 Linkedin OAuth config, the `authorized redirect URLs` must be your Casdoor's callback url, and the `Redirect URL` in Casdoor should be your application callback url

For more details, please read [App config](#)

Then you can obtain your `Client ID` and `Client Secret`

## Application credentials

### Authentication keys

#### Client ID:

860t47n8b4jh7w

#### Client Secret:

.....



Add a Linkedin OAuth provider and fill 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 third party service to complete authentication!

# Facebook

To set up Facebook OAuth provider, please go to [Facebook developer](#) to create a new app.

Select what kind of app you are going to create.

## Select an app type



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 filling in your name and contact email, you can enter facebook developer dashboard.

**FACEBOOK for Developers**

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.

**Audience Network**  
Monetize your app and grow revenue with ads from Facebook advertisers.

**App Events**  
Understand how people engage with your business across apps, devices, platforms and websites.

**Messenger**  
Customize the way you interact with people on

**Webhooks**  
Subscribe to changes and receive updates in real

**Instant Games**  
Create a cross-platform HTML 5 game hosted on

Read Docs Set Up Read Docs Set Up Read Docs Set Up

Then set up Facebook login:



## Facebook Login

The world's number one social login product.

Read Docs

Set Up

Choose 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 fill the website url, you can go to **Facebook Login > Settings**, and fill 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 Facebook OAuth config, the `Valid OAuth Redirect URIs` must be your Casdoor's callback url, and the `Redirect URL` in Casdoor should be your application callback url

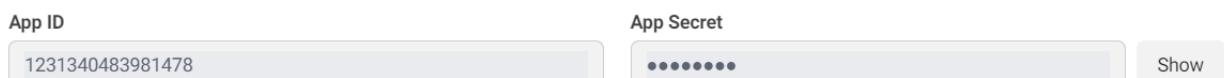
For more details, please read [App config](#)

Basic app configuration is almost done!

Switch mode from **In development** to **Live** in the top bar of dashboard



Then your **App ID** and **App secrets** can be used in Casdoor.



Add a Facebook OAuth provider and fill the **Client ID** and **Client Secrets** with **App ID** and **App Secrets** in your Casdoor.

A screenshot of the Casdoor OAuth provider configuration form for Facebook. The form includes fields for "名称" (Name) set to "my\_facebook\_provider", "显示名称" (Display Name) set to "Facebook provider", "分类" (Category) set to "OAuth", "类型" (Type) set to "Facebook", "Client ID" set to "1231340483981478", and "Client secret" set to "\*\*\*\*\*". A "修改提供商" (Edit Provider) button and a large blue "保存" (Save) button are at the top left of the form.

Now you can use Facebook as third party service to complete authentication!

# Google

To set up Google OAuth provider, please go to [Google API console](#) and log in using your Google account.

Project name \*

My Casdoor



Project ID: my-casdoor. It cannot be changed later. [EDIT](#)

Location \*

No organization

[BROWSE](#)

Parent organization or folder

[CREATE](#)

[CANCEL](#)

Then navigate to OAuth consent screen tab to configure 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**

And register your Google app.

## 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

Then navigate to 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 |       |      |

And create 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 \*



### **⚠ SET AUTHORIZED REDIRECT URIS CORRECTLY**

In Google OAuth config, the `Authorized redirect URIs` must be your Casdoor's callback url, and the `Redirect URL` in Casdoor should be your application callback url

For more details, please read [App config](#)

After create Client ID and obtain `Client ID` and `Client Secrets`

## 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 a Google OAuth provider and fill 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>

Now you can use Google as third party service to complete authentication.

# Baidu

To set up 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>

◀ **创建工程**

\* 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 is 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'██████████yQmAp61

Add your Casdoor domain in the following position:

The screenshot shows the Casdoor configuration interface. On the left sidebar, there are several tabs: 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 tab is active, displaying the 'Security Settings' page. In the center, there is a section titled 'Implicit Grant 授权方式' (Authorization Method) with two radio button options: 启用 (Enable) and 禁用 (Disable). Below this is a '授权回调页' (Authorization Callback Page) input field, which is currently empty. To the right of the input field, there is a note: '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 configuring this item.) and a link to '帮助文档' (Help Document). Further down, there is a '根域名绑定' (Root Domain Binding) input field containing 'door.casbin.com'. A note next to it 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, it must have a Referer, and its domain name must be limited in the "Root Domain Binding" setting item). Below the root domain binding, there is another input field for '应用服务器IP地址' (Application Server IP Address) and a note: '可以同时将应用访问OpenAPI（如 Passport、翻译等API）的IP限制在所填的“应用服务器IP地址”设置项中' (You can also limit the IP of application access to OpenAPI (such as Passport, Translation, etc.) in the "Application Server IP Address" setting item). At the bottom of the page are two buttons: '确定' (Confirm) and '取消' (Cancel).

### ⚠ CAUTION

This part is very different from the actual situation in the documentation given by Baidu:

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 get `Client ID` and `Client Secrets` now!

The screenshot shows the Casdoor web application. On the left sidebar, there are several options: 基本信息 (Basic Information), 接入类型 (Integration Type) with a dropdown menu, 其他应用 (Other Applications), 开发者服务 (Developer Services) with a delete icon, OAuth2.0, and 安全设置 (Security Settings). The main content area is titled "基本信息" (Basic Information). It displays a Baidu Developer logo, fields for 名称 (Name: Casdoor), Icon (Icon: a gear icon), and ID (ID: a blurred value). Below these are two red-bordered input fields: "Client ID" with the value "API Key: HnhK7...QmAp61" and "Client Secret" with the value "Secret Key: DTgBZ...ls1bLm1Gha". To the right of these fields is a "重置" (Reset) button. Below the Client ID field is the creation time "创建时间: 2022-01-22 16:20:05" and below the Client Secret field is the update time "更新时间: 2022-01-23 15:45:06".

Add a Baidu OAuth provider and fill the `Client ID` and `Client Secrets` in your Casdoor.

The screenshot shows the Casbin web application. The top navigation bar includes Home, Organizations, Users, Roles, Permissions, Providers (which is highlighted), Applications, Resources, and Tokens. The main content area is titled "Edit Provider" and shows fields for Name (Baidu), Display name (Baidu), Category (OAuth), Type (Baidu), Client ID (HsM...nWT), Client secret (\*\*\*) (both fields are red-bordered), and Provider URL (https://github.com/organizations/xxx/settings/applications/1234567). At the bottom are "Save" and "Save & Exit" buttons.

Now you can use Baidu as third party service to complete authentication!

### (!) GENERAL TROUBLESHOOTING

If you encounter a Baidu prompt that 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 its documentation which shows the user name and the displayed name, so we can currently only use the masked name as the user name.

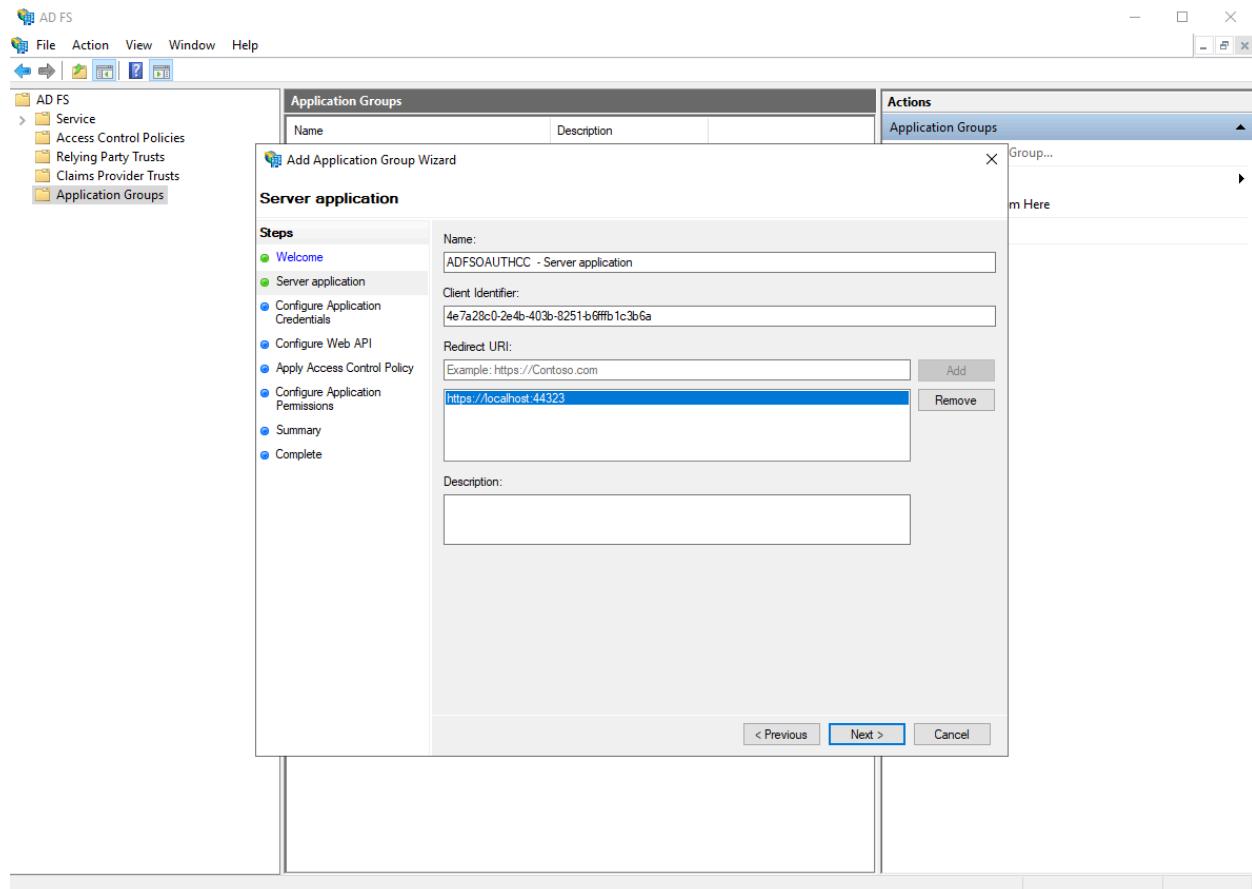
# AD FS

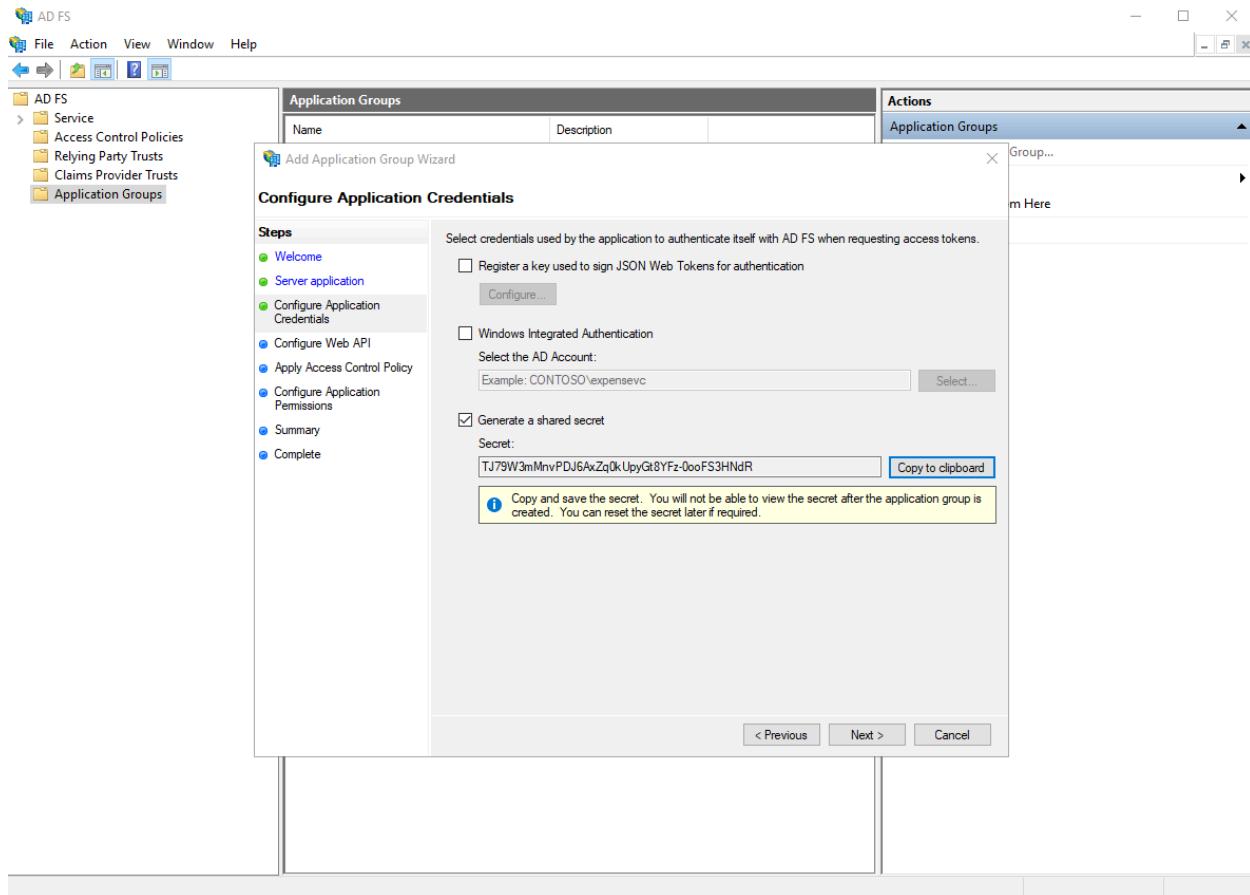
To set up Active Directory Federation Service, please read the [ADFS](#) for the basic knowledge about the ADFS and [AD FS Deployment Guide](#) for how to set up a AD FS server. Do ensure that you have a fully operational AD FS server before you move on to further steps.

## Step1 Enabling Oauth via AD FS

See [Enabling Oauth Confidential Clients with AD FS](#) for details about creating an app step by step.

By the time you finish this step, you should have acquired clientId and clientSecret like this





In which the Client Identifier in first picture and the Secret in the second picture are supposed to be clientId and clientSecret in Oauth.

## Enable Casdoor AD FS Provider

Add a AD FS provider and fill the `Client ID` and `Client Secrets` in your Casdoor.

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-premise applications. Software as a Service (SaaS) applications, on-premise 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.

### step1. Register an application

First, [Register](#) an application. And choose an account type as needed. The demo station uses the type shown below.

Microsoft Azure Search resources, services, and docs (G+)

[Home](#) >

## Register an application

### \* Name

The user-facing display name for this application (this can be changed later).

casdoor



### 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](#)

## step2. Create a client secret

Create a **client secret** and save the value, it will be used later.

casdoor | Certificates & secrets ...

Search (Ctrl+/) Got feedback?

Credentials enable confidential applications to identify themselves to the authentication service when receiving tokens at a web addressable location (using an HTTPS scheme). For a higher level of assurance, we recommend using a certificate (instead of a client secret) as a credential.

Application registration certificates, secrets and federated credentials can be found in the tabs below.

Certificates (0) Client secrets (1) Federated credentials (0)

A secret string that the application uses to prove its identity when requesting a token. Also can be referred to as application password.

New client secret

| Description | Expires  | Value                             | Secret ID                            |
|-------------|----------|-----------------------------------|--------------------------------------|
| casdoor     | 1/8/2023 | 3Xr8Q~dFau2Hwyhg6y8Upb53PCFbuF... | f3c7d37c-1def-4e29-b75f-457fa7c081e8 |

## step3. Add redirect URIs

Follow the example in the picture to add the redirect URIs for Casdoor.

The screenshot shows the 'casdoor | Authentication' configuration page in the Azure portal. The left sidebar has 'Authentication' selected. The main area shows 'Platform configurations' and 'Supported account types'. On the right, under 'Redirect URIs', there is a red box around the 'Add a platform' button and the URL 'http://localhost:8000/callback'. Other sections like 'Front-channel logout URL' and 'Implicit grant and hybrid flows' are also visible.

## step4. Grant admin consent

The `user.read` API is open by default. You can add more scope 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), and a Troubleshooting link.

The main area displays a message: "Successfully granted admin consent for the requested permissions." Below it is a warning: "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](#)". A note states: "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:

| API / Permissions name | Type      | Description   | Admin consent requ... | Status                      |
|------------------------|-----------|---|-----------------------|-----------------------------|
| email                  | Delegated | View users' email address                           | No                    | Granted for Default Dire... |
| offline_access         | Delegated | Maintain access to data you have given it access to | No                    | Granted for Default Dire... |
| openid                 | Delegated | Sign users in                                       | No                    | Granted for Default Dire... |
| profile                | Delegated | View users' basic profile                           | No                    | Granted for Default Dire... |
| User.Read              | Delegated | Sign in and read user profile                       | No                    | Granted for Default Dire... |

A red box highlights the "Grant admin consent for Default Directory" button. Another red box highlights the status column for the User.Read permission, which shows "Granted for Default Dire...".

## step5. Create AzureAD provider in casdoor

The last step, add an AzureAD OAuth provider and fill 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 Infoflow OAuth provider, please go to [Infoflow](#) and log in using your Infoflow account.

First, please visit [Infoflow Application](#).



如流 Infoflow

首页 通讯录 应用中心 数据统计 设置

应用(5)

新建应用 应用分组/排序 应用宣传栏

And register your Infoflow app.



返回 Casdoor 基本信息 保存 取消

应用logo:  建议使用640\*640, 2M以内的jpg、png图片

应用名称: Casdoor

应用介绍: Casdoor单点登录系统

功能:

应用 (在客户端应用面板中, 为用户提供访问内部系统的入口, [查看客户端示例](#))

机器人 (在企业群聊中, 为用户提供机器人服务, [查看客户端示例](#))

服务号 (以双人会话方式, 为用户提供交流服务, [查看客户端示例](#))

Then you can get AgentID now.

< 返回

Casdoor

| 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

Then navigate to 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 普通管理组 ③ 管理员 新建下级管理组 ④

暂未设置管理员 通讯录权限 组织架构

Add your structure to the address book permissions, and give it the permissions shown below. Also add the application you just created to the following location.

## 通讯录权限

修改

组织架构

查看

管理 ?

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

成员ID

姓名

部门

头像

手机号

邮箱

登录帐号

## 应用权限

修改

应用权限

发消息

配置应用

Casdoor

Add the sensitive interface permissions as shown below:

## 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"/>            |

You will be able to see `CorpID` and `Secret` on the same page:

## 开发者凭据

### Client ID

|        |                            |
|--------|----------------------------|
| CorpID | hir211...1                 |
| Secret | HgH1...NB<br>Client Secret |

重置

Add an Infoflow OAuth provider and fill the `Client ID`, `Client Secret` and `Agent ID` in your Casdoor.

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      | CorpID               |
| Client secret ②  | ***<br><b>Secret</b> |
| Agent ID ② :     | 55<br><b>AgentID</b> |

Now you can use Infoflow as third party service to complete authentication!

# Okta

To set up Okta OIDC provider, first visit [Okta Developer](#) and sign up to get a developer account.

Navigate to Applications > Applications tab, click Create App Integration, select a Sign-in method of OIDC - OpenID Connect, and select an Application type of Web Application, then click Next.

## Create a new app integration

X

### 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>.

### Sign-in redirect URIs

Okta sends the authentication response and ID token for the user's sign-in request to these URIs

[Learn More](#)

Allow wildcard \* in sign-in URI redirect.

X

[+ Add URI](#)

In the **Assignments** section, define the type of Controlled access for your app, then click **Save** to create the app integration.

Now you get `Client ID`, `Client secret`, and `Okta domain`.

### Client Credentials

[Edit](#)

|               |  |   |
|---------------|--|---|
| Client ID     | Ooa4we8u8iivyscpb5d7   |  |
|               | Public identifier for the client that is required for all OAuth flows.   |   |
| Client secret | .....  |  |
|               | 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. |   |

### General Settings

[Edit](#)

|             |                       |   |
|-------------|-----------------------|---|
| Okta domain | dev-53555475.okta.com |  |
|-------------|-----------------------|---|

Add a Okta OAuth provider in Casdoor dashboard, enter 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 `Domain` is not just `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 third party service to complete authentication.

# Email

## Add an Email provider

1. Click [Add](#) to add a new provider.
2. Select [Email](#) in [Category](#)

Name [?](#) :

email provider

Display name [?](#) :

My Email

Category [?](#) :

Email

Type [?](#) :

Default

3. Fill [Username](#), [Password](#), [Host](#), [Port](#) of your smtp service.

Username [?](#)

no-reply@casbin.com

Password [?](#)

\*\*\*

Host [?](#) :

[🔗](#) smtp.qiye.aliyun.com

Port [?](#) :

465

4. Fill customized [Email Title](#) and [Email Content](#) and save.



# SMS

We use [casdoor/go-sms-sender](#) to send SMS for Casdoor. Now, [go-sms-sender](#) supports Aliyun, Tencent Cloud and Volc SMS APIs. You can raise an issue, or make a pull request if you want to support other SMS providers.

## Add a SMS provider

1. Click [Add](#) to add a new provider.
2. Select [SMS](#) in [Category](#)

Edit Provider [Save](#)

|                  |   |
|------------------|---|
| Name ⓘ :         | SMS Provider                            |
| Display name ⓘ : | My SMS                                  |
| Category ⓘ :     | SMS                                     |
| Type ⓘ :         | OAuth<br>Email<br><b>SMS</b><br>Storage |
| Client ID ⓘ      | <a href="#">Client secret</a>           |

3. Select your provider type ([Aliyun SMS](#), [Tencent Cloud SMS](#) or [Volc Engine SMS](#))

Type ⓘ : Aliyun SMS

|                                     |
|-------------------------------------|
| Client ID ⓘ : Aliyun SMS            |
| Client secret ⓘ : Tencent Cloud SMS |
|                                     |

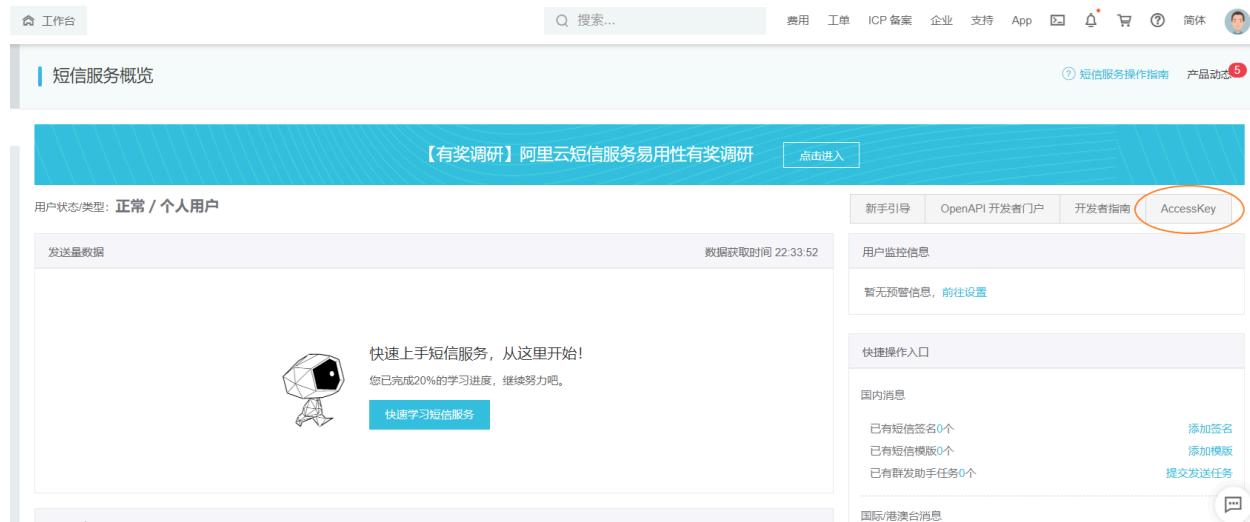
4. Get your information from Aliyun, Tencent Cloud or Volc Engine and fill them out.

# Example

## ① NOTE

Here, I use Aliyun SMS service as an example

After I logged in my Aliyun workbench, click AccessKey to create ID and Secret.



The screenshot shows the Aliyun Workbench interface for the SMS service. At the top, there's a navigation bar with links like '费用' (Cost), '工单' (Work Orders), 'ICP 备案' (ICP Registration), '企业' (Enterprise), '支持' (Support), 'App', and a user profile icon. Below the navigation bar, there's a search bar and a '短信服务概览' (SMS Service Overview) section. A prominent blue banner at the top says '【有奖调研】阿里云短信服务易用性有奖调研' (SMS Service Usability Survey) with a '点击进入' (Click to Enter) button. The main content area has several sections: '发送量数据' (Delivery Volume Data) with a chart, '用户状态类型: 正常 / 个人用户' (User Status Type: Normal / Individual User), '数据获取时间 22:33:52', '用户监控信息' (User Monitoring Information), '快速操作入口' (Quick Operation Entry), '国内消息' (Domestic Messages), and '国际/港澳台消息' (International/Hong Kong/Macau/Taiwan Messages). On the right side, there are buttons for '新手引导' (Newbie Guide), 'OpenAPI 开发者门户' (OpenAPI Developer Portal), '开发者指南' (Developer Guide), and 'AccessKey' (which is circled in orange). Below these buttons are links for '添加签名' (Add Signature), '添加模版' (Add Template), and '提交发送任务' (Submit Delivery Task).

By creating AccessKey, I get my AccessKey ID and AccessKey Secret:



The screenshot shows the '安全信息管理' (Security Information Management) page in the Aliyun Workbench. At the top, there's a navigation bar with links like '费用' (Cost), '工单' (Work Orders), 'ICP 备案' (ICP Registration), '企业' (Enterprise), '支持' (Support), 'App', and a user profile icon. Below the navigation bar, there's a search bar and a '用户AccessKey' (User AccessKey) section. A yellow banner at the top of this section says '① AccessKey ID和AccessKey Secret是您访问阿里云API的密钥, 具有该账户完全的权限, 请您妥善保管。' (① AccessKey ID and AccessKey Secret are your keys to access Alibaba Cloud API, giving you full control over the account. Please keep them safe.). The '用户AccessKey' table lists one entry: 'LTAI4Fy4mVoMjAzC95mt5Wn7' with '显示' (Show) under 'AccessKey Secret', '启用' (Enabled) under '状态' (Status), '2020年7月19日 20:24:58' under '最后使用时间' (Last Used Time), and '2020年7月11日 17:52:50' under '创建时间' (Creation Time). There are '操作' (Operations) buttons for each row, with '禁用' (Disable) and '删除' (Delete) visible for the first row. A '创建AccessKey' (Create AccessKey) button is located at the top right of the table.

Fill the `AccessKey ID` and `AccessKey Secret` to Casdoor `Client ID` and `Client Secret`.

# Storage

## Storage

Set up a storage provider for upload files in Casdoor

## Azure Blob

Using Azure Blob as a storage provider for Casdoor

# Storage

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`.

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.

## Local

With `Local` type, the `Client ID`, `Client secret`, `Endpoint` and `Bucket` field are no longer needed, you can fill in it at will, and it cannot be empty.

The only item that you need to configure is `Domain` field. Please follow the format:

`Domain/images`

For example, `http://127.0.0.1:7001/images`, `http://door.casbin.org/images` are all allowed.

But `127.0.0.1:7001/images` is wrong.

## Cloud-Based

Currently we support `AWS S3` and `Aliyun OSS` cloud vendors, and are adding more Cloud storage services.

Fill in the corresponding fields with `Client ID`, `Client secret`, `Endpoint` and `Bucket` obtained from your cloud vendor console.

 TIP

With `Non-local` type, you probably don't need the `Domain` field, which is used for custom domain.

## Example

 NOTE

Here, I use Aliyun OSS as an example

The AccessKey is your key to access Aliyun API, with full account permissions.

So [created AccessKey](#) in Aliyun workbench.

Then create OSS service:

---

### 创建 Bucket

[? 创建存储空间](#)



 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。

Bucket 名称

mycasdoor

9/63 

地域

华北2 (北京)



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。

Endpoint

oss-cn-beijing.aliyuncs.com

Fill 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<br>(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> |

Then you can use Aliyun cloud storage services in your application.

# Azure Blob

 NOTE

This is an example of Azure Blob

- You must have an [Azure storage](#) account.

## Step1. Select Azure Blob

Select the Azure Blob as the storage type.

Edit Provider Save Save & Exit

|                                 |                                 |
|---------------------------------|---------------------------------|
| Name <small>②</small> :         | provider_ftfzes                 |
| Display name <small>②</small> : | New Provider - ftfzes           |
| Category <small>②</small> :     | Storage                         |
| Type <small>②</small> :         | Azure Blob                      |
| Client ID <small>②</small>      | Local File System<br>AWS S3     |
| Client secret <small>②</small>  | Aliyun OSS<br>Tencent Cloud COS |
| Endpoint <small>②</small> :     | Azure Blob                      |

## Step2. Fill the necessary information in Casdoor

There are three required fields. `Client ID`, `Client secret`, `Bucket`. The relationship corresponding to the Azure Blob account is as follows:

| Name          | Name in Azure | is required |
|---------------|---------------|-------------|
| Client ID     | AccountName   | required    |
| Client secret | AccountKey    | required    |
| Bucket        | ContainerName | required    |
| Domain        | DomainName    |             |

- AccountName

The `AccountName` is your AccountName.

- AccountKey

The `AccountKey` is your key to access 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 Azure Storage account 'casbin' overview page. The left sidebar contains navigation links like Overview, Activity log, Tags, Diagnose and solve problems, Access Control (IAM), Data migration, Events, and Storage browser (preview). Under Data storage, there are links for Containers, File shares, Queues, and Tables. Under Security + networking, there are links for Networking, Azure CDN, and Access keys. The 'Access keys' link is highlighted with a red box and has a red arrow pointing to it. The main content area displays the 'Essentials' and 'Properties' tabs. The 'Properties' tab is selected, showing Blob service settings such as Hierarchical namespace (Disabled), Default access tier (Hot), Blob public access (Enabled), Blob soft delete (Enabled (7 days)), Container soft delete (Enabled (7 days)), Versioning (Disabled), Change feed (Disabled), NFS v3 (Disabled), and Allow cross-tenant replication (Enabled). It also shows File service settings for Large file share (Disabled) and Active Directory (Not configured). The status bar at the bottom right indicates '2022-04-2'.

- ContainerName

You first need to create a container. There is a default container called 'default'.

Home > casbin

## casbin | Containers

Storage account

Search (Ctrl+)

+ Container    Change access level    Restore containers    Refresh    Delete

Search containers by prefix

| Name           | Created    |
|----------------|------------|
| \$logs         | 2022-04-29 |
| <b>default</b> | 2022-04-29 |

Overview    Activity log    Tags    Diagnose and solve problems    Access Control (IAM)    Data migration    Events    Storage browser (preview)

Data storage

- Containers** (highlighted with a red oval)
- File shares
- Queues
- Tables

- Domain

The custom domain name in your Azure CDN.

Home > fd-profile

## fd-profile

Front Door and CDN profiles

Search (Ctrl+)

Purge cache    Origin response timeout    Delete    Refresh

Essentials

|  |  |
|--|--|
| Resource group (move) : default                            | Name : fd-profile                                    |
| Status : Active  | Pricing Tier : Azure Front Door Standard             |
| Location : Global  | Front Door ID : f2f8e27a-12ff-4412-9d21-bc583a034f8b |
| Subscription (move) : Visual Studio Enterprise             | Origin response timeout : 60 Seconds                 |
| Subscription ID : <a href="#">Visual Studio Enterprise</a> |  |
| Tags (edit) : Click here to add tags                       |  |

Properties    Monitoring

Endpoints

|  |                     |
|--|---------------------|
| Endpoint hostname : endpoint-hth4eebgcdzc2ex.z01.azurefd.net | Provision succeeded |
|  | Enabled             |

Security policy

Custom domains

|                               |                     |
|-------------------------------|---------------------|
| Domain name : cdn.casploy.com | Provision succeeded |
|                               | Validation approved |

Routes

|   |                     |
|---|---------------------|
| Route name (endpoint-hth4eebgcdzc2ex.z01.azurefd.net) : default-route | Provision succeeded |
|   | Enabled             |

Analytics

Reports

Monitoring

A red arrow points from the "Custom domains" section to the text "even section on the".

## Step3. Save your configuration

The final result is as follows:

|   |   |
|---|---|
| Name <small>?</small> :                   | Provider_azure  |
| Display name <small>?</small> :           | Provider_azure  |
| Category <small>?</small> :               | Storage   |
| Type <small>?</small> :                   | Azure Blob  |
| Client ID <small>?</small>                | casbin  |
| Client secret <small>?</small>            | ***   |
| Endpoint <small>?</small> :               |   |
| Endpoint<br>(Intranet) <small>?</small> : |   |
| Bucket <small>?</small> :                 | default   |
| Domain <small>?</small> :                 | <a href="https://cdn.casploy.com/">https://cdn.casploy.com/</a>   |
| Provider URL <small>?</small> :           | <a href="https://github.com/organizations/xxx/settings/applications/1234567">https://github.com/organizations/xxx/settings/applications/1234567</a> |

Then you can use Azure Blob Storage services in your application.

# 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 UI using identities from external identity providers that support SAML 2.0. In such a configuration, Casdoor can never store any credentials for the users.

Now, Casdoor supports many SAML application providers. Icons of providers will be shown in login page after adding to Casdoor. Here are the providers Casdoor supports:

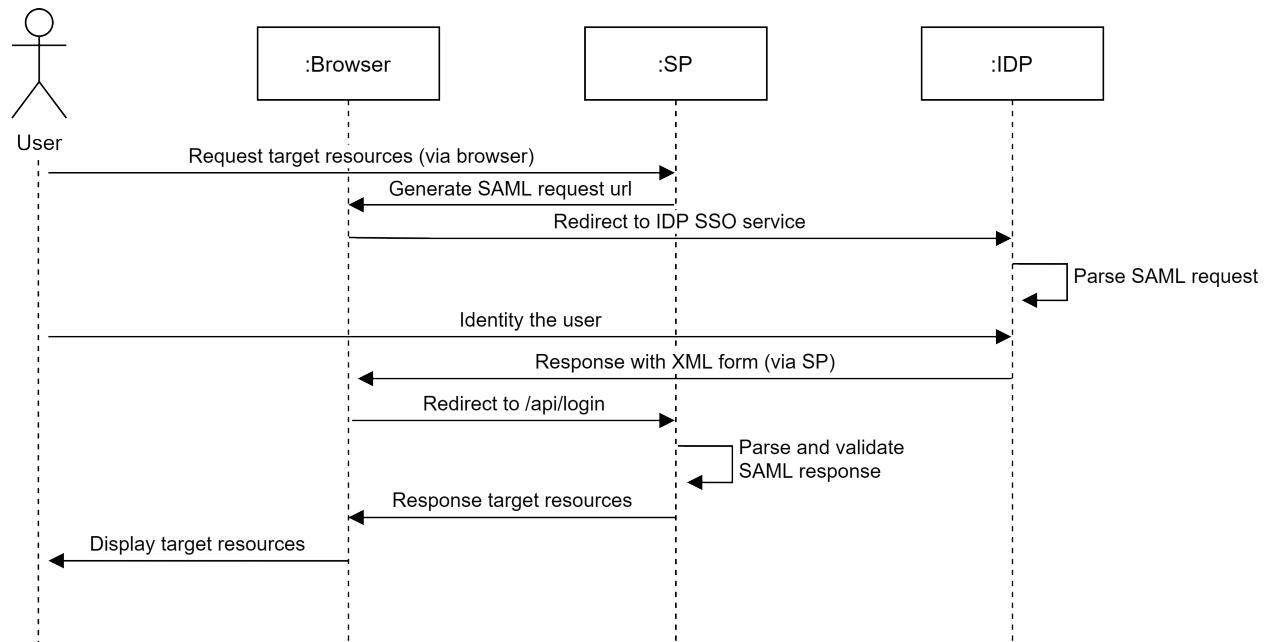
| Aliyun IDaaS   | Keycloak   |
|--|--|
|  |  |
| ✓  | ✓  |

## Terms

- Identity Provider (IDP) - The service that stores the identity database and provides identity and authentication services to Casdoor.
- Service Provider (SP) - The service providing 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 the Casdoor via the identity provider without ever passing credentials to Casdoor. The progress 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. On the left, there's a sidebar with navigation links like 'EIAM 实例列表' and 'CIAM 实例列表'. The main content area has a title '概览页' (Overview Page) under '应用身份服务' (Application Identity Services). It features a section about 'IDaaS (IDentity-as-a-Service)' and compares 'EIAM' and 'CIAM'. A table compares 'EIAM 不同版本区别' (Differences between EIAM versions), showing 'Standard Edition' and 'Enterprise Edition' side-by-side. To the right, there's a '阿里云售后' (Aliyun After-sales) section with a QR code and a '帮助文档' (Help Documentation) section with various links.

Click EIAM Instance List and open the free version.

This screenshot shows the 'EIAM 实例列表' (EIAM Instance List) page. The left sidebar has a link to 'EIAM 实例列表'. The main table lists EIAM instances with columns: 实例ID/名称 (Instance ID/Name), 标准版实例ID (Standard Edition Instance ID), 状态 (全部) (Status (All)), 规格授权 (Quota Authorization), 最大用户数 (Max Users), 到期时间 (Valid Until), 产品版本 (Product Version), 用户登录页地址 (User Login Page Address), 实例开放接口域名 (Instance Open API Domain Name), and 操作 (Operations). A red box highlights the '开通免费版' (Enable Free Edition) button in the top right corner of the table header.

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 Instance List page. At the top, there's a navigation bar with tabs like '工作台' (Workbench) and '华东2 (上海)' (East China 2 (Shanghai)). Below the navigation is a search bar and a toolbar with links for '费用' (Cost), '工单' (Ticket), 'ICP 备案' (ICP Registration), '企业' (Enterprise), '支持' (Support), 'App', and other icons. The main area is titled 'EIAM 实例列表' (EIAM Instance List). On the left, there's a sidebar with sections like '概览页' (Overview Page), 'EIAM 实例列表' (EIAM Instance List), '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 table lists instances with columns: 实例ID/名称 (Instance ID/Name), 标准版实例ID (Standard Edition Instance ID), 状态 (全部) (Status (All)), 规格授权 (Specification Authorization), 最大用户数 (Max Users), 到期时间 (Expiration Time), 产品版本 (Product Version), 用户登录页地址 (User Login Page Address), 实例开放接口域名 (Instance Open Interface Domain Name), and 操作 (Operations). A single row is selected, showing 'idaas-cn-shanghai' as the instance name, '运行中' (Running) as the status, '免费版' (Free Edition) as the specification, '100' as the max users, 'V1.9.6-GA' as the product version, and a blurred URL as the user login page. The '操作' column for this row contains a '管理' (Manage) link, which is highlighted with a red box. At the bottom right of the table, there are navigation buttons for '< 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 in the IDaaS management console. The left sidebar has sections like '概览', '快速入门', '应用' (Application), '机构及组织', '账户管理', '分类管理', '认证', '授权', '权限系统', '应用授权', '审计', '其它管理', and '设置'. The '应用' section is expanded, and '添加应用' (Add Application) is highlighted with a red box. The main 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 the search bar is a table with columns: 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 (Operations). The table lists several applications, including '云安全访问服务SASE' (plugin\_saml\_csas), '阿里云RAM-用户SSO' (plugin\_allyun), '阿里云RAM-角色SSO' (plugin\_allyun\_role), '阿里邮箱' (plugin\_allymail), 'WordPressSaml' (plugin\_wordpress\_saml), 'SAML' (plugin\_saml), and 'GitLab' (plugin\_saml\_gitlab). Each application entry includes a brief description and a '添加应用' (Add Application) button, which is highlighted with a red box for the 'SAML' application.

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,<br>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 row is shown in the table:  
1 idaas\_manager 默认管理员 自建账户 /  
At the bottom of the page, there are pagination controls, a '10条/页' (10 items per page) dropdown, and a '跳至' (Jump to) input field.

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

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, '应用授权' (Application Authorization) is selected and highlighted with a red box. The main panel displays a table of accounts associated with the application 'CASDOOR-SAML'. One account, 'casdoor', has a checked checkbox and is highlighted with a red box. A large blue '保存' (Save) button is at the bottom of the table. The top navigation bar includes links for '工作台' (Workplace), '搜索...' (Search), and various system status indicators.

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. Under the 'Application' category in the sidebar, '应用列表' (Application List) is selected and highlighted with a red box. The main panel displays a table for the application 'CASDOOR-SAML'. In the '操作' (Operations) column for this application, a '授权' (Authorization) link is highlighted with a red box. Below the table, there are two tabs: '应用信息' (Application Information) and '授权信息' (Authorization Information). The '授权信息' tab is active. At the bottom right of the page, there is a '共 1 条' (1 item) message and a '1' page indicator.

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.

The 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: 'Save' (blue) and 'Return'.

## 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, Authorization, Audit, and Others. 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. It includes sections for 图标 (Icon) showing a blue square with a white 'S' and 'SAML', and a table of configuration parameters. Some parameters are highlighted with red boxes: 'IDP IdentityId' (set to 'CASDOOR'), 'SP ACS URL' (set to 'http://localhost'), and 'SP Entity ID' (set to 'http://localhost'). Other parameters include 'SigningKey', 'NameIdFormat', 'Binding', 'Sign Assertion', 'Assertion Attribute', and 'IDaaS发起登录地址'.

# 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 <small>(?)</small>  | <input type="text" value="casdoor-idaas"/>  |
| Display name <small>(?)</small>                                  | <input type="text" value="casdoor-idaas"/>  |
| Category <small>(?)</small>                                      | <input type="text" value="SAML"/>   |
| Type <small>(?)</small>  | <input type="text" value="Aliyun IDaaS"/>   |
| Client ID <small>(?)</small>                                     | <input type="text"/>  |
| Client secret <small>(?)</small>                                 | <input type="text"/>  |
| Metadata <small>(?)</small>                                      | <pre>&lt;md:SingleSignOnService binding="urn:oasis:names:tc:SAML:2.0:bindings:HTTP-POST" location="https://alidns.yunidaa.com/charles/api/application/plugin_saml/metadata"/&gt; &lt;md:SPSSODescriptor&gt; &lt;md:AssertionConsumerService index="1" binding="urn:oasis:names:tc:SAML:2.0:bindings:HTTP-POST" location="https://alidns.yunidaa.com/charles/api/application/plugin_saml/metadata"/&gt; &lt;/md:SPSSODescriptor&gt; &lt;/md:EntityDescriptor&gt;</pre> |
| <span style="border: 1px solid #ccc; padding: 2px;">Parse</span> |   |
| Endpoint <small>(?)</small>                                      | <input type="text" value="https://dvmoykbkx.login.aliyunidaas.com/enduser/api/application/plugin_saml/idaas-cn-shanghai..."/> <span style="border: 1px solid #ccc; padding: 2px;">Copy</span>   |
| IdP <small>(?)</small>   | <input type="text" value="MIIIBz5zCAV/CgAwIBAgIILhzEz2NMHV4wDQYJKoZIhvNAQEFBQAwnjELMAkGA1UEBhMCQ04xE DAOBgNVBAgT B0JlaWppbmcxFTATBgNVBAMTDENBU0RPTIItVEVTVDaeFw0yMTEyMDkwNzEyMTFaFw0yNDEyMDgwNzEyMTFaMDYxCzAIE"/>   |
| Issuer URL <small>(?)</small>                                    | <input type="text" value="CASDOOR"/>  |
| SP ACS URL <small>(?)</small>                                    | <input type="text" value="http://localhost:8000/api/acs"/> <span style="border: 1px solid #ccc; padding: 2px;">Copy</span>  |
| SP Entity ID <small>(?)</small>                                  | <input type="text" value="http://localhost:8000/api/acs"/> <span style="border: 1px solid #ccc; padding: 2px;">Copy</span>  |
| Provider URL <small>(?)</small>                                  | <input type="text" value="∅ https://github.com/organizations/xxx/settings/applications/1234567"/>   |

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 box around its 'Status' column, which has a toggle switch. Below the table, there are tabs for Application Information, Authentication Information, Account Information - Sync, Account Information - Sub-account, Authorization Information, Audit Information, and API. At the bottom, there are pagination controls showing '1' of 1 page.

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 also can operate as an identity broker between other providers such as LDAP or other SAML providers and applications that support SAML or OpenID Connect.

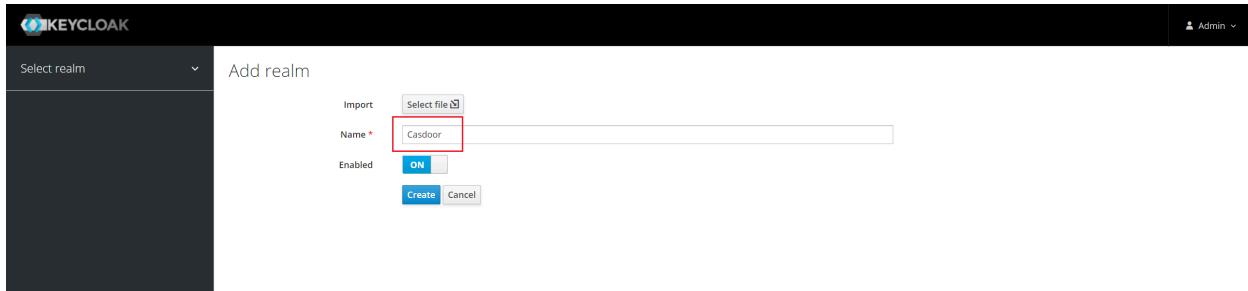
The following is an example of how to configure a new client entry in KeyCloak and configure Casdoor to use it to permit UI login by KeyCloak users that are granted access via KeyCloak configuration.

## Configure Keycloak

Some config choices and assumptions specifically for this example:

- Let's assume that you are running Casdoor as dev mode locally. Casoor UI is available at: `http://localhost:7001` and server is available at `http://localhost:8000`. Replace with the appropriate url as needed.
- Let's assume that you are running Keycloak locally. 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`.

Use the default realm or create a new realm.



## Add a client entry in Keycloak



See more details about Keycloak Clients in [Keycloak documentation](#).

Click Clients in the menu and then click Create to go to the Add Client page. Fill in as below.

- 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 under the 'Casdoor' realm, with 'Clients' selected. The main area is titled 'Add Client'. It contains three input fields: '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. A red box highlights the 'Client ID' field.

Click Save. This action creates the client and brings you to the Settings tab.

The following list part of 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 like.
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

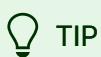
**Http://localhost:8000/api/acs**

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



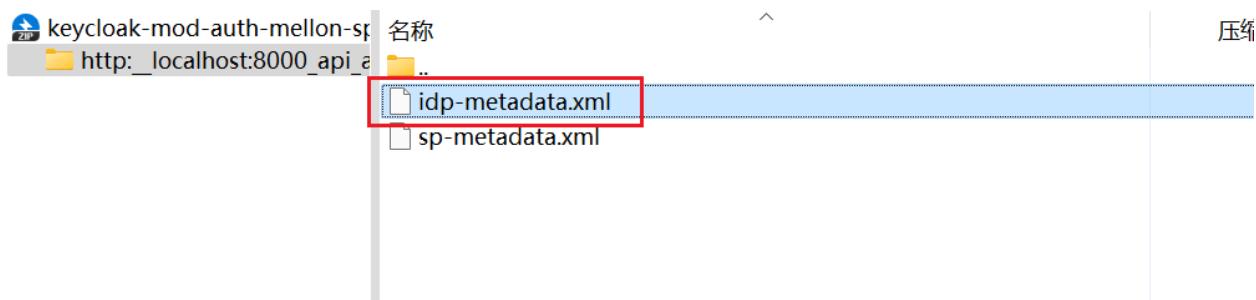
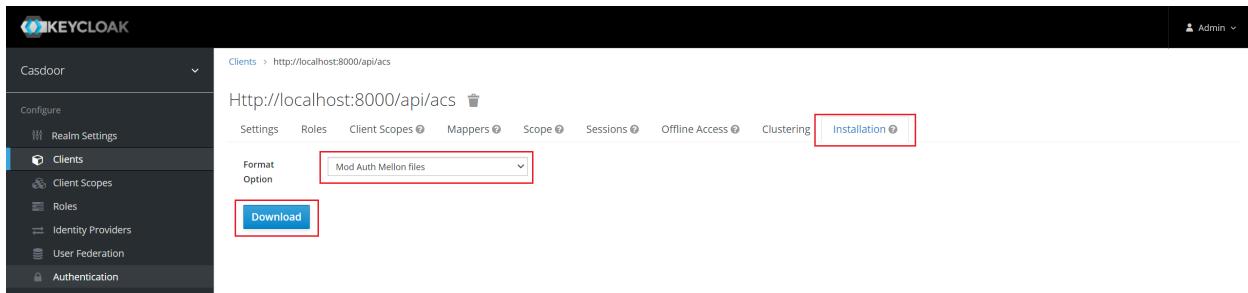
TIP

If you want to sign authn request, you need to enable the Client Signature Required option and upload the certificate generated by yourself. The private key and certificate using 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 Import button, select Archive Format as Certificate PEM and upload the certificate.

Click Installation tab.

For the Keycloak <= 5.0.0, select Format Option - SAML Metadata IDPSSODescriptor and copy the metadata.

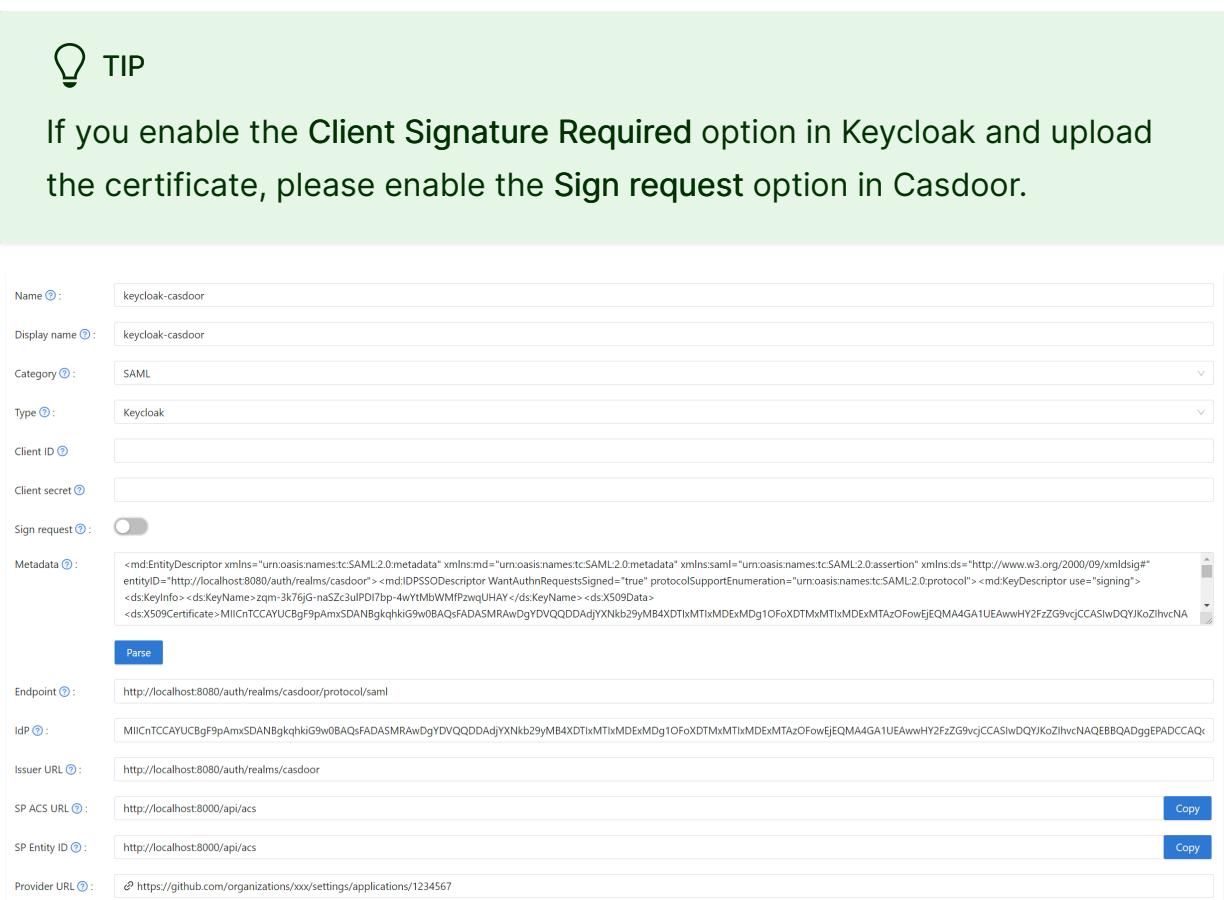
For Keycloak 6.0.0+, select Format Option - Mod Auth Mellon files and click Download. Unzip the downloaded.zip, locate `idp-metadata.xml` and copy the metadata.



# Configure in Casdoor

## Create a new provider in Casdoor.

Select category as **SAML**, type as **Keycloak**. Copy the content of metadata and paste it to the **Metadata** input. The values of **Endpoint**, **IdP** and **Issuer URL** will be generated automatically after clicking the **Parse** button. Finally click the button **Save**.



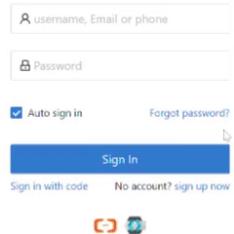
Edit the application you want to configure in Casdoor. Select the provider just added and click the button **Save**.

| Providers <small>(1)</small> |  | Add | Category | Type  | canSignUp | canSignIn | canUnlink | prompted | Action  |
|------------------------------|--|-----|----------|---|-----------|-----------|-----------|----------|---|
| Name                         |  |     |          |   |           |           |           |          |   |
| casdoor-idaas                |  |     | SAML     |  |           |           |           |          |    |
| keycloak-casdoor             |  |     | SAML     |  |           |           |           |          |    |

## Validate the effect

Go to the application you just configured and you can find that there is a Keycloak icon in the login page.

Click the icon and jump to the Keycloak login page, and then successfully login to the Casdoor after authentication.



The screenshot shows the Casdoor login interface. At the top, there is a search bar labeled "username, Email or phone" and a password field labeled "Password". Below these fields are two buttons: "Auto sign in" (with a checked checkbox) and "Forgot password?". In the center is a large blue "Sign In" button. Below the button, there are links for "Sign in with code" and "No account? sign up now". At the bottom right of the form, there are icons for SAML and OpenID Connect.

# Payment

 Alipay



> Providers > Payment >

Alipay

# Alipay

# Captcha

## Overview

Add a captcha to your application

## Default

Using Casdoor default captcha in your application

## reCAPTCHA

Add reCAPTCHA to your application

## hCaptcha

Add hCaptcha to your application



## Aliyun Captcha

Add Aliyun Captcha to your application

# Overview

Casdoor can be configured to support different captchas to check whether the operation is made by human. If you add a captcha provider and applied it in the application, when the user logins, registers or forgets password and needs to send a code, then a captcha check dialog will appear to check whether the operation is made by human.

Now, Casdoor supports many captcha providers. Here are the providers Casdoor supporting:

| Default | reCAPTCHA | hCaptcha | Aliyun Captcha |
|---------|-----------|----------|----------------|
|         |           |          |                |
|         |           |          |                |

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 [Providers](#) in the top bar
3. Click [Add](#), then you can see a new provider in the list top
4. Click the new provider to modify it
5. Select [Captcha](#) in [Category](#)

6. Choose the Captcha provider you need in `Type`
7. Fill the most important information, different captcha providers have different information that needs to be filled in

## Applied in application

1. Click `Applicaton` in the top bar and choose one application to edit.
2. Click provider add button, and select the provider you just added.
3. Done!

# Default

Default captcha implements generation and verification of image. A default captcha image is the sequence of digits 0-9 with the defined length(5).

## Configure in Casdoor

Create a new provider in Casdoor.

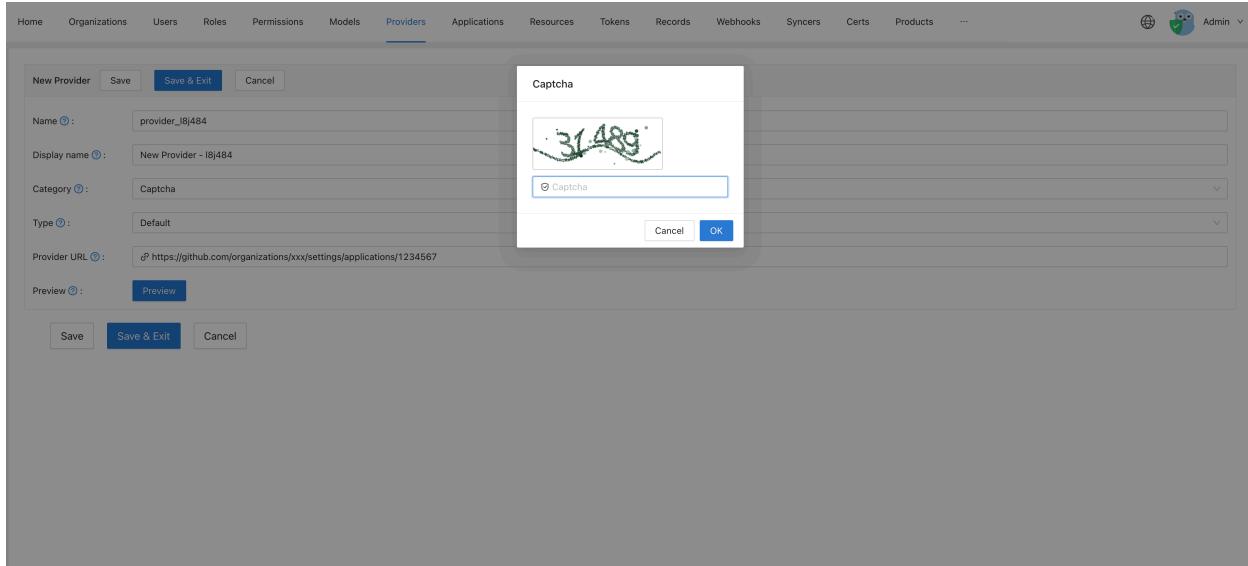
Select category as Captcha , type as Default .

The screenshot shows the Casdoor web application interface. The top navigation bar includes links for Home, Organizations, Users, Roles, Permissions, Models, **Providers** (which is the active tab), Applications, Resources, Tokens, Records, Webhooks, Syncers, Certs, Products, and more. On the far right, there is a user icon and an Admin dropdown menu. The main content area is a form for creating a new provider. The form fields are as follows:

| New Provider                          |   |
|---------------------------------------|---|
| <input type="button" value="Save"/>   | <input type="button" value="Save &amp; Exit"/>  |
| <input type="button" value="Cancel"/> |   |
| Name <small>(必填)</small> :            | provider_I8j484   |
| Display name <small>(必填)</small> :    | New Provider - I8j484   |
| Category <small>(必填)</small> :        | Captcha   |
| Type <small>(必填)</small> :            | Default   |
| Provider URL <small>(必填)</small> :    | <input type="text" value="https://github.com/organizations/xxx/settings/applications/1234567"/> |
| Preview <small>(必填)</small> :         | <input type="button" value="Preview"/>  |

At the bottom of the form, there are three buttons: Save, Save & Exit, and Cancel.

And you can click Preview button to preview the style of this captcha.



## Applied in application

Edit the application you want to configure in Casdoor. Select the provider just added and click the button **Save**.

| Providers       | Add | Category | Type | canSignUp | canSignIn | canUnlink | prompted | Action      |
|-----------------|-----|----------|------|-----------|-----------|-----------|----------|-------------|
| provider_I8j484 |     | Captcha  | gear |           |           |           |          | edit delete |

# reCAPTCHA

reCAPTCHA is provided by Google. And we use reCAPTCHA v2 Checkbox . You can see more details from 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 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 authorized domains or [package names](#). After you have accepted the terms of service, click [Register](#) to get 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 light blue bar says "← Register a new site". A yellow bar at the top of the main content area says "Get unlimited assessments using reCAPTCHA Enterprise". The main form has sections for "Label" (set to "reCaptcha"), "reCAPTCHA type" (set to "reCAPTCHA v2"), "Domains" (set to "casdoor.org"), and "Owners" (set to "resultlee@gmail.com"). There's also a checked checkbox for "Accept the reCAPTCHA Terms of Service".

Then you can get a site key and a secret key.

The screenshot shows the "Adding reCAPTCHA to your site" page. It displays a message that "'reCaptcha' has been registered." Below this, there are two sections: "Use this site key in the HTML code your site serves to users." and "Use this secret key for communication between your site and reCAPTCHA.". Each section contains a "COPY SITE KEY" button and a text input field containing a long, obscured key. At the bottom, there are "GO TO SETTINGS" and "GO TO ANALYTICS" buttons.

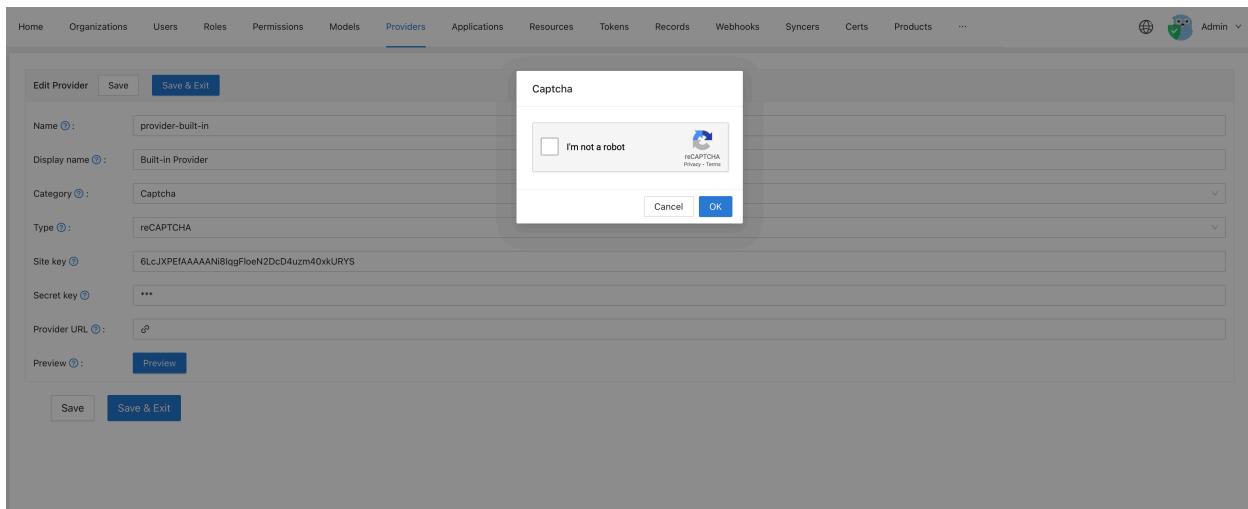
## Configure in Casdoor

Create a new provider in Casdoor.

Select category as **Captcha** , type as **reCAPTCHA** . And you need to fulfill the site key and the secret key which is created by last step.

The screenshot shows the 'New Provider' configuration page for reCaptcha. The provider type is set to 'reCAPTCHA'. The 'Site key' and 'Secret key' fields are filled with placeholder values. A 'Provider URL' field contains a link to GitHub's organization settings. A 'Preview' button is visible at the bottom. The interface includes standard save and cancel buttons.

And you can click Preview button to preview the style of this captcha.



## Applied in application

Edit the application you want to configure in Casdoor. Select the provider just added and click the button Save.

The screenshot shows the application configuration page where the 'reCaptcha' provider is selected from a list. The table columns include Name, Category, Type, canSignUp, canSignIn, canUnlink, prompted, and Action. The 'reCaptcha' row is highlighted with a blue border.

# hCaptcha

hCaptcha is a captcha service provider which is similar to reCAPTCHA. You can see more details from this [link](#).

## Create an API key pair

To start using hCaptcha, you need to [sign up for an API key pair](#) for your site. You can find your site key on your [profile page](#).

Then you can get a site key and a secret key.

## Configure in Casdoor

Create a new provider in Casdoor.

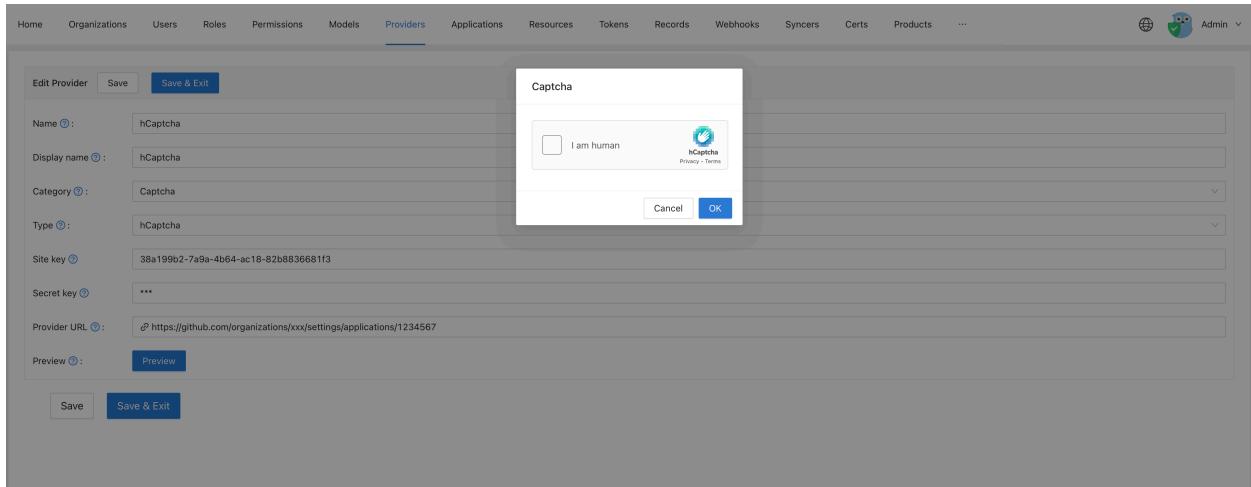
Select category as **Captcha** , type as **hCaptcha** . And you need to fulfill the site key and the secret key which is created by last step.

The screenshot shows the Casdoor web interface with the 'Providers' tab selected. A new provider is being created with the following details:

- 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/xx/settings/applications/1234567

At the bottom, there are 'Save', 'Save & Exit', and 'Cancel' buttons.

And you can click Preview button to preview the style of this captcha.



## Applied in application

Edit the application you want to configure in Casdoor. Select the provider just added and click the button Save.

| Providers : | Add      | Category | Type | canSignUp | canSignIn | canUnlink | prompted | Action |
|-------------|----------|----------|------|-----------|-----------|-----------|----------|--------|
| Name        | hCaptcha | Captcha  |      |           |           |           |          |        |

# Aliyun Captcha

Aliyun Captcha is a captcha service provided by Aliyun. It includes two ways to verify captcha: [Sliding Validation](#) and [Intelligent Validation](#). You can see more details from this [link](#).

## Add Captcha configuration in Aliyun

Login to the [Aliyun management console](#), search and go to the Captcha Service. And click Confirm Open to enable Captcha Service.



After entering the captcha agement console, click Add configuration.

公告: 2021年3月18日起, 人机验证产品统一更名为验证码。

| 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 | 自定义样式 系统代码集成 |
| 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 | 自定义样式 系统代码集成 |

共有2条 < 1 >

Fill in all required information and submit.

① 配置服务内容

② 系统代码集成&测试

③ 完成

配置名称: 主站登录

高峰期QPS: 3000

业务类型: PC网页

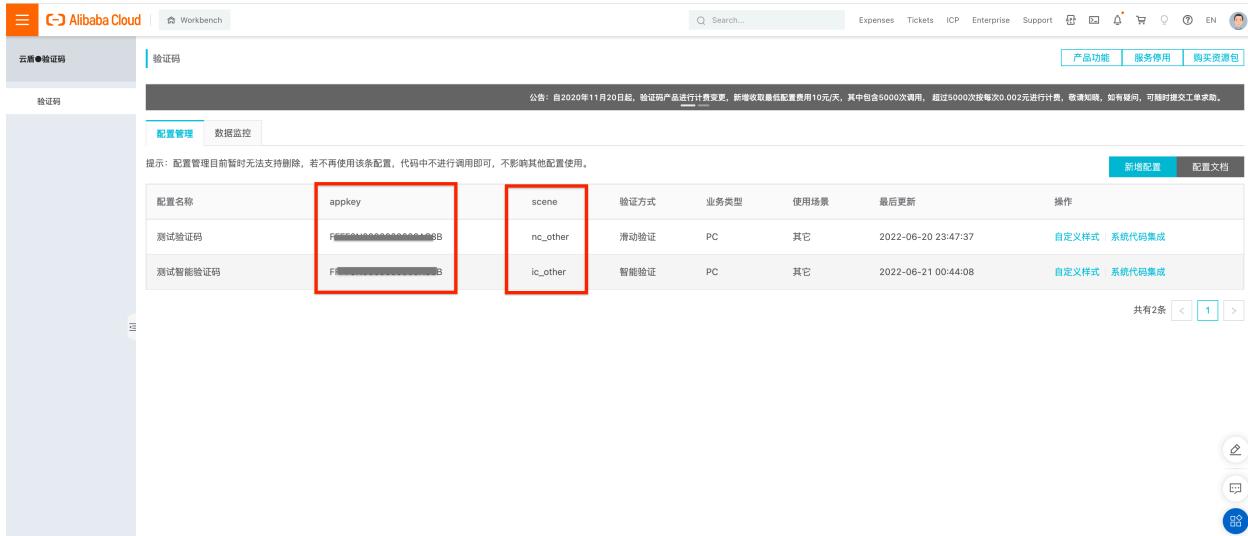
验证方式: 滑动验证

使用场景: 登录

产品形态预览: Demo页

下一步

Then you can see your **Scene** and **App key** in your console.



| 配置名称    | 值                   | 验证方式 | 业务类型 | 使用场景 | 最后更新                | 操作             |
|---------|---------------------|------|------|------|---------------------|----------------|
| 测试验证码   | appkey<br>F*****8B  | 滑动验证 | PC   | 其它   | 2022-06-20 23:47:37 | 自定义样式   系统代码集成 |
| 测试智能验证码 | nc_other<br>F*****b | 智能验证 | PC   | 其它   | 2022-06-21 00:44:08 | 自定义样式   系统代码集成 |

And Access key, Secret access key is in your profile.

## Configure in Casdoor

Create a new provider in Casdoor.

Select category as Captcha , type as hCaptcha . Then select sub type: Sliding Validation or Intelligent Validation. And you need to fulfill the Access key , Secret access key , Scene and App key which are created by last step.

New Provider

Name : Aliyun\_Captcha

Display name : Aliyun\_Captcha

Category : Captcha

Type : Aliyun Captcha

Sub type : Sliding Validation

Access key : LTAI4G7CngW2Pp5pE4yS7gF

Secret access key : 3IPXXXXXXXXXXN

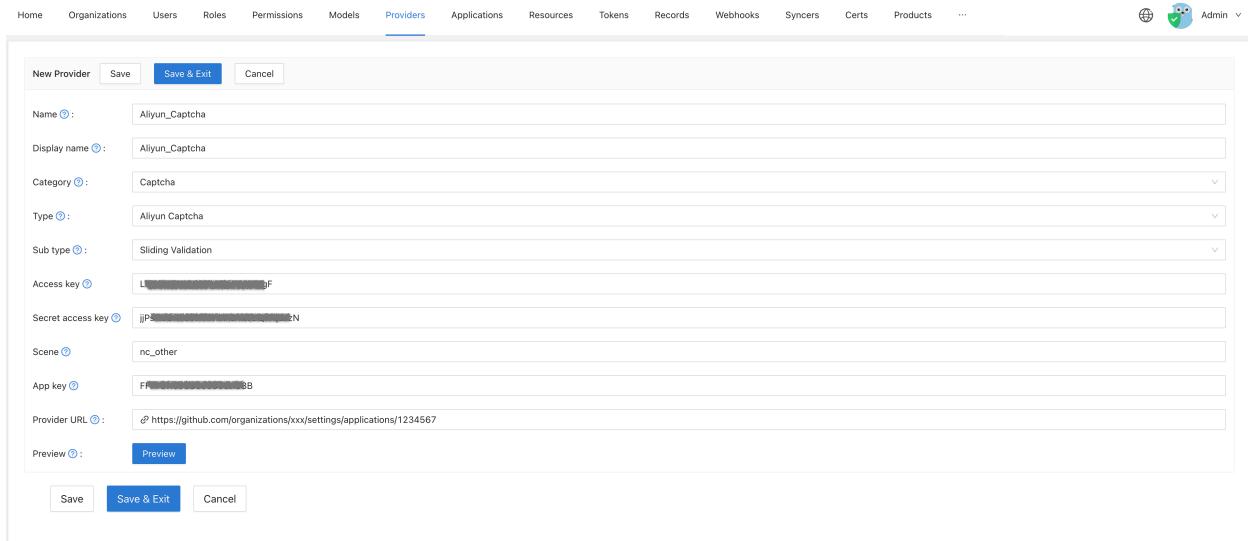
Scene : nc\_other

App key : FXXXXXXXXXXXXX8

Provider URL : https://github.com/organizations/xxx/settings/applications/1234567

Preview :

Save Save & Exit Cancel



And you can click **Preview** button to preview the style of this captcha.

The following image is **Sliding Validation** preview:

Edit Provider

Name : Aliyun\_Captcha

Display name : Aliyun\_Captcha

Category : Captcha

Type : Aliyun Captcha

Sub type : Sliding Validation

Access key : LTAI4G7CngW2Pp5pE4yS7gF

Secret access key : \*\*\*

Scene : nc\_other

App key : \*\*\*

Provider URL : https://github.com/organizations/xxx/settings/applications/1234567

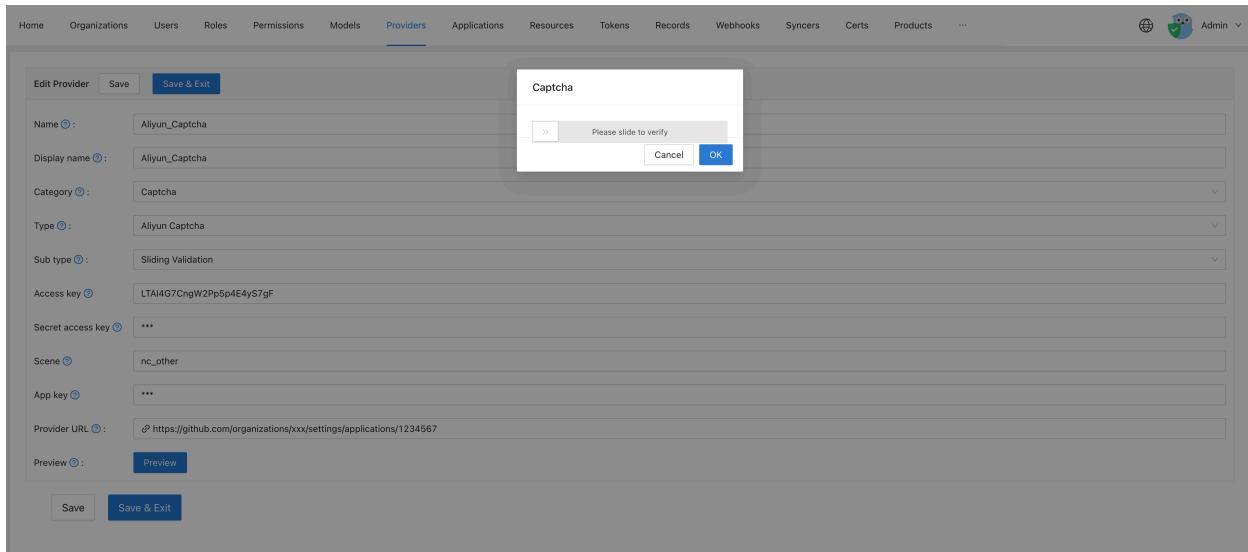
Preview :

Save Save & Exit

Captcha

Please slide to verify

Cancel OK



The following image is **Intelligent Validation** preview:

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 of the configuration form are "Save" and "Save & Exit" buttons.

# Applied in application

Edit the application you want to configure in Casdoor. Select the provider just added and click the button **Save**.

The screenshot shows the Casdoor provider list table. A single row is selected, highlighting the "Name" column which contains "Aliyun\_Captcha". The table has columns for Name, Category, Type, canSignUp, canSignIn, canUnlink, prompted, and Action.

| Providers | Add | Name           | Category | Type                   | canSignUp | canSignIn | canUnlink | prompted | Action           |
|-----------|-----|----------------|----------|------------------------|-----------|-----------|-----------|----------|------------------|
|           |     | Aliyun_Captcha | Captcha  | Intelligent Validation |           |           |           |          | Up, Down, Delete |



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Resources

# Resources



## Overview

Upload resources in Casdoor

# Overview

You can upload resources in casdoor. Before upload resources, you need to configure a storage provider. Please see [Storage Provider](#)

You have now configured at least one storage provider and added that provider to your application.

| Providers <a href="#">?</a> |          |      |        |
|-----------------------------|----------|------|--------|
| Providers                   | Add      |      |        |
| Name                        | Category | Type | Config |
| Provider_azure              | Storage  | A    |        |
| Github_1                    | OAuth    |      |        |
| provider_Alipay             | Payment  |      |        |

All right! Let's see an example of how to upload and delete resources.

## Upload Resources

Users can upload resources such as files and images to the previously configured [cloud storage](#).

Resources [Upload a file...](#)

| Provider                    | Created time  | Tag                 |
|-----------------------------|---|---------------------|
| provider_storage_aliyun_oss | source/casbin/leo220yuyaodog/2022_ICM_Problem_D.pdf | 2022-05-18 17:25:21 |
| provider_storage_aliyun_oss | source/built-in/admin/美的2021&22Q1交流.pdf             | 2022-05-18 12:28:01 |
| provider_storage_aliyun_oss | source/casbin/admin/solo.svg                        | 2022-05-17 16:25:39 |

## Delete Resources

If you no longer need the 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> |



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Products

# 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 tell you how to add a product.

## Configuring Products Attributes

First, you need to understand the basic properties of the product:

[Tag](#) [Detail](#)  
[Currency](#) [Price](#) [Quantity](#) [Sold](#)

Tag [?](#) : Casdoor Summit 2022

Detail [?](#) : This is a description

Currency [?](#) : USD

Price [?](#) : 19

Quantity [?](#) : 100

Sold [?](#) : 10

## Payment Provider

Of course, in addition to setting these properties, you also need to add payment

providers to the product, and multiple payment providers can be added to a product.

To learn how to configure a payment provider, see [Payment Provider](#)

Payment providers  [X](#)

[?](#) :

provider\_Alipay

Return URL [?](#) : <http://localhost:8000/products/callback>

Finally, fill in the Return URL. This is the url to jump from the payment provider page when the payment is completed.

## Preview the Product

You're done. See the review and save:

Preview [?](#):

[Test buy page..](#)

Buy Product

| Name   | Product   |          |                     |      |         |
|--------|---|----------|---------------------|------|---------|
| Detail | This is a subscription.   | Tag      | Casdoor Summit 2022 | SKU  | product |
| Image  |  |          |                     |      |         |
| Price  | \$300 (USD)   | Quantity | 99                  | Sold | 10      |
| Pay    | <a href="#">Alipay</a>  |          |                     |      |         |

# Payment

After the payment is successful, you can see the transaction information of the products in Payment, such as organization, user, purchase time, product name, etc.

## Invoice

You can enter the edit screen to issue an invoice

| Type   | Product             | Price | Curren | Action  |
|--|---------------------|-------|--------|---|
|  | A notebook computer | 300   | USD    | <a href="#">Result</a> <a href="#" style="background-color: blue; color: white; border-radius: 5px;">Edit</a> <a href="#" style="background-color: red; color: white; border-radius: 5px;">Delete</a> |

Fill in invoice information, invoice types are [individual](#) and [organization](#).

Message [?](#) :

Person name [?](#) :

Person ID card [?](#) :

Person Email [?](#) :

Person phone [?](#) :

Invoice type [?](#) :

Invoice title [?](#) :

Invoice tax ID [?](#) :

Invoice remark [?](#) :

Invoice URL [?](#) :

Invoice actions [?](#) : [Issue Invoice](#) [Return to Website](#)

Finally, click the "issue invoice" button.



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Users

# Users



## Overview

Manage users in Casdoor



## Roles

the user's roles



## Permissions

the user's permissions

# Overview

## User properties

As an authentication platform, Casdoor is able to manage users. Every user has these properties:

- Owner Owner organization of the user
- Name User name, unique
- CreatedTime
- UpdatedTime
- Id Unique for every user
- Type
- Password
- PasswordSalt
- DisplayName Shown in UI
- FirstName
- LastName
- Avatar A link to 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` Is the user the admin of his organization
- `IsGlobalAdmin` Does the user have the permission to manage the Casdoor
- `IsForbidden`
- `IsDeleted`
- `SignupApplication`
- `Hash`
- `PreHash`
- `CreatedIp`
- `LastSigninTime`
- `LastSigninIp`

- `Roles` Array of the user's roles
- `Permissions` Array of the user's permissions

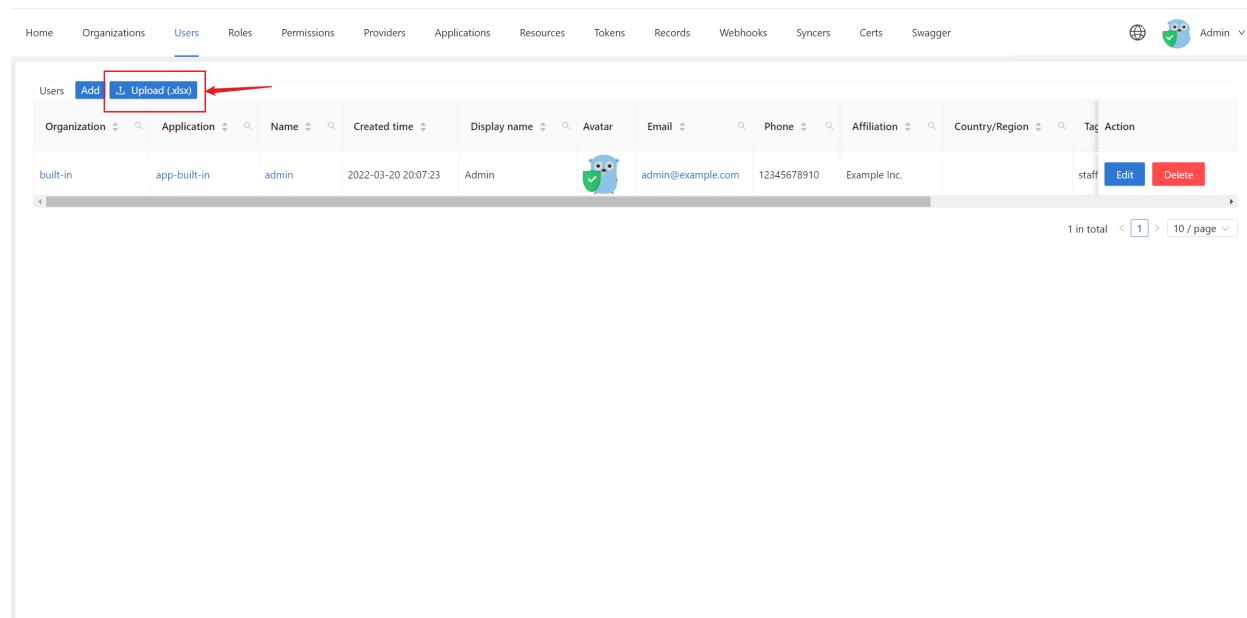
unique Id of the platform:

- `Github`
- `Google`
- `QQ`
- `WeChat`
- `Facebook`
- `DingTalk`
- `Weibo`
- `Gitee`
- `LinkedIn`
- `Wecom`
- `Lark`
- `Gitlab`
- `Adfs`
- `Baidu`
- `Casdoor`
- `Infoflow`
- `Apple`
- `AzureAD`
- `Slack`
- `Steam`
- `Ldap`
- `Properties` This is a string → string map, stored all other properties may need.

# Import users from XLSX file

You can add new users or update existing Casdoor users by uploading a XLSX file of user information.

In the Admin Console, go to Users and click **Upload(.xlsx)** button.



The screenshot shows the Casdoor Admin Console interface. The top navigation bar includes links for 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's a globe icon, a user profile icon, and the word "Admin". Below the navigation is a search bar with a "Upload (.xlsx)" button, which is highlighted with a red box and a red arrow pointing to it. The main content 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. A single user row is shown: built-in, app-built-in, admin, 2022-03-20 20:07:23, Admin, a blue owl icon, admin@example.com, 12345678910, Example Inc., staff, with Edit and Delete buttons. At the bottom of the table, it says "1 in total" and has navigation controls for pages 1 through 10. The footer of the page says "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 users for test 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**

# Roles

Each user may have multiple roles. You can see the user's roles on the user's profile.

The screenshot shows a user profile form with various fields. The 'Roles' field is highlighted with a red box, containing two selected items: 'role\_test' and 'role\_test2'. Other visible fields include 'Bio', 'Tag', 'Signup application', 'Permissions', '3rd-party logins', and several toggle switches for 'Is admin', 'Is global admin', 'Is forbidden', and 'Is deleted'.

Bio ? :

Tag ? :

Signup application ? :

Roles ? :

Permissions ? :

3rd-party logins ? :

Is admin ? :

Is global admin ? :

Is forbidden ? :

Is deleted ? :

## Role properties

Every role has these properties:

- `Owner`
- `Name`
- `CreatedTime`
- `DisplayName`
- `.IsEnabled`
- `Users` Array of this role's sub users

- Roles Array of this role's sub roles

# Permissions

Each user may have multiple permissions. You can see the user's permissions on the user's profile.

Bio [?](#) :

Tag [?](#) :

Signup application [?](#) :

Roles [?](#) :

Permissions [?](#) :  (The permission\_test button is highlighted with a red border)

3rd-party logins [?](#) :

Is admin [?](#) :

Is global admin [?](#) :

Is forbidden [?](#) :

Is deleted [?](#) :

## Permission properties

Permission has these properties:

- `Owner`
- `Name`
- `CreatedTime`
- `DisplayName`
- `.IsEnabled`
- `Model`

- `Users` Array of this role's sub users
- `Roles` Array of this role's sub roles
- `ResourceType`
- `Resources` Array of the resources
- `Actions` Array of the actions
- `Effect`



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Syncer

# Syncer



## Overview

Synchronize users in Casdoor



## Database

Using Database Syncer to synchronize database



## Keycloak

Using Keycloak Syncer to synchronize Keycloak

# Overview

As an authentication platform, Casdoor can easily manipulate users stored in databases.

## Syncer

Casdoor stores users in `user` table. Don't worry about migrating your application user data into Casdoor, when you plan to use Casdoor as an authentication platform. Casdoor provides `syncer` to quickly help you sync user data to Casdoor.

Specify the database and user table that you want to synchronize to Casdoor. And the syncer will sync the data after the specified interval. For details, see [database syncer](#).

## Synchronization hash

Casdoor use hash to determine how to update a user. Casdoor would calculate the hash value of each user in the table, which is generated using users' information, such as password or mobile phone number.

If the calculated hash value of a user with a specific `Id` changed compared with the original value, Casdoor would affirm which user table has been updated. Then the database would update the old information, realize the **bilateral synchronization** between Casdoor user table and origin user table.

# Database

## Database Syncer

The users table we created as a demo are 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     |            |           | <a href="https://casbin.org">https://casbin.org</a> | z6mive@                |
| built-in | euler    | 2022-03-20T20:47:08+08:00 |              | bb7831b4-0d24-4e96-b043-f8fd8d15eb   | normal-user | 123      |               | Leonhard Euler      |            |           | <a href="https://casbin.org">https://casbin.org</a> | 3dw4j@                 |
| built-in | galileo  | 2022-03-20T20:47:58+08:00 |              | 7920eb6c-f9f5-40ef-8e18-3ac99f49bd15 | normal-user | 123      |               | Galileo Galilei     |            |           | <a href="https://casbin.org">https://casbin.org</a> | 8pf438@                |
| built-in | gauss    | 2022-03-20T20:48:33+08:00 |              | f0c28816-2c0d-479b-b545-cb4cf96db36  | normal-user | 123      |               | Carl Friedrich Gauß |            |           | <a href="https://casbin.org">https://casbin.org</a> | vqdsan@                |
| built-in | tesla    | 2022-03-20T20:49:03+08:00 |              | 687c3068-fd21-4d32-b2ba-e13e8b369a   | normal-user | 123      |               | Nikola Tesla        |            |           | <a href="https://casbin.org">https://casbin.org</a> | 9v73hn@                |

Click the Syncers tab and create a new syncer. Fill in all the required information as below and save.

Organization [?](#):

Name [?](#):

Type [?](#):

Host [?](#):

Port [?](#):

User [?](#):

Password [?](#):

Database type [?](#):

Database [?](#):

Table [?](#):

Table primary key [?](#):

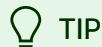
Table columns [?](#):

| Table columns                            | Add                                | Column name                              | Column type                         | Casdoor column                           | Is hashed                           | Action |
|--|------------------------------------|--|-------------------------------------|--|-------------------------------------|--------|
| <input type="text" value="name"/>        | <input type="button" value="Add"/> | <input type="text" value="name"/>        | <input type="text" value="string"/> | <input type="text" value="Name"/>        | <input checked="" type="checkbox"/> |        |
| <input type="text" value="create_time"/> |                                    | <input type="text" value="create_time"/> | <input type="text" value="string"/> | <input type="text" value="CreatedTime"/> | <input checked="" type="checkbox"/> |        |
| <input type="text" value="id"/>          |                                    | <input type="text" value="id"/>          | <input type="text" value="string"/> | <input type="text" value="Id"/>          | <input checked="" type="checkbox"/> |        |
| <input type="text" value="password"/>    |                                    | <input type="text" value="password"/>    | <input type="text" value="string"/> | <input type="text" value="Password"/>    | <input checked="" type="checkbox"/> |        |

Affiliation table [?](#):

Avatar base URL [?](#):

Sync interval [?](#):



In general, you need to fill in at least the `ID` and `Name` in Casdoor Columns.  
And others important fields like `createdTime`, `Password`, `DisplayName`.

The following are the required information.

- `Organization`: the organization that the user will import
- `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, like: MySQL, PostgreSQL, SQL Server, Oracle, 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
- `Is hashed`: whether to calculate hash value

Then you can turn on the `Is enable` button and save, the syncer will start to work.

| Users    |              |             |      |                     |              |        |       |       |             |                |   |
|----------|--------------|-------------|------|---------------------|--------------|--------|-------|-------|-------------|----------------|---|
|          | Organization | Application | Name | Created time        | Display name | Avatar | Email | Phone | Affiliation | Country/Region | Action  |
| built-in |              | euler       |      | 2022-04-08 10:10:45 |              |        |       |       |             |                | <button>Edit</button> <button>Delete</button> |
| built-in |              | gauss       |      | 2022-04-08 10:10:45 |              |        |       |       |             |                | <button>Edit</button> <button>Delete</button> |
| built-in |              | tesla       |      | 2022-04-08 10:10:45 |              |        |       |       |             |                | <button>Edit</button> <button>Delete</button> |
| built-in |              | einstein    |      | 2022-04-08 10:10:45 |              |        |       |       |             |                | <button>Edit</button> <button>Delete</button> |
| built-in |              | galileleo   |      | 2022-04-08 10:10:45 |              |        |       |       |             |                | <button>Edit</button> <button>Delete</button> |

# Keycloak

## Keycloak Syncer

The Keycloak syncer is basically the same as the [database syncer](#), except that the [Table](#) and [Table columns](#) can be configured automatically for Keycloak.

In addition, the Keycloak syncer will query [credential](#) table, [keycloak\\_group](#) table and [user\\_group\\_membership](#) table because the user information in Keycloak is stored in multiple tables.

| Column name       | Column type | Casdoor column | Is hashed                           | Action |  |  |
|-------------------|-------------|----------------|-------------------------------------|--------|--|--|
| ID                | string      | Id             | <input checked="" type="checkbox"/> |        |  |  |
| USERNAME          | string      | Name           | <input checked="" type="checkbox"/> |        |  |  |
| EMAIL             | string      | DisplayName    | <input checked="" type="checkbox"/> |        |  |  |
| EMAIL_VERIFIED    | boolean     | Email          | <input checked="" type="checkbox"/> |        |  |  |
| FIRST_NAME        | string      | EmailVerified  | <input checked="" type="checkbox"/> |        |  |  |
| LAST_NAME         | string      | FirstName      | <input checked="" type="checkbox"/> |        |  |  |
| CREATED_TIMESTAMP | string      | LastName       | <input checked="" type="checkbox"/> |        |  |  |
| ENABLED           | boolean     | CreatedTime    | <input checked="" type="checkbox"/> |        |  |  |
|                   |             | IsForbidden    | <input checked="" type="checkbox"/> |        |  |  |



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Tokens

# Tokens



## Overview

Introduction to tokens in Casdoor

# Overview

Casdoor is based on OAuth. Tokens are users' OAuth token.

- Owner
- Name
- CreatedTime
- Application
- Organization
- User
- Code
- AccessToken
- ExpireIn Tokens will expire in hours
- Scope Scope of authorization
- TokenType E.g. type Bear



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Webhooks

# Webhooks



## Overview

Add webhooks in Casdoor

# Overview

Event systems allow you to build integrations, which subscribe to certain events on Casdoor. When one of those event is triggered, we'll send a POST json payload to the configured URL. The application parsed the json payload and carry out the hooked function. Events consist of signup, login, logout, update users, which are stored in the action field of the record. Event systems can be used to update an external issue from users.



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Deploy

# Deploy

**Nginx**

use Nginx to reverse proxy your backend Go program, quickly start the Casdoor service

**k8s**

Deploy Casdoor in k8s

# Nginx

Although Casdoor is a front-end back-end separation architecture, in the production environment, the back-end program still provides static file services for front-end files. Therefore, you can use reverse proxy software such as [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

Now assume that you have downloaded Casdoor and completed the necessary configuration. If not, go to [Get started](#) section.

You only needs to build static files, like this:

[Yarn](#)    [npm](#)

---

```
yarn install && yarn run build
```

```
npm install && npm run build
```

## 2. Run the back end program

```
go run main.go
```

Or build first:

```
go build && ./main
```

## 3. Configure and run Nginx

```
vim /path/to/nginx/nginx.conf
```

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;
    }
}
```

Then restart your nginx process, run:

```
nginx -s reload
```

## 4. Test

Visit `http://YOUR_DOMAIN_NAME` in your favorite browser.

# k8s

## Deploy Casdoor in k8s

We have given a basic example of deploying Casdoor into k8s. In the root folder of casdoor, there exists a file named "k8s.yaml", which includes an example minimum configuration to be used in deploying casdoor in k8s, a deployment and a service.

First, make sure that you have modified the conf/app.conf so that the casdoor can successfully connect to the database, and the database is running. Second, make sure k8s is able to pull the necessary images.

Run

```
kubectl apply -f k8s.yaml
```

And soon you can see the result via command `kubectl get pods`

The content of k8s.yaml is as follow

```
# this is only an EXAMPLE of deploying casddor in kubernetes
# please modify this file according to your requirements
apiVersion: v1
kind: Service
metadata:
  #EDIT IT: if you don't want to run casdoor in default namespace,
  #please modify this field
  #namespace: casdoor
  name: casdoor-svc
```

This file is merely an example. For example, you can choose to use a namespace other than default, use a service type instead of nodeport to expose the casdoor, or use a use config map in k8s to mount the configuration file, which is a more recommended way in k8s.





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LDAP

# LDAP



## Overview

Casdoor cooperates with a ldap server



## Config

LDAP configuration in Casdoor



## LDAP Server

How to connect ldap client in Casdoor

# Overview

Support for Ldap server currently has been introduced into Casdoor. Casdoor is able to synchronize users from Ldap servers to Casdoor to use them as user accounts to log in, and authenticate them using the Ldap servers. Casdoor also supports setting up cron job to synchronize users automatically on a regular basis.

## Detail about Casdoor-Ldap synchronization mechanism

How Casdoor cooperates with a Ldap server is described as follow:

- i. Synchronization: Casdoor can connect to Ldap server fetch users' infomation, reads all users' information (include `uidNumber`, `uid`, `cn`, `gidNumber`, `mail`, `email`, `emailAddress`, `telephoneNumber`, `mobile`, `mobileTelephoneNumber`, `registeredAddress`, `postalAddress`), and creates Casdoor accounts for each user in Ldap, and stores the accounts in database.
- ii. Authentication: As we have seen, Casdoor doesn't fetch Ldap users' passwords to casdoor. Thus when the account which is synchronized from Ldap server tries to log in through Casdoor, instead of checking password stored in casdoor's database, Casdoor connects to Ldap server and verifies whether the user's password is correct.
- iii. User distinguishment: Casdoor's synchronization only supports those Ldap users which are subclass of `posixAccount` (to be precise, casdoor uses `(objectClass=posixAccount)` to query Ldap users). Casdoor uses `uid` to exclusively identify a user, thus please make sure every Ldap user

has a different uid.

Once a user is synchronized into Casdoor, that user's information is detached with the Idap user, which means, if you modify the a user's information in Casdoor, the user's information in Idap won't be modified and vice versa (except Idap user's password, we rely on it to authenticate a user)

# Config

Ldap configurations belong to an organization, which ldap users will be synchronized into.

You are supposed to use a global admin user to modify the configuration. You need to enter the following information of the LDAP user synchronization in the "organization" page.

## Server Name

A friendly name is used by managers to identify different servers.

e.g: `Example LDAP Server`

## Server Host

LDAP server's host.

e.g: `example.com`

## Server Port

LDAP server's ports, only allow numbers.

e.g: `389`

## Base DN

Casdoor uses Sub search mode by default when searching in LDAP. Base DN is the basic distinguished name of the search. Casdoor will return all users under the current base DN.

The admin account configured in casdoor should have at least read-only permissions at base DN.

e.g: `ou=Example,dc=example,dc=com`

## Admin

An account that can log in to the specified LDAP server.

Login with DN or ID depends on the LDAP server settings you want to connect.

e.g: `cn=manager,dc=example,dc=com`

## Admin Password

Admin account's password.

## Auto Sync

Set `0` to disable auto sync, other value means Sync every few minutes.

# LDAP Server

Many systems like [Nexus](#) support [ldap](#) authentication. A simple Idap server is also implemented in Casdoor, which supports bind and search operations.

The following describes how to connect to the Idap 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 changing [ldapServerPort](#) in [conf/app.conf](#).

## How it works

Similar to the Idap client in Casdoor, the users in the Idap server are all subclasses of [poxisAccount](#).

When the server receives a set of data transmitted by the Idap, it will parse the [cn](#) and [ou](#), where [cn](#) represents the username, [ou](#) represents the organization name. It doesn't matter what [dc](#) is.

If it is a bind operation, the server will use Casdoor to verify the username and password and give 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 given to the client by the bind operation and return a response.

## INFO

We only support [Simple Authentication](#).

## How to bind

In Casdoor Ldapserver, we only recognize `DN` similar to this: `cn=admin, ou=builtn, dc=example, dc=com`.

So please set the `DN` of the admin user to the above form. Then you can use this `DN` to bind to Ldap server with the user's password to log in to casdoor for verification. If the server verification is passed, the user will be granted the authority in Casdoor.

## How to search

Once the bind operation completes successfully, you can perform the correct search operation. There are some differences between search and bind.

- If you want to search for a certain user, such as `Alice` under the `built-in` organization, you should use `DN` like this : `ou=builtn, dc=example, dc=com`, and add `cn=Alice` in the Filter field.
- If you want to search for all users under a certain organization, such as all users in `built-in`, you should use `DN` like this : `ou=builtn, dc=example, dc=com`, and add `cn=*` in the Filter field.
- If you want to search for all users for all organizations (the premise is that the user has sufficient permissions), you should use `DN` like this : `ou=*, dc=example, dc=com`, and add `cn=*` in the Filter field.



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Integrations

# Integrations



Go

5 items



Java

9 items



JavaScript

1 items



Lua

1 items



PHP

2 items



Ruby

1 items

# Go



## BookStack

Using Casdoor for authentication in BookStack



## 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 identity provider to support with MinIO

# 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 achieve document reading management.

Bookstack-casdoor has been integrated with Casdoor, and you can now start quickly with a simple configuration.

### Step1. Create an Casdoor application

Go to your Casdoor and add your new application 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 use them in the next step.

## Step2. Configure Casdoor Login

Now, please move to the BookStack. Find the file: oauth.conf.example.

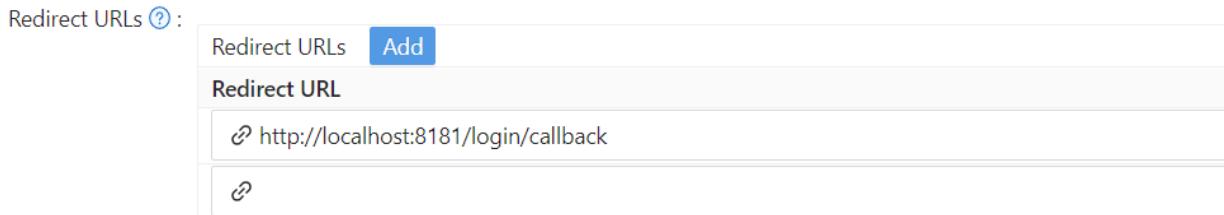
Rename oauth.conf.example to oauth.conf and modify the configuration. The content of which by default is:

```
[oauth]
```

```
casdoorOrganization = <"Organization">
casdoorApplication = "bookstack"
casdoorEndpoint = http://localhost:8000
clientId = <client ID>
clientSecret = <client Secret>
redirectUrl = http://localhost:8181/login/callback
```

## Step3. Fill in the `redirectUrl` in Casdoor

The last 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 file `oauth.conf`.



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 button labeled 'Add'. Underneath the 'Add' button, there is a section labeled 'Redirect URL' containing a text input field with the value 'http://localhost:8181/login/callback'. There is also a small link icon next to the URL.

Now that you've done all the configuration for Casdoor!

You can go back to your BookStack and experience using Casdoor for login authentication once the BookStack has been successfully deployed.

# ELK

## Overview of casdoor/elk-auth-casdoor

One of the biggest drawbacks of ELK (Elasticsearch, Logstash and Kibana) is that originally, these products have no authentication mechanism, so that everyone can visit the kibana dashboard as long as he has the url of kibana, or ES urls. Later ELK integrated an embedded authentication system "Xpack", whose all advanced functions are not free (eg. Oauth, OIDC, LDAP, SAML), and only plain authentication (setting a set of accounts and passwords) is free of charge, which is quite inconvenient. We cannot just provide a unique account for everyone in a corporation.

Therefore, we have developed a elk authentication solution based on Casdoor, free of charge, open source and under maintenance, supporting lots of advanced features. Casdoor is a centralized authentication/ Single-Sign-On platform based on Oauth2.0/OIDC, and casdoor/elk-auth-casdoor is actually a reverse proxy, which is designed to intercept all http data flow toward the elk/kibana, and guides the users who haven't logged in to log in. This reverse proxy is completely transparent as long as the user has logged in.

If this user hasn't been correctly authenticated, the request will be temporally cached, and the user will be redirected to Casdoor login page. After user logs in through casdoor, the cached request will be restored and sent to kibana. So it's ok if a POST request (or something other than GET) is intercepted, and user won't need to refill the form and resend the request. The reverse proxy will remember it for you.

Location of casdoor/elk-auth-casdoor repository <https://github.com/casdoor/elk-auth-casdoor>

auth-casdoor

## How to run it?

0. have golang environment installed
1. go to [casdoor/elk-auth-casdoor](#) and fetch the code
2. register your proxy as an app of Casdoor.
3. modify the configuration

The configuration file locates in "conf/app.conf". Here is an example, and you should customize changes according to your real demands.

```
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 example above), and log in following the guidance of redirection, and you shall see kibana protected and authenticated by casdoor.
5. If everything works well, don't forget to block the visits of original kibana's port coming from outside by configurating your firewall(or something else), so that outsiders can only visit 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

Name ⓘ: application\_9p7eai

Display name ⓘ: New Application - 9p7eai

Logo ⓘ: URL ⓘ https://cdn.casbin.com/logo/logo\_1024x256.png

Preview: 

Home ⓘ:

Description ⓘ:

Organization ⓘ: built-in

Client ID ⓘ: 7ceb9b7fda4a9061ec1c

Client secret ⓘ: 3416238e1edf915eac08b8fe345b2b95cdba7e04

Cert ⓘ: cert-built-in

Redirect URLs

| Action   |
|--|
| Add  |
| Redirect URL                                       |
| http://localhost:3000/user/oauth2/Casdoor/callback |
| Actions: Up, Down, Delete                          |

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:

The screenshot shows a top navigation bar with two tabs: "Sign In" and "OpenID". Below this is a main "Sign In" form. It contains fields for "Username or Email Address" and "Password", both marked with a red asterisk indicating they are required. There is also a "Remember this Device" checkbox. At the bottom of the form are "Sign In" and "Forgot password?" buttons, and a link to "Need an account? Register now.". A "Sign In With OpenID" button is located at the bottom right of the form area.

Press the 'sign in with openid' button and you will be redirected to casdoor login page.

After login you will see this:

The screenshot shows a "Complete New Account" form. It includes fields for "Username" and "Email Address", both marked with a red asterisk. The "Email Address" field contains the value "admin@example.com". At the bottom is a "Complete Account" button.

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 in Grafana. Only several steps and simple configurations can achieve that.

Here is a tutorial 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 ⓘ:             | <a href="https://cdn.casbin.com/logo/logo_1024x256.png">https://cdn.casbin.com/logo/logo_1024x256.png</a>   |        |              |                     |   |
| Preview:            |   |        |              |                     |   |
| Home ⓘ:             | <a href="#">/</a>   |        |              |                     |   |
| Description ⓘ:      |   |        |              |                     |   |
| Organization ⓘ:     | built-in  |        |              |                     |   |
| Client ID ⓘ:        | 7ceb9b7fda4a9061ec1c  |        |              |                     |   |
| Client secret ⓘ:    | 3416238e1edf915eac08b8fe345b2b95cd8a7e04  |        |              |                     |   |
| Cert ⓘ:             | cert-built-in   |        |              |                     |   |
| Redirect URLs ⓘ:    | <table border="1"> <thead> <tr> <th>Action</th> <th>Redirect URL</th> </tr> </thead> <tbody> <tr> <td><a href="#">Add</a></td> <td><a href="http://localhost:3000/login/generic_oauth">http://localhost:3000/login/generic_oauth</a></td> </tr> </tbody> </table> | Action | Redirect URL | <a href="#">Add</a> | <a href="http://localhost:3000/login/generic_oauth">http://localhost:3000/login/generic_oauth</a> |
| Action              | Redirect URL  |        |              |                     |   |
| <a href="#">Add</a> | <a href="http://localhost:3000/login/generic_oauth">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 locates at `conf/defaults.ini` in the workdir of grafana.

Please find the section `auth.generic_oauth` and modify the following field:

```
[auth.generic_oauth]
name = Casdoor
```

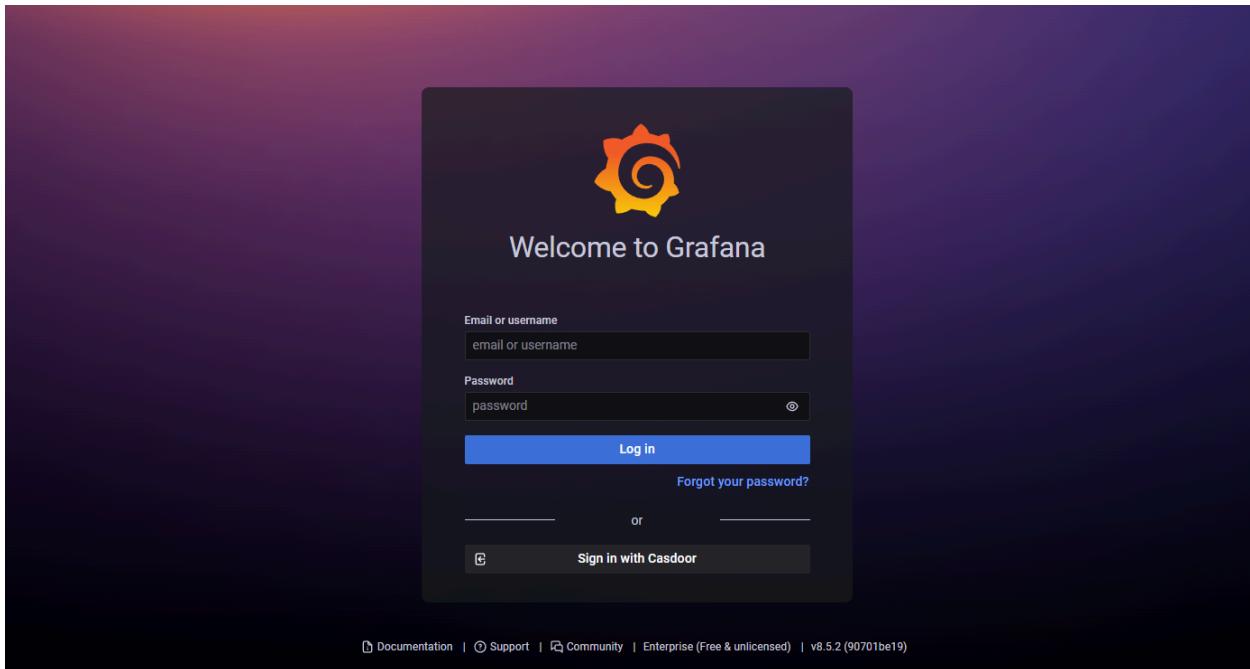
If you don't want HTTPS enabled for casdoor, please also set

```
tls_skip_verify_insecure = true
```

## Step3: See whether it works

Shutdown grafana and restart it.

Go to see the login page, you are supposed to see something like this



# MinIO

MinIO supports external identity management using an OpenID Connect (OIDC)-compatible provider. This document covers configuring Casdoor as identity provider to support with MinIO.

## Step1. Deploy Casdoor & MinIO

Firstly, the Casdoor should be deployed.

You can refer to the Casdoor official documentation for the [Server Installation](#).

After a successful deployment, you need to ensure:

- 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 login functionality is working fine.

Then you can quickly implement a casdoor based login page in your own app with the following steps.

You can refer to [here](#) to deploy your MinIO server and [here](#) for MinIO client called `mc`.

## Step2. Configure Casdoor Application

1. Create or use an existing Casdoor application.

## 2. Add Your redirect url

The screenshot shows the Casdoor application settings interface. It includes fields for 'Client ID' (24a25ea0714d92e78595) and 'Client secret' (155...). Below these, there's a section for 'Redirect URLs' with a sub-section for 'Redirect URLs'. A red box highlights the 'Add' button, and another red box highlights the text 'Add a redirect URL for spring security'. A third red box highlights the URL 'http://localhost:8082/ui-one/login/oauth2/code/custom'.

|   |   |               |               |     |              |  |   |  |
|---|---|---------------|---------------|-----|--------------|--|---|--|
| Client ID ? :   | 24a25ea0714d92e78595  | Client ID     |               |     |              |  |   |  |
| Client secret ? :                                       | 155...  | Client Secret |               |     |              |  |   |  |
| Redirect URLs ? :                                       | <table border="1"><tr><td>Redirect URLs</td><td>Add</td></tr><tr><td>Redirect URL</td><td>Add a redirect URL for spring security</td></tr><tr><td colspan="2">🔗 http://localhost:8082/ui-one/login/oauth2/code/custom</td></tr></table> |               | Redirect URLs | Add | Redirect URL | Add a redirect URL for spring security | 🔗 http://localhost:8082/ui-one/login/oauth2/code/custom |  |
| Redirect URLs   | Add   |               |               |     |              |  |   |  |
| Redirect URL  | Add a redirect URL for spring security  |               |               |     |              |  |   |  |
| 🔗 http://localhost:8082/ui-one/login/oauth2/code/custom |   |               |               |     |              |  |   |  |

## 3. Add provider you want and supplement other settings.

Not surprisingly, you can get two values on the application settings page: `client ID` and `client secret` like the picture above, we will use them in next step.

Open your favorite browser and visit: `http://CASDOOR_HOSTNAME/.well-known/openid-configuration`, you will see the OIDC configure 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 supported policies [here](#).

# Step3. Configure MinIO

You can start a MinIO server by following commands:

```
export MINIO_ROOT_USER=minio  
export MINIO_ROOT_PASSWORD=minio123  
minio server /mnt/export
```

You can use parameter `--console-address` to configure the address and port.

Then you can add a service alias by MinIO client `mc`.

```
mc alias set myminio <You console address> minio minio123
```

Now, you can configure OpenID connect of MinIO. For Casdoor, the command is like the following:

```
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 [official document](#) for more detailed parameters.

Once successfully set, restart the MinIO instance.

```
mc admin service restart myminio
```

## Step4. Try the demo!

Now, you can 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 MinIO page and logged in automatically and you should see now the buckets and objects they have access to.

 CAUTION

If you deploy frontend and backend of casdoor in different ports, the login page you are redirected to will be backend port and it will display `404 not found`. You can modify the port to the frontend one. Then you can access to casdoor login page successfully.

# Java

## Spring Boot

Using Casdoor in 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 Casdoor plugin for your Jenkins security



## Jenkins OIDC

Using OIDC protocol as IDP to connect various applications, like Jenkins



## RuoYi

Using Casdoor in RuoYi-Cloud



## Pulsar-manager

Using Casdoor in Pulsar-manager



## ShenYu

Using Casdoor in ShenYu

# Spring Boot

[casdoor-spring-boot-example](#) is an example of how to use [casdoor-spring-boot-starter](#) in SpringBoot project. We will show you the steps below.

## Step1. Deploy Casdoor

Firstly, the 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 test login functionality is working fine.

Then you can quickly implement a casdoor-based login page in your own app with the following steps.

## Step2. Import casdoor-spring-boot-starter

You can import the casdoor-spring-boot-starter with 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'
```

## Step3. Init Config

Initialization requires 6 parameters, which are all string type.

| Name (in order) | Must | Description   |
|-----------------|------|---|
| endpoint        | Yes  | Casdoor Server Url, such as<br><code>http://localhost:8000</code> |
| clientId        | Yes  | Application.client_id   |
| clientSecret    | Yes  | Application.client_secret   |
| certificate     | Yes  | Application.certificate   |

| Name (in order)  | Must | Description              |
|------------------|------|--------------------------|
| organizationName | Yes  | Application.organization |
| applicationName  | No   | Application.name         |

You can use Java properties or YAML files to init as below.

[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

You should replace the configuration with your own Casdoor instance, especially the `clientId`, `clientSecret` and the `jwtPublicKey`.

## Step4. Redirect to the login page

When you need the authentication who access your app, you can send the target url and redirect to the login page provided by Casdoor.

Please be sure that you have added the callback url (e.g. `http://localhost:8080/login`) in application configuration in advance.

```
@Resource  
private CasdoorAuthService casdoorAuthService;  
  
@RequestMapping("toLogin")  
public String toLogin() {  
    return "redirect:" +  
casdoorAuthService.getSigninUrl("http://localhost:8080/login");  
}
```

## Step5. Get token and parse

After Casdoor verification passed, it will be redirected to your application with code and state.

You can get the code and call `getOAuthToken` method, then parse out 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("login")  
public String login(String code, String state, HttpServletRequest  
request) {
```

# Service

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());
```

## 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](#)

# Spring Cloud

Under the Spring Cloud microservice system, general authentication occurs at the gateway. Please refer to [casdoor-springcloud-gateway-example](#).

If you want to use Casdoor in a single service, you can refer to [casdoor-spring-boot-example](#).

No matter in the gateway layer or in the single service, both use [casdoor-spring-boot-starter](#).

## 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 Cloud Gateway

[casdoor-springcloud-gateway-example](#) is an example on how to use [casdoor-spring-boot-starter](#) as a OAuth2 plugin in Spring Cloud Gateway. We will show you the steps below.

## Step1. Deploy Casdoor

Firstly, the 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 test login functionality is working fine.

Then you can quickly implement a casdoor based login page in your own app with the following steps.

## Step2: Init a Spring Cloud Gateway

You can use the code of this example directly or combine your own business code.

We need a gateway service and at least one business service.

In this example, `casdoor-gateway` as the gateway service and `casdoor-api` as the business service.

## Step3: Include the dependency

Add `casdoor-spring-boot-starter` to the 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'
```

## Step4: Configure your properties

Initialization requires 6 parameters, which are all string type.

| Name (in order)  | Must | Description   |
|------------------|------|---|
| endpoint         | Yes  | Casdoor Server Url, such as<br><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 init as below.

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/**
```

## Step5: Add the CasdoorAuthFilter

Add an implementation class of GlobalFilter to the gateway for identity verification, such as CasdoorAuthFilter in this example.

If the authentication fails, it returns to the front end 401 to jump 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) {
```

# Step6: Get the Service and use

Now provide 5 services: `CasdoorAuthService`, `CasdoorUserService`, `CasdoorEmailService`, `CasdoorSmsService` and `CasdoorResourceService`.

You can create them as below in Gateway project.

```
@Resource  
private CasdoorAuthService casdoorAuthService;
```

When you need the authentication who access your app, you can send the target url and redirect to the login page provided by Casdoor.

Please be sure that you have added the callback url (e.g. `http://localhost:9090/callback`) in application configuration in advance.

```
@RequestMapping("login")  
public Mono<String> login() {  
    return Mono.just("redirect:" +  
        casdoorAuthService.getSignInUrl("http://localhost:9090/callback"));  
}
```

After Casdoor verification passed, it will be redirected to your application with code and state.

You can get the code and call `getOAuthToken` method, then parse out 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 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());

## Step7: Restart project

After start, open your favorite browser and visit <http://localhost:9090>, then click any button which can request resources from casdoor-api.



# Casdoor

[Get Resource](#)

[Update Resource](#)

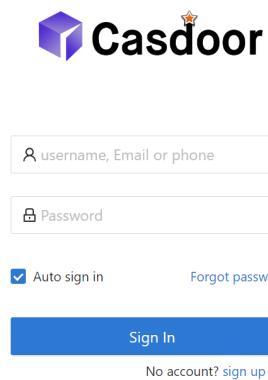
The gateway authentication logic will be triggered. Since you are not logged in, you will jump to the login interface. Click Login Button.



# Click to login

[Login](#)

You can see the unified login platform of Casdoor.



After successful login, it will jump to the main interface. Then you can click any button.



"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 show how to use OIDC to connect to your applications

## Spring Security Filter

Based on Spring Security Filter, how to use OIDC to connect your application.



# Spring Security OAuth

Casdoor can use OIDC protocol as IDP to connect various applications. Here we will use Spring Security as an example to show you how to use OIDC to connect to your applications.

## Step1. Deploy Casdoor

Firstly, the Casdoor should be deployed.

You can refer to the Casdoor official documentation for the [Server Installation](#).

After a successful deployment, you need to ensure:

- 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 login functionality is working fine.

Then you can quickly implement a casdoor based login page in your own app with the following steps.

## Step2. Configure Casdoor application

1. Create or use an existing Casdoor application.
2. Add Your redirect url (You can see more details about how to get redirect url in the next section)

|                                   |   |  |
|-----------------------------------|---|--|
| Client ID <a href="#">?</a> :     | 24a25ea0714d92e78595                                    | Client ID                              |
| Client secret <a href="#">?</a> : | 155 [REDACTED]  | Client Secret                          |
| Redirect URLs <a href="#">?</a> : | Redirect URLs   | Add                                    |
|                                   | Redirect URL  | Add a redirect URL for spring security |
|                                   | 🔗 http://localhost:8082/ui-one/login/oauth2/code/custom |  |

3. Add provider you want and supplement other settings.

Not surprisingly, you can get two values on the application settings page: Client ID and Client secret like the picture above. We will use them in next step.

Open your favorite browser and visit: [http://CASDOOR\\_HOSTNAME/.well-known/openid-configuration](http://CASDOOR_HOSTNAME/.well-known/openid-configuration), you will see the OIDC configure of Casdoor.

# Step3. Configure Spring Security

Spring Security natively support 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:

```
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 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 `casdoor` application.

You can also customize the settings by `ClientRegistration` in your code. You can find the mapping [here](#)

# Step4. Get Started with A Demo

1. We can create a Spring Boot application.
2. We can add a configuration which 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 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">
```

When user clicks the `login` button, he will be redirected to `casdoor`.

4. Next, we can define our protected resources. We can export 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) {
```

## 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}">
```

**⚠ CAUTION**

All the web page template should be put under `resources/templates`.

## Step5. Try the demo!

Firstly, you can try to open your favorite browser and directly visit `/foos`. It will automatically redirect to casdoor's login page. You can log in here or from the root page.

If you visit your root page,

Spring OAuth Client Thymeleaf - 1

Welcome !  
[Login](#)

Click the `login` button and the page will redirect 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 you log in, the page will redirect to </foos>.

Spring OAuth Client Thymeleaf -1

Hi, [user](#)

Your Username

### All Foos:

| ID | Name |
|----|------|
| 1  | a    |
| 2  | b    |
| 3  | c    |

# Spring Security Filter

Casdoor can use OIDC protocol as IDP to connect various applications. Here, we will use the filter in spring security to integrate casdoor and show you how to connect to the application using oidc.

## Step1. Deploy Casdoor

Firstly, the Casdoor should be deployed.

You can refer to the Casdoor official documentation for the [Server Installation](#).

After a successful deployment, you need to ensure:

- 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 login functionality is working fine.

Then you can quickly implement a casdoor based login page in your own app with the following steps.

## Step2. Configure Casdoor application

1. Create or use an existing Casdoor application.
2. Add Your redirect url (You can see more details about how to get 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

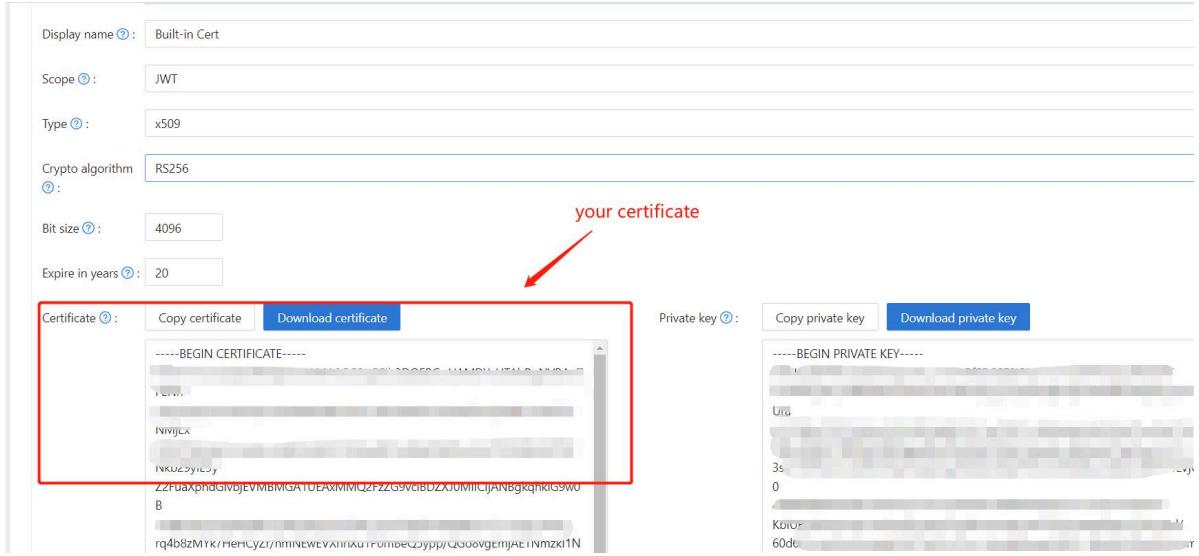
Client ID ⓘ : 3ed7314825ecf955cb19 → your client id

Client secret ⓘ : ee9314ea228... → your client secret

Cert ⓘ : cert-built-in

Redirect URLs ⓘ : Redirect URLs Add  
Redirect URL → your redirect url  
<http://localhost:3000/callback>

3. On the certificate editing page, you can see your Certificate.



#### 4. Add provider you want and supplement other settings.

Not surprisingly, you can get these values on the application settings page:

`Application Name`, `Organization Name`, `Redirect URL`, `Client ID`, `Client Secret`, `Certification`. As shown 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 configure of Casdoor.

## Step3. Configure Spring Security

You can customize the settings of spring security filters to process tokens:

### ⚠ CAUTION

You should replace the configuration with your own Casdoor instance especially the `<Client ID>` and others.

```
server:  
port: 8080
```

### CAUTION

For frontend applications, the default value of <FRONTEND\_HOSTNAME> is localhost:3000.

For example, in the following demo, the redirect URL should be http://localhost:3000/callback.

You should also configure this in casdoor application.

## Step4. Configure Frontend

You need to install casdoor-js-sdk and configure SDK.

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",
```

# Step5. Get Started with A Demo

1. We can create a Spring Boot application.
2. We can 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()
        );
    }
}
```

3. We can add a simple JWT filter to intercept requests that need to verify tokens.

```
@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. Next, we need to define a `Controller` to handle that when the user login to the `casdoor`, it will be redirected to the server and carry the `code` and `state`. The server needs to verify the user's identity from the `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());
        }
    }

    // ...
}
```

## Step6. Try the demo!

First, you can try to access the frontend application through the browser. If you have not logged in, it will display a login button. Click the login button, 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.



---

username, Email or phone

Password

Auto sign in      [Forgot password?](#)

[Sign In](#)

No account? [sign up now](#)

---

Made with ❤ by **Casdoor**

---

After you log in, the page will redirect to [/](#).

---



New User - rtsbx4

[Logout](#)

# Jenkins Plugin

Casdoor provides a plugin for users to login Jenkins. Here we will show you how to use Casdoor plugin for your Jenkins security.

The following are some of the names in the configuration:

`CASDOOR_HOSTNAME`: Domain name or IP where Casdoor server is deployed.

`JENKINS_HOSTNAME`: Domain name or IP where Jenkins is deployed.

## Step1. Deploy Casdoor and Jenkins

Firstly, the [Casdoor](#) and [Jenkins](#) should be deployed.

After a successful deployment, you need to ensure:

1. Set Jenkins URL([Manage Jenkins](#) → [Configure System](#) → [Jenkins Location](#)) to

`JENKINS_HOSTNAME`.

The screenshot shows the Jenkins 'Dashboard' > 'configuration' page. In the 'Jenkins Location' section, the 'Jenkins URL' field contains the value `http://10.144.125.123:6780`, which is highlighted with a red box. Below it, the 'System Admin e-mail address' field contains the placeholder `address not configured yet <nobody@nowhere>`. Under 'Serve resource files from another domain', there is a 'Resource Root URL' field with a note below stating: 'Without a resource root URL, resources will be served from the Jenkins URL with Content-Security-Policy set.' At the bottom, there are 'Global properties' sections for 'Environment variables' and buttons for 'Save' and 'Apply'.

2. 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
```

## Step2. Configure Casdoor application

1. Create or use an existing Casdoor application.
2. Add a redirect url: `http://JENKINS_HOSTNAME/securityRealm/finishLogin`

The screenshot shows the Casdoor application settings page. It includes fields for Client ID (bbd0bd66696e504dec59), Client secret (d2de01b01...110b47465c), and Redirect URLs (http://10.144.125.123:6780/securityRealm/finishLogin).

|               |  |               |
|---------------|--|---------------|
| Description   | Casdoor for Jenkins  |               |
| Organization  | built-in   |               |
| Client ID     | bbd0bd66696e504dec59   | Client ID     |
| Client secret | d2de01b01...110b47465c   | Client secret |
| Redirect URLs | Redirect URLs <a href="#">Add</a><br>Redirect URL<br><a href="http://10.144.125.123:6780/securityRealm/finishLogin">http://10.144.125.123:6780/securityRealm/finishLogin</a> <a href="#">Add a redirect url for Jenkins</a><br><b>JENKINS_HOSTNAME</b> |               |

3. Add provider you want and supplement other settings.

Not surprisingly, you can get two values on the application settings page: `Client`

`ID` and `Client secret` like the picture above, we will use them in next step.

Open your favorite browser and visit: `http://CASDOOR_HOSTNAME/.well-known/openid-configuration`, you will see the OIDC configure of Casdoor.

## Step3. Configure Jenkins

Now, you can install Casdoor plugin from the market or by uploading its `.jar` file.

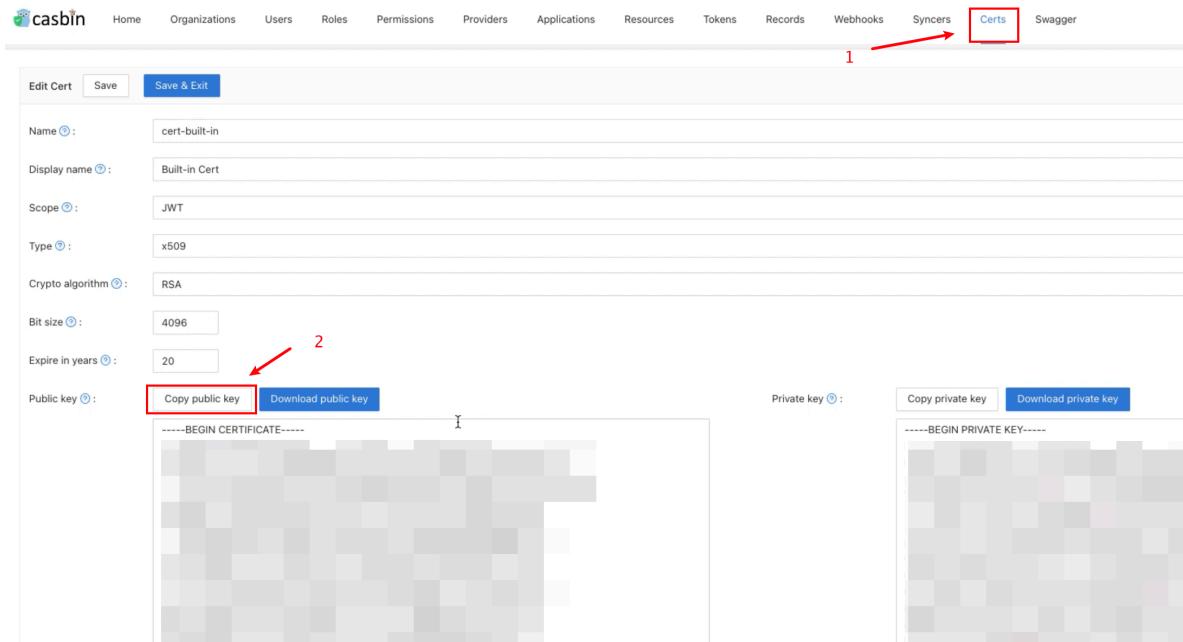
After completing the installation, go to Manage Jenkins → Configure Global Security.

Suggestion: Back up the Jenkins `config.xml` file, and use it to recover in case of setup errors.

The screenshot shows the Jenkins 'Configure Global Security' page under the 'Authentication' section. It includes fields for 'Casdoor Endpoint', 'Client ID', 'Client Secret', 'JWT Public Key', 'Organization Name', and 'Application Name'. There are also options for 'Delegate to servlet container' and 'Jenkins' own user database'. At the bottom are 'Save' and 'Apply' buttons.

1. In Security Realm, select "Casdoor Authentication Plugin".
2. In Casdoor Endpoint, specify the `CASDOOR_HOSTNAME` noted above.

3. In Client ID, specify the `Client ID` noted above.
4. In Client secret, specify the `Client secret` noted above.
5. In JWT Public Key, specify the public key used to validate JWT token. You can find the public key in Casdoor by clicking `Cert` at the top. After clicking `edit` your application, you can copy your public key in the following page.



6. Organization Name and Application Name is optional. You can specify your organization and application to verify users in other organizations and applications. If they are 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`.

Now, Jenkins will automatically redirect you to Casdoor for authentication.

# Jenkins OIDC

Casdoor can use OIDC protocol as IDP to connect various applications. Here we will use Jenkins as an example to show you how to use OIDC to connect to your applications.

The following are some of the names in the configuration:

`CASDOOR_HOSTNAME`: Domain name or IP where Casdoor server is deployed.

`JENKINS_HOSTNAME`: Domain name or IP where Jenkins is deployed.

## Step1. Deploy Casdoor and Jenkins

Firstly, the [Casdoor](#) and [Jenkins](#) should be deployed.

After a successful deployment, you need to ensure:

1. Set Jenkins URL([Manage Jenkins](#) → [Configure System](#) → Jenkins Location) to `JENKINS_HOSTNAME`.

Dashboard > configuration

**Jenkins Location**

Jenkins URL  
 ?

JENKINS\_HOSTNAME  
 ?

**Serve resource files from another domain**

Resource Root URL  
 ?

Without a resource root URL, resources will be served from the Jenkins URL with Content-Security-Policy set.

**Global properties**

Environment variables

**Save** **Apply**

2. 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
```

## Step2. Configure Casdoor application

1. Create or use an existing Casdoor application.
2. Add a redirect url: `http://JENKINS_HOSTNAME/securityRealm/finishLogin`

Description [?](#): Casdoor for Jenkins

Organization [?](#): built-in

Client ID [?](#): bbd0bd66696e504dec59 Client ID

Client secret [?](#): d2de01b01 [REDACTED] 110b47465c Client secret

Redirect URLs [?](#):

| Redirect URLs    | Add  |
|------------------|--|
| Redirect URL     | <a href="http://10.144.125.123:6780/securityRealm/finishLogin">http://10.144.125.123:6780/securityRealm/finishLogin</a> Add a redirect url for Jenkins |
| JENKINS_HOSTNAME |  |

3. Add provider you want and supplement other settings.

Not surprisingly, you can get 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 configure of Casdoor.

## Step3. Configure Jenkins

Jenkins does not natively support OIDC, so we need to install [OpenId Connect Authentication](#).

After completing the installation, go to Manage Jenkins → Configure Global Security.

**Suggestion:** Back up the Jenkins `config.xml` file, and use it to recover in case of setup errors.

1. In Access Control, Security Realm select "Login with Openid Connect".
2. In Client ID, specify the `Client ID` noted above.
3. In Client secret, specify the `Client secret` noted above.

4. In Configuration mode, select `Automatic configuration` and fill in `http://CASDOOR_HOSTNAME.well-known/openid-configuration` into Well-known configuration endpoint.

**Security Realm**

- Delegate to servlet container ?
- Jenkins' own user database ?
- Login with Openid Connect Select this ?

**Client id**

|                      |                      |
|----------------------|----------------------|
| bbd0bd66696e504dec59 | Input your Client ID |
|----------------------|----------------------|

**Client secret**

|           |                          |                 |
|-----------|--------------------------|-----------------|
| Concealed | Input your Client secret | Change Password |
|-----------|--------------------------|-----------------|

**Configuration mode**

- Automatic configuration ?
- Well-known configuration endpoint ?
- `http://10.144.1.2:8000.well-known/openid-configuration` CASDOOR\_HOSTNAME ?
- Manual configuration ?

If your casdoor is deployed locally, you may need to select `Manual configuration` and input some information:

- `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`

**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 |
|--|

**User Info server url**

|  |
|--|
| http://10.144.1.2:8000/api/get-account |
|--|

**Scopes**

|   |
|---|
| address phone openid profile offline_access email |
|---|

5. Click Advanced setting, fill in the following:

- In User name field, specify `data.name`
- In Full name field, specify `data.displayName`
- In Email field, specify `data.email`

|                            |                               |
|----------------------------|-------------------------------|
| User name field name       |                               |
|                            | <code>data.name</code>        |
| Full name field name       |                               |
|                            | <code>data.displayName</code> |
| Email field name           |                               |
|                            | <code>data.email</code>       |
| Groups field name          | <a href="#">?</a>             |
|                            |                               |
| Token Field Key To Check   | <a href="#">?</a>             |
|                            |                               |
| Token Field Value To Check | <a href="#">?</a>             |
|                            |                               |

6. In the Authorization section, check “Logged-in users can do anything”. Disable “Allow anonymous read access”. You can configure more complex authorization later, for now check if OpenID actually works.

Log out of Jenkins, it should now redirect you to Casdoor for authentication.



username, Email or phone

Password

Auto sign in

[Forgot password?](#)

[Sign In](#)

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



---

# RuoYi

Casdoor can simply connect to RuoYi-cloud.

## Step 1. Deploy Casdoor

Firstly, the Casdoor should be deployed.

You can refer to the Casdoor official documentation for the [Server Installation](#).

After a successful deployment, you need to ensure:

- 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 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

Configure casdoor can refer to [casdoor](#)(Configure casdoor's browser better not use one browser as your develop browser).

You also should configure an organization, an application and the Synchronizer. You also can refer to [casdoor](#).

Some points needing attention:

## 1. The table columns in edit syncer:

| Table columns <small>(<a href="#">?</a>)</small> |         | <a href="#">Add</a> | Column type | Casdoor column | Is hashed                           | Action   |
|--|---------|---------------------|-------------|----------------|-------------------------------------|--|
| user_id  | integer | v                   | Id          | v              | <input checked="" type="checkbox"/> | <a href="#"></a> <a href="#"></a> <a href="#"></a> |
| dept_id  | integer | v                   | Affiliation | v              | <input checked="" type="checkbox"/> | <a href="#"></a> <a href="#"></a> <a href="#"></a> |
| user_name  | string  | v                   | Name        | v              | <input checked="" type="checkbox"/> | <a href="#"></a> <a href="#"></a> <a href="#"></a> |
| nick_name  | string  | v                   | DisplayName | v              | <input checked="" type="checkbox"/> | <a href="#"></a> <a href="#"></a> <a href="#"></a> |
| user_type  | string  | v                   | Type        | v              | <input checked="" type="checkbox"/> | <a href="#"></a> <a href="#"></a> <a href="#"></a> |
| email  | string  | v                   | Email       | v              | <input checked="" type="checkbox"/> | <a href="#"></a> <a href="#"></a> <a href="#"></a> |
| phonenumerber                                    | string  | v                   | Phone       | v              | <input checked="" type="checkbox"/> | <a href="#"></a> <a href="#"></a> <a href="#"></a> |
| sex  | string  | v                   | Gender      | v              | <input checked="" type="checkbox"/> | <a href="#"></a> <a href="#"></a> <a href="#"></a> |
| avatar   | string  | v                   | Avatar      | v              | <input checked="" type="checkbox"/> | <a href="#"></a> <a href="#"></a> <a href="#"></a> |
| password   | string  | v                   | Password    | v              | <input checked="" type="checkbox"/> | <a href="#"></a> <a href="#"></a> <a href="#"></a> |
| del_flag   | string  | v                   | IsDeleted   | v              | <input checked="" type="checkbox"/> | <a href="#"></a> <a href="#"></a> <a href="#"></a> |
| login_ip   | string  | v                   | Createdip   | v              | <input checked="" type="checkbox"/> | <a href="#"></a> <a href="#"></a> <a href="#"></a> |
| create_time                                      | string  | v                   | CreatedTime | v              | <input checked="" type="checkbox"/> | <a href="#"></a> <a href="#"></a> <a href="#"></a> |
| password   | string  | v                   | Password    | v              | <input checked="" type="checkbox"/> | <a href="#"></a> <a href="#"></a> <a href="#"></a> |

## 2. The password type in edit organization:

Password type ([?](#)):

## 3. You also should open soft deletion.

# Step 3. Reform your front-end

## 3.1 jump to casdoor's login page

We can use front-end sdk, take vue-sdk as an example here. After you init vue-sdk, you can get casdoor login page url by `getSignInUrl()`.

You can link it with the way you like and you can delete some ruoyi-cloud original code which you have no further use, such as original account and password el-input.

## 3.2 Accept the code and state which return by casdoor

After we login in successfully by casdoor, casdoor sends the code and state to the page that we set up. We can get the code and state with function `create`.

```
created() {
  let url = window.document.location.href // get url
```

For RuoYi-Cloud, we just change its original method which sends account and password to send code and state. Therefore, it just changes what is sent to the back end, relative to the original login.

## Step 4. Reform your back-end

### 4.1 Accept the code and state which return by front-end

```
@PostMapping("login")
public R<?> callback(@RequestBody CodeBody code) {//we should define
a CodeBody entity which have 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
database haven't this user
            // add this user into database
            sysLoginService.casdoorRegister(casdoorUserName);
        }
    }
    LoginUser userInfo =
sysLoginService.casdoorLogin(casdoorUser.getName());//get this
user's information by database
    return R.ok(tokenService.createToken(userInfo));
}
```

In this method, we use casdoor-SpringBoot-sdk method and slightly modified RuoYi-Cloud Method.

For example, RuoYi-Cloud original register with account and password, I change the register with account like casdoorRegister.

I also add a method to execute whether this account exists like `getUserByCasdoorName` and change `execute userinfo` with account and password to with account.

It's easy, because we only need to delete the part of checking password.

## Step 5. Summary

### 5.1 front-end

- We need to delete original login and register.
- We also need to accept code and state and send them to back-end.

### 5.2 back-end

RuoYi back-end has perfect login and registration function. We just need to change a little, so it is very convenient.

## Step 6. Detailed steps

1. Deploy and configure casdoor. We must take care of the organization's password type which should choose bcrypt because RuoYi-Cloud's password type is bcrypt.
2. We should use casdoor syncers to copy database users to your casdoor organization. This step can make the original account import to casdoor.
3. After we deployed casdoor, we should change front-end. We should close RuoYi check code

```
// checkcode switch  
captchaEnabled: false,  
// register switch  
register: true,
```

Note that RuoYi-Cloud captcha needs to be close in nacos again. Note that RuoYi-Cloud open registration function requires changing sys.account.registerUser to true.

4. We should add button jump to casdoor and change data's loginForm

```
1 <el-button type="primary">  
2   <a href="http://localhost:7001/login/oauth/authorize?client_id=d509b6b3edc8a3d4cce9&response_type=code&redirect_uri=http%3A%2F%2Flocalhost%3D8080%2Fcasdoor">casdoor</a>  
3 </el-button>
```

```
loginForm: {  
  code: "",  
  state: ""  
},
```

Here I write url, you can get url by casdoor-vue-sdk or casdoor-SpringBoot-sdk.

5. Because we don't use the original login, we should delete the method about cookie and checkcode method.

So the new 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 is null, execute handleLogin  
    this.handleLogin()  
  }  
}
```

6. In fact, we just need to change the parameter we send to back-end and delete the function we don't need, we don't need to change anything else.

```
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 dependency in 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 resource. 8. Callback function is defined as the redirect function. I change some methods in sysLoginService slightly. I delete the check password step because we don't need it.

```
@PostMapping("login")
public R<?> callback(@RequestBody CodeBody code) {//we should define a CodeBody entity which have 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 database haven't this user
            // add this user into database
            sysLoginService.casdoorRegister(casdoorUserName);
        }
    }
    LoginUser userInfo =
    sysLoginService.casdoorLogin(casdoorUser.getName());//get this user's information by database
    return R.ok(tokenService.createToken(userInfo));
}
```

## 9. SysLoginService's new method

```
public LoginUser casdoorLogin(String username){
    // execute user
    R<LoginUser> userResult =
remoteUserService.getUserInfo(username, SecurityConstants.INNER);
    if (R.FAIL == userResult.getCode())
    {
        throw new ServiceException(userResult.getMsg());
    }

    if (StringUtils.isNull(userResult) ||
StringUtils.isNull(userResult.getData()))
    {
        recordLogService.recordLogininfor(username,
Constants.LOGIN_FAIL, "this user is not exist");
        throw new ServiceException("user" + username + " is not
exist");
    }
    LoginUser userInfo = userResult.getData();
    SysUser user = userResult.getData().getSysUser();
    if (UserStatus.DELETED.getCode().equals(user.getDelFlag()))
    {
        recordLogService.recordLogininfor(username,
Constants.LOGIN_FAIL, "sorry, your account was deleted");
        throw new ServiceException("sorry, your account" + username +
" was deleted");
    }
    if (UserStatus.DISABLE.getCode().equals(user.getStatus()))
    {
        recordLogService.recordLogininfor(username,
Constants.LOGIN_FAIL, "your account is disabled, you can contact
admin ");
        throw new ServiceException("sorry, your account" + username +
" is disabled");
    }
    recordLogService.recordLogininfor(username,
Constants.LOGIN_SUCCESS, "login successfully");
    return userInfo;
}
```

```
public String getUserByCasdoorName(String casdoorUsername){
    R<LoginUser> userResult =
remoteUserService.getUserInfo(casdoorUsername,
SecurityConstants.INNER);
    if (StringUtils.isNull(userResult) ||
StringUtils.isNull(userResult.getData()))
    {
        //if this user is not in Ruoyi-Cloud database and casdoor
have this user, we should create this user in 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 fill in");
    }
    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,
"register successfully");
}
```

# Pulsar-manager

Casdoor can simply connect to Pulsar-manager.

Because the code for connecting casdoor has been added in Pulsar-manager, we just need to configure application.yml in back-end and open front switch.

## Step1. Deploy Casdoor

Firstly, the Casdoor should be deployed.

You can refer to the Casdoor official documentation for the [Server Installation](#).

After a successful deployment, you need to ensure:

- 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 login functionality is working fine.

Then you can quickly implement a Casdoor-based login page in your own app with the following steps.

## Step2. Configure Casdoor

Configure casdoor can refer to [casdoor](#)(Configure casdoor's browser better not use one browser as your develop browser).

You also should configure an organization and an application. You also can refer to [casdoor](#).

## step2.1 you should create an organization

Edit Organization Save Save & Exit

|                  |   |
|------------------|---|
| Name ⓘ:          | pulsar  |
| Display name ⓘ:  | pulsar  |
| Favicon ⓘ:       | URL ⓘ: <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  |

## step2.2 you should create an application

Name ⓘ: app-pulsar  
Display name ⓘ: app-pulsar  
Logo ⓘ: URL ⓘ: [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 ⓘ: | df92bbf913225ebbae9af7ba8d41fe19507eb079   |               |     |               |   |
| Cert ⓘ:          | cert-built-in  |               |     |               |   |
| Redirect URLs ⓘ: | <table border="1"><thead><tr><th>Redirect URLs</th><th>Add</th></tr></thead><tbody><tr><td>Redirect URL:</td><td><a href="http://localhost:9527/callback">http://localhost:9527/callback</a></td></tr></tbody></table> | Redirect URLs | Add | Redirect URL: | <a href="http://localhost:9527/callback">http://localhost:9527/callback</a> |
| Redirect URLs    | Add  |               |     |               |   |
| Redirect URL:    | <a href="http://localhost:9527/callback">http://localhost:9527/callback</a>  |               |     |               |   |

## Step3. Open Pulsar-manager front-end

# switch

Open this switch to make code and state send to back-end.

This switch in the Line 80 of pulsar-manager/front-end/src/router/index.js

```
- // mode: 'history', // require service support
+ mode: 'history', // require service support
```

## Step4. Configure back-end code

You should configure casdoor's Configuration in the Line 154 of pulsar-manager/src/main/resources/application.properties

```
casdoor.endpoint = http://localhost:8000
casdoor.clientId = <client id in previous step>
casdoor.clientSecret = <client Secret in previous step>
casdoor.certificate=<client certificate in previous step>
casdoor.organizationName=pulsar
casdoor.applicationName=app-pulsar
```

# ShenYu

ShenYu has casdoor plugin to use casdoor

## Step1. Deploy Casdoor

Firstly, the Casdoor should be deployed.

You can refer to the Casdoor official documentation for the [Server Installation](#).

After a successful deployment, you need to ensure:

- 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 login functionality is working fine.

Then you can quickly implement a casdoor based login page in your own app with the following steps.

## Step2. Configure Casdoor application

1. Create or use an existing Casdoor application
2. Add Your redirect url

Name : app-test → application name

Display name : app-test

Logo : URL : https://cdn.casbin.org/img/casdoor-logo\_118x256.png

Preview: 

Home : → organization name

Description :

Organization : built-in

Client ID : 6e3a84154e73d1fb156a → client id

Client secret : 84209d412a338a42b789c05a3446e623cb7262d → client secret

Cert : cert-built-in

Redirect URLs : → redirect url

| Action                                | Redirect URL                     |
|---------------------------------------|----------------------------------|
| <span style="color:red">[Edit]</span> | http://localhost:9195/http/hello |
| <span style="color:red">[Edit]</span> | http://localhost:9195/http/hello |

### 3. On the certificate editing page, you can see your **Certificate**

Certificate : Copy certificate Download certificate

```
-----BEGIN CERTIFICATE-----
MIIE+TCCAUgGAwIBAgIDAeJAMA0GCSqGSIb3DQEBCwUAMDYxHTABBgNVBAoTFENh
c2Rvb3IgT3JnYW5pemF0aW9uMRUwEwYDVQQDEwxDYXNkb29yIENlcnQwHhcNMjEx
MDE1MDgxMTUyWhcNNDEXMDE1MDgxMTUyWjA2MR0wGwYDVQQKExRDYXNkb29yIe9y
Z2FuaxphdGlvbjEVMBMGAEUAxMMQ2FzZG9vcj8DZXj0MIIcjANBgkqhkiG9w0B
AQEFAAOCAg8AMiCCgKCAgEAstnpb5E1/ymf0tRfSDSSE8IR7y+lw+RjIj74e5ej
rq4b8zMMyk7HeHCyZr/hmNewEVXnhXu1P0mBeQ5ypp/QGo8vgEmjaETNmzkl1NjOQ
CjCYwUrasO/f/Mnl1C0j13vx6mV1kHZjSrKsMhYY1vaxTEP3+VB8Hjg3MHFWrb07
uvFMCJe5W8+0rKErZCKTR8+9VB3janeBz/zQePFvh79bfZate/hLirPK0Go9P1g
OvwloC1A3sarHTP4Qm/LQRt0rHqZFybdySpyWAQvhNaDFE7mTstRS8b/wUjNCUBD
PTSLVjC04WIIIf6Nkfx0Z7KvmbPstSj+btvqsvRAGtvsB9h62Kptjs1Yn7GAuo
I3qt/4zoKbiURYxkQJXlvwCQsEftUuk5ew5zuPSIDRLoLByQTLbx0jLAFNfW3g/
pzSDjgd/60d6HTmvbZni4SmjdyFhXCDb1Kn7N+xTojnfakNkwp2REV+RMc0fx4Gu
hRsnlsmkmUDeylZ9aBL9oj11YEQfM2JZEq+RvtUx+wB4y8K/tD1bcY+lfnG5rBpw
IDpS262boq4SRsvb3Z7bB0w4ZxvOfj/1VLoRjtPbLifobhfr/AeZMHpiKOXvfz4
yE+hqzi6wdF0VR9xYc/RbSAf7323OsjYnjjEglnUtRohnRgCpjlk/Mt2Kt84Kb0
wn8CAaAMQMA4wDAYDVR0TAQH/BAlwADANBgkqhkiG9w0BAQsFAAOCAgEAn2lf
DKkLX+F1vKRO/5gJ+Plr8P5NKuQkmwH97b8CS2gS1phDyNgic4/LSdzuf4Awe6ve
C06lVdWSlis8UPUPdjmt2uMPSNjwLxG3QsrimMURNlwFLTfRem/heJe0Zgur9J1M
8haawdSdjH2RgmFoDeE2r8NVRfhbR8KnCO1ddTJKuS1N0/irHz21W4jt4rxzCvl
2nR42Fybap3O/g2JXMhNNRowZmNjgpsF7XVENCSuFO1jTywLaqjuXCg54lL7XVLG
omKNNNcc8h1FCelj/nbbGMhodnFWKDTsJcbNmcOPNHo6ixzqMy/Hqc+mWv7maAG
Jtevs3qgMZ8F9Qzr3HpUc6R3ZYWDY/xxPisukftOPZgtH979XC4mdf0WPnOBLql
2DJ1zaBmjIGolvb7XNVKcUfdXYw85ZTQ5b9cli4e+6bmyWqQltlwt+Ati/uFEV
Xzcj70B4IALX6xau1kLepV9O1GERizYrz5P9NJNA7Ko05AVMp9w0DQTkt+LbXnZE
HHnWKy8xHQKF9sR7YBPGLs/Ac6tviv5ua15Ogj/8dLRZ/veyFfGo2yZsl+hKVU5
nCCJHBcAyFnm1hdvdwEdH33jDBjNB6ciotJZrf/3VYalWSalADosHAgMWFxFuWP+h
8XKXmzlxuHbTMQytZPDgsps5aK+S4Q9wb8RRAYo=
-----END CERTIFICATE-----
```

## Step3. Use casdoor plugin in shenyu

1. Config 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: because the shenyu only have Single line input box so we need add \n in

every line of cert.

Certificate ? :

## Copy certificate

[Download certificate](#)

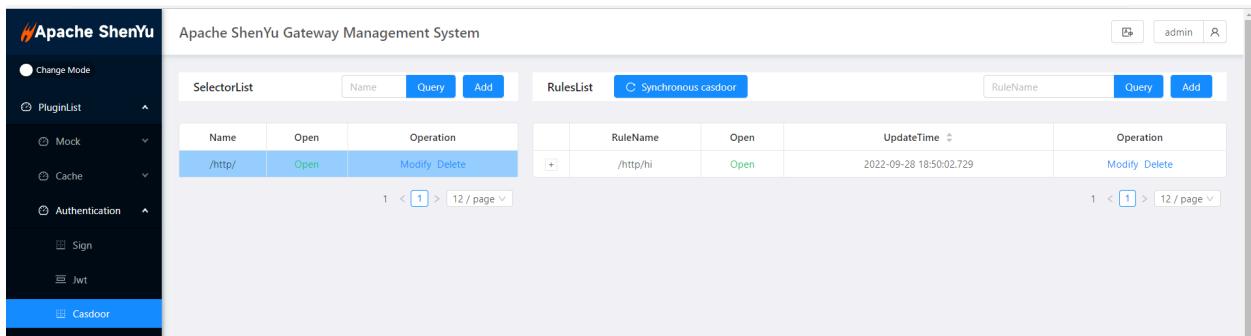
-----BEGIN CERTIFICATE-----\nMIIE+TCCAUgAwIBAgIDAeJAMA0GCSqGSIb3DQEBCwUAMDYxHTAbBgNVBAoTFENH\nn\nc2Rvb3lgT3JnYW5pemF0aW9uMRUwEwYDVQQDEwxDYXNkb29yIENlcnQwHhcNMjEx\nn\nMDE1MDgxMTUyWhcNNDExMDE1MDgxMTUyWja2MR0wGwYDVQQKErDYXNkb29yIe9y\nn\nZ2FuaXphdGlvbjEVMBMGA1UEAxMMQ2FzZG9vcBDZXJ0MIIICjANBgkqhkiG9w0B\nn\nAQEFAAOCAg8AMIICgKCAgEAstnpb5E1/yM0f1RfSDSSE8IR7y+lw+RJi74e5ej\nn\nrq4b8zMjYk7HeHCyZr/hmNEwEVXnhXu1P0mBeQ5yp/QGo8vgEmjAETNmzkl1NjOQ\nn\nCjCYwUrasO/f/Mnl1C0j13vx6mV1kHZjsRsKmhYY1vaxTEP3+VB8Hjg3MHFWrb07\nn\nuvFMCJe5W8+0rKErZCKTR8+9VB3janeBz//zQePFVh79bfZate/hLirPK0Go9P1g\nn\nOvwloC1A3sarHTP4Qm/LQRt0rHqZFybdySpyWAQvhNaDFE7mTstRSBb/wUjNCUBD\nn\nPTSLVjc04WIISf6Nkf0Z7KvmbPstSj+btcqvRAgtvdsB9h62Kptjs1Yn7GAuo\nn\nl3qt/4zoKbiURYxkQJXlvwCQsEftUuk5ew5zuPSIDRLoLbyQLtbx0JqlAFNfW3g\nn\npzSDjgd/60d6HTmvbZni4SmjdyFhXCDb1Kn7N+xTojnfaNkwep2REV+RMc0fx4Gu\nn\nhRsnLsmkmUDeylZ9aBL9oj11YEQfm2JZEq+RvtUx+wB4y8K/tD1bcY+lfnG5rBpw\nn\nIDpS262boq4SRsvb3Z7bB0w4ZxvOfJ/1VLoRftjPbLif0bhfr/AeZMHpIKOXvfz4\nn\nyE+hqzi68wdF0VR9xYc/RbSAf7323OsjYnjjEgInUtRohnRgCpjlk/Mt2Kt84Kb0\nn\nwn8CAwEAAsMQMA4wDAYDVR0TAQH/BAlwADANBgkqhkiG9w0BAQsFAAOCAgEAn2If\nn\nDKkLX+F1vKRO/5gJ+Plr8P5NKuQkmwH97b8CS2gS1phDyNgIc4/LSdzuf4Awe6ve\nn\nC06IVdWSlis8UPUPdmT2uMPNSJwLxG3QsrimMURNwFILTfRem/heJe0ZgurJ1M\nn\n8haawdSdjH2RgmFoDeE2r8NVRfhbR8KnCO1ddTJKuS1N0/irHz21W4jt4rxzCv\nn\n2nR42Fybap3O/g2JXMHNNROwZmNjgpsF7XVENCSuFO1jTywLaajuXCg54IL7XVLG\nn\nomKNNNcc8h1FcEkj/nnbGMhodnFWKDTsJcbNmOPNHo6ixzqMy/Hqc+mWYv7maAG\nn\nJtevs3qgMZ8F9Qzr3HpUc6R3ZYYWDY/xxPisufktpZGtH979XC4mdf0WPnOBQl\nn\n2DJ1zaBmjijGolvb7XNVKcUfDXYw85ZTZQ5b9cl4e+6bmyWqQltlw+Ati/uFEV\nn\nXzCj70B4IALX6xau1kLepV9O1GERizYRz5P9NJNA7Ko05AVMp9w0DQTkt+LbXnZE\nn\nHHnWKy8xHQKZF9sR7YBPGls/Ac6tviv5ua15Ogj/8dLRZ/veyFfGo2yZsl+hKVU5\nn\nnCCJHBcAyFnmlhdvdwEdH33jDBjNB6ciotJzf/3VYalWSalADosHAgMWfXuWP+h\nn\n8XXKXmzlxuHbTMQYtZPDgspS5aK+S4Q9wb8RRAYo=\n

here not need add \n

You can copy it and paste it on the certificate of shenyu casdoor config.

You don't need save it in casdoor certificate editing page,because it just for copying.

## 2. Confin shenyu casdoor's plugin



The screenshot shows the Apache ShenYu Gateway Management System interface. On the left, there is a sidebar with a dark theme containing the following sections:

- Change Mode (radio button)
- PluginList
  - Mock
  - Cache
  - Authentication
    - Sign
    - Jwt
  - Casdoor (selected)

The main area has tabs: SelectorList and RulesList. The RulesList tab is active, showing a table with one row of data:

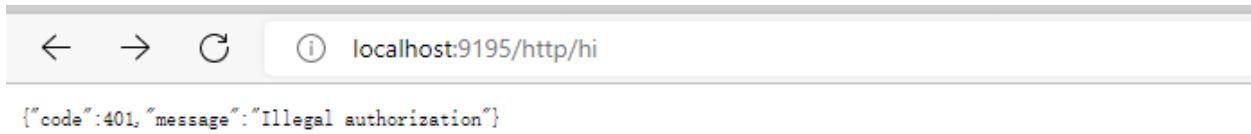
| Name   | Open | Operation     | RuleName | Open | UpdateTime              | Operation     |
|--------|------|---------------|----------|------|-------------------------|---------------|
| /http/ | Open | Modify Delete | /http/hi | Open | 2022-09-28 10:50:02.729 | Modify Delete |

Pagination controls at the bottom indicate page 1 of 12.

You can config what you need to use casdoor config

## 3. Get the service and use

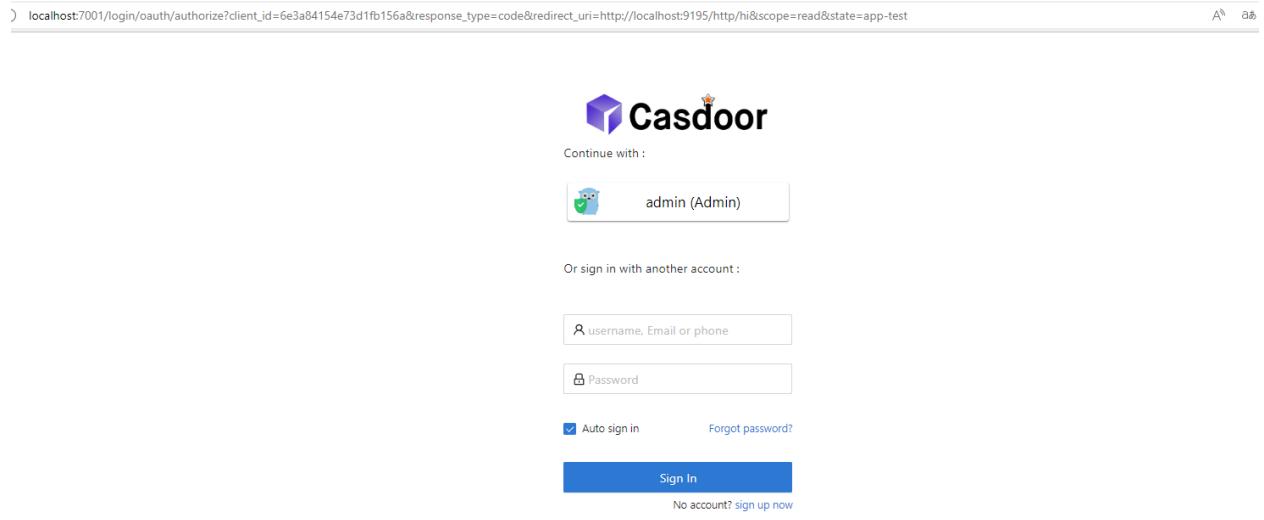
### 3.1 Visit the Web directly like



A screenshot of a web browser window. The address bar shows the URL `localhost:9195/http/hi`. The page content is a JSON object:

```
{"code":401,"message":"Illegal authorization"}
```

### 3.2 Use casdoor login like this



The screenshot shows the Casdoor login interface. At the top, there is a URL bar with the address `localhost:7001/login/oauth/authorize?client_id=6e3a84154e73d1fb156a&response_type=code&redirect_uri=http://localhost:9195/http/hi&scope=read&state=app-test`. Below the URL bar is the Casdoor logo and the text "Continue with:". A button labeled "admin (Admin)" is shown, which has a small owl icon and a green checkmark. Below this, there is a section for "Or sign in with another account:" containing two input fields: one for "username, Email or phone" and one for "Password". There are also links for "Auto sign in" (with a checked checkbox) and "Forgot password?". A large blue "Sign In" button is at the bottom, and a link "No account? sign up now" is just below it. The browser's navigation bar at the bottom shows the URL `localhost:9195/http/hi?code=822607b015cca2515b2b&state=app-test`.

localhost:7001/login/oauth/authorize?client\_id=6e3a84154e73d1fb156a&response\_type=code&redirect\_uri=http://localhost:9195/http/hi&scope=read&state=app-test

localhost:9195/http/hi?code=822607b015cca2515b2b&state=app-test

hi! null! I'm Shenyu-Gateway System. Welcome!

### 3.3 Carry token in Headers, you also can visit it

The screenshot shows the Postman interface with a GET request to `http://localhost:9195/http/hi`. The **Headers (8)** tab is selected, displaying the following header information:

| 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   | eyJhbGciOiJSUzI1NjI6ImtpZCI6ImNlcnQtYn... <span style="color:red">Your token</span> |

The **Body** tab is selected, showing the response body:

```
1  hi! null! I'm Shenyu-Gateway System. Welcome!
```

### 3.4 It also can save name,id and organization in Headers so that you can use them in next time

# JavaScript



## WeChat MiniProgram

Using Casdoor in WeChat MiniProgram

# WeChat MiniProgram

## ⓘ INFO

Casdoor supports WeChat Mini Program after version 1.41.0

## Introduction

Since WeChat Mini Program does not support standardized OAuth, it cannot jump to the self-host Casdoor webpage for login. Therefore, the process of using Casdoor for WeChat Mini Program is different from that of ordinary programs.

This document will talk about how to access Casdoor to WeChat Mini Program. You can find the example on GitHub here: [casdoor-wechat-miniprogram-example](#). More detailed information can be found in the WeChat Mini Program [login document](#).

The following are some of the names in the configuration:

`CASDOOR_HOSTNAME`: Domain name or IP where Casdoor server is deployed.

e.g., `https://door.casbin.com`.

## Step1. Deploy Casdoor

Firstly, the [Casdoor](#) should be deployed.

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
```

## Step2. Configure Casdoor application

1. Create a wechat idp in casdoor and fill your `APPID` and `APPSECRET` given to you by WeChat Mini Program develop 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 or use an existing Casdoor application.
3. Add the idp added above to the application you want to use.

#### ❗ TIPS

For convenience, casdoor will read the first WeChat type idp in the application as the WeChat Mini Program idp by default.

So if you want to use the WeChat Mini Program in this app, don't add multiple WeChat type idp in one app.

# Step3. Write WeChat MiniProgram code

WeChat Mini Program provides an API to login internally and gets the Code. All you need to do is to send this Code to Casdoor. Casdoor will use this Code to get some information from WeChat server (such as OpenID, SessionKey, etc.).

The following code shows how to accomplish the above process:

```
// login in mini program
wx.login({
  success: res => {
    // this is your login code you need to send 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 login.
        "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 accessToken
      }
    })
  }
})
```

It is worth mentioning that the `tag` parameter is mandatory and you need to make casdoor understand that this is a request from the WeChat Mini Program.

The above code passes in the username and avatar uri of the WeChat Mini Program user while logging in. You can also pass these two parameters without passing them first, and then pass them to casdoor after the login is successful and accessToken is obtained:

```
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 uri
      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)
      }
    })
  }
})
```

Also, you can use accessToken as a bearer token for any Casdoor operation you want.

 TIPS

Currently Casdoor is unable to bind existing accounts to the WeChat Mini Program users. After Casdoor gets the openID from WeChat if this id does not exist, a new user will be created, and if it exists, the old one will be used.

# 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 the 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 codes of api.

### How to enable it

You need to specify this plugin when creating the route, and give out all required fields. Here is an example.

```
curl "http://127.0.0.1:9080/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"  
    }  
  }  
}'
```

In this example, using apisix's admin API we created a route "/anything/\*" pointed to "httpbin.org:80", and with "authz-casdoor" enabled. This route is now under 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 "authz-casdoor" plugin we can see four parameters.

The first one is "callback\_url". This is exactly 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 can the visit toward 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 `callback_url` is implemented completely by the plugin so that 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 "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 user wants to visit kept, he will be redirected to the login page of Casdoor.

After successfully logging in with username and password(or whatever method he uses), 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 "Authorization code Grant Flow" in Oauth2 will be triggered, which means this plugin will request the access token to confirm whether this user is really logged in. After this confirmation, this plugin will redirect this user to the original url user wants to visit, which was kept by us previously. The logged-in status will also be kept in the session.

Next time this user want to visit 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 so that this user can visit whatever he wants under this route without being interfered.

# Connect Casdoor via APISIX's OIDC plugin

Casdoor can use the OIDC protocol to link to APISIX, and this document will show you how to do it.

The following are some of the names in the configuration:

`CASDOOR_HOSTNAME`: Domain name or IP where Casdoor server is deployed.

`APISIX_HOSTNAME`: Domain name or IP where APISIX is deployed.

## Step1. Deploy Casdoor and APISIX

Firstly, the [Casdoor](#) and [APISIX](#) should be deployed.

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
```

## Step2. Configure Casdoor application

1. Create or use an existing Casdoor application.
2. Add a redirect url: `http://APISIX_HOSTNAME/REDIRECTWHATYOUWANT`, and change `REDIRECTWHATYOUWANT` to the redirect url you need.
3. Select "JWT-Empty" for the Token format option
4. Add provider you want and supplement 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 'Add' button and a URL entry field containing http://localhost:9000/callback), and Token format (JWT-Empty selected). There is also a 'Select JWT-Empty' button.

Not surprisingly, you can get two values on the application settings page: `Client ID` and `Client secret` like 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`, you will see the OIDC configure of Casdoor.

## Step3. 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, in which the following routing settings will be used:

```
#Use your own X-Api-Key
$ curl -XPOST APISIX_HOSTNAME/apisix/admin/routes -H "X-Api-Key:"
```

Now, visit `http://APISIX_HOSTNAME/get`, the browser will redirect you to the casdoor login page, and after successfully logging in, you will, not surprisingly, see that we have sent a request to `httpbin.org`.



# PHP

## Zentao

Using Casdoor for authentication in Zentao

## ShowDoc

Using Casdoor as oAuth2 server in ShowDoc

# Zentao

Zentao is an agile(scrum) project management system/tool, but it does not support OIDC itself. For integrating Zentao with Casdoor SSO, we should via 3rd-party OIDC module [zentao-oidc](#), and this document will show you how to do it.

## Step1. Deploy Casdoor and Zentao

Firstly, the [Casdoor](#) and [Zentao](#) should be deployed. After a successful deployment, you need to ensure:

1. Casdoor can be logged in and used successfully.
2. You can successfully log in and use Zentao

## Step2. Integrated Zentao OIDC third party module

install [zentao-oidc](#)

```
git clone https://github.com/casdoor/zentao-oidc.git
```

or you can download the ZIP and unzip it.

This module is used for Zentao integrating with SSO for OpenId. The usage is as follows:

1. Copy the entire oidc directory to the Module of The Zentao and use it as a

module of the Zentao. Rename the downloaded package to "oidc"

## 2. Configure the filter

Because the framework of Zentao filters the parameters in URL and does not allow Spaces. So 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`

Put 'oidc' on 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 do not want the Zentao login screen to appear, go directly to the Casdoor login screen. Modify the last line of code at `public function checkPriv()` in `/module/common/model.php`.

```
//return print(js::locate(helper::createLink('user', 'login',
"referer=$referer")));
return print(js::locate(helper::createLink('oidc', 'index',
"referer=$referer")));
```

## 5. Modify `setSuperVars()` method inside of `framework/base/`

`router.class.php`, comment out the following statements.

```
public function setSuperVars()  
// unset($_REQUEST);
```

## Step3. Configure Casdoor Application

1. Create or use an existing Casdoor application.
2. Add Your redirect url

The screenshot shows the Casdoor application configuration interface. It includes fields for Client ID (d8d7715e24f077066a20), Client secret (redacted), Cert (cert-built-in), and Redirect URLs (http://127.0.0.1/zentao/oidc-index.html). There is also a 'Add' button for Redirect URLs.

|   |  |               |     |              |  |   |  |
|---|--|---------------|-----|--------------|--|---|--|
| Client ID ? :                             | d8d7715e24f077066a20   |               |     |              |  |   |  |
| Client secret ? :                         | [REDACTED]   |               |     |              |  |   |  |
| Cert ? :                                  | cert-built-in  |               |     |              |  |   |  |
| Redirect URLs ? :                         | <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 provider you want and supplement other settings.

## Step4. Configure Zentao

Configure `config.php` in the oidc

```
$config->oidc->clientId=<Your ClientId>;  
$config->oidc->clientSecret=<Your ClientSecret>;  
$config->oidc->issuer="http://localhost:8000";
```

set your redirect Url in module/oidc `public function index()`

```
$oidc->setRedirectURL($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, which the framework defaults to with a dash : -

please refer to zentao's official framework for details. "[zentaoPHP](#)"

# ShowDoc

## Using Casdoor for authentication in ShowDoc

ShowDoc is an online API documentation, technical documentation tool 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 Oauth. Here is the tutorial for achieving this.

### step1. Create an Casdoor application

Go to your Casdoor and add your new application 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 next step.

**!** INFO

Please don't fill in the `callback url` in this step. The url depends on the configurations on `showdoc` in next step. Later we will come back to set a correct callback url.

## step2. Configure Showdoc

First, start the oAuth2 login button. Then fill in the `callback url` as shown in the example. Fill in the `client ID` and `client secret` remembered in previous step.

The screenshot shows the ShowDoc configuration interface. On the left, there is a sidebar with the following menu items:

- 用户管理
- 项目管理
- 附件管理
- 集成登录** (highlighted with a red box)
- 站点设置
- 关于本站

The main configuration area has the following tabs at the top: LDAP, **OAuth2**, and 通用接入. The OAuth2 tab is selected. Below it, there is a toggle switch labeled "启动OAuth2登录" which is turned on. A red box highlights this toggle switch.

Configuration fields include:

- callback url:** http://127.0.0.1/server/?s=/api/extLogin/oauth2
- 入口文字提示:** casdoor sso
- Client id:** 208d745196c23df9fd5b
- Client secret:** 4c89f447af77bc276431ab885463ebcb8d6efc3c
- Oauth host:** http:// 127.0.0.1:8000
- Authorize path:** /login/oauth/authorize
- AccessToken path:** /api/login/oauth/access\_token

`Authorize path`, `AccessToken path`, `User info path` are required. You can fill as shown below.

```
Authorize path: /login/oauth/authorize
AccessToken path: /api/login/oauth/access_token
User info path: /api/get-account
```

## step3. Configure the callback url in casdoor

Go back to the application edit page in step 1, and add the `callback url` 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 (2)". Below the header, there are two buttons: "Redirect URLs" and "Add". The "Add" button is highlighted with a blue background and white text. Underneath these buttons, there is a section titled "Redirect URL" with a text input field containing the value "http://127.0.0.1/server/?s=/api/extLogin/oauth2".

## step4. Have a try on showdoc

You are supposed to see this in 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 casdoor login page.

# Ruby



Using Casdoor for authentication in self-developed GitLab server

# GitLab

Casdoor can use the OIDC protocol to link to self-deployed GitLab server, and this document will show you how to do it.

The following are some of the names in the configuration:

`CASDOOR_HOSTNAME`: Domain name or IP where Casdoor server is deployed. e.g.,  
`https://door.casbin.com`.

`GITLAB_HOSTNAME`: Domain name or IP where GitLab is deployed. e.g.,  
`https://gitlab.com`.

## Step1. Deploy Casdoor and GitLab

Firstly, the [Casdoor](#) and [GitLab](#) should be deployed.

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
```

## Step2. 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 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 <span style="color: red;">Client ID</span>   |
| Client secret <a href="#">?</a> : | 95e7...b3a0188a5 <span style="color: red;">Client secret</span>  |
| Redirect URLs <a href="#">?</a> : | <a href="#">Redirect URLs</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> <span style="color: red;">GitLab redirect url</span> |

Not surprisingly, you can get two values on the application settings page: [Client ID](#) and [Client secret](#) like 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`, you will see the OIDC configure of Casdoor.

## Step3. Configure GitLab

You can follow the steps below to set this up, or make custom changes according to [this document](#)(e.g., you are installing GitLab using source code rather than Omnibus).

1. On your GitLab server, open the configuration file.

```
sudo editor /etc/gitlab/gitlab.rb
```

2. Add the provider configuration. (HOSTNAME url should include http or https)

```
gitlab_rails['omniauth_providers'] = [
  {
    name: "openid_connect",
    label: "Casdoor", # optional label for 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>",
      }
    }
  }
]
```

3. Reboot your GitLab server.
4. Each registered user can open `GITLAB_HOSTNAME/-/profile/account`, connect the casdoor account.

User Settings > Account

Two-Factor Authentication  
Status: Disabled

Enable two-factor authentication

Social sign-in  
Activate sign in with one of the following services

Connected Accounts  
Click on icon to activate sign in with one of the following services

**Connect Casdoor**

5. Finish. Now, you can login your own GitLab by 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



> Internationalization

# Internationalization

Casdoor supports multi-languages. By deploying the translations to [Crowdin](#), we support Chinese, French, German, Russian, Japanese and Korean.

Casdoor uses the official Crowdin cli to sync translations from Crowdin. If you want to add more languages supports, please propose in [our community](#), and if you want to help us speed up the translating work, please help us translate on [Crowdin](#).



# Contributing to Casdoor

Welcome to Casdoor! This document is a guideline about how to contribute to Casdoor.

If you find something incorrect or missing, please leave comments / 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 issues to promote development of Casdoor, no matter bugs or proposal. Before filing an issue on GitHub, it would be better to discuss first on [Gitter](#), [Casbin Forum](#) or QQ group: [645200447](#)



When reporting an issue, please use English to describe the details of your problem.

Help with docs! Contributing start from docs is a good choice to start your contribution.

Help solve issues! We prepare a table containing easy tasks suitable for beginners, with different levels of challenges labeled with different tags, check the table here [Casdoor Easy Tasks](#).

# Contributing

Now, if you are ready to create PR, here is the workflow for contributors:

1. Fork to your own
2. Clone 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 developing platform. So the pull requests are the main source of contributions.

There are something you need to know before you open a pull request:

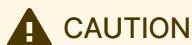
- When you first pull request, you need to sign the CLA.
- Explain why you send this PR and what this PR would do to the repo.

- One commit is allowed. Make sure the PR does only one thing, otherwise please split it.
- If there are newly added files, please include Casdoor license to the top of 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:



The PR title must be in lower case.

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` add or improve a document.

```
docs: correct spelling of CHANGELOG
```

For more details, please refer to [Conventional Commits](#).

## Link PR with issue (if existed)

You can link a pull request to an issue to show that 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

Issue in the same repository, for example:

Fix: #902

For more details, please see [Link PR to issue](#).

## Modify PRs

Inevitably, your PR may need to be revised. Please re-use the same PR when the code needs changes. Don't close the PR and open a new one.

Here is a possible example:

- Modify the code in your local.
- Modify this commit.

```
git commit --amend
```

- Push to your remote repository.

```
git push --force
```

Then the PR has been modified successfully! You can check it in Casdoor repository.

## Code Related

Some principles:

Readability - Important code should be well-documented. Code style should be complied with the existing one.

## Naming convention

e.g., `signupUrl` for var names, `Signup URL` for UI

## How to update i18n data?

Please note that we use [Crowdin](#) as translating platform and i18next as translating tool. When you add some words using i18next in the `web/` directory, you can run the `i18n/generate_test.go` to auto-generate the `web/src/locales/**/data.json`.

Run `i18n/generate_test.go`:

```
cd i18n && go test
```

All languages are filled in English by default. You are encouraged to help translate the newly added strings in the `web/src/locales/zh/data.json` by [Crowdin](#) after your PR has been merged.

 CAUTION

If you are not familiar with other language, please don't translate it. Keep the file as it is.

## License

By contributing to Casdoor, you agree that your contributions will be licensed under its Apache License.