

Building, Installing and configuring Apache Atlas

The Apache Atlas requires HBASE and Apache Solr

The hook of atlas in Hive use Kafka to communicate.

1. Install atlas via ambari

If you are using ambari to install atlas, the default installation path is

```
/usr/hdp/current/atlas-server  
/usr/hdp/current/atlas-client
```

2. Authentication

Atlas supports three different authentications by default:

- File Authentication
- LDAP Authentication
- Kerberos

If you want to use one of the above authentication types, you need to configure **atlas-application.properties** file which is under **/usr/hdp/current/atlas-server/conf**

```
# set true if you want to active one authentication method  
atlas.authentication.method.kerberos=true|false  
atlas.authentication.method.ldap=true|false  
atlas.authentication.method.file=true|false
```

2.1 File authentication

In the **atlas-application.properties** file, put the following lines

```
# Specify that you want to use file authentication  
atlas.authentication.method.file=true  
  
# The default file for user login and pwd is under /usr/hdp/current/atlas-server/conf/users-credentials.properties. If you want to specify another file, change the file path of the following command  
atlas.authentication.method.file.filename=${sys:atlas.home}/conf/users-credentials.properties
```

The users credentials file should have below format

```
username=group::sha256-password
```

For example

```
admin=ADMIN::e7cf3ef4f17c3999a94f2c6f612e8a888e5b1026878e4e19398b23bd38ec221a
```

Users group can be either **ROLE_ADMIN, ROLE_DATA_STEWARD OR ROLE_DATA_SCIENTIST**

You can use the following command to generate the password hash

```
echo -n "Password" | sha256sum  
e7cf3ef4f17c3999a94f2c6f612e8a888e5b1026878e4e19398b23bd38ec221a -
```

2.2 Kerberos authentication

To enable the authentication in Kerberos mode in Atlas, set the property `atlas.authentication.method.kerberos` to true in `atlas-application.properties`

```
atlas.authentication.method.kerberos = true  
  
# kerberos config  
atlas.authentication.method.kerberos.principal=<principal>/<fqdn>@EXAMPLE.COM  
atlas.authentication.method.kerberos.keytab = /<key tab filepath>.keytab  
atlas.authentication.method.kerberos.name.rules =  
RULE:[2:$1@$0](atlas@EXAMPLE.COM)s/./@atlas/
```

2.3 Ldap authentication

To enable the authentication in LDAP mode in Atlas, set the property `atlas.authentication.method.ldap` to true and also set Ldap type to property **`atlas.authentication.method.ldap.type` to `LDAP` or `AD`** in `atlas-application.properties`. Use AD if connecting to Active Directory.

```
atlas.authentication.method.ldap=true  
atlas.authentication.method.ldap.type=ldap|ad
```

2.3.1 Active Directory

```
atlas.authentication.method.ldap.ad.domain= example.com  
atlas.authentication.method.ldap.ad.url=ldap://<AD server ip>:389  
atlas.authentication.method.ldap.ad.base.dn=DC=example,DC=com  
atlas.authentication.method.ldap.ad.bind.dn=CN=Administrator,CN=Users,DC=example,DC=com  
atlas.authentication.method.ldap.ad.bind.password=<password>
```

```
atlas.authentication.method.ldap.ad.referral=ignore
atlas.authentication.method.ldap.ad.user.searchfilter=(sAMAccountName={0})
atlas.authentication.method.ldap.ad.default.role=ROLE_USER
```

2.3.2 LDAP Directory

```
atlas.authentication.method.ldap.url=ldap://<Ldap server ip>:389
atlas.authentication.method.ldap.userDNpattern=uid={0},ou=users,dc=example,dc=com
atlas.authentication.method.ldap.groupSearchBase=dc=example,dc=com
atlas.authentication.method.ldap.groupSearchFilter=(member=cn={0},ou=users,dc=example,dc=com)
atlas.authentication.method.ldap.groupRoleAttribute=cn
atlas.authentication.method.ldap.base.dn=dc=example,dc=com
atlas.authentication.method.ldap.bind.dn=cn=Manager,dc=example,dc=com
atlas.authentication.method.ldap.bind.password=<password>
atlas.authentication.method.ldap.referral=ignore
atlas.authentication.method.ldap.user.searchfilter=(uid={0})
atlas.authentication.method.ldap.default.role=ROLE_USER
```

3. Authorization

Atlas supports two authorization methods

- Simple
- Ranger

To set authorization in atlas, update the **atlas.authorizer.impl** properties in **atlas-application.properties**

```
atlas.authorizer.impl=simple | ranger | <Qualified Authorizer Class Name>
```

3.1 Simple Authorizer

In Simple Authorizer the policy store file is configured locally. The path of policy store file is set in `atlas.auth.policy.file` property of `atlas-application.properties`

```
atlas.auth.policy.file={{conf_dir}}/policy-store.txt
```

The policy store file format is as follows:

```
# General format
Policy_Name;;User_Name:Operations_Allowed;;Group_Name:Operations_Allowed;;Resource_Type:Resource_Name

# Example of an admin policy, admin can do everything
```

```
adminPolicy;;admin:rwud;;ROLE_ADMIN:rwud;;type:*,entity:*,operation:*,taxonomy:*,term:*
```

Note : The **User_Name**, **Group_Name** and **Operations_Allowed** are comma(,) separated lists.

Authorizer Resource Types:

- Operation
- Type
- Entity
- Taxonomy
- Term
- Unknown

Operations_Allowed are r = read, w = write, u = update, d = delete

3.2 Ranger Authorizer

Ranger Authorizer is enabled by activating Atlas-Ranger plugin from Ambari.

For more details visit the <http://ranger.apache.org/>

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