AA - R to SAP

This page serves as a platform for connecting to SAP directly from the R studio environment through an RJDBC Connection.

In order to import data from SAP into the R environment you will need to create a SQL script that SELECTS the data needed in the SAP environment. This script is called in the R code below.

Pre-requisites for R

The following Pre-requisites are required on the R front:

Software requirements

Requirement	Description	version
Base R	The Code engine	latest version
R Studio	IDE for Base R	latest version

R Package requirements:

Ensure that these packages are installed before the execution of the R script below. This will ensure that the connection to SAP is successful

Package Name
RJDBC
getPass
DBI
rJava

Below is an example of the 'file_name.sql' script which selects data from a table in SAP:

SQL Query for EI data

```
SELECT
"POLICY_NR",
"YEAR_P",
"DUR_ORIGINAL",
"PREMIUM_TYPE",
"PUP_IND_PRE_IPED_NUMBERS",
"NUB_CANCELLATION_IND_NUMBERS",
"MTT_IND",
"MTR_IND",
"E_RET_IND_PRE_IPED_NUMBERS",
"E_RET_IND_POST_IPED_NUMBERS",
"LNI_IND_PRE_IPED_NUMBERS",
"LNI_IND_POST_IPED_NUMBERS",
"RTF_IND_PRE_IPED_NUMBERS",
"RTF_IND_POST_IPED_NUMBERS",
"N_RET_IND_PRE_IPED_NUMBERS",
"N_RET_IND_POST_IPED_NUMBERS",
"SAVINGS_PROD_NAME_NORM",
"RCURG_PREM_CAMT"
FROM "_SYS_BIC"."bi.user.spf.actuarial.Experience_Investigation.reporting/SAVINGS"
WHERE "SAVINGS_PROD_NAME_NORM" = 'Recurring Premium RA' AND "YEAR_P" = 2022 AND "DUR_ORIGINAL" = 'y01';
```

Below is the code that calls the data from the SAP HANA environment into the R environment, using a '.sql' file:

R to SAP

```
# Packages needed:
library("DBI")
library("rJava")
#install.packages("RJDBC")
library("RJDBC")
library("getPass")

# EI data source is saved in the BIP environment in SAP.

# Set working directory
setwd("C:/Users/...")
getwd()

# Connecting to SAP
jdbcDriver <- JDBC(driverClass="com.sap.db.jdbc.Driver",
                   classPath="C:/Program Files/sap/hdbclient/ngdbc.jar")

# BIP Connection
jdbcConnection <- dbConnect(jdbcDriver,
                            "jdbc:sap://hanabidb.sanlam.co.za:39015/?autocommit=false",
                            getPass::getPass("Enter username: "),
                            getPass::getPass("Enter password: "))

# SQL script call
# Don't forget the '.sql' part of the filename

fileName <- "<SQL_SCRIPT>.sql"
script <- readChar(fileName, file.info(fileName)$size)

# Run this line to increase the memory space in R environment
options(java.parameters = "-Xmx8000m")
dat <- dbGetQuery(jdbcConnection, script)

# Disconnect
dbDisconnect(jdbcConnection)
```