

Oracle GoldenGate for MS SQL Server: Managing the Credential Store

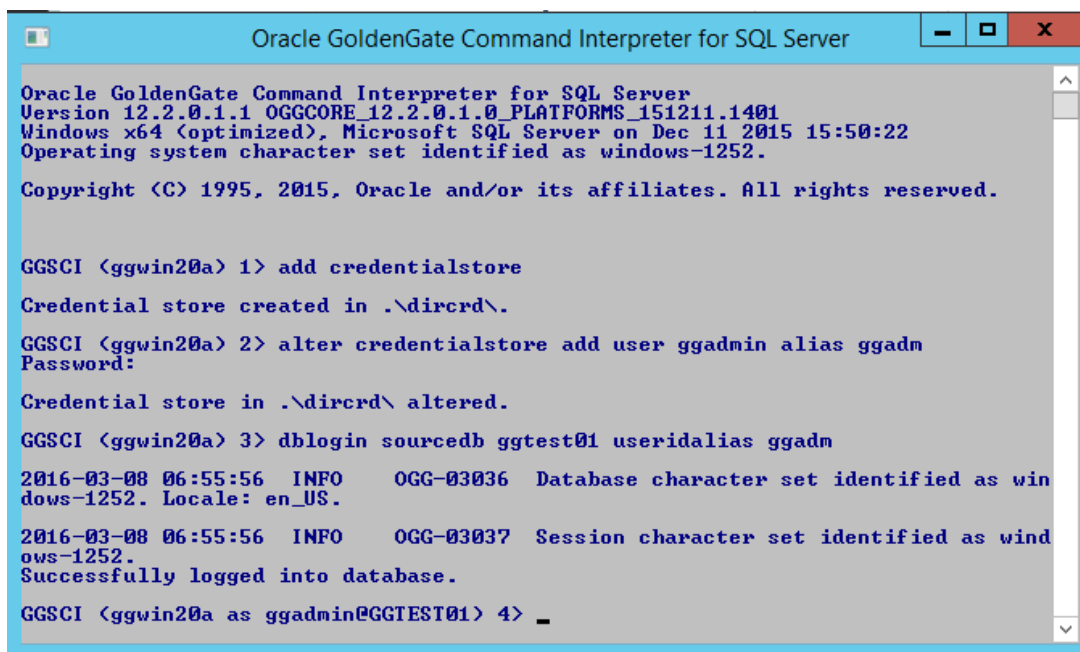
Edward Whalen
2019-05-10

Microsoft SQL Server is a popular database platform that needs a robust and feature rich replication product that can be used in both a homogeneous and heterogeneous configuration. I have been involved in a number of SQL Server to SQL Server and SQL Server to Oracle replication projects using Oracle GoldenGate. Oracle GoldenGate works well with MS SQL Server and the new OGG 12.2 version offers new features that enhance that support.

In the next few months I will be presenting a series of blogs on how to best implement Oracle GoldenGate in a MS SQL Server environment and how to take advantage of its features. In this entry I will focus on SQL Server user connectivity.

The Oracle Credential Store is a great way to avoid having to embed plain text passwords in parameter files and obey files by storing the *userid* and *password* into a combined *useridalias* within an Oracle Wallet, however, there are a few issues that can be problematic.

The Credential Store is created and maintained via GGSCI using the ADD CREDENTIALSTORE command. Once the credential store is created, the ALTER CREDENTIALSTORE command is used to create the *userid* aliases as shown here:



```
Oracle GoldenGate Command Interpreter for SQL Server
Version 12.2.0.1.1 OGGCORE_12.2.0.1.0_PLATFORMS_151211.1401
Windows x64 (optimized), Microsoft SQL Server on Dec 11 2015 15:50:22
Operating system character set identified as windows-1252.

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GGSCI (ggwin20a) 1> add credentialstore
Credential store created in .\dircrd\.

GGSCI (ggwin20a) 2> alter credentialstore add user ggadmin alias ggadm
Password:

Credential store in .\dircrd\ altered.

GGSCI (ggwin20a) 3> dblogin sourcedb ggtest01 useridalias ggadm
2016-03-08 06:55:56 INFO      OGG-03036 Database character set identified as win
dows-1252. Locale: en_US.
2016-03-08 06:55:56 INFO      OGG-03037 Session character set identified as wind
ows-1252.
Successfully logged into database.

GGSCI (ggwin20a as ggadmin@GGTEST01) 4> _
```

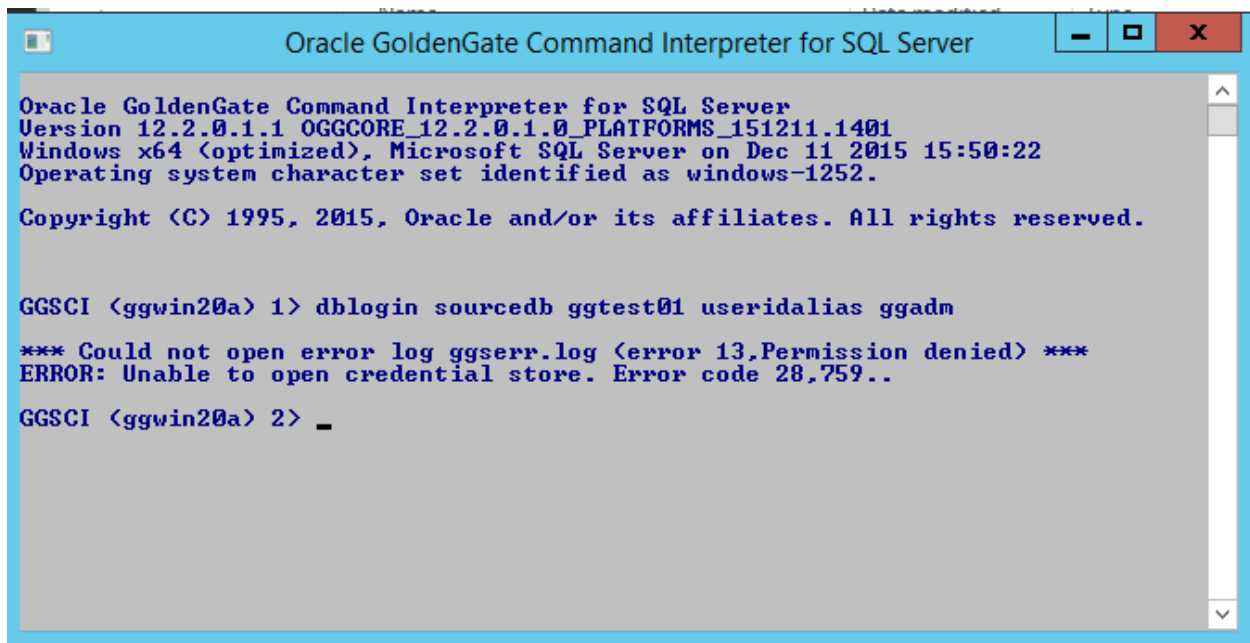
Once the credential has been added to the Credential Store and the alias is available, the parameters USERID and PASSWORD are replaced by USERIDALIAS. The password never needs to be visible in parameter or obey files again.

So, what does this have to do with Windows and SQL Server? Due to Windows security, the Credential Store can only be used by the owner, in this case Administrator, who first creates it.

In this example, user **ewhalen** logs into the system and runs GGSCI. The **ewhalen** user attempts to access the credential store.

Any attempt to access the Credential Store that was created by another user will be met by the following error:

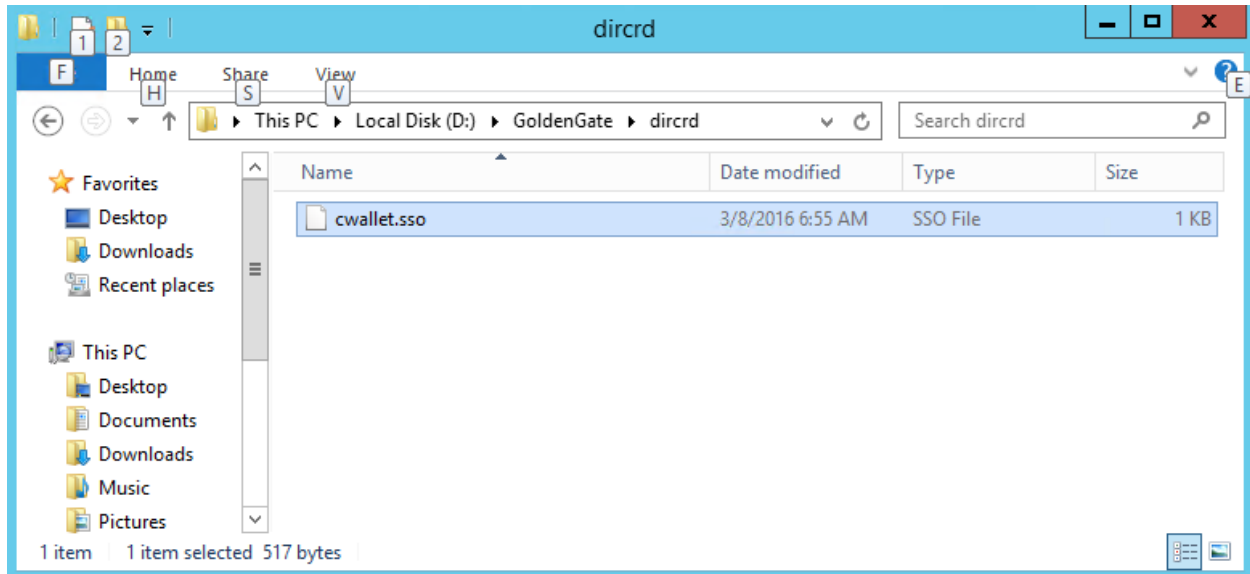
```
*** Could not open error log ggserr.log (error 13,Permission denied) ***  
ERROR: Unable to open credential store. Error code 28,759..
```

A screenshot of a Windows command prompt window titled "Oracle GoldenGate Command Interpreter for SQL Server". The window has a blue title bar with standard minimize, maximize, and close buttons. The text inside the window is as follows:

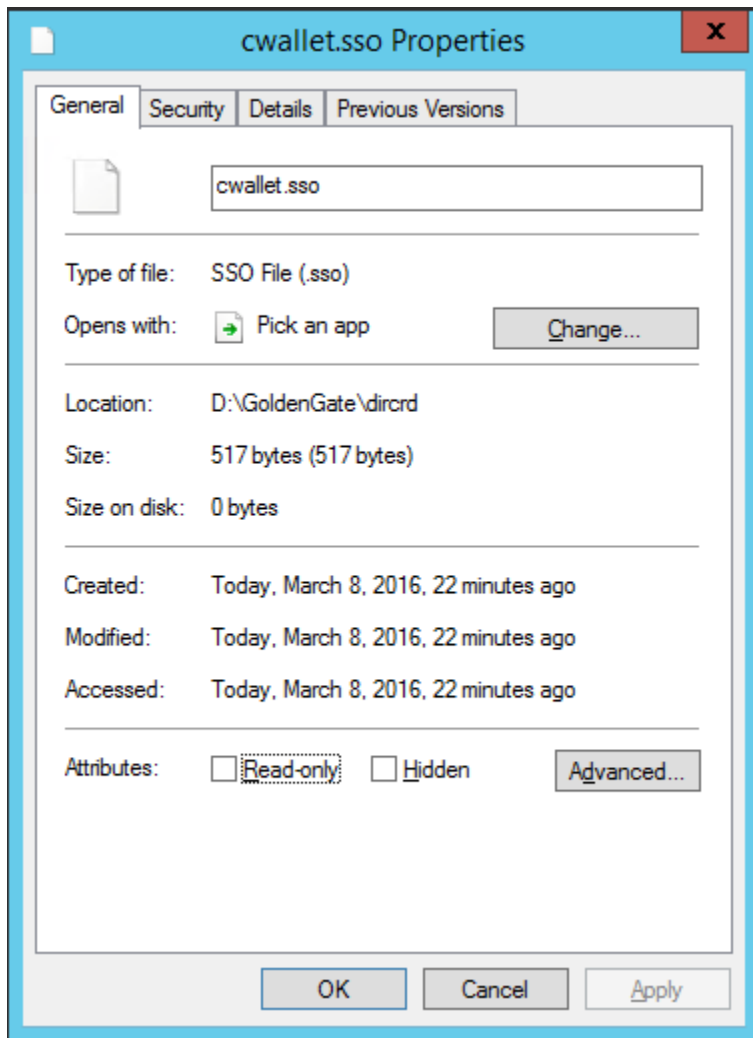
```
Oracle GoldenGate Command Interpreter for SQL Server  
Version 12.2.0.1.1 OGGCORE_12.2.0.1.0_PLATFORMS_151211.1401  
Windows x64 (optimized), Microsoft SQL Server on Dec 11 2015 15:50:22  
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Copyright (C) 1995, 2015, Oracle and/or its affiliates. All rights reserved.  
  
GGSCI (ggwin20a) 1> dblogin sourcedb ggtest01 useridalias ggadm  
  
*** Could not open error log ggserr.log (error 13,Permission denied) ***  
ERROR: Unable to open credential store. Error code 28,759..  
  
GGSCI (ggwin20a) 2> _
```

In order for the Credential Store to be accessible by other users, permissions to the Credential Store wallet file must be modified.

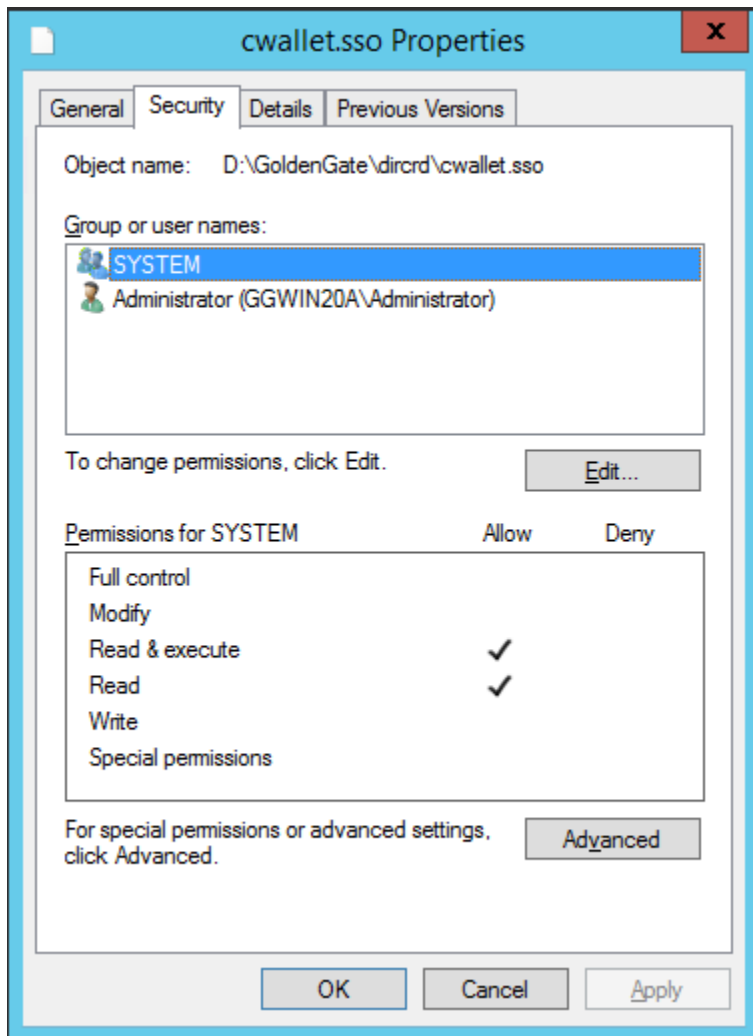
To do this, navigate to the folder where GoldenGate was installed and open the *dircrd* folder.



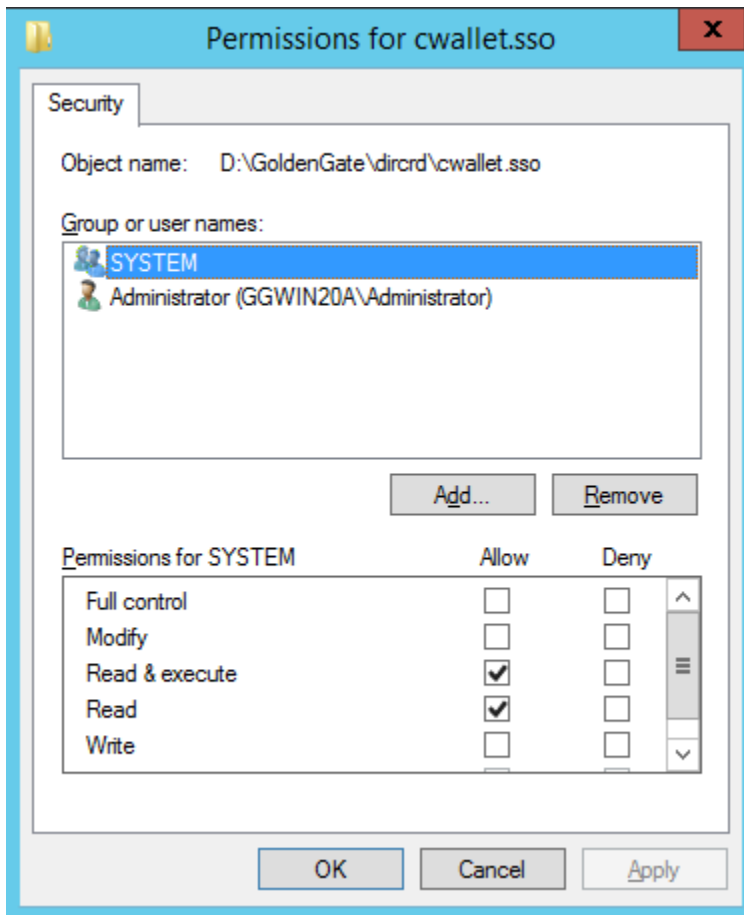
Right click on *cwallet.sso* and select **Properties**.



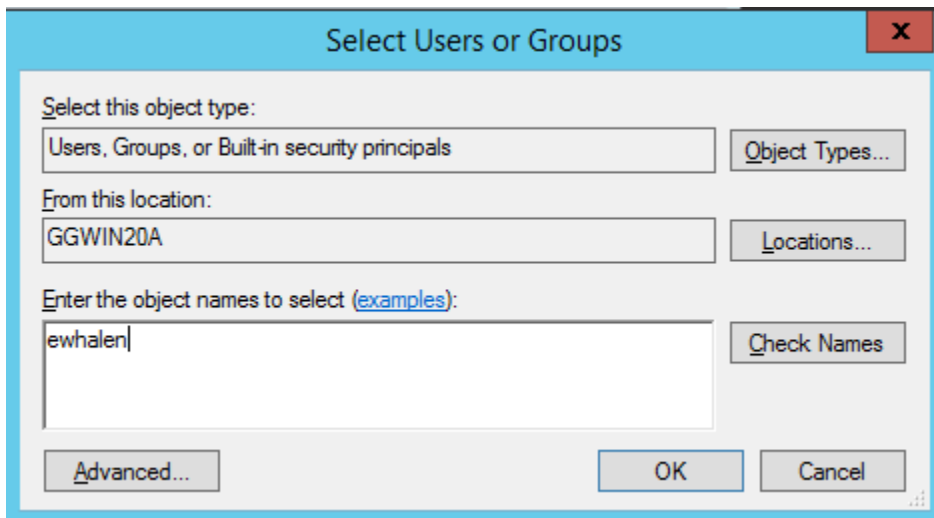
Click on the **Security** tab.



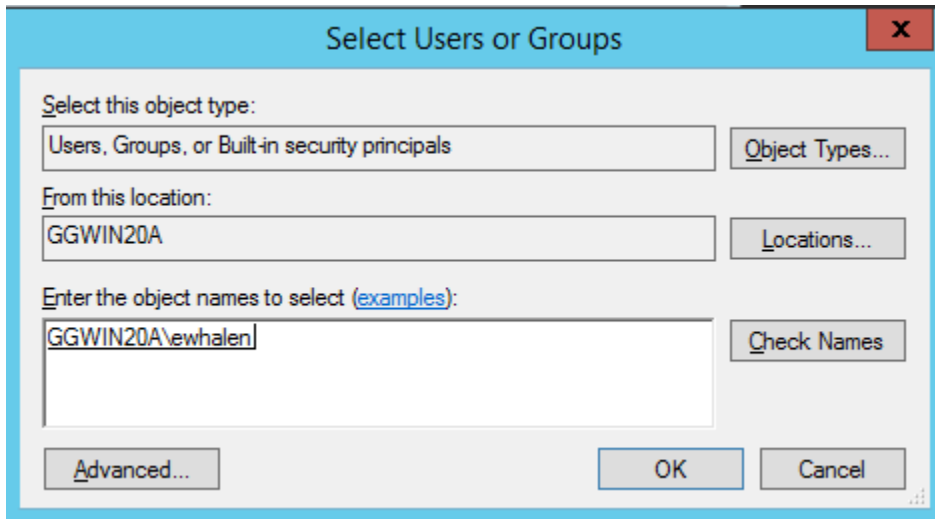
In order to add additional access, click the **Edit...** button.



Click **Add...** to enable additional access to the user.

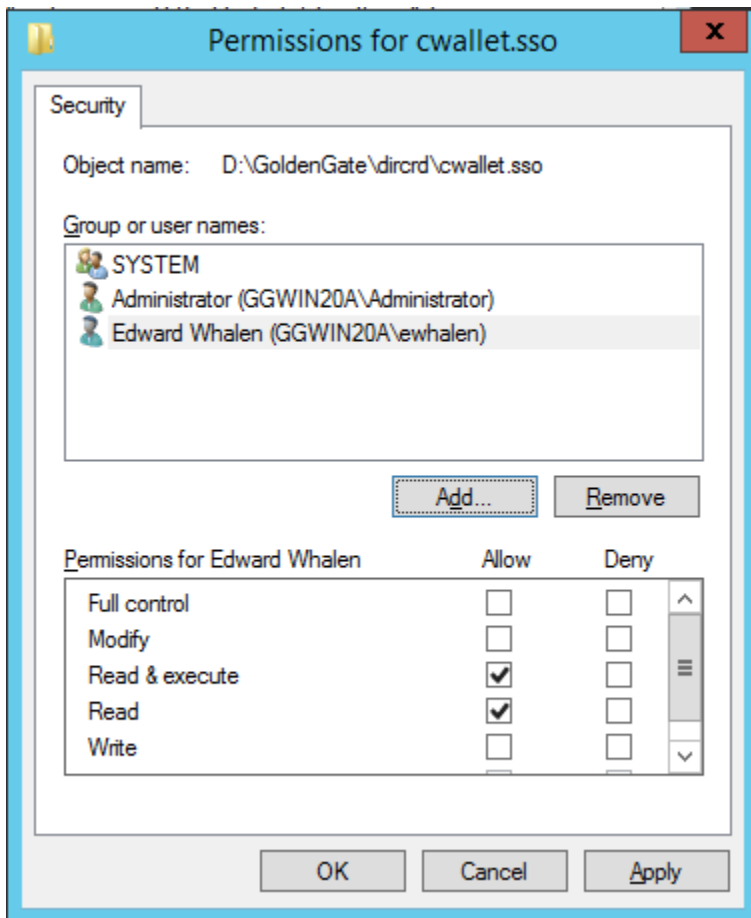


Enter the username and click **Check Names** in order to validate the user.

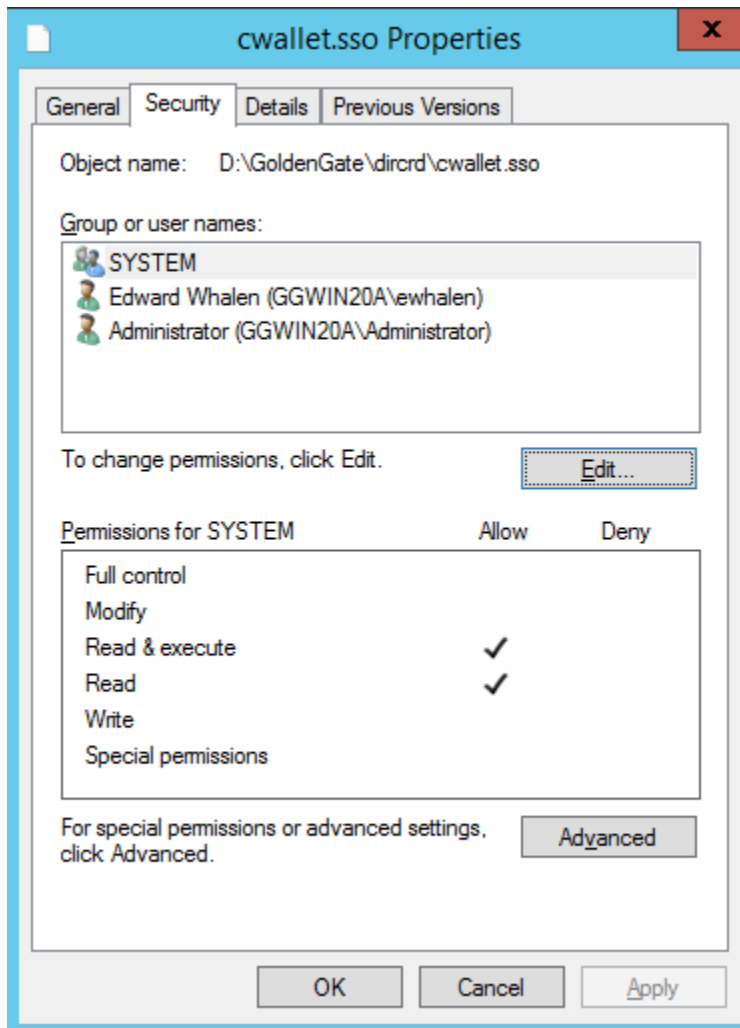


Click **OK** to add the user.

By default, **Read & execute** and **Read** are enabled. If you want this user to be able to add credentials too, then **Modify** must be added. When you are satisfied, click **OK**.

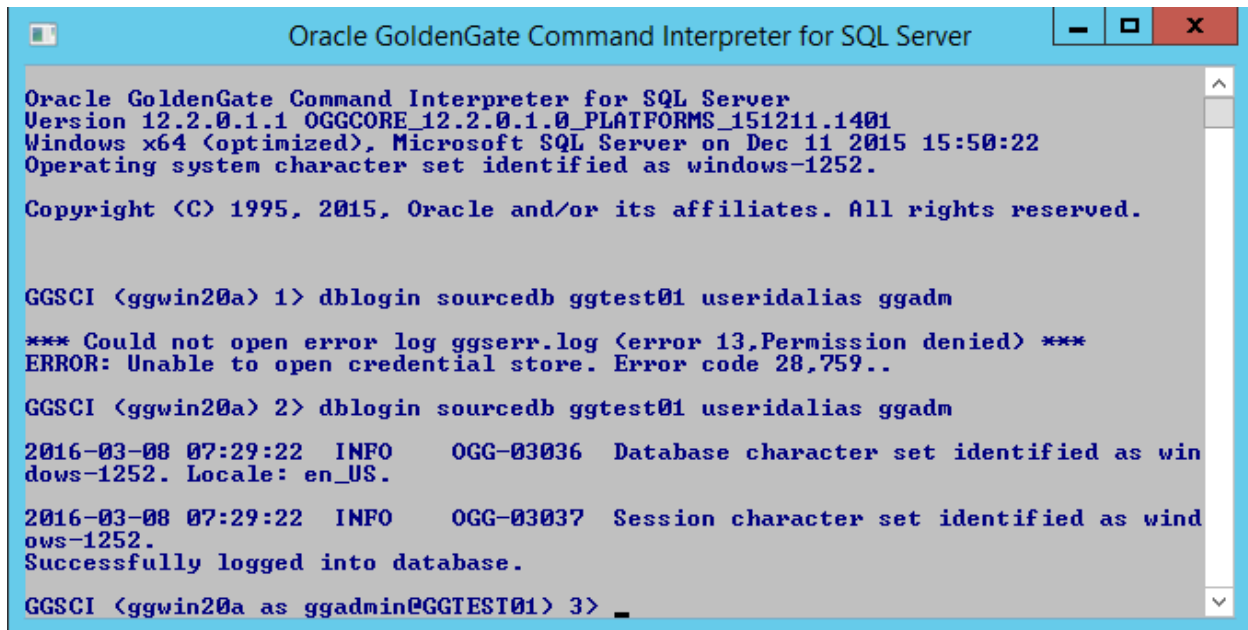


Click **OK** to apply the changes.



Click **OK** to exit the *cwallet.sso* properties screen.

Now the access to the Credential Store is allowed for other users as well as the one who first created it:



```
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*** Could not open error log ggserr.log (error 13,Permission denied) ***
ERROR: Unable to open credential store. Error code 28,759..

GGSCI (ggwin20a) 2> dblogin sourcedb ggtest01 useridalias ggadm
2016-03-08 07:29:22 INFO      OGG-03036  Database character set identified as win
dows-1252. Locale: en_US.
2016-03-08 07:29:22 INFO      OGG-03037  Session character set identified as wind
ows-1252.
Successfully logged into database.

GGSCI (ggwin20a as ggadmin@GGTEST01) 3> _
```

Access to the credential store is accessible by the **ewhalen** user now and there was no need to exit and re-enter GGSCI.

I recommend using the Credential Store in order to eliminate the need to use passwords in obey and parameter files. This improves security and is easy to use.