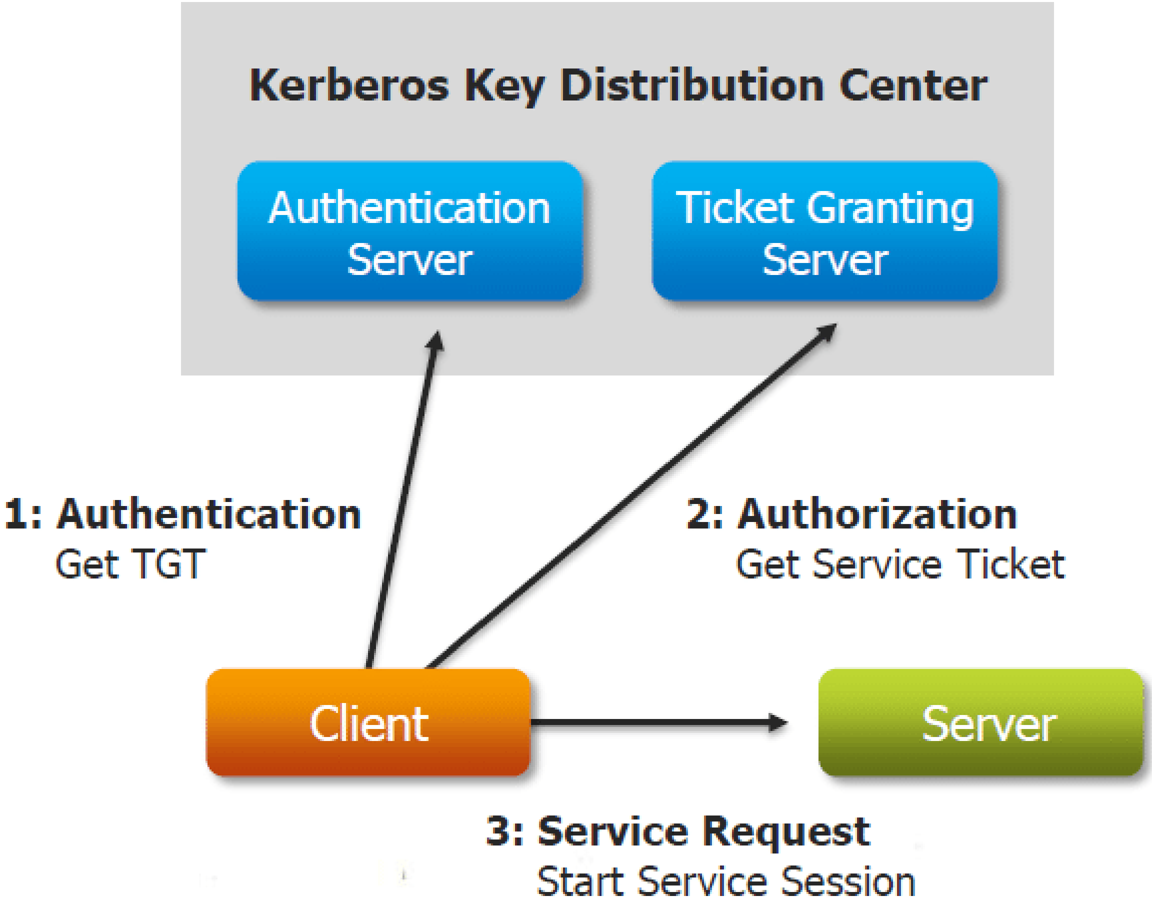
Integrating NiFi with Kerberos Hands On

What is Kerberos?

Kerberos is a network authentication protocol designed to provide strong authentication for client/server applications by means of secret-key cryptography. Kerberos ensures the highest level of security to network resources. The Kerberos protocol name is based on the three- headed dog figure from Greek mythology known as Kerberos.



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Step 1: Clone the repo for demo kerberos setup

```
git clone https://github.com/tillt/docker-kdc.git
cd docker-kdc
```

Step 2: Create user

At the root of this directory create a file named *kdc.json* which will be the config file used when setting up the KDC. Make sure the DOMAIN is resolvable. If not, simply add entries in `/etc/hosts`

```
{
  "principals": [
    {
      "id": "bhushan@NIFI.APACHE.ORG",
      "password": "bhushan"
    },
    {
      "id": "HTTP/nifi.apache.org@NIFI.APACHE.ORG",
      "password": "http"
    }
  ],
  "domain": "nifi.apache.org",
  "realm": "NIFI.APACHE.ORG",
  "ip": "127.0.0.1",
  "port": 48088
}
```

Step 3: Build kerberos setup

```
./kdc build
./kdc start
$(./kdc shellinit)
```

Step 4: Generate TLS for nifi

```
./tls-toolkit.sh standalone -n 'nifi-example.com' -o target-nifi
```

Step 5: Update `nifi.properties`

```
nifi.security.user.login.identity.provider=kerberos-provider
nifi.kerberos.krb5.file=/path/to/docker-kdc/krb5.conf
nifi.kerberos.spnego.principal=HTTP/nifi.apache.org@NIFI.APACHE
nifi.kerberos.spnego.keytab.location=/path/to/docker-kdc/krb5.ke
```

Step 6: Update `login-identity-providers.xml`

```
<provider>
    <identifier>kerberos-provider</identifier>
    <class>org.apache.nifi.kerberos.KerberosProvider</class>
    <property name="Default Realm">NIFI.APACHE.ORG</property>
    <property name="Authentication Expiration">12 hours</propert
</provider>
```

Step 7: Update `authorizers.xml`

```
    <authorizer>
        <identifier>file-provider</identifier>
        <class>org.apache.nifi.authorization.FileAuthorizer</cla
        <property name="Authorizations File">./conf/authorizatio
        <property name="Users File">./conf/users.xml</property>
        <property name="Initial Admin Identity">bhushan@NIFI.AP
        <property name="Legacy Authorized Users File"></property

        <property name="Node Identity 1"></property>
    </authorizer>
```

Sources

Apache NiFi 1.0.0 - Kerberos Authentication

Apache NiFi supports several authentication mechanisms and provides a pluggable authentication model, allowing
anyone to implement a custom identity provider. By default, NiFi always supports two-way SSL as an

https://bryanbende.com/development/2016/08/31/apache-nifi-1.0.0-kerberos-authentication