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# Platform SDK Developer's Guide

Using Kerberos Authentication in Platform SDK

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# Using Kerberos Authentication in Platform SDK

## Java

### Introduction

Platform SDK supports using Kerberos authentication with Configuration Server. Platform SDK can independently obtain a Kerberos ticket or use Kerberos ticket provided by user. Each case requires an individual approach.

### Using Service Principal Name

Service Principal Name (SPN) is a unique identifier of service which in couples with user's credentials can uniquely identify access to requested service. To use the `ServicePrincipalName` user have to assign it using `setSPN` method of a channel Endpoint.

**Microsoft-specific Note:** SPN has to be registered in Active Directory using utility `setspn.exe`. See [Microsoft technet documentation](#). User has to have the required access rights to execute this utility's commands.

#### Code example: Connect CS using SPN

```
ConfServerProtocol protocol = new ConfServerProtocol(new Endpoint(host, port).setSPN(spn));
protocol.setClientName(clientName);
protocol.setClientApplicationType(clientType);

protocol.open();
```

### Usage of Independently Acquired Ticket

If user has a ticket as byte array data, Platform SDK can use it too. In this case user has to assign ticket acquirer to the protocol instance.

#### Code example: Connect to CS using raw data GSS Kerberos ticket

```
ConfServerProtocol protocol = new ConfServerProtocol(new Endpoint(host, port));
protocol.setClientName(clientName);
protocol.setClientApplicationType(clientType);
RawDataTicketAcquirer ticketAcquirer = new RawDataTicketAcquirer(ticketBytes);
```

```
protocol.setTicketAcquirer(ticketAcquirer);  
protocol.Open();
```

The previous example applies only for tickets compatible with GSS API (RFC 2743). Configuration Server also supports pure Kerberos tickets without a GSS envelope, as obtained by using the MIT Kerberos library for instance.

In this case please use the second constructor of `RawDataTicketAcquirer`:

```
RawDataTicketAcquirer(byte[] arguments, bool isGSSTicket)
```

If `isGSSTicket` is false, then a registration message is created with another attribute specially designed for this goal.

### Code example: Connect to Configuration Server Using Raw Data Pure Kerberos Ticket

```
boolean isGSSTicket = false;  
ConfServerProtocol protocol = new ConfServerProtocol(new Endpoint(host, port));  
protocol.setClientName(clientName);  
protocol.setClientApplicationType(clientType);  
RawDataTicketAcquirer ticketAcquirer = new RawDataTicketAcquirer(ticketBytes, isGSSTicket);  
protocol.setTicketAcquirer(ticketAcquirer);  
  
protocol.Open();
```

## Notes for Windows

Kerberos authorization as current logged user must be enabled manually in few steps:

1. set registry key "AllowTGTSessionKey"=dword:00000001 in HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Control\Lsa\Kerberos\Parameters
2. update JCE policy from oracle site
  - jre1.6/lib/security <- <http://www.oracle.com/technetwork/java/javase/downloads/jce-6-download-429243.html>
  - jre1.7/lib/security <- <http://www.oracle.com/technetwork/java/javase/downloads/jce-7-download-432124.html>
  - jre1.8/lib/security <- <http://www.oracle.com/technetwork/java/javase/downloads/jce8-download-2133166.html>
3. Time on kdc,server and client machines must be seconds synchronized
4. krb5.conf can be placed in any folder but you must specify its location using system property "java.security.krb5.conf"

.NET

### Introduction

Platform SDK supports using Kerberos authentication with Configuration Server. Platform SDK can independently obtain a Kerberos ticket or use Kerberos ticket provided by user. Each case requires an individual approach.

### Using Service Principal Name

Service Principal Name (SPN) is a unique identifier of service which in couples with user's credentials can uniquely identify access to requested service. To use the SPN user have to assign field `ServicePrincipalName` of `AbstractChannel.Endpoint`.

**Microsoft-specific Note:** SPN has to be registered in Active Directory using utility `setspn.exe`. See [Microsoft technet documentation](#). User has to have the required access rights to execute this utility's commands.

#### Code example: Connect CS using SPN

```
var protocol = new ConfServerProtocol(new Endpoint(host, port) { ServicePrincipalName = spn })
{
    ClientApplicationType = clientApp,
    ClientName = clientName
};

protocol.Open();
```

### Usage of Independently Acquired Ticket

If user has a ticket as byte array data Platform SDK can use it too. In this case user has to assign ticket acquirer to the protocol instance.

#### Code example: Connect to CS using raw data GSS Kerberos ticket

```
var protocol = new ConfServerProtocol(new Endpoint(host, port))
{
    ClientApplicationType = clientApp,
    ClientName = clientName,
    KerberosTicketAcquirer = new RawDataTicketAcquirer(rawTicketData)
};

protocol.Open();
```

The previous example applies only for tickets compatible with GSS API (RFC 2743). Configuration Server also supports pure Kerberos tickets without a GSS envelope, as obtained by using the MIT Kerberos library for instance.

In this case please use the second constructor of `RawDataTicketAcquirer`:

```
RawDataTicketAcquirer(byte[] arguments, bool isGSSTicket)
```

If `isGSSTicket` is false, then a registration message is created with another attribute specially designed for this goal.

### **Code example: Connect to Configuration Server Using Raw Data Pure Kerberos Ticket**

```
var isGSSTicket = false;
var protocol = new ConfServerProtocol(new Endpoint(host, port))
{
    ClientApplicationType = clientApp,
    ClientName = clientName,
    KerberosTicketAcquirer = new RawDataTicketAcquirer(rawTicketData, isGSSTicket)
};

protocol.Open();
```