



Overview

Casibase is a Open-Source [Domain Knowledge Database & IM & Forum Software](#) powered by [ChatGPT](#).

You need to enable JavaScript to run this app.

Casibase features

1. Front-end and back-end separate architecture, developed by Golang,

Casibase supports high concurrency, provides web-based managing UI and supports multiple languages(Chinese, English).

2. Casibase supports third-party applications login, such as GitHub, Google, QQ, WeChat, etc., and supports the extension of third-party login with plugins.
3. Based on embedding and prompt engineering for knowledge management, Casibase supports customized embedding methods and language models.
4. Casibase supports integration with existing systems by db sync, so users can transition to Casibase smoothly.
5. Casibase supports mainstream databases: MySQL, PostgreSQL, SQL Server, etc., and supports the extension of new databases with plugins.

How it works

Step 0 (Pre-knowledge)

Casibase's knowledge retrieval process is based on Embedding and Prompt engineering, so it is highly recommended that you take a brief look at how Embedding works. An [introduction](#) to Embedding.



Step 1 (Importing Knowledge)

To get started with Casibase, users need to follow these steps to import knowledge and create a domain-specific knowledge database:

1. **Configure Storage:** In the Casibase dashboard, users should first configure the storage settings. This involves specifying the storage system to be used for storing knowledge-related files, such as documents, images, or any other relevant data. Users can choose from a variety of storage options based on their preferences and requirements.
2. **Upload Files to Storage:** Once the storage is set up, users can proceed to upload files containing domain-specific knowledge into the configured storage system. These files can be in various formats, such as text documents, images, or structured data files like CSV or JSON.
3. **Select Embedding Method for Knowledge Generation:** After the files are uploaded, users have the option to choose the embedding method for generating knowledge and corresponding vectors. Embeddings are numerical representations of textual or visual content, which facilitate efficient similarity search and data analysis.



How knowledge is embedded?

- For textual data: Users can choose from various embedding methods, such as Word2Vec, GloVe, or BERT, to convert the textual knowledge into meaningful vectors.
- For visual data: If the uploaded files contain images or visual content,

users can select image embedding techniques like CNN-based feature extraction to create representative vectors.

- More methods coming soon...

By following these steps, users can populate their domain knowledge database with relevant information and corresponding embeddings, which will be used for effective searching, clustering, and retrieval of knowledge within Casibase. The embedding process allows the system to understand the context and relationships between different pieces of knowledge, enabling more efficient and insightful knowledge management and exploration.

Step 2 (Retrieving Knowledge)

After importing your `domain knowledge`, Casibase transforms it into `vectors` and stores these vectors in a `vector database`. This vector representation enables powerful functions like `similarity search` and `efficient retrieval of related information`. You can quickly find relevant data based on context or content, enabling advanced querying and uncovering valuable insights within your domain knowledge.

Step 3 (Building the Prompt)

Casibase performs a similarity search on the stored knowledge vectors to find the closest match to the user's query. Using the search results, it creates a `prompt template` to frame a specific question for the `language model`. This ensures accurate and contextually relevant responses, delivering comprehensive answers based on the domain knowledge in Casibase.

Step 4 (Achieving the Goal)

At this stage, using Casibase, you have successfully acquired the knowledge you sought. Through the innovative combination of domain knowledge transformed into vectors and powerful language models like ChatGPT, Casibase provides you with accurate and relevant responses to your inquiries. This enables you to efficiently access and utilize the domain-specific information stored in Casibase, meeting your knowledge requirements with ease.

Step 5 (Optional Fine-tuning)

If you find that the results are not entirely satisfactory, you can try to get better results by doing the following:

- Tweaking Language Model Parameters
- Asking multiple questions
- Optimizing the original files

By utilizing these fine-tuning options, you can improve the efficiency of your knowledge management in Casibase, ensure that the system is better aligned with your goals, and provide more accurate and insightful information.

HINTS

Other ways to optimize results (may require source code changes):

- Updating `Embedding` Results: Refine the knowledge representation by adjusting the embedding results of your domain knowledge.

- Modifying `Prompt` Templates: By customizing the prompts, you can elicit more precise responses from the language model.
- Exploring Different `Language Models`: Experiment with different models to find the one that best suits your requirements for generating responses.

Online demo

Casibase

Here is an online demo deployed by Casbin.

- [Casibase official demo](#)

Global admin login:

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

Architecture

Casibase contains 4 parts:

Name	Description	Language	Source code
Frontend	User interface for the casibase application	JavaScript + React	https://github.com/casbin/casibase/tree/master/web

Name	Description	Language	Source code
Backend	Server-side logic and API for casibase	Golang + Beego + MySQL	https://github.com/casbin/casibase
AI Model	Artificial intelligence model	Python + OpenAI	https://github.com/casbin/casibase/tree/master/ai
Knowledge Base	Storage for casibase application domain knowledge	pgvector	https://github.com/casbin/casibase/tree/master/ai

Core Concepts

As Casibase's user, you should get familiar with at least 4 core concepts:
`Provider`, `Storage`, `Chat` and `Vector`.

Provider

Providers are the backbone of Casibase, offering essential services and integration with external systems. The Provider class definition is shown as follows:

```
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"`
    ClientId   string `xorm:"varchar(100)" json:"clientId"`
    ClientSecret string `xorm:"varchar(2000)" json:"clientSecret"`
    ProviderUrl string `xorm:"varchar(200)" json:"providerUrl"`
}
```



There are two primary types of providers in Casibase:

- **Storage Provider:** The Storage Provider facilitates the storage and retrieval of data within Casibase. It supports various storage options, including:
 - AWS
 - Azure
 - Local File System
- **AI Provider:** The AI Provider is responsible for handling AI-related tasks and services in Casibase. It supports multiple AI models and technologies, including:
 - OpenAI
 - ChatGLM
 - InternLM

Vectors

Vectors in Casibase represent numerical representations of different types of data. These vectors enable efficient processing and analysis of information. Some of the vector types available are:

- Text Vector
- Image Vector
- ... (other vector types)

The Provider class definition is shown as follows:

```
type Vector struct {
```

Chats

Chats are at the core of interactive communication between users and the AI models in Casibase. They consist of three essential components:

- Question: The user's input or query, seeking information or assistance.
- Query Prompt: A formatted version of the user's question, prepared for processing by the AI models.
- Answer: The AI-generated response to the user's question, providing relevant information or solutions.

The Chat class definition is shown as follows:

```
type Chat 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"`

    DisplayName string `xorm:"varchar(100)" json:"displayName"`
    Category   string `xorm:"varchar(100)" json:"category"`
    Type       string `xorm:"varchar(100)" json:"type"`
    User1      string `xorm:"varchar(100)" json:"user1"`
    User2      string `xorm:"varchar(100)" json:"user2"`
    Users      []string `xorm:"varchar(100)" json:"users"`
    MessageCount int     `json:"messageCount"`
}
```

Embedding

Embedding is the process of transforming various types of data, such as text and images, into dense vector representations. This step is crucial for facilitating efficient data processing and analysis within Casibase.



提示

- By embedding, the questions in chat and the knowledge files in storage will be turned into vectors and used in the next step of knowledge search.
- Casibase's default embedding method is provided by OpenAI at a rate of up to three calls per minute. We propose to minimize the knowledge file coupling as much as possible to facilitate embedding and further processing.

Server Installation

Requirements

OS

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

Environment

- [Go 1.17+](#)
- [Node.js LTS \(18\)](#)
- [Yarn 1.x](#)

信息

The use of Casibase is divided into two steps:

- step1: [Deploy and run Casdoor](#)
- step2: [Deploy and run Casibase](#)

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

警告

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

Casibase uses [XORM](#) to talk to the database. Based on [Xorm Drivers Support](#), Casibase currently provides support for following databases:

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

Download

The source code of Casibase is hosted at GitHub: <https://github.com/casbin/casibase>. Both the Go backend code and React frontend code are inside the single repository.

Name	Description	Language	Source code
Frontend	Web frontend UI for Casibase	JavaScript + React	https://github.com/casbin/casibase/tree/master/web

Name	Description	Language	Source code
Backend	RESTful API backend for Casibase	Golang + Beego + XORM	https://github.com/casbin/casibase

Casibase 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/casbin/casibase
```

Configuration

Configure Casdoor

Please refer to: <https://casibase.org/docs/basic/casdoor-sso> to configure Casdoor.

Remember your `clientId`、`clientSecret`、`organization`、`application` and so on in Casdoor configuration, we will use them later.

Configure Database

Casibase supports mysql, mssql, sqlite3, postgres. Casibase uses mysql by default.

MySQL

Casibase will store its users, nodes and topics information in a MySQL database named: `casibase`. If the database does not exist, it needs to be created manually. The DB connection string can be specified at: <https://github.com/casbin/casibase/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 Casibase.

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

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

① 信息

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

CockroachDB

You can also use cockroachdb with postgres driver. It has same configuration as postgreSQL.

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

① 信息

For CockroachDB, don't forget to add

`serial_normalization=virtual_sequence` to the `dataSourceName` like the above example. otherwise you will get error regarding existed database, whenever the service started or restarted. Notice, this must be added before the database created.

Sqlite3

You should specify `app.conf` like this:

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

Custom configuration

Casibase supports custom configuration, you can modify the configuration file `conf/app.conf` to change the configuration.

- Backend (casibase\conf\app.conf)

```
casdoorEndpoint = http://localhost:8000
clientId = <Your_clientId_in_Casdoor_configuration>
clientSecret = <Your_clientSecret_in_Casdoor_configuration>
casdoorOrganization = casibase
casdoorApplication = app-casibase
```

- Frontend (casibase\web\src\Conf.js)

```
serverUrl: "http://localhost:7001"
clientId: "<Your_clientId_in_Casdoor_configuration>"
appName: "app-casibase"
organizationName: "casibase"
```

Run

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



警告

Casibase requires Casdoor to provide access control and some back-end services, so you must make sure Casdoor is running properly before running Casibase.

How to install and run Casdoor:

- [Casdoor Installation](#)

Development mode

Backend

Casibase's Go backend runs at port 14000 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

Casibase's frontend is a very classic [Create-React-App \(CRA\)](#) project. It runs at port `13001` by default. Use the following commands to run the frontend:

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

Production mode

Backend

Build Casibase Go backend code into executable and start it.

For Linux:

```
go build
./casibase
```

For Windows:

```
go build  
casibase.exe
```

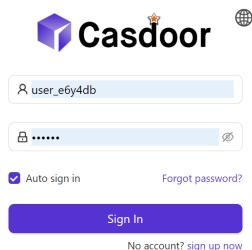
Frontend

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

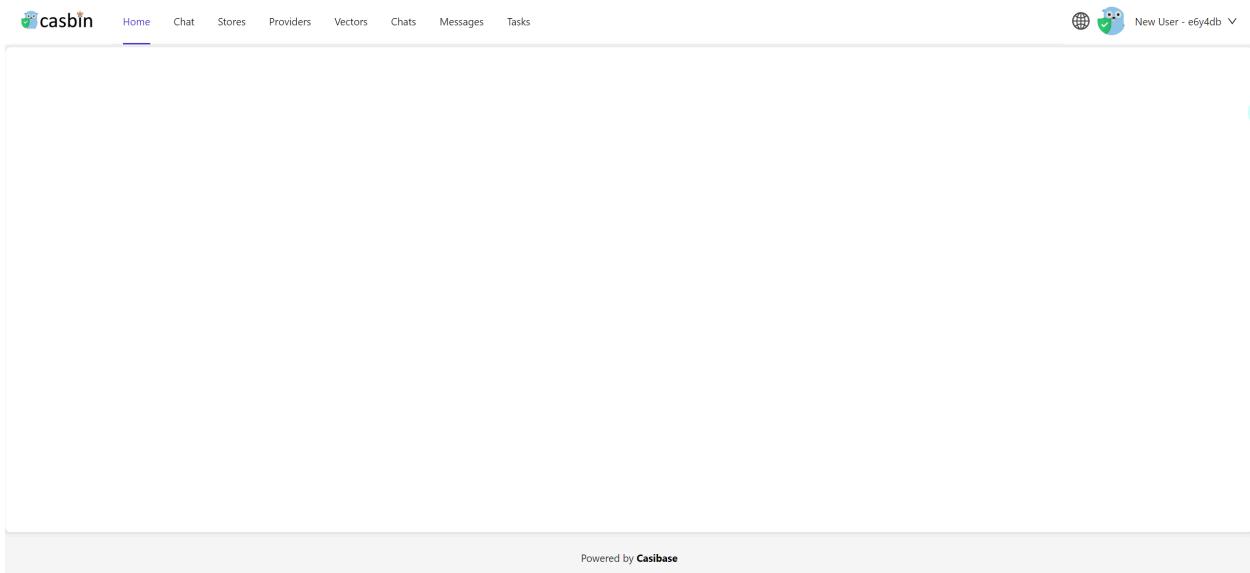
```
cd web  
yarn install  
yarn build
```

Preview

Visit: <http://localhost:13001> in your browser. Login into Casibase dashboard with the user account you have just registered in Casdoor:



Then you will go to the home page of Casibase:



提示

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

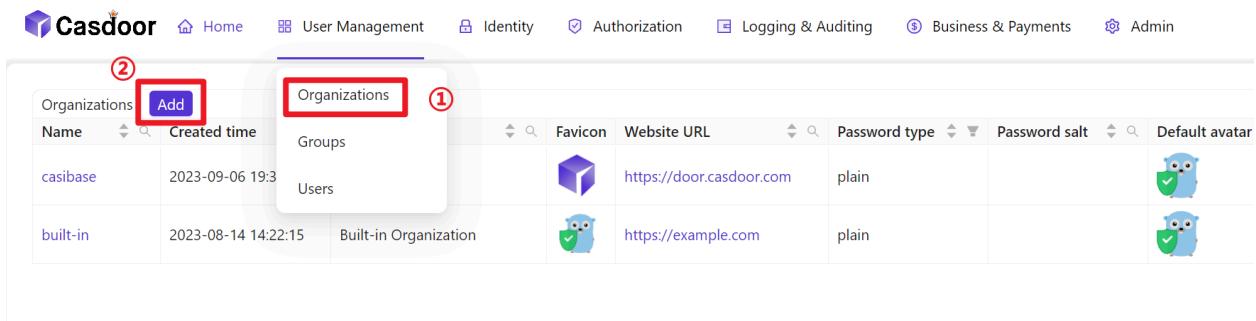
Casdoor-SSO

Casibase uses Casdoor as its backend service, so make sure to deploy it in advance.

Please refer to: <https://casdoor.org/docs/basic/server-installation> to install and configure Casdoor.

Follow these steps to setup Casdoor for casibase:

- Create an Organization



The screenshot shows the Casdoor web application's organization management screen. At the top, there is a navigation bar with links for Home, User Management, Identity, Authorization, Logging & Auditing, Business & Payments, and Admin. Below the navigation bar, there is a search bar with two tabs: 'Organizations' (highlighted with a red box) and 'Users'. The 'Organizations' tab is active, showing a table with two rows of data. The columns in the table are: Name, Created time, Groups, Favicon, Website URL, Password type, Password salt, and Default avatar. The first organization listed is 'casibase' (Name), created on 2023-09-06 19:3. The second organization listed is 'built-in' (Name), created on 2023-08-14 14:22:15. Both organizations have their website URLs set to https://door.casdoor.com and https://example.com respectively, and both have 'plain' as their password type. The 'Default avatar' column shows icons for each organization.

- Configure information about the Organization

Casdoor Home User Management Identity Authorization Logging & Auditing Business & Payments Admin

Edit Organization

Name <small>②</small> :	casibase
Display name <small>①</small> :	Casibase
Favicon <small>②</small> :	URL <small>②</small> : https://cdn.casbin.org/img/favicon.png
Preview:	
	
Website URL <small>②</small> :	https://door.casdoor.com
Password type <small>②</small> :	plain

Save **Save & Exit** ②

- Create a new Application

Casdoor Home User Management Identity Authorization Logging & Auditing Business & Payments Admin

Applications

Name	Created time	Display name
app-casibase	2023-09-06 19:38:54	Casibase
app-built-in	2023-08-14 14:22:15	Casdoor

Add ②

Applications ①

Logo	Organization	Providers
	casibase	provider_captcha_default
	built-in	provider_captcha_default

- Configuring Application Information (Remember Name, ClientID and ClientSecret)

Edit Application

Name: app-casibase (1)

Display name: Casibase

Organization: casibase (2)

Client ID: 548c8b9c7431d2621db1 (3)

Client secret: 2bc7640d487fc4dea6f4b77f07f1bf4433e4ad40 (3)

Save & Exit (4)

- Add a member to the newly created organization

Name	Created time	Display name	Favicon	Website URL	Password type	Password salt	Default avatar	Soft deletion	Action
casibase	2023-09-06 19:34:53	Casibase		https://door.casdoor.com	plain			<input checked="" type="radio"/>	<button>Groups</button> <button>Users</button> <button>Edit</button> <button>Delete</button>
built-in	2023-08-14 14:22:15	Built-in Organization		https://example.com	plain			<input checked="" type="radio"/>	<button>Groups</button> <button>Users</button> <button>Edit</button> <button>Delete</button>

Users	Add	Upload (xlsx)
Organization	<input type="text"/> app-casibase	
Name	user_e6y4db	
Created time	2023-09-06 19:37:26	
Display name	New User - e6y4db	
Avatar		
Email	e6y4db@example.com	83359893102
Phone		Example Inc.

- Configure member information (remember its Name as well as Password)

Casdoor

Home User Management Identity Authorization Logging & Auditing Business & Payments Admin All

Edit User Save Save & Exit ④

Organization ③: casibase

ID ③: 97a6ce88-be20-4840-b8d4-b2ebb255d0ee

Name ③: user_e6y4db ①

Display name ③: New User - e6y4db

Avatar ③: Preview:

Avatar preview: A blue cartoon bear holding a green shield with a white checkmark.

Upload a photo...

User type ③: normal-user

Password ③: Modify password... ②

Email ③: e6y4db@example.com

Phone ③: +1 83359893102

Homepage ③:

Bio ③:

Tag ③: staff

Language ③:

Gender ③:

Birthday ③:

Education ③:

Score ③: 0

Karma ③: 0

Ranking ③: 1

Signup application ③: app-casibase ③

Groups ③:



> Walkthrough Guides

Walkthrough Guides



Deploy Casdoor and Casibase

Discover how to deploy Casdoor and Casibase.



Add a Storage Provider

Discover how to integrate a storage provider with Casibase.



Add a Model Provider

Learn how to add a model provider to enhance Casibase functionality.



Add an Embedding Provider

Explore how to integrate an embedding provider with Casibase.



Add a Store

Learn how to add a store to your Casibase knowledge base system.



Chat with AI

Implement AI chat functionality in your Casibase knowledge base system.

Deploy Casdoor and Casibase

Introduction

This document is a step-by-step tutorial designed for beginners. It will guide you through the process of deploying Casdoor and Casibase, our powerful knowledge base system.



提示

What is Casdoor?

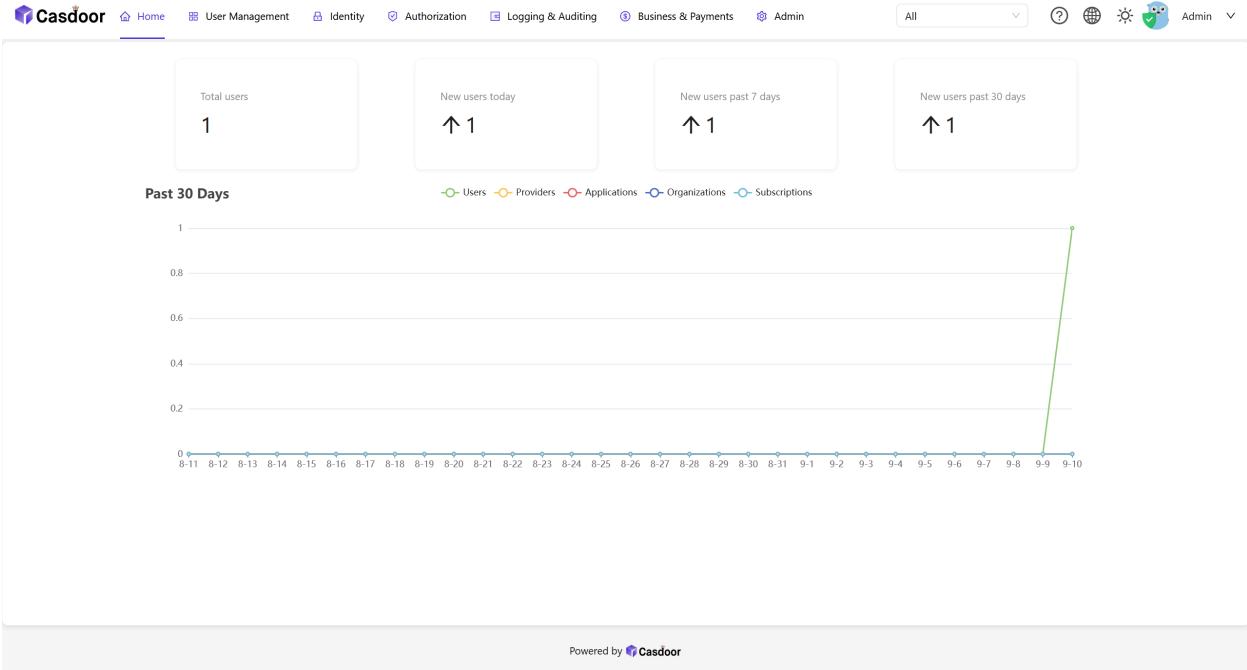
Casdoor is a powerful authentication system that provides a secure and reliable login experience. It's a prerequisite for Casibase, so be sure to deploy it first.

Refer to the [Casdoor website](#) for more information.

Step 1: Deploy Casdoor

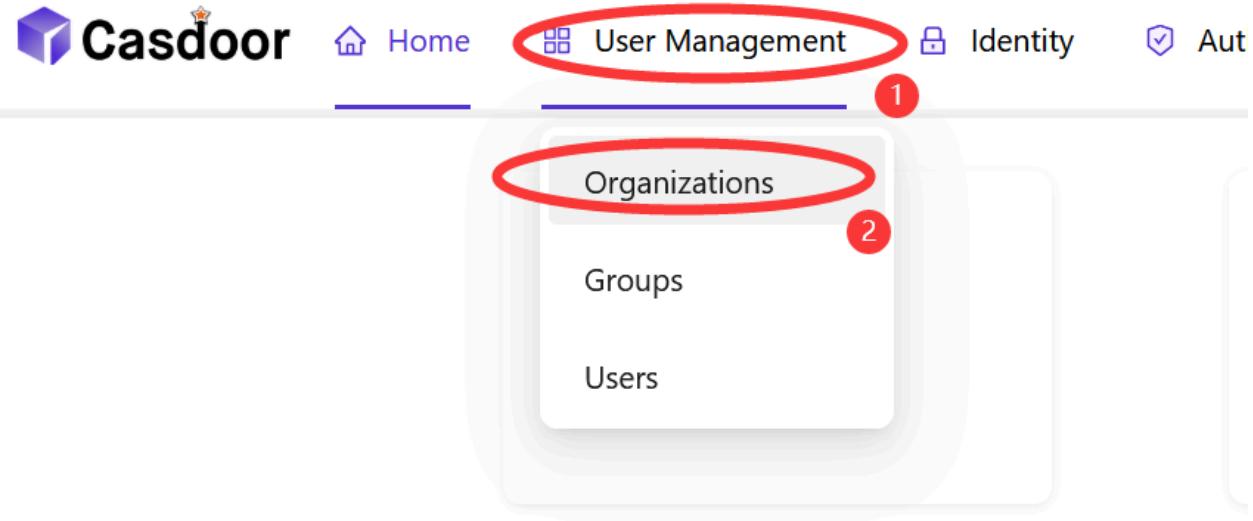
In [Casdoor Deployment Guide](#), you can find the detailed steps to deploy Casdoor.

Once you've deployed Casdoor, you'll look like this:



Step 2: Create an organization in Casdoor

In Casdoor, you can create an organization to manage your users and applications. You can create an organization by clicking the [User Management - Organizations](#) button on the home page.



Past 30 Days

Step 2.1: Add an organization

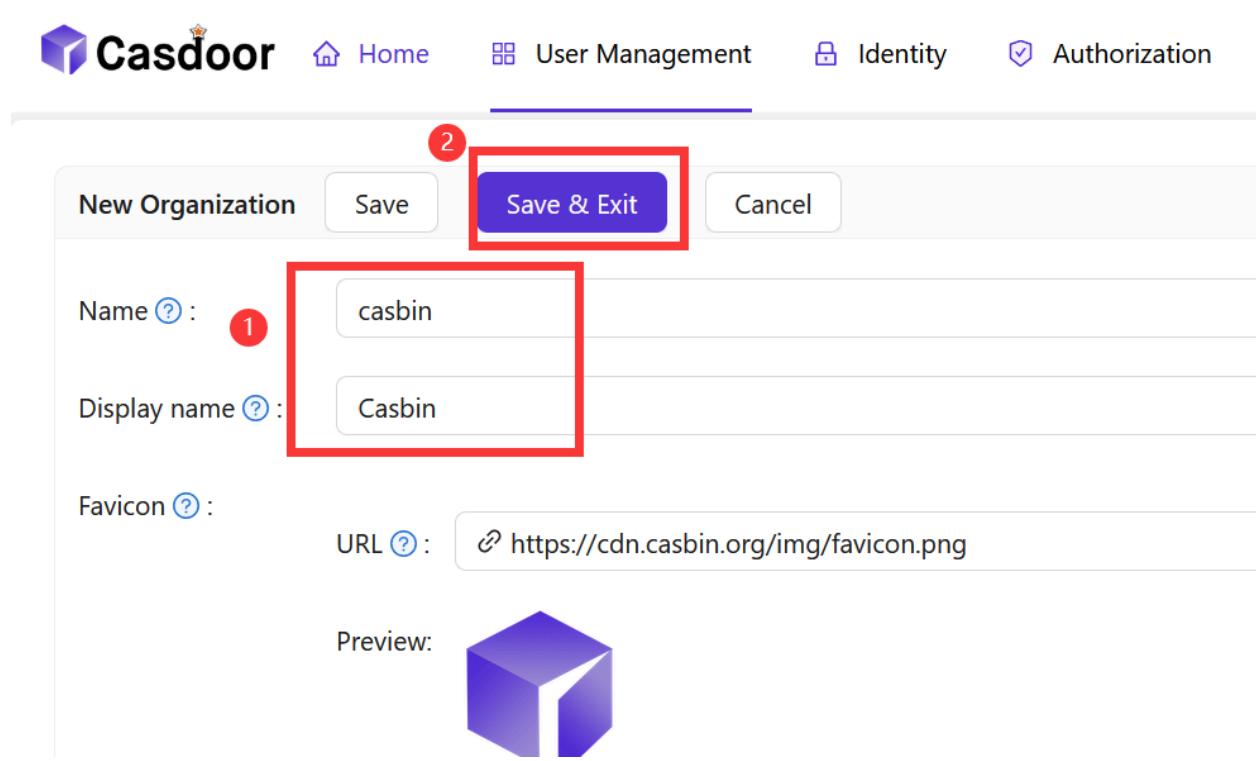
Click the **Add** button to add an organization.

The screenshot shows the 'Organizations' management page. At the top, there is a header with the Casdoor logo, Home, User Management, and Identity. Below the header, there is a search bar labeled 'Organizations' and a blue 'Add' button, which is circled in red. The main area is a table with columns: Name, Created time, and Display name. There is one entry in the table:

Name	Created time	Display name
built-in	2023-09-10 19:31:50	Built-in Organization

Step 2.2: Fill in the organization information

Fill in the organization information and click the **Save & Exit** button.



New Organization

Name ? : casbin

Display name ? : Casbin

Favicon ? :

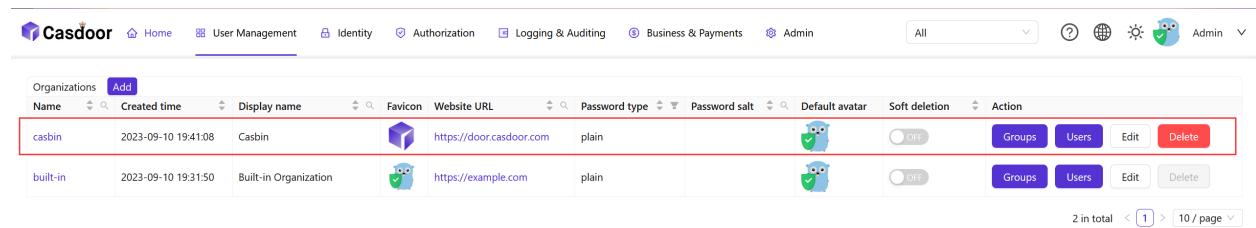
URL ? : <https://cdn.casbin.org/img/favicon.png>

Preview:



Step 2.3: View the organization

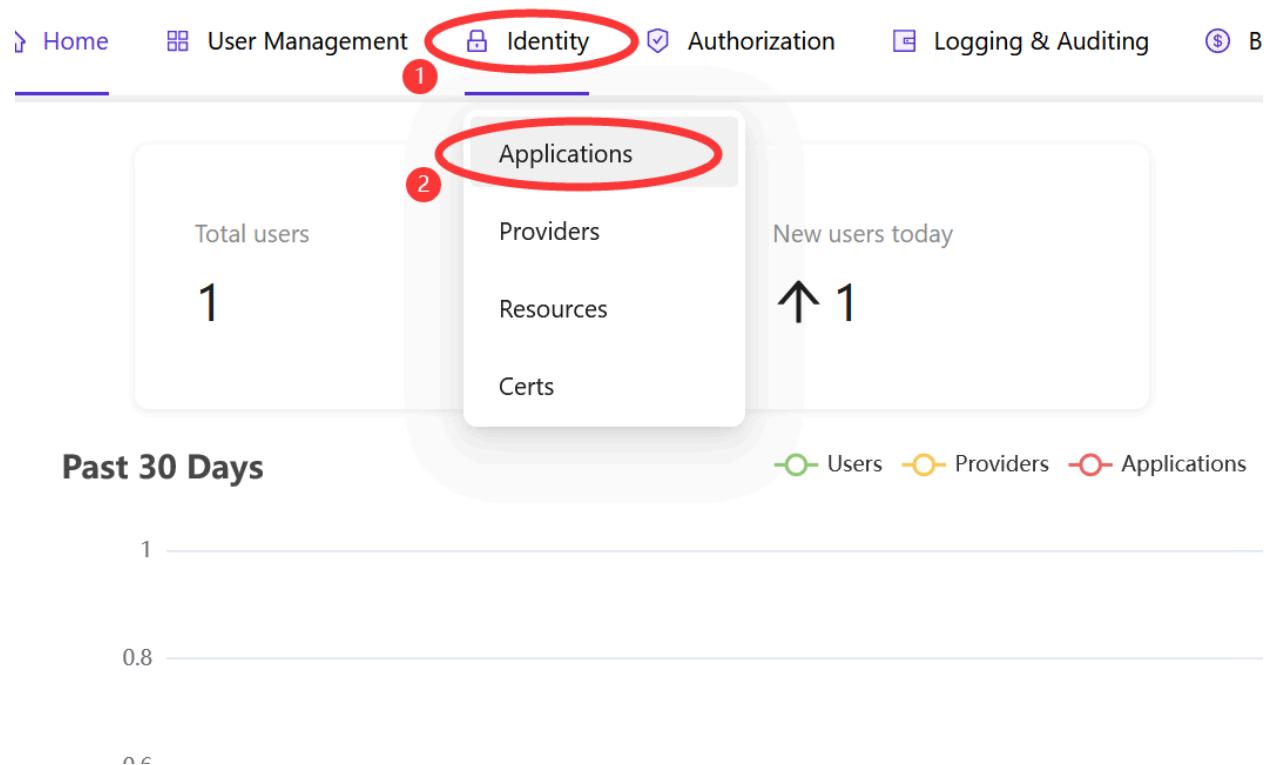
After adding the organization, you can view the organization information.



Name	Created time	Display name	Favicon	Website URL	Password type	Password salt	Default avatar	Soft deletion	Action
casbin	2023-09-10 19:41:08	Casbin		https://door.casdoor.com	plain			<input checked="" type="radio"/>	Groups Users Edit Delete
built-in	2023-09-10 19:31:50	Built-in Organization		https://example.com	plain			<input checked="" type="radio"/>	Groups Users Edit Delete

Step 3: Create an application in Casdoor

In Casdoor, you can create an application to manage your users and organizations. You can create an application by clicking the `Identity - Applications` button on the home page.



Step 3.1: Add an application

Click the `Add` button to add an application.



Step 3.2: Fill in the application information

Fill in the application information and click the **Save & Exit** button.

Casdoor Home User Management Identity Authorization Logging & Auditing Business & Payments Ad

New Application Save **Save & Exit** Cancel

Name ? : app-casibase **1**

Display name ? : Casibase **2**

Logo ? : URL ? : https://cdn.casbin.org/img/casdoor-logo_1185x256.png

Preview: 

Home ? :

Description ? :

Organization ? : casbin **3** **4**

Tags ? :

Client ID ? : 2786e0cbadfb56287a9a

Client secret ? : 4f9957d3e679efdb3391eb42b38d274d46fa1232 **5**

Cert ? : cert-built-in

Redirect URLs ? :

Redirect URLs Add

Redirect URI <http://localhost:14000/callback>

Step 3.3: View the application

After adding the application, you can view the application information.

Casdoor Home User Management Identity Authorization Logging & Auditing Business & Payments Admin

All

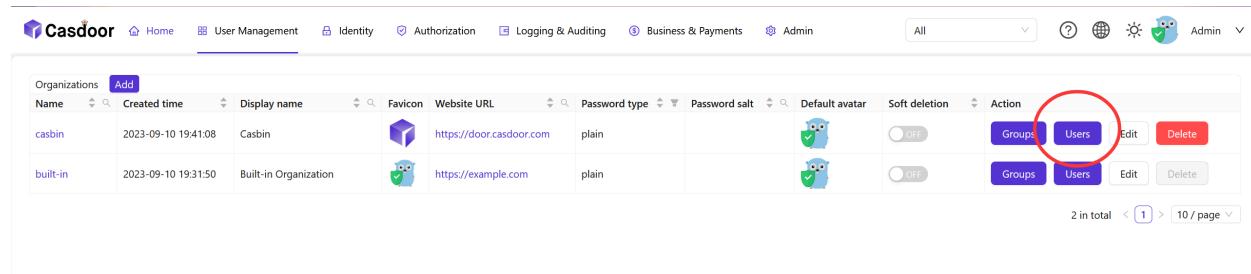
Applications Add

Name	Created time	Display name	Logo	Organization	Providers	Action
app-casibase	2023-09-10 19:44:08	Casibase		casbin	provider_captcha_default	Edit Delete
app-built-in	2023-09-10 19:31:50	Casdoor		built-in	provider_captcha_default	Edit Delete

2 in total < 1 > 10 / page

Step 4: Create a user in Casdoor for Casibase

In Casdoor, you can create a user to login Casibase. You can create a user by clicking the `User Management - Organizations - Users` button from the home page.



The screenshot shows the Casdoor web application with the URL [https://casdoor-casibase.ondigitalocean.app](#). The navigation bar includes Home, User Management (which is active), Identity, Authorization, Logging & Auditing, Business & Payments, Admin, and a language switch. The main content area displays a table of organizations. The first row, 'casbin', has columns for Name (casbin), Created time (2023-09-10 19:41:08), Display name (Casbin), Favicon (blue cube icon), Website URL (<https://door.casdoor.com>), Password type (plain), Password salt (empty), Default avatar (owl icon), Soft deletion (OFF), and Action (Buttons for Group, Users, Edit, Delete). The 'Users' button is highlighted with a red circle. The second row, 'built-in', has similar fields. At the bottom right of the table, it says '2 in total' and shows page navigation.

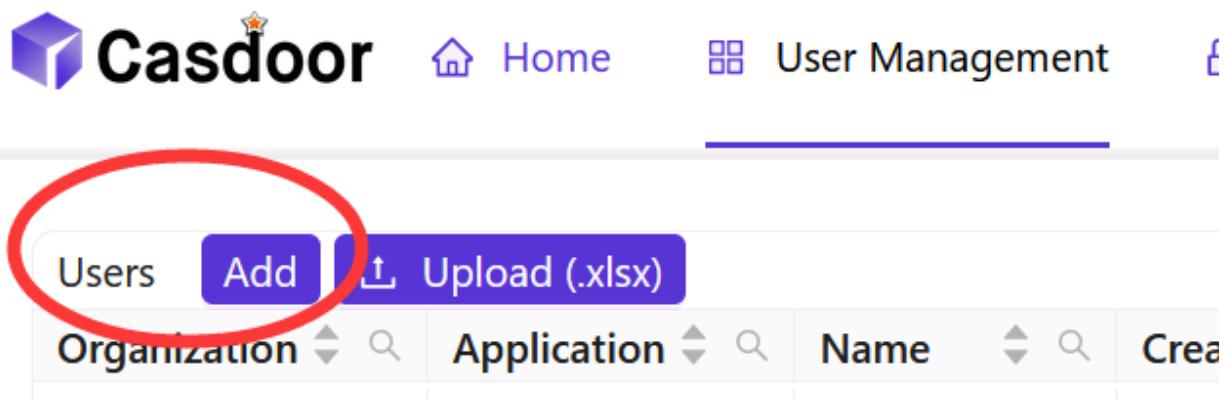


A user is a member of an organization who can login to applications in the organization.

Refer to the [Casdoor](#) website for more information.

Step 4.1: Add a user

Click the `Add` button to add a user.



Step 4.2: Fill in the user information

Fill in the user information and click the **Save & Exit** button.

Casdoor Home User Management Identity Authorization Logging & Auditing Business & Payments ⚙

New User Save Save & Exit Cancel

Organization ? : casbin 1

ID ? : d5bc730c-312c-406e-ae03-e6580d7590f4

Name ? : jimmy

Display name ? : Jimmy 2

Avatar ? : Preview:

 Upload a photo...

User type ? : normal-user

Password ? : Modify password... 3

Email ? : t414w5@example.com

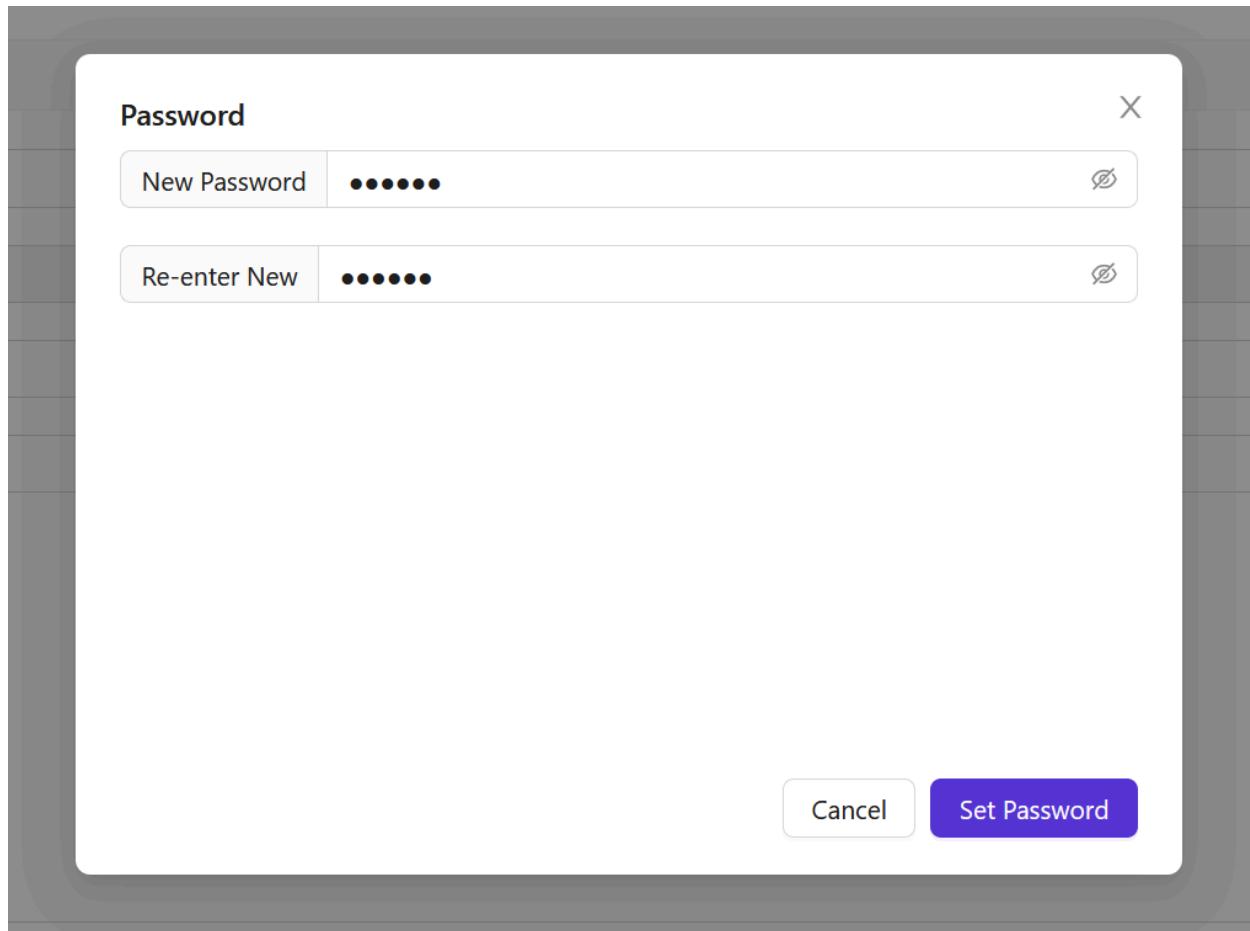
Phone ? : +1 71700415009

Country/Region ? : Please select country/region

Location ? :

- Password

You can set the user's password by clicking the **Modify password...** button.



- Admin

You can set the user's admin permission by clicking the `Is admin` button.

Permissions [?](#) :

Groups [?](#) :

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

Is admin [?](#) :



Is forbidden [?](#) :



Is deleted [?](#) :



Multi-factor authentication [?](#) :

Multi-factor methods

Step 4.3: View the user

After adding the user, you can view the user information.

The screenshot shows the Casdoor User Management page. At the top, there are tabs for Home, User Management (which is selected), Identity, Authorization, Logging & Auditing, Business & Payments, Admin, and a language switch. Below the tabs is a search bar with dropdowns for Organization, Application, Name, Created time, Display name, Avatar, Email, Phone, Affiliation, Country/Region, Tag, and Is ac. A red box highlights the 'Organization' dropdown set to 'casbin'. The main area displays a table with one row of data:

Organization	Application	Name	Created time	Display name	Avatar	Email	Phone	Affiliation	Country/Region	Tag	Action
casbin	app-built-in	jimmy	2023-09-10 20:51:18	Jimmy		t414w5@example.com	71700415009	Example Inc.			Edit Delete

At the bottom right of the table, there are buttons for '1 in total', navigation arrows, and '10 / page'.

Step 5: Deploy Casibase

Like Casdoor, you can deploy Casibase by following the [Casibase Deployment Guide](#).

Once you've deployed Casibase, you'll look like this:



Powered by **Casibase**

Don't worry if you see a blank page in the beginning. In the next chapter, we will learn how to initialize data in Casdoor and Casibase.

Add a Storage Provider

This document is a step-by-step tutorial designed for beginners. It will guide you through the process of integrating a storage provider with Casibase, our powerful knowledge base system.

Introduction

Adding a storage provider to Casibase enables you to efficiently manage and store data, making it an essential component for your knowledge base system.

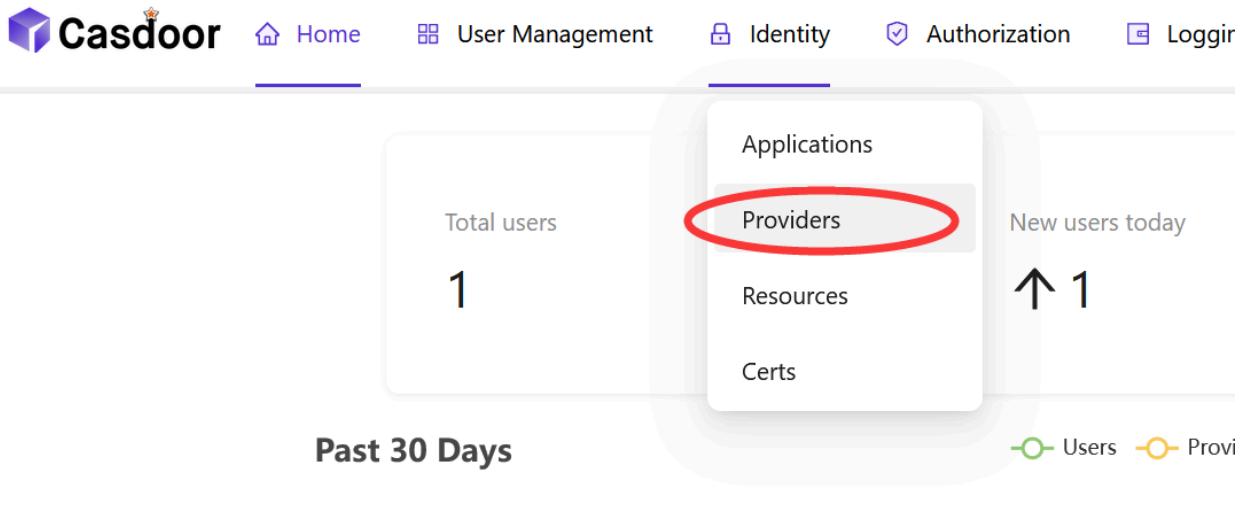
If you're new to integrating storage providers, don't worry. We've broken down the process into simple steps that anyone can follow.

Step 1: Deploy Casdoor and Casibase

In the last chapter, we learned how to deploy Casdoor and Casibase. If you haven't done so already, please refer to the [Deploy Casdoor and Casibase](#) tutorial.

Step 2: Add a New Storage Provider

Storage providers are used to store data. They can be added in Casdoor by clicking the [Identity - Providers](#) button on the home page.



Step 2.1: Add a storage provider

Click the **Add** button to add a storage provider.

The screenshot shows the "Providers" list page. At the top, there are navigation links: Home, User Management, Identity, and Authorization. The "Identity" link is underlined, indicating the current active page. Below the navigation, the "Providers" list is displayed with the following columns: Name, Organization, Created time, and Details. An "Add" button is located at the top left of the list table, and it is highlighted with a red circle.

Name	Organization	Created time	Details
provider_captcha_default	admin (Shared)	2023-09-10 19:31:50	Ca

Step 2.2: Fill in the storage provider information

Fill in the storage provider information and click the **Save & Exit** button.

New Provider [Save](#) [Save & Exit](#) [Cancel](#)

Name [?](#) : provider_storage_1

Display name [?](#) : Provider_storage_1

Organization [?](#) :

Category [?](#) : Storage

Type [?](#) : aws AWS S3

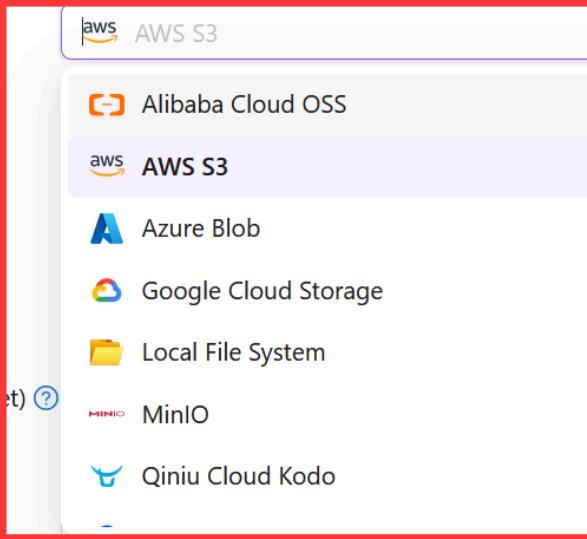
Client ID [?](#) :

Client secret [?](#) :

Endpoint [?](#) :

Endpoint (Intranet) [?](#) :

Bucket [?](#) :



- aws AWS S3
- Alibaba Cloud OSS
- aws AWS S3
- A Azure Blob
- G Google Cloud Storage
- F Local File System
- M MinIO
- Q Qiniu Cloud Kodo

 提示

Casdoor supports many storage providers, including:

- [AWS S3](#)
- [Azure Blob](#)
- [Google Cloud Storage](#)
- [MinIO](#)

- [Qiniu Cloud Kodo](#)
- [Alibaba Cloud OSS](#)

Example

Add an Aliyun OSS storage provider



- 警告**
- Client ID: The AccessKey ID of your Aliyun OSS account.
 - Client Secret: The AccessKey Secret of your Aliyun OSS account.

***** is the placeholder for your Aliyun OSS account information.

Category [?](#) : Storage

Type [?](#) : Alibaba Cloud OSS

Client ID [?](#) : LTA***NLf

Client secret [?](#) : Vo6***pi8

Endpoint [?](#) : oss-cn-beijing.aliyuncs.com

Endpoint (Intranet) [?](#) :

Bucket [?](#) : xx-bucket-0

Path prefix [?](#) :

Domain [?](#) : https://xx-bucket-0.oss-cn-beijing.aliyuncs.com

Provider URL [?](#) : https://github.com/organizations/xxx/settings/applications/1234567

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

Step 2.3: View the storage provider

After adding the storage provider, you can view the storage provider information.

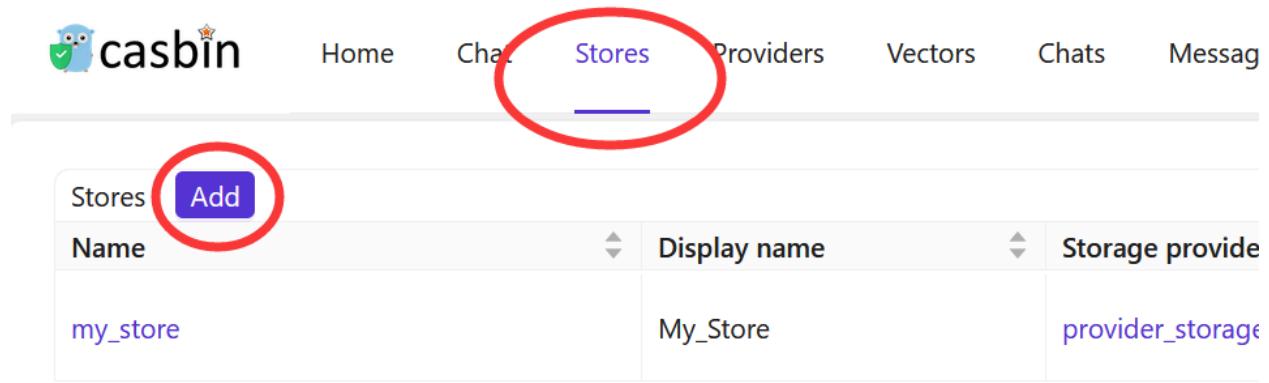
Name	Organization	Created time	Display name	Category	Type	Client ID	Provider URL	Action
provider_storage_1	admin (Shared)	2023-09-10 21:23:02	Provider_storage_1	Storage	Alibaba Cloud OSS	[REDACTED]	https://github.com/organizations/xxx...	Edit Delete

Step 3: Add a New Storage Provider to Casibase

In Casibase, you can add a storage provider to manage your data. You can add a storage provider by clicking the [Providers - Add](#) button on the home page.

Step 3.1: Add a storage provider

Click the **Add** button to add a storage provider.



The screenshot shows the Casbin web application interface. At the top, there is a navigation bar with tabs: Home, Chat, Stores (which is highlighted with a red oval), Providers, Vectors, Chats, and Message. Below the navigation bar is a table titled "Stores". The table has three columns: "Name", "Display name", and "Storage provide". There is one row visible with the values "my_store", "My_Store", and "provider_storage". In the top-left corner of the table header, there is a blue "Add" button with white text, which is also circled in red.

Name	Display name	Storage provide
my_store	My_Store	provider_storage

Step 3.2: Fill in the storage provider information

Fill in the storage provider information and click the **Save & Exit** button.

If Edit page is not displayed, please click the **Edit** button.

You'll see the following page:

Name: store_v6c22m

Display name: New Store - v6c22m

Storage provider:

Model provider:

Embedding provider:

File tree:

X

storage provider is empty

[Go to Store](#)

Powered by **Casibase**

提示

Storage providers comes from Casdoor. You can add a storage provider in Casdoor and then add it to Casibase.

Refer to [Step 2: Add a New Storage Provider](#) for more information.



Home

Chat

Stores

Providers

Vectors

Chats

Messages

Tasks

R

Edit Store

Save

Name: store_v6c22m

Display name: New Store - v6c22m

Storage provider:

Model provider: Provider_storage_1 (provider_storage_1)

Embedding provider:

File tree:

Store Example

[Home](#)[Chat](#)[Stores](#)[Providers](#)[Vectors](#)[Chats](#)[M](#)[Edit Store](#)[Save](#)

Name:

my_store

Display name:

My_Store

Storage provider:

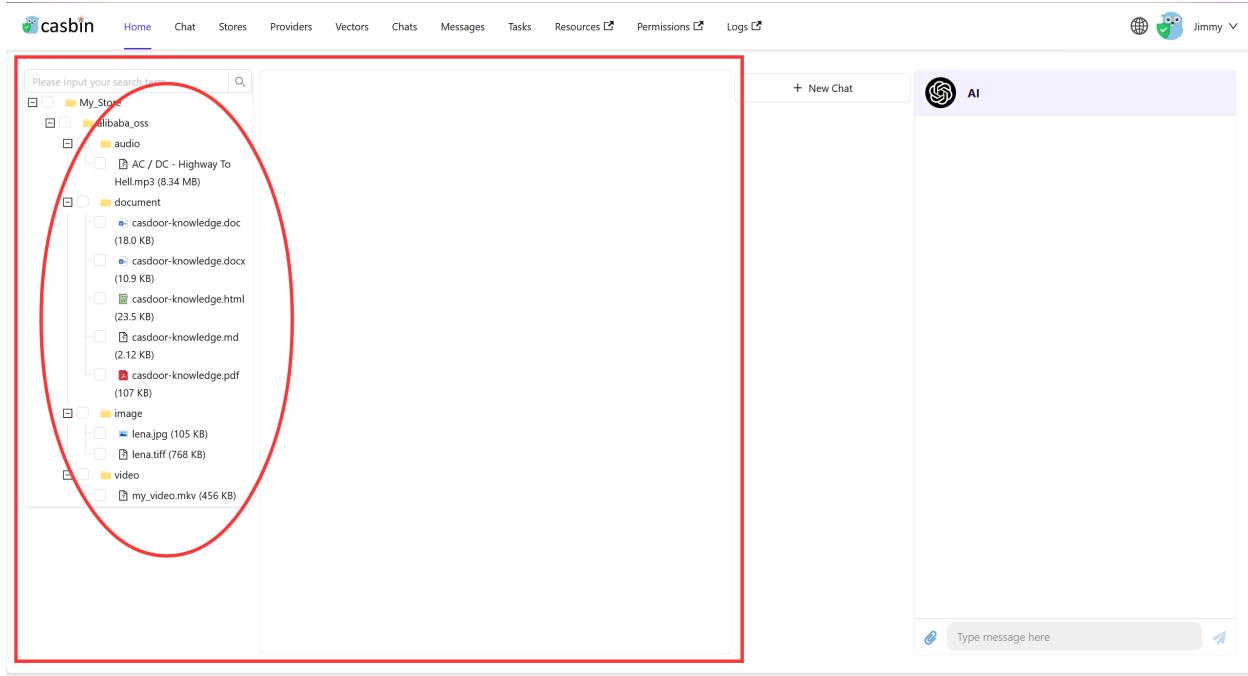
Provider_storage_1 (provider_storage_1)

Model provider:

Embedding provider:

File tree:

Save the configuration, return to the home page, and you'll see the file-tree of the storage provider.





Add a Model Provider

This document is a step-by-step tutorial designed for beginners. It will guide you through the process of integrating a model provider with Casibase, our powerful knowledge base system.

Introduction

Adding a model provider to Casibase enables you to enhance its functionality by incorporating machine learning models and AI capabilities. Model providers allow you to analyze and process data within your knowledge base system, making it more intelligent and efficient.

If you're new to integrating model providers, don't worry. We've broken down the process into simple steps that anyone can follow.

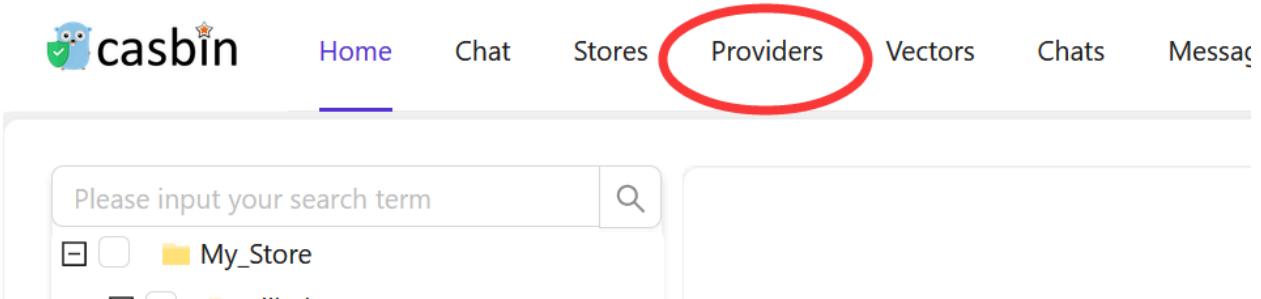
Step 1: Deploy Casdoor and Casibase

Before you can add a model provider, make sure you have Casdoor and Casibase deployed. If you haven't done this yet, please refer to the [Deploy Casdoor and Casibase](#) tutorial in our previous documentation.

Step 2: Add a New Model Provider

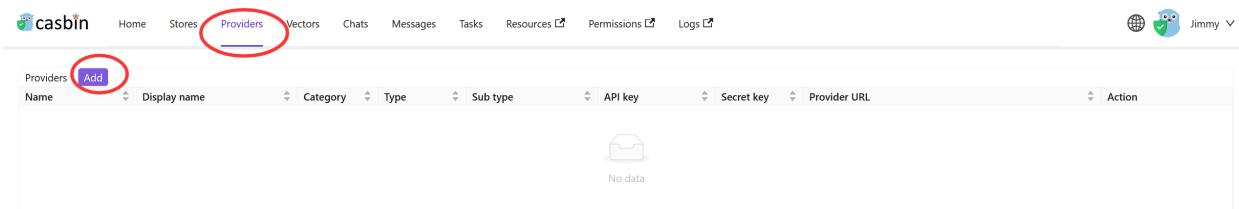
Model providers are used to integrate LLM into Casibase. You can add them by following these steps:

Click the [Providers](#) button on the home page.



Step 2.1: Add a Model Provider

Click the **Add** button to add a model provider.



Step 2.2: Fill in Model Provider Details

Fill in the model provider details and click the **Save & Exit** button.

[Home](#)[Chat](#)[Stores](#)[Providers](#)[Vectors](#)[Chats](#)[Me](#)[Edit Provider](#)[Save](#)

Name:

provider_openai_model

Display name:

OpenAI model

Category:

Model

Type:

OpenAI

Sub type:

text-davinci-003

Secret key:

Provider URL:

<https://platform.openai.com/account/api-keys>[Save](#)

Casibase supports many model providers, including:

- [Hugging Face](#)
 - meta-llama/Llama-2-7b

- THUDM/chatglm2-6b
- baichuan-inc/Baichuan2-13B-chat
- gpt2
-
- OpenRouter
 - anthropic/clause-2
 - palm-2-chat-bison
 - palm-2-codechat-bison
 - openai/gpt-4
 -
- OpenAI
 - text-davinci-003
 - gpt-3.5-turbo
 - gpt-4
 -

⚠ 警告

- Category: The first-level category of the model provider. For example, `Model` and `Embedding`.
- Type: The second-level category of the model provider. For example, `OpenAI` and `Hugging Face`.
- SecretKey: The secret key of your OpenAI account.

Example

Add a OpenAI model provider

The screenshot shows the 'Edit Provider' form on the casbin platform. The 'Providers' tab is active. The form fields are as follows:

- Name: provider_openai_model
- Display name: OpenAI model
- Category: Model
- Type: OpenAI (highlighted by a red circle)
- Sub type: OpenAI (selected in a dropdown menu)
- Secret key: (empty)
- Provider URL: <https://platform.openai.com/account/api-keys>

A red circle highlights the 'Type' field and the 'OpenAI' option in the dropdown menu.

⚠️ 警告

Some models don't support streaming-output. Known models that support streaming-output include:

- gpt-3.5-turbo-0613

After adding a model provider, you can use it to analyze and process data in Casibase using chatbots, question answering, and other AI capabilities.

Return model provider list page:



The screenshot shows the Casibase interface with the 'Providers' tab selected. A single provider entry is listed in the table:

Name	Display name	Category	Type	Sub type	API key	Secret key	Provider URL	Action
provider_openai_model	OpenAI model	Model	OpenAI	text-davinci-003	***		https://platform.openai.com/account/api-keys	<button>Edit</button> <button>Delete</button>

A red box highlights the entire table row for the 'provider_openai_model' entry. The top navigation bar includes links for Home, Chat, Stores, Providers (selected), Vectors, Chats, Messages, Tasks, Resources, Permissions, and Logs. The top right corner shows a user profile icon for 'Jimmy'.

Now that you've added a model provider, you can use it to analyze and process data in Casibase using chatbots, question answering, and other AI capabilities.

In the next chapter, we'll learn how to add an embedding provider to Casibase.

Add an Embedding Provider

This document is a step-by-step tutorial designed for beginners. It will guide you through the process of integrating an embedding provider with Casibase, our powerful knowledge base system.

Introduction

Embedding is a technique used to represent words and documents as vectors. Embedding providers allow you to analyze and process data within your knowledge base system, making it more intelligent and efficient.

Refer to the [Core Concepts](#) section of our previous documentation for more information about embedding.

In Casibase, you can add an embedding provider by following these steps:

Step 1: Deploy Casdoor and Casibase

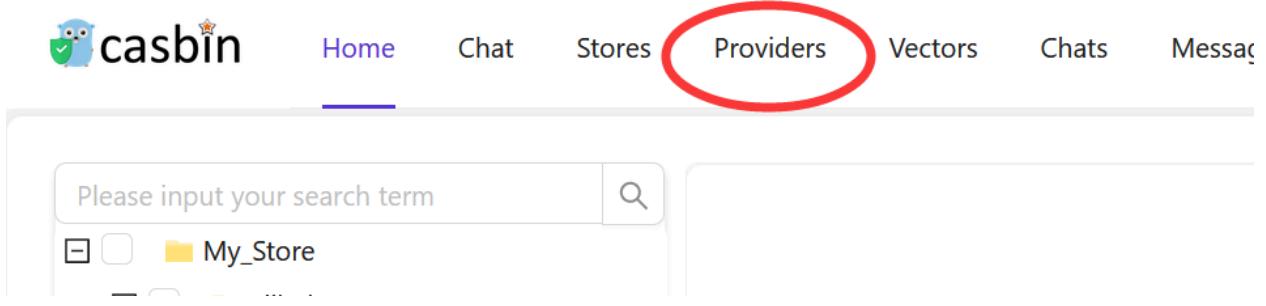
Before you can add an embedding provider, make sure you have Casdoor and Casibase deployed. If you haven't done this yet, please refer to the [Deploy Casdoor and Casibase](#) tutorial in our previous documentation.

Step 2: Add a New Embedding Provider

Embedding providers are used to integrate embedding into Casibase. You can add

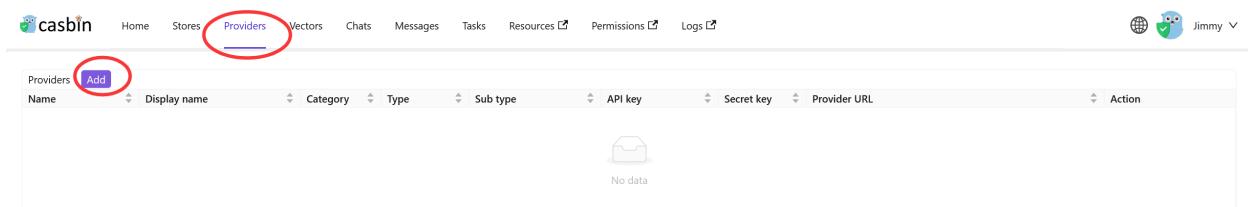
them by following these steps:

Click the **Providers** button on the home page.



Step 2.1: Add an Embedding Provider

Click the **Add** button to add an embedding provider.



Step 2.2: Fill in Embedding Provider Details

Fill in the embedding provider details and click the **Save & Exit** button.

[Home](#)[Chat](#)[Stores](#)[Providers](#)[Vectors](#)[CI](#)[Edit Provider](#)[Save](#)

Name:

embedding_openai_adasimilarity

Display name:

Embedding_OpenAI_AdaSimilarity

Category:

Embedding

Type:

OpenAI

Sub type:

AdaSimilarity

Secret key:

Provider URL:

<https://platform.openai.com/account/api-keys>[Save](#)

提示

Same as the [Model Provider](#) section, Casibase supports many embedding providers, including:

- OpenAI
 - AdaSimilarity
 - DavinciSimilarity
 - AdaEmbedding2
 -
- Hugging Face
 - sentence-transformers/paraphrase-MiniLM-L6-v2
 -

Return providers list page:

Name	Display name	Category	Type	Sub type	API key	Secret key	Provider URL	Action
embedding_openai_adasimilarity	Embedding_OpenAI_AdaSimilarity	Embedding	OpenAI	1		***	https://platform.openai.com/account/api-keys	<button>Edit</button> <button>Delete</button>
model_openai_text_davinci_003	Model OpenAI text-davinci-003	Model	OpenAI	text-davinci-003		***	https://platform.openai.com/account/api-keys	<button>Edit</button> <button>Delete</button>

Now, you can use the embedding provider to convert text to vectors.

After adding an embedding provider, you can use it to retrieve similar documents in Casibase. For more information, please refer to the [Core Concepts](#) section of our previous documentation.

In the next chapter, we will learn how to integrate storage providers, model providers, and embedding providers with Casibase.

Add a Store

We have add a storage provider, a model provider, and a embedding provider. Now we need to configure a store to use these providers.



This guide assumes that you have already deployed a Casibase knowledge base system. If you have not, please follow the [Deploy Casdoor and Casibase guide](#).

Besides, this guide assumes that you have already added a storage provider, a model provider, and a embedding provider. If you have not, please follow the [Add a Storage Provider](#), [Add a Model Provider](#), and [Add a Embedding Provider](#) guides.

Step 1: Add a New Store

Stores are used to integrate storage, model, and embedding providers into Casibase. You can add them by following these steps:

Click the [Stores](#) button on the home page and then click the [Add](#) button to add a store.

The screenshot shows the Casbin web application's 'Stores' page. At the top, there is a navigation bar with tabs: Home, Chat, Stores (which is highlighted with a red oval), Providers, Vectors, Chats, and Messages. Below the navigation bar is a table with a header row labeled 'Stores'. In the top-left corner of this header row, there is a blue 'Add' button, which is also circled in red. The table has three columns: 'Name', 'Display name', and 'Storage provider'. There is one data row visible, containing the values 'my_store', 'My_Store', and 'provider_storage' respectively.

Step 2: Fill in Store Details

Fill in the store details and click the `Save & Exit` button.

This part we have done if you follow the [Add a Storage Provider](#) guides.

The screenshot shows the 'Edit Store' form. At the top, there is a navigation bar with tabs: Home, Chat, Stores (which is highlighted with a red oval), Providers, Vectors, Chats, Messages, Tasks, Resources, Permissions, and Logs. On the right side of the top bar, there is a user profile icon for 'Jimmy'. Below the navigation bar is a form with fields for 'Name' (set to 'store_v6c22m'), 'Display name' (set to 'New Store - v6c22m'), 'Storage provider' (which is empty and highlighted with a red oval), 'Model provider' (empty), and 'Embedding provider' (empty). Below the form is a large red circle with a white 'X' inside it, indicating an error. The error message 'storage provider is empty' is displayed below the circle. At the bottom of the form, there is a 'Save' button.

Select the storage provider, model provider, and embedding provider you added before.

casbin

Home Chat Stores Providers Vectors Chats Messages Tasks Resources P

Edit Store Save

Name:	my_store
Display name:	My_Store
Storage provider:	Provider_storage_1 (provider_storage_1)
Model provider:	Model OpenAI text-davinci-003 (model_openai_text_davinci_003)
Embedding provider:	Embedding_OpenAI_Adasimilarity (embedding_openai_adasimilarity)
File tree:	<pre> └─ My_Store ├─ alibaba_oss │ ├─ audio │ │ └─ AC / DC - Highway To Hell.mp3 (8.34 MB) │ ├─ document │ │ └─ casdoor-knowledge.doc (18.0 KB) │ │ └─ casdoor-knowledge.docx (10.9 KB) │ │ └─ casdoor-knowledge.html (23.5 KB) │ │ └─ casdoor-knowledge.md (2.12 KB) │ └─ casdoor-knowledge.pdf (107 KB) ├─ image │ └─ lena.jpg (105 KB) └─ video └─ my_video.mkv (456 KB) </pre>

Click the Save & Exit button and return stores list page:

casbin

Home Chat Stores Providers Vectors Chats Messages Tasks Resources Permissions Logs

Jimmy

Stores Add

Name	Display name	Storage provider	Model provider	Embedding provider	Action
my_store	My_Store	provider_storage_1	model_openai_text_davinci_003	embedding_openai_adasimilarity	View Refresh Vectors Edit Delete

< 1 >

Now, you can use the store to store knowledge base data, convert text to vectors, and chat with the chatbot.

In the next section, we will learn how to chat with the chatbot in Casibase.

Chat with AI

This document is a step-by-step tutorial designed for beginners. It will guide you through the process of implementing AI chat functionality in your Casibase knowledge base system.

Introduction

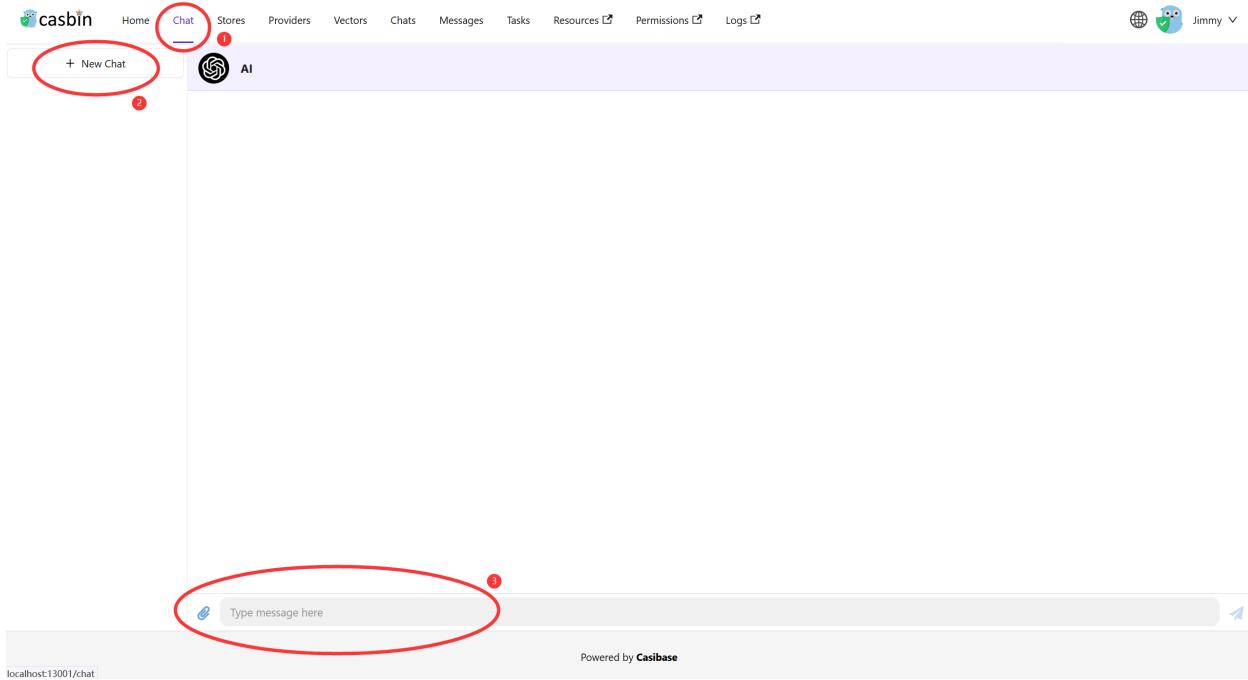
In previous sections, we have deployed Casdoor and Casibase, integrated a storage provider, a model provider, and a embedding provider with Casibase, and added a store to use these providers.

Refer to the [Add a Store](#) section of our previous documentation for more information about stores.

Now, let's implement AI chat functionality in Casibase.

Step 1: Add a New Chat

Click the `Chats` button on the home page and then click the `New Chat` button to add a chat.



Step 2: Send a Message

Write a message and click the **Send** button to send it.



Step 3: Knowledge Base Chat

Additionally, you can chat with the chatbot in the knowledge base.

There are some requirements for the knowledge base chat:

- The knowledge base must have a store.
- The store must have a model provider.
- The store must have a embedding provider.

- The store must have a storage provider.
- The storage provider must have a readable document (e.g. a markdown file, docx file and pdf file).

Once you have met these requirements, you can return to the **Stores** page and click the **Refresh Vectors** button to embedding the knowledge base data.

Name	Display name	Storage provider	Model provider	Embedding provider	Action
my_store	My_Store	provider_storage_1	model_openai_text_davinci_003	embedding_openai_adasimilarity	View Refresh Vectors Edit Delete

The button will be disabled when the embedding is in progress.

After the embedding is complete, you can click the **Vectors** button in the navigation bar to view the vectors.

Result:

Name	Display name	Store	File	Text	Data	Action
vector_7rss8s	Simplified development	my_store	alibaba_oss/document/casdoor-knowledge.pdf	Simplified development: Casdoor pro...	[-0.000106310275,0.02166452,0.02304...]	Edit Delete
vector_gldg4u	Installation and Deployment: You can	my_store	alibaba_oss/document/casdoor-knowledge.pdf	Installation and Deployment: You ca...	[-0.0029990207,0.018568026,-0.00580...]	Edit Delete
vector_0wrasj	Privilege Control: With Casdoor	my_store	alibaba_oss/document/casdoor-knowledge.pdf	Privilege Control: With Casdoor, de...	[0.0054717776,0.017982274,0.0103428...]	Edit Delete
vector_3tet51	Casdoor Knowledge Points	my_store	alibaba_oss/document/casdoor-knowledge.pdf	Casdoor Knowledge Points Casdoor is...	[-0.007692282,0.024387684,0.0001651...]	Edit Delete

Let's chat with the chatbot in the knowledge base.

AI

What's casdoor?

Answer: Casdoor is an OAuth2 and OIDC based authentication portal designed to help developers easily add user authentication and authorization features to their applications.

Compare the results with non-knowledge base chat:



⚠️ 警告

The embedding rate is related two factors:

- The documents in the knowledge base.
 - Documents number: The more documents, the longer the embedding time.
 - Documents size: The larger the document size, the longer the embedding time.
- The embedding provider.
 - Api rate limit: The more api rate limit, the faster the embedding speed.
 - Api concurrency: The more api concurrency, the faster the embedding speed.

For example, if you use the [OpenAI API](#) as the embedding provider, the embedding rate is related to the [OpenAI API](#) rate limit and concurrency.

Conclusion

In this guide, we have learned how to implement AI chat functionality in Casibase.

Now, you can chat with the chatbot in Casibase. Enjoy it!

More information about Casibase can be found in the [Core Concepts](#) section of our documentation.

