ONESOURCE™ INDIRECT TAX INTEGRATION FOR SAP (BASIC US/CA)–5.2B

INSTALLATION GUIDE OF NEW WINDOWS SERVICE APACHE COMMONS DAEMON PROCRUN (SABRIXBASICCONNECTION.EXE)

SAP JCO Integration (Basic US/Canada)

VERSION 5220B

Document Version 1

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Change Log

Version	Comments
5220B	Updated the following sections: Download Instructions • Added instruction to download SAP SNC Crypto Library (page 4), • Updated to download the integration distribution version 5220B ONESOURCEIDTIntegrationSAP-5220B.zip file from the Customer Center (page 5), • Added instruction to enable SAP Secure network communication (SNC) between SAP Application and SAP JCO Integration(page 7) Configure environment variables • Added instruction to configure SAP SNC environment variables (page 11)

INSTALLATION GUIDE OF NEW WINDOWS SERVICE APACHE COMMONS DAEMON PROCRUN (SABRIXBASICCONNECTION.EXE) -5220B

This installation guide details the steps to install the new Windows Service Component Apache Commons Daemon Procrun that is supported as part of this product enhancement:

SAP JCO Integration (Basic Services) requires the following software for Windows OS.

- SAP JCO Integration Version- 5220B
- Java Version- v8 (jre1.8.0_261)
- SAP JCO Library – V3.1.3
- SAP Crypto Library (If SAP SNC is enabled)
- Microsoft Visual C++ 2013 Redistributable (or higher version) is a dependent software required for SAP JCO Library inWindows OS.
- Apache Commons Daemon Procrun (prunsrv.exe) – v1.2.2- This is already part of the integration distribution version 5220B.

DOWNLOAD INSTRUCTIONS

a. Download and install Java version 8 runtime environment and configure environment variables.

   Make sure to uninstall other/older Java versions and corresponding environment variables, if applicable.

b. Integration version 5220B does NOT support versions older than Java v8; it requires Java version 8.

c. To download and install SAP JCO 3.1.3 library, please refer to the SAP Portal URL for environment specific downloads. Follow the instructions given in the SAP portal to configure the environment variables (CLASSPATH, PATH) related to this SAP JCO library. Make sure to uninstall older SAP JCO version and corresponding environment variables, if applicable.

   Note: SAP JCO 3.1.3 requires minimum Java version 8.

d. Additionally if you are enabling SAP SNC in your integration, download and install the SAP Crypto Library from the SAP marketplace. Choose your different OS Windows 64 bit, Windows 32 bit, Linux, etc. as applicable. Navigate to URL https://support.sap.com and click on Software Downloads.

e. Refer to the section "CONFIGURE ENVIRONMENT VARIABLES"

At this point, you may test the SAP JCO Configuration. Run the below at command prompt, a pop-up window will open with no errors in it.

```
java -jar {sapjco-install-path}/sapjco3.jar
```

f. To configure the Sabrix Connection property file and logging parameters, please refer to more detailed steps in InstallGuideONESOURCEIDTIntegrationSAP.

g. To download and install this release in WINDOWS Environment as windows service:

1. Retrieve the ONESOURCEIDTIntegrationSAP-5220B.zip file from the Customer Center. To do so:
   - Open the Customer Center at http://customercenter.sabrix.com/sabrixcc.
   - Log on using the username and password provided by Technical Support.
   - Find Integration for SAP (Basic US/CA) in the Available Products list and verify that Installed Version is set to **None**.
   - Click **Download** for Integration for SAP (Basic US/CA).
   - Save the file.
2. This integration release supports Java version 8.
3. Log on to the server where the current Integration for SAP is installed.
4. Stop the Integration if currently running, by using the standard Windows service management tools.
5. Back up the following files, as you will need to reference them once you install the new release:
   - *SabrixConnection.properties*
   - *SabrixIntegrationServerLoggingConfig.xml*
   - *InstallSabrix-NT.bat*
   - *UninstallSabrix-NT.bat*
   - *taxMappingsExtension.xml*
   - *jcMappingsExtension.xml*
   - *authorityLanguageMappingsExtension.xml*

6. Uninstall the Integration by running the uninstall batch script file UninstallSabrix-NT.bat, from the directory where the previous release of Integration for SAP was installed.

7. Unzip and extract the files in the .zip file to the new directory.

8. Compare files saved in step 5 above with the new files. Merge custom configurations from the saved files with the newly provided ones if necessary or replace the empty templates with the saved ones if no changes were made.

9. Configure SAP JCO Library “sapjco3.jar” jar file path by replacing the text SAP_JCO_JAR in the file InstallSabrix-NT.bat

10. To enable the debug logs for the windows service.

    Configure Windows Service Log LEVEL (DEBUG, INFO, ERROR) in InstallSabrix-NT.bat file, default is INFO. In case of troubleshooting, Change log level to DEBUG.

```
set  PR_LOGLEVEL=DEBUG
```

    For more detailed instructions, refer to the section “CONFIGURING LOGGING FOR WINDOWS SERVICE”.

11. Edit the InstallSabrix-NT.bat file if required and set the parameter PR_JVM value to jvm.dll file path.

    If Java JRE is installed, then program will automatically search for jvm.dll file path in the windows registry. For some reason if needed to mention jvm.dll path, then add the instruction.

```
set  PR_JVM={java-JRE-install-path}\bin\server\jvm.dll

Example:
set  PR_JVM=C:\Program  Files\Java\jre1.8.0_261\bin\server\jvm.dll
```

    If Java JDK is installed, then provide path to jvm.dll file from java JDK installation folder to the variable PR_JVM in InstallSabrix-NT.bat file

```
set PR_JVM={java-JDK-install-path}\jre\bin\server\jvm.dll
Example:
set  PR_JVM=C:\Program  Files\Java\jdk1.8.0_261\jre\bin\server\jvm.dll
```

12. If you are using 32-bit version of Java, the following steps are applicable. Ignore these steps if 64-bit version of Java is installed.

    Integration uses “Apache Commons Daemon Procrun” component prunsrv.exe file to install integration as windows service.

    Here, **prunsrv.exe** file is renamed to **SabrixBasicConnection.exe** in the integration zip file.

    And **prunmgr.exe** file is renamed to **SabrixBasicConnectionw.exe** in the integration zip file.

    Please note:

    - Use 64-bit version of the SabrixNTService\SabrixBasicConnection.exe file, if 64-bit version of Java is installed.
    - Use 32-bit version of the SabrixNTService\win32\SabrixBasicConnection.exe file, if 32-bit version of Java is installed. Here, copy the 32-bit file from “SabrixNTService\win32\SabrixBasicConnection.exe” to “SabrixNTService\SabrixBasicConnection.exe”
    - Here bit version of SabrixBasicConnection.exe file is not dependent on the Windows OS Bit version.
    - Both 32-bit and 64-bit version of SabrixBasicConnection.exe supports and works fine in 64-bit version of Windows OS.

13. Ensure same name value is defined for “SERVICE_NAME” variable in both the files InstallSabrix-NT.bat and UninstallSabrix-NT.bat.

    Also name of the service is same as exe file name as given, refer “SabrixNTService\SabrixBasicConnection.exe” and SabrixBasicConnection.exe. Note the letter “w” along with the name of the Service in the second exe file name.

    Here “SERVICE_NAME” variable value and exe file names are same.

    SabrixBasicConnectionw.exe is used to verify the configured properties for windows service and helps in troubleshooting, in case of any issues during installation.

14. Provide required user privileges like full access control to "Local Service" user for the installed integration folder and SAP JCO Library folder. Please refer to the section “ADD LOCAL SERVICE USER PERMISSIONS (SAP JCO INTEGRATION VERSION 5220B)”.

15. To enable SAP Secure network communication (SNC) between SAP Application and SAP JCO Integration, set up and configure SAP SNC in SAP Application and install SAP Crypto Library and configure SNC in the integration machine. Configure SabrixConnection.properties file in integration to enable JCO SNC Mode properties (jco.client.snc_mode=1, jco.server.snc_mode=1) along other SNC properties as mentioned in the install guide. Provide full control user access privileges to this SAP Crypto Library folder for Windows User "Local Service" if your integration is installed on Windows.

16. Install the SAP Jco Integration as Windows Service by running the InstallSabrix-NT.bat file from the newly extracted .zip file directory.

    Navigate to the Windows Services and search for the Service Name “SabrixBasicConnection” as defined in the file InstallSabrix-NT.bat file for successful installation of the Integration as windows service.

17. Restart the Integration.

18. Navigate to log folder in the integration installation folder and open log file with the name given to variable “SERVICE_NAME” as mentioned above. Example default log file name “SabrixBasicConnection.yyyy-mm-dd.log” and verify the debug logs and look for Java “jvm.dll” used by the SAP Integration when it is started. This should be same version of java as the one installed above.

To install more than one instance of integration on the same computer running Microsoft Windows

It is recommended that only one instance of the Integration is installed onto one computer. However, for some reason if you choose to install more than one instance on the same computer then the following steps are required.

1. Make a second copy of the installation directory (or unzip ONESOURCEIDTIntegrationSAP-5xxxB.xxxxxxx.zip into another directory).

2. Edit the InstallSabrix-NT.bat and UninstallSabrix-NT.bat files to modify the settings for the service name.

   The following example is from InstallSabrix-NT.bat:

   Ensure, no blank spaces in the service name.

   ```
   set  SERVICE_NAME=SabrixBasicConnection2
   set  PR_DESCRIPTION=Sabrix  Basic  Connection2
   set  PR_INSTALL=%~dp0%SabrixNTService\SabrixBasicConnection2.exe
   ```

3. Rename the below files accordingly:

   ```
   SabrixNTService\SabrixBasicConnection2.exe
   SabrixNTService\SabrixBasicConnection2w.exe
   ```

   Here SERVICE_NAME and exe files names are same, please note the lowercase letter “w” given for second exe file “SabrixBasicConnection2w.exe”.

   When you run the installation script, it creates a second copy of the service with name as defined in above file.

4. Remember to change the **SERVICE_NAME** in the Uninstall script UninstallSabrix-NT.bat, else it will uninstall your first integration.

5. Edit the *InstallSabrix-NT.bat* file to Indicate the correct location of *sapjco3.jar* by replacing *$SAP_JCO-JAR$* with the path to the jar file.

6. Edit the *InstallSabrix-NT.bat* file for jvm.dll file.

   If Java JRE is installed, then program will automatically search for jvm.dll file path in the windows registry. For some reason if needed to mention jvm.dll path, then add the instruction.

```
set PR_JVM={java-JRE-install-path}\bin\server\jvm.dll
Example:
set  PR_JVM=C:\Program  Files\Java\jre1.8.0_261\bin\server\jvm.dll
```

   If Java JDK is installed, then provide path to jvm.dll file from java JDK installation folder to the variable PR_JVM in InstallSabrix-NT.bat file

```
set PR_JVM={java-JDK-install-path}\jre\bin\server\jvm.dll
Example:
set  PR_JVM=C:\Program  Files\Java\jdk1.8.0_261\jre\bin\server\jvm.dll
```

7. Refer the section to "CONFIGURE ENVIRONMENT VARIABLES"

8. To Configure the DEBUG Logs refer the section "CONFIGURING LOGGING FOR WINDOWS SERVICE".

9. Run the InstallSabrix-NT.bat to install the Integration as windows Service.

APPENDIX 1: CONFIGURE ENVIRONMENT VARIABLES

a. If Java JRE is installed,

   Add the {java-JRE-install-path}\bin to the PATH environment variable.

   Add the {java-JRE-install-path} to JRE_HOME environment variable

```
Example
JRE_HOME= C:\Program Files\Java\jre1.8.0_261
PATH= C:\Program Files\Java\jre1.8.0_261\bin
```

b. If Java JDK is installed,

   Add the {java-JDK-install-path}\jre\bin to the PATH environment variable.

   Add the {java-JDK-install-path} to JAVA_HOME environment variable

```
Example
JAVA_HOME=C:\Program Files\Java\jdk1.8.0_261
PATH=C:\Program Files\Java\jdk1.8.0_261\jre\bin
```

c. Add the {sapjco3-install-path} to the PATH environment variable.

d. Add the {sapjco3-install-path}\sapjco3.jar to the CLASSPATH environment variable.

```
Example:
CLASSPATH={sapjco3-install-path}/sapjco3.jar
PATH={sapjco3-install-path}
```

e. To enable SAP SNC in integration, configure SAP SNC environment variables in Integration Machine.
SNC_LIB=/path/to/the/sapcryptolib
SECUDIR=/path/to/the/sapcryptolib/sec

```
Example:
SNC_LIB=C:\Integration\SapCryptoLib\sapcrypto.dll
SECUDIR=C:\Integration\SapCryptoLib\sec
```

APPENDIX 2: CONFIGURING LOGGING FOR WINDOWSSERVICE

Windows Service creates 3 log files

- SabrixError.txt
- SabrixOut.txt
- SabrixBasicConnection.yyyy-mm-dd.log

Configure Windows Service Log LEVEL (DEBUG, INFO, ERROR).

Default log level is INFO.

In case of troubleshooting, change log level to DEBUG in the InstallSabrix-NT.bat file.

```
set PR_LOGLEVEL=DEBUG
```

Navigate to log folder in the integration installation folder.
Open log file with the name given to variable “SERVICE_NAME” as mentioned in the InstallSabrix-NT.bat file.

Example default log file name “SabrixBasicConnection.yyyy-mm-dd.log”.

Verify the debug logs and look for Java “jvm.dll” file used by the SAP Jco Integration when it is started.
In the log file “SabrixBasicConnection.yyyy-mm-dd.log”, find the path of the jvm.dll which should be from installed Java v8 folder.

If path to java installation jvm.dll file is not given, then Apache Commons Daemon Procrun (SabrixBasicConnection.exe) will automatically search for jvm.dll in the windows registry.

If you have installed Java Runtime Environment (JRE), then the path of jvm.dll file will be.

```
{java-JRE-install-path}\bin\server\jvm.dll
```

Example:

```
C:\Program Files\Java\jre1.8.0_261\bin\server\jvm.dll
```

If you have installed Java JDK, then the path of jvm.dll file will be.

```
{java-JDK-install-path}\jre\bin\server\jvm.dll
```

Example:

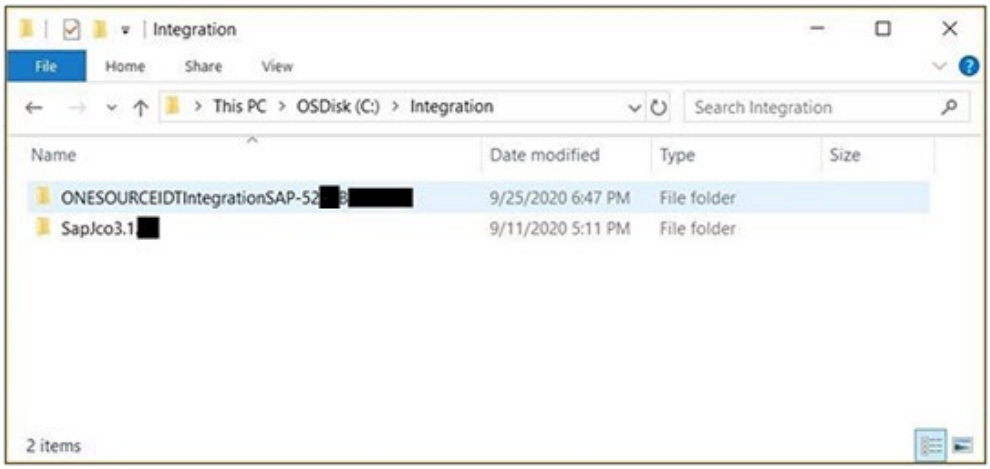
```
C:\Program Files\Java\jdk1.8.0_261\jre\bin\server\jvm.dll
```

APPENDIX 3: ADD LOCAL SERVICE USER PERMISSIONS (SAPJCO INTEGRATION VERSION 5220B)

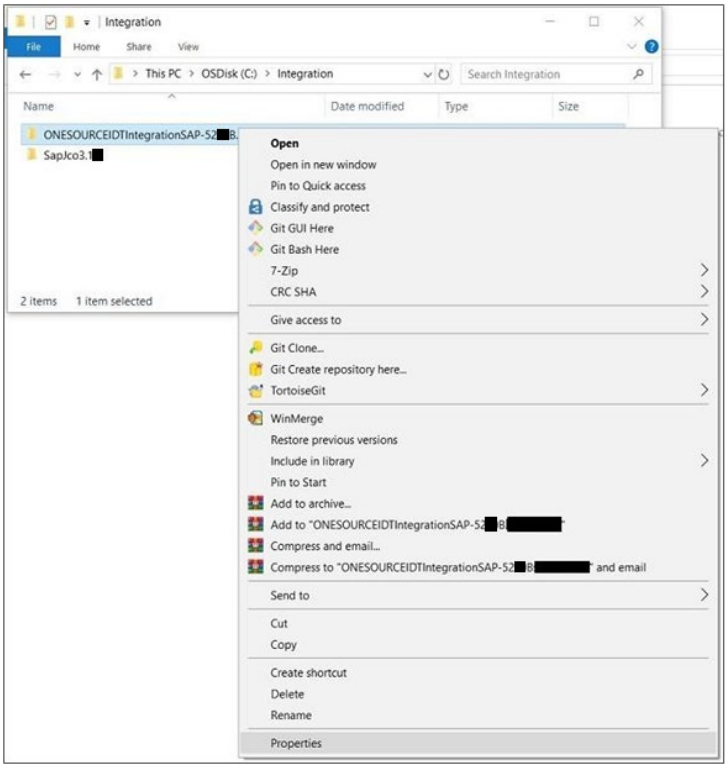
SAP JCO Integration version 5220B comes with new Windows Service Component “Apache Commons Daemon Procrun” which is renamed as “SabrixBasicConnection.exe”. The installed new Windows Service runs using the default LOCAL SERVICE windows local user. Provide the required user privileges with full access control to this "Local Service" user for the installed integration folder and SAP JCO Library folder.

Follow these steps:

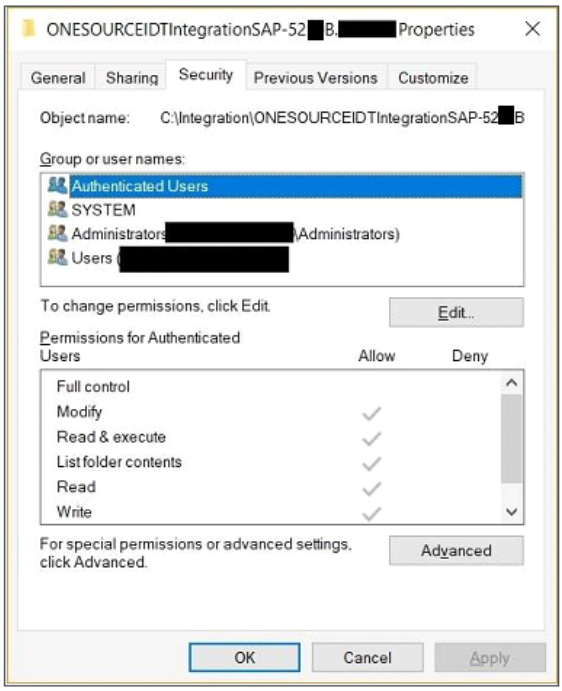
- Select Installation folder



- Right Click on the Installation folder and click "Properties" in the menu. Properties window opens.

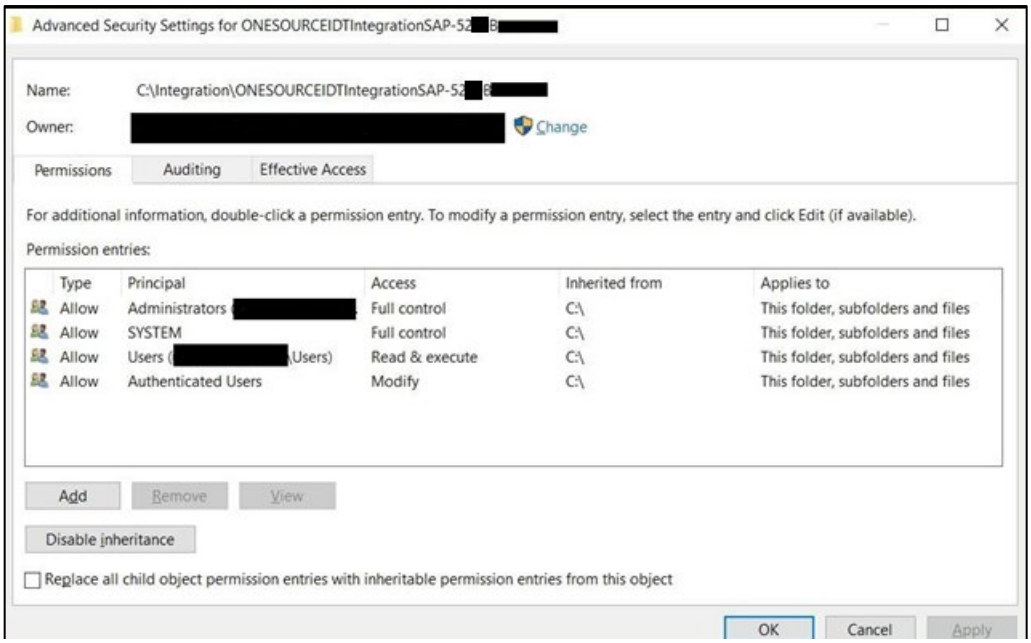


- Select "Security" tab

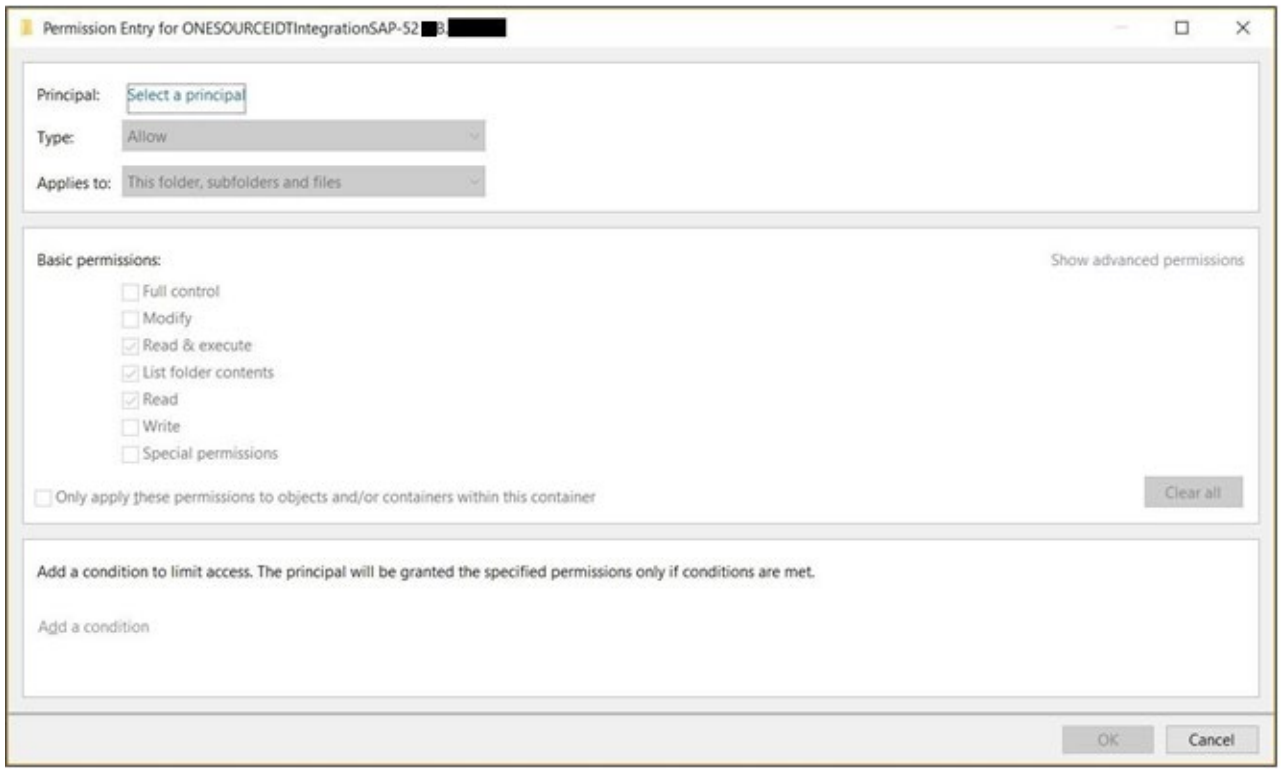


- For Special Permissions or advanced settings Click "Advanced" button.

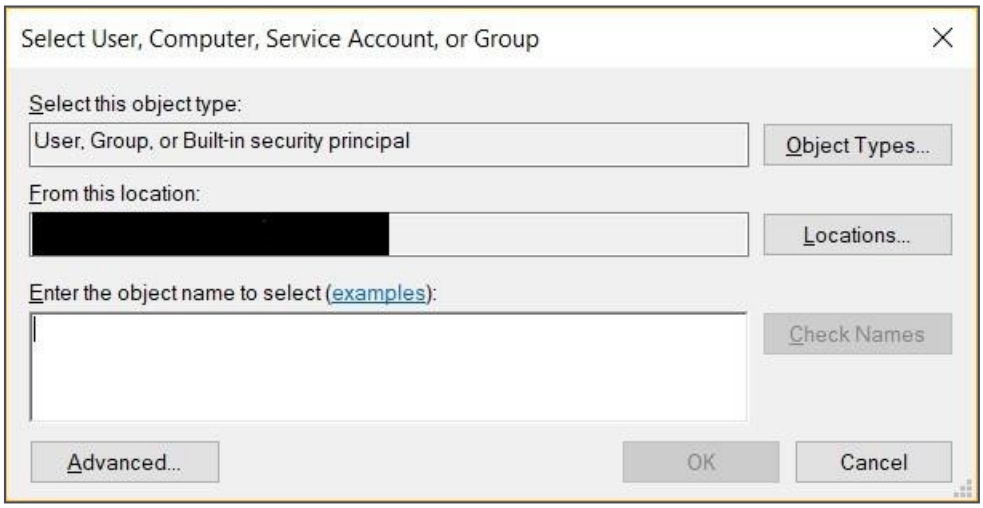
- Window with title "Advanced Security Settings" for installation folder opens.



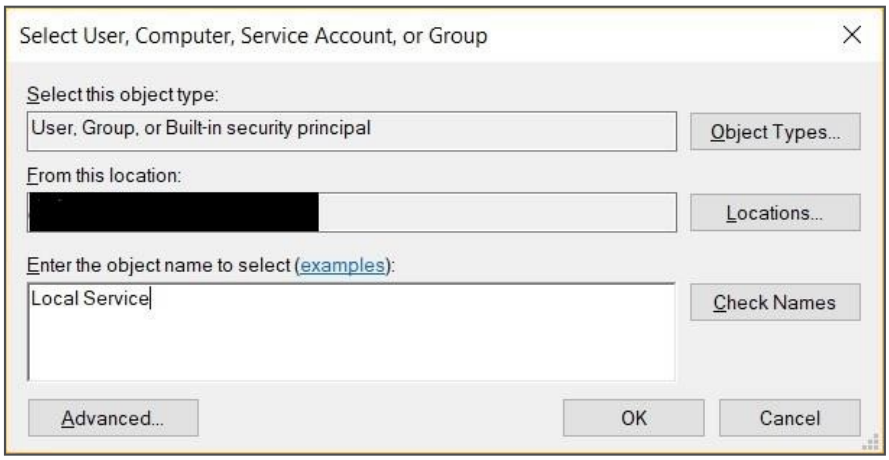
- Click Add button under Permissions tab, Permission entry window opens.
- Click on "Select a Principal" link.

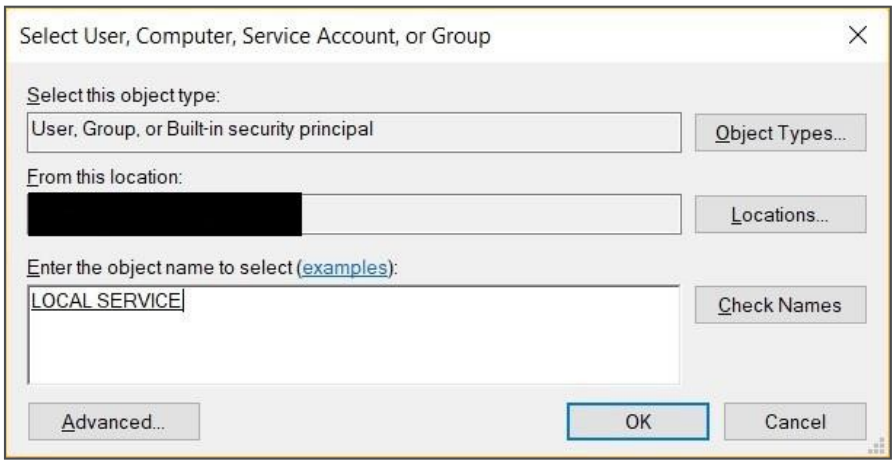


- Windows opens with title "Select User, Computer, Account or Group"

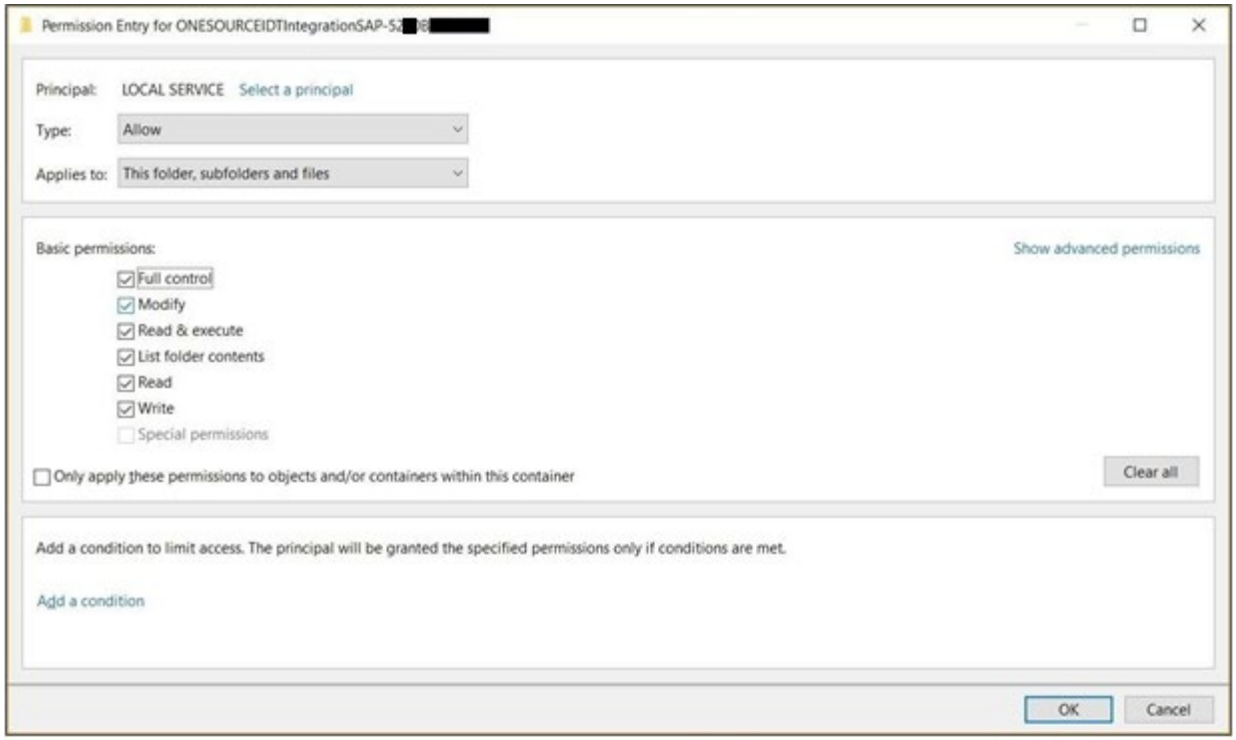


- In the given text box, enter the Object name as LOCAL SERVICE and click Check Names button and then OK button.

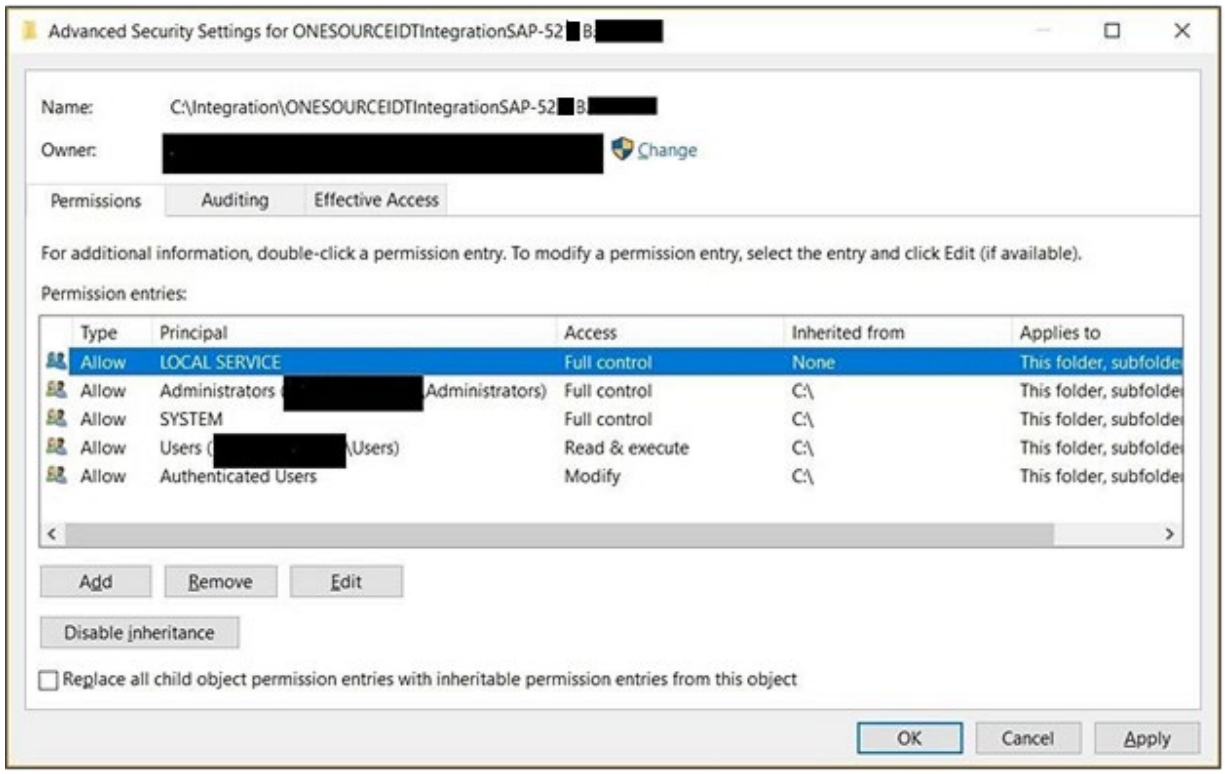




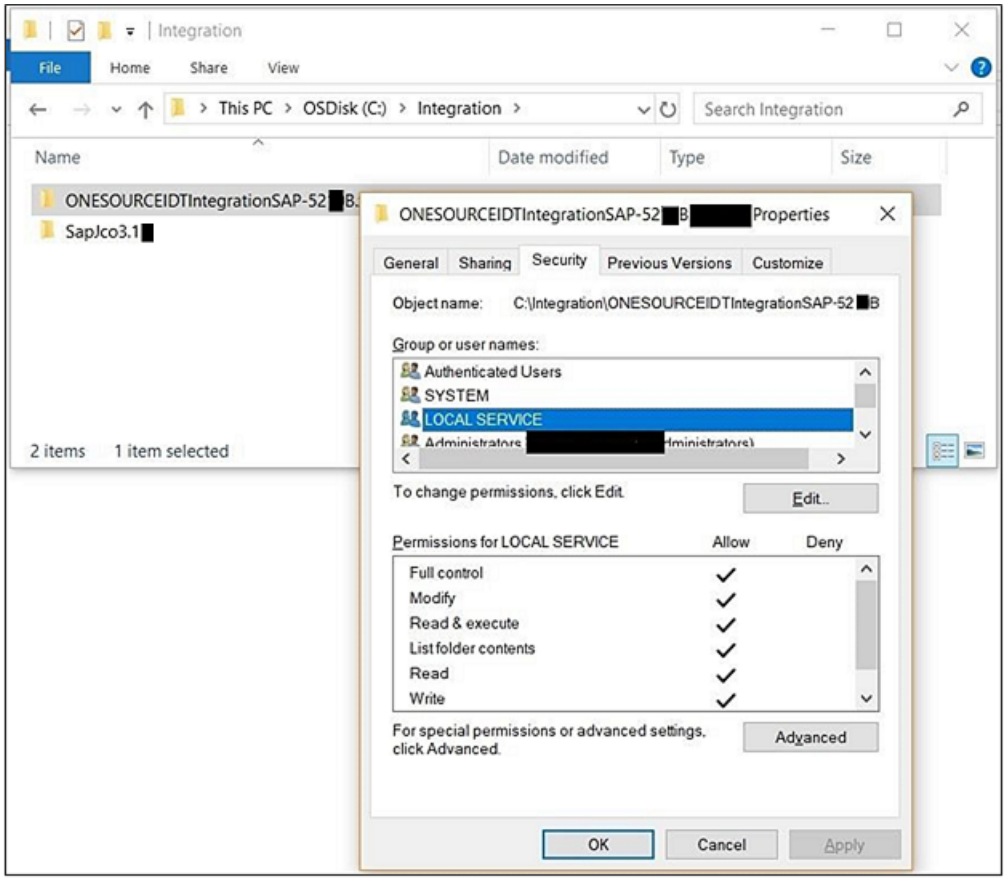
- In the "Permission Entry" window, Select Full Control permission under section "Basic Permissions" and click OK button.



- Click **Apply** button and **OK** button in the window with title "Advanced Security Settings" for installation folder.



- Click **OK** button in the Properties window.



- Repeat the steps for SAP JCO Library install folder.

APPENDIX 4: REFERENCES

• Apache Commons Daemon Procrun

https://commons.apache.org/proper/commons-daemon/procrun.html

• Integration Implemented Apache Commons Daemon Procrun Version 1.2.2

https://downloads.apache.org/commons/daemon/binaries/windows/commons-daemon-1.2.2-bin-windows.zip