

External authenticators in ClickHouse

LDAP, Kerberos

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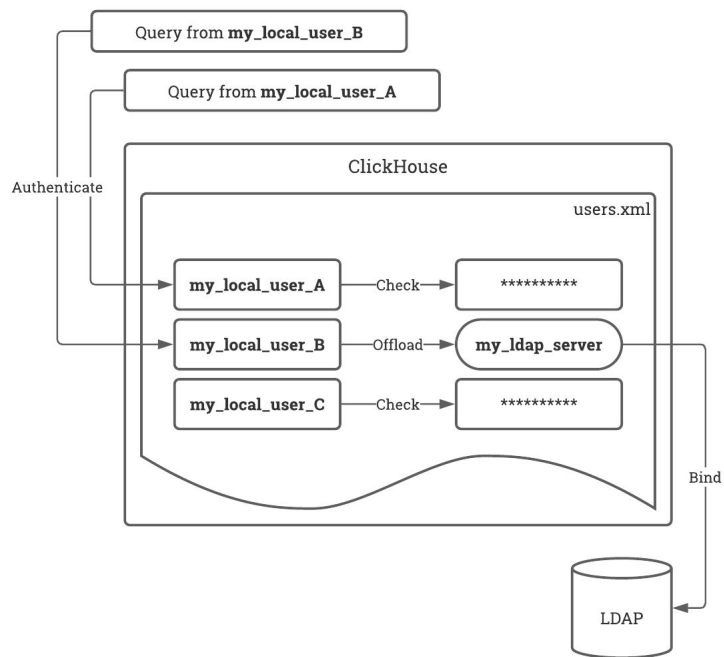
LDAP: roadmap

- LDAP as an external authenticator for existing users (status: available starting 20.7)
- LDAP as an external user directory (status: final review)
- Caching (status: in progress)
- Flexible role and group mapping (status: initial discussion)

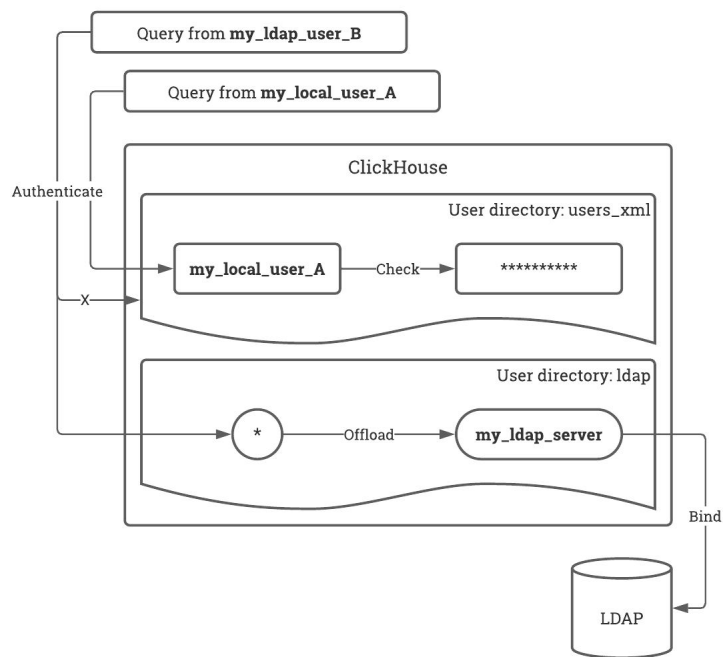
More info at: <https://gist.github.com/traceon/d922c8452e8065b86667168578dc5c12#1-ldap>

LDAP: use cases

External authenticator for existing users



External user directory



LDAP: what to configure

- LDAP server
 - Disallow anonymous bind
 - Enable Simple Authentication
 - Enable TLS
- ClickHouse server
 - Define one or more LDAP servers in `config.xml`
 - Refer to LDAP server in user configuration in `users.xml`, and/or
 - Define an LDAP user directory in `config.xml` and refer to LDAP server

LDAP: Simple Bind method

ClickHouse constructs a DN and tries to bind to it using the provided password:

```
<auth_dn_prefix> + <user_name> + <auth_dn_suffix>
```

...which will become something like this:

```
uid=my_ldap_user,ou=users,dc=example,dc=com
```

If bind succeeds, the user is considered authenticated.

LDAP: server definitions in ClickHouse config

In config.xml:

```
<yandex>
  ...
  <ldap_servers>
    ...
    <my_ldap_server>
      <host>localhost</host>
      <port>636</port>
      <auth_dn_prefix>uid=</auth_dn_prefix>
      <auth_dn_suffix>,ou=users,dc=example,dc=com</auth_dn_suffix>
      ...
    </my_ldap_server>
  </ldap_servers>
  ...
</yandex>
```

LDAP: external authenticator for existing users

In users.xml:

```
<yandex>
  ...
  <users>
    ...
    <my_local_user>
      <ldap>
        <server>my_ldap_server</server>
      </ldap>
    </my_local_user>
  </users>
  ...
</yandex>
```

LDAP: external user directory

In config.xml:

```
<yandex>
  ...
  <user_directories>
    ...
    <ldap>
      <server>my_ldap_server</server>
      <roles>
        <my_local_role1 />
        <my_local_role2 />
      </roles>
    </ldap>
  </user_directories>
  ...
</yandex>
```


Kerberos: roadmap

- Kerberos as an external authenticator for existing users and HTTP (GSS-SPNEGO) requests (status: early testing)
- Support in TCP when using `clickhouse-client` (status: initial discussion)
- Support in the official ODBC and JDBC drivers (status: initial discussion)
- More...

More info at: <https://gist.github.com/traceon/d922c8452e8065b86667168578dc5c12#2-kerberos>

Thank you!

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