

OA4ERP

Operational Analytics for ERP

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OA4ERP Add-on for IBM Cloud Pak for Data

General Description:

With the Operational Analytics for ERP add-on in Cloud Pak for Data, you can use Cognos Analytics, running on IBM Cloud Pak for Data, to transform your operational SAP ERP data into powerful information.

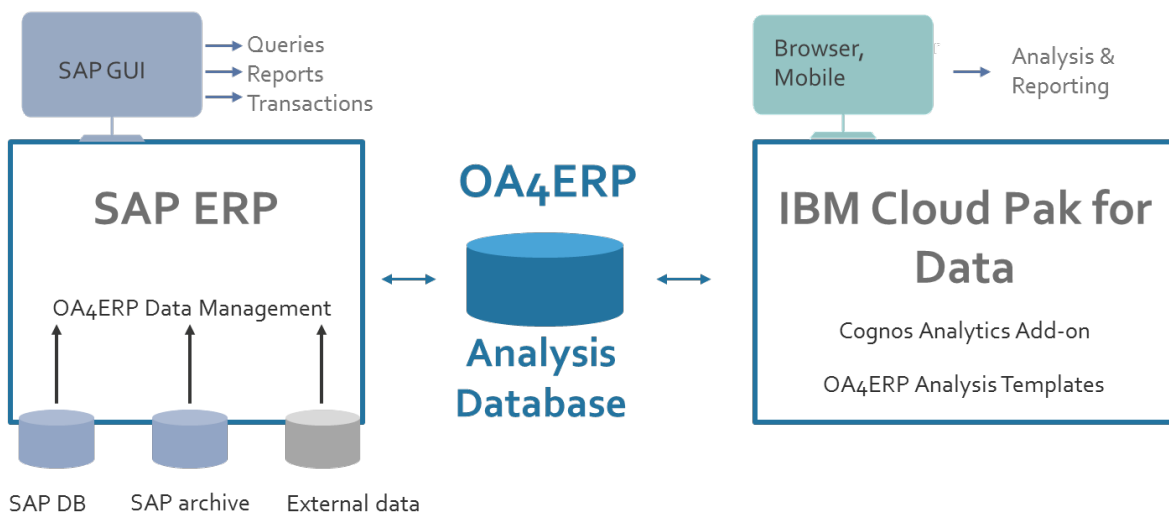
The add-on enables you to easily create and share analyses, reports, and dashboards that are based on your SAP ERP data, archived SAP data, and external data. The add-on also includes a collection of templates that you can customize to meet your specific needs.

The solution is based on three components:

OA4ERP Data Management: SAP data handling and data extraction

OA4ERP database: Analytics database

BI Templates: OA4ERP Analysis Templates



Installation steps:

Outside IBM Cloud Pak for Data:

Data Management installation as add-on into the SAP System

OA4ERP database on separate hardware

IBM Cloud Pak for Data:

Cognos Analytics add-on must be installed

OA4ERP Analysis Templates must be uploaded

Attached you find a description on the installation process for the non-cloud and cloud part.

Part 1:

Data Management installation as add-on to the SAP System



Contents

1. Operational Analytics for ERP	4
2. Service and Contact	5
3. Product Description – Components of the Solution.....	6
3.1 OA4ERP Analysis Database	6
3.2 PBS Modules.....	7
3.3 IBM Modules	8
4. Installation of Components.....	9
4.1 PBS Nearline Analytic Infrastructure (NAI).....	9
4.1.1 Analysis Database IBM Db2 BLU	9
4.1.2 NAI Interface.....	9
4.1.3 NAI Basic Package and supplementary Software Packages.....	10
4.2 IBM Modules	10
4.3 Multilingualism of Components	10
4.3.1 PBS Modules	10
4.4 Authorizations.....	11
4.4.1 PBS Modules	11
4.5 Business Content	11
4.5.1 NAI DRS: Templates for Data Replication	11
4.5.2 Non-SAP/IBM Part.....	11
5. Annex.....	12
5.1 List of Figures.....	12



1. Operational Analytics for ERP

Transform your company data faster and more flexibly into meaningful information. Increase the competitiveness and success of your company with the help of sophisticated planning and analysis processes. These requirements are realized with [Operational Analytics for ERP](#) (OA4ERP) directly in an SAP ERP environment.

You can run the [OA4ERP](#) solution in a classical ERP or in an S/4HANA application. Depending on your needs, data can be analyzed directly from an SAP ERP or via one of the premium Business Intelligence tools, which are an integral part of the solution. [OA4ERP](#) processes operational data from SAP ERP (database + archive). In addition, non-SAP data from external sources, which are becoming increasingly important, can be integrated into the evaluations.

Data is stored in the [OA4ERP](#) database, providing an extremely fast response time for the analysis processes. No load is created on the SAP database.

[OA4ERP](#) can be combined with any SAP ERP version (Business Suite or S/4HANA) and SAP database (anyDB or HANA).

The [OA4ERP](#) solution focuses on the evaluation of operative data. For this, data is replicated from the SAP database or from SAP archive files in the [OA4ERP](#) analysis database or from external sources in the [OA4ERP](#) analysis database. Then they are available for ad hoc evaluations. Extensive analysis can be carried out with very fast response times using the column-based database technology IBM Db2 with BLU Acceleration. A smart data management enables cost savings. Furthermore, there is no need for extensive data warehouse projects for data modeling.

Possible business cases are, for example, correction of data entry errors in the SAP system, data analyses to prevent attempted frauds or analysis of external data, such as POS data.

Finally, using [OA4ERP](#) makes migration from an ERP system to S/4HANA easier. When you consistently archive data, you can reduce any load on your SAP database and thus reduce migration costs. Archived data can be displayed and analyzed via [OA4ERP](#).



2. Service and Contact

Should you have questions regarding the installation, please contact the Service Hotline of PBS Software GmbH.

Within the scope of a valid maintenance contract, you may contact our hotline team with any questions you may have regarding functionality, further development, or specific requirements.

To enable us to provide you the best service possible, please register under: www.pbs-software.com/support. You have direct access to our helpdesk, the solution database and the download area via your personal customer login. With the respective authorization you can download support packages in the download area.

Contact data of the Service Hotline

Phone: +49 - 6251 - 174 110
Fax: +49 - 6251 - 174 174
Email: hotline@pbs-software.com

Manuals

The modular manual of [OA4ERP](#) is composed of partial manuals:

– Part A: OA4ERP Administration and Installation

This manual part A describes the administrative activities to operate [OA4ERP](#).

Should you have questions regarding [PBS OA4ERP](#), please contact the **Service Hotline of PBS Software GmbH**:

Phone: +49-6251-174 110
Fax: +49-6251-174 174
Email: hotline@pbs-software.com

Release Compatibility

[PBS OA4ERP](#) runs with the basis programs of SAP SE in SAP ERP 6.x and S/4HANA.





3. Product Description – Components of the Solution

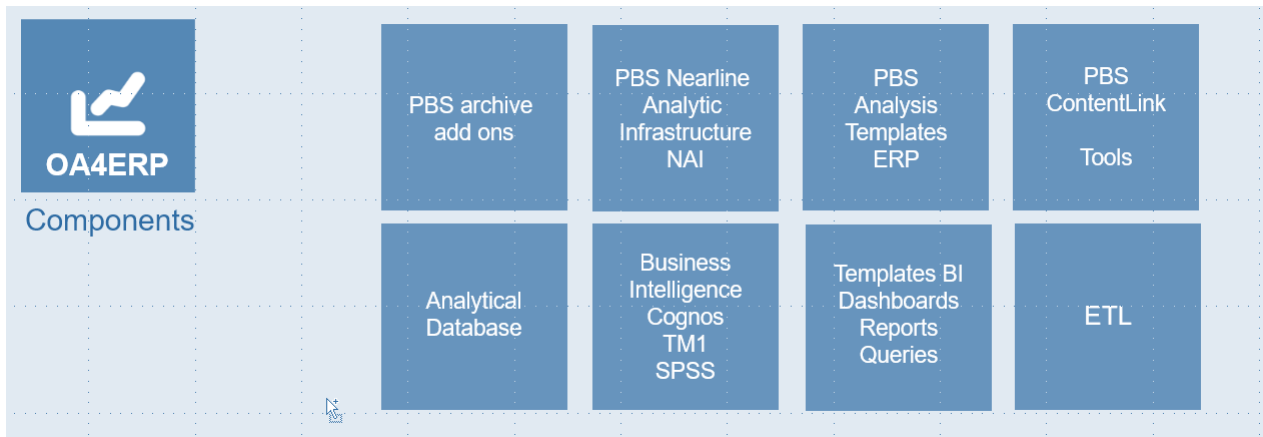


Figure 1: Components

OA4ERP is a modular solution that consists of different components for the data management and data analysis. A prerequisite for this solution is an operative SAP ERP application (SAP Business Suite with release ERP 6.x and S/4HANA).

The solution consists of three component types:

- **OA4ERP** analysis database that is installed in addition to the SAP database and connected with a PBS interface to the SAP system (chapter 3.1).
- PBS modules that have been installed and are operated in the existing SAP ERP system (chapter 3.1).
- IBM modules that have been installed and are operated outside of the SAP system (chapter 3.3).

The minimum requirement for operating the solution is the installation of the **OA4ERP** analysis database and the basic package of the **PBS Nearline Analytic Infrastructure**.

The components are described as follows.

3.1 OA4ERP Analysis Database

The database software IBM Db2 with BLU Acceleration is used as **OA4ERP** analysis database. The OEM license for IBM Db2 BLU is included in the **PBS Nearline Analytic Infrastructure** license. The column-based database has to be operated in addition to the SAP database. The analysis database is only used for processing mass data and is not used for transactional data processing. This way the advantages of the column-based data storage can be used to its full extent for a fast evaluation of large datasets.



3.2 PBS Modules

The PBS modules are the [PBS Nearline Analytic Infrastructure](#) (PBS NAI) and the [PBS archive add ons](#).

[PBS NAI](#) is a software package that allows for a column-based nearline database to be directly used as part of operative SAP systems. Here, SAP acts as the lead system. With the NAI interface, application data from an SAP system can be transferred to the NAI database. Data is analyzed in the NAI database. The result is transferred to the SAP system via the NAI interface

The basic package of the [PBS Nearline Analytic Infrastructure](#) consists of the components:

- NAI database for a column-based and compressed data storage and analysis
- NAI Interface for the connection between SAP system and NAI database
- NAI-M for monitoring and administration
- NAI DRS for the transfer of data from an SAP database or an SAP archive
- NAI-Q for the data analysis

In addition, the following components can be used as needed:

- NAI-AS: NAI Archive Information System as an enhancement of SAP AS for the storage of indices on the NAI database
- NAI-Cxx: [NAI](#) supports the classical [PBS archive add ons](#) as integrated solution. Archived documents can be indexed with [NAI](#). The archived documents are accessed by NAI-compatible access routines of the respective [PBS archive add ons](#).
- NAI-CPOS: PBS solution for storing and analyzing electronic data from cash transactions (POS data)
- NAI-DART: NAI DART Viewer for quick evaluation of data extracts from the SAP Data Retention Tool
- NAI-ADR: Archive Data Review – a tool to detect and correct inconsistencies in archived business data.

The classical [PBS archive add ons](#) provide extended SAP standard transactions and reports that allow end users to access the SAP database, archive and NAI data. They are available for all important SAP modules and cover more than 75 SAP archiving objects. [PBS archive add ons](#) enable you to generate indices for data that was archived using SAP standard tools. The indices allow a performant access to archived data. They are stored either in files or - when using NAI-Cxx modules - in the NAI database. This way, the database is completely reduced from any load and also from index data.

You can see an overview of all available [PBS archive add ons](#) via <https://www.pbs-software.com/en/products.html>.



3.3 IBM Modules

The IBM modules are solutions for the analysis & reporting, planning and predictive analytics. Within the scope of the [OA4ERP](#) license you can use the following products:

- IBM Cognos Analytics for BI and Reporting
- IBM Cognos TM1 for Planning
- IBM SPSS for Predictive Analytics and Data Mining

Advanced data analyses can be carried out with the modules mentioned. A sample content with analysis templates is provided for the analysis. For BI analyses, for example, there are interactive dashboards and story boards. Company data can be planned in a flexible way on different hierarchy levels. Alternatively, MS Excel can also be used as a front end.



4. Installation of Components

The data basis for the analysis and evaluations is in the analysis database IBM Db2 BLU. It is installed on a separate server on premises (chapter 4.1.1). Using the PBS NAI interface, data is transferred to the analysis database from the SAP system or from an external source. Analysis database and NAI interface are components of the **PBS Nearline Analytic Infrastructure**. The NAI interface is installed on the **OA4ERP** analysis database host, also on premises (chapter 4.1.2). Further **PBS NAI** integrated parts are the components for the **OA4ERP** data management and the reporting in the SAP system. They are delivered as final releases and support packages in the form of OCS packages. OCS packages are installed using the SAP transactions SAINT and SPAM (chapter 0).

For more information on the installation of different components, see the following chapters.

4.1 PBS Nearline Analytic Infrastructure (NAI)

PBS NAI consists of three components to be installed separately:

- analysis database IBM Db2 BLU
- NAI interface
- NAI basic package and supplementary software packages

4.1.1 Analysis Database IBM Db2 BLU

The **OA4ERP** analysis database is installed on a separate host on premises. System requirements for the host are described in the PBS NAI Manual Part A2 – Installation Preparation PBS NAI with IBM Db2 BLU (Non-ABAP) –. The installation for the analysis database is in the PBS NAI Manual Part B2 – Installation PBS NAI with IBM Db2 BLU (Non-ABAP) –.

4.1.2 NAI Interface

The communication interface between the SAP system and the **OA4ERP** analysis database is the NAI interface. It is a lean and performant server that enables exchanging data via RFC and JDBC. See the PBS NAI Manual Part B2 – Installation PBS NAI with IBM DB2 BLU (Non-ABAP) – for more details on the installation.



4.1.3 NAI Basic Package and supplementary Software Packages

The NAI basic package and the supplementary software packages consist of OCS packages. They are delivered with a standardized release strategy, meaning as a “Final Release” and “Customer Patch(es)”.

Installation of final releases and customer patches is carried out with SAP standard transactions in the SAP system according to the description in the PBS installation manual (PBS archive add ons. Manual Part A – Installation –, chapter 2 to 4).

Please also see the instructions for the installation in manual Part C – Administration – of the [PBS Nearline Analytic Infrastructure](#). This manual also describes the necessary steps to connect the NAI database to the SAP system (PBS NAI. Manual Part C – Administration –).

Separate manuals are available for administration and usage of the [PBS archive add ons](#). They can be requested via the PBS Service Hotline. Moreover, they are available in the Helpdesk on the PBS website www.pbs-software.com.

4.2 IBM Modules

- IBM Cognos Analytics for BI and Reporting
- IBM Cognos TM1 for Planning
- IBM SPSS for Predictive Analytics and Data Mining

The above mentioned modules can be installed and used either on premises or in the cloud. They are directly connected with the [OA4ERP](#) analysis database Db2 BLU.

4.3 Multilingualism of Components

4.3.1 PBS Modules

The SAP packages of all PBS modules are usually delivered in the languages German, English and French. When using the [PBS archive add ons](#), the PBS Translation Tool is available that can be used to copy text elements of other foreign languages from original SAP programs to the corresponding PBS programs. Text elements and screens as well as interface texts are taken into account.

When replicating data in the [OA4ERP](#) analysis database using NAI DRS, texts such as headers and field descriptions that are available in the SAP system can be taken into account in all installed languages. Then they are available for evaluations with SAP and IBM modules.



4.4 Authorizations

4.4.1 PBS Modules

All PBS modules consider the SAP authorization concept when displaying and evaluating data within the SAP system.

In addition, the authorizations S_ARCHIVE and S_DATASET are necessary to display archived data. For more details see the PBS installation manual (PBS archive add ons. Manual Part A – Installation –).

An extended authorization concept exists to analyze data from the [OA4ERP](#) analysis database using NAI Query that is explained in the manual PBS NAI Manual Part C – Administration – in chapter NAI-Q: NAI Query.

4.5 Business Content

4.5.1 NAI DRS: Templates for Data Replication

Templates for the data replication are available with the component NAI DRS. During the replication of data in the analysis database, these templates are completely prepared for the analysis. That means that the data from the SAP tables is transferred to tables in the analysis database so that you can directly execute queries. Moreover, date and time fields are transformed for the usage in the analytical IBM modules.

For more information about DRS applications, replication objects, and data replication see the manual PBS NAI Manual Part C – Administration – in chapter NAI DRS: Data Replication Service.

4.5.2 Non-SAP/IBM Part

Based on the templates for data replication, analysis templates are provided for the following areas:

- Reporting
- Planning
- Predictive Analytics

Analysis dashboards and reports can be created directly and interactively on the basis of templates and using the available self-service functions.

5. Annex

5.1 List of Figures

Figure 1: Components 6

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Part 2:

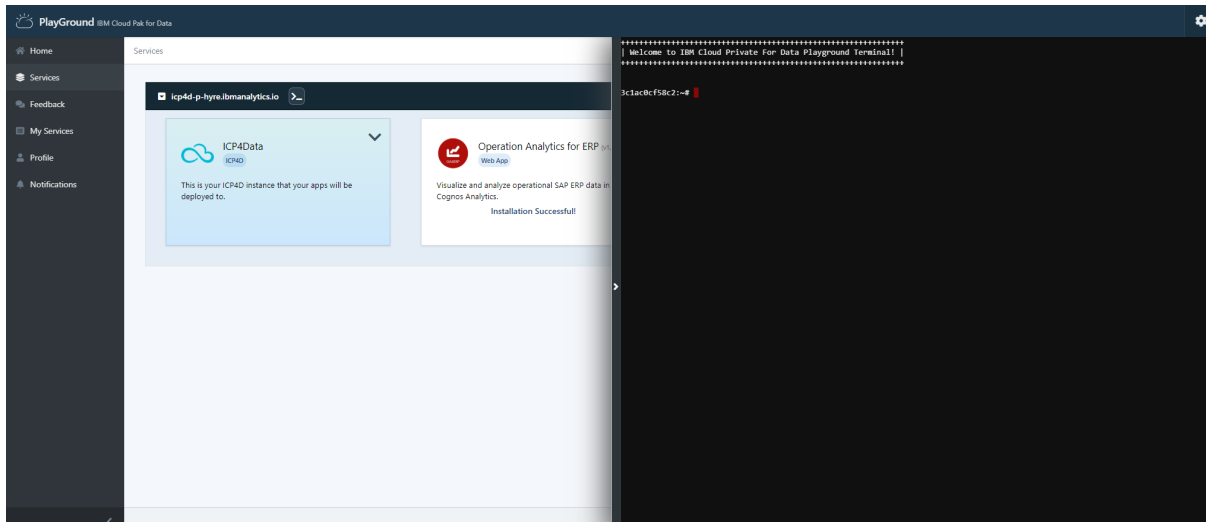
OA4ERP Installation on IBM Cloud Pak for Data

Content:

Installation on IBM Cloud Pak for Data.....	14
Cognos Analytics Administration	15
Import Deployment	16
Create Connection	17
Finish.....	18

Installation on IBM Cloud Pak for Data

Open URL to your IBM Cloud Pak for Data environment (use Chrome) and Login
 In the left menu navigate to “Services” and launch the Terminal “>_”



Enter following commands in the terminal to install the needed files.

Download the oa4erp.sh script

```
wget https://reporting.rsm-consult.de/icp4d/oa4erp.sh
```

Change mode to be executable

```
chmod 755 *.sh
```

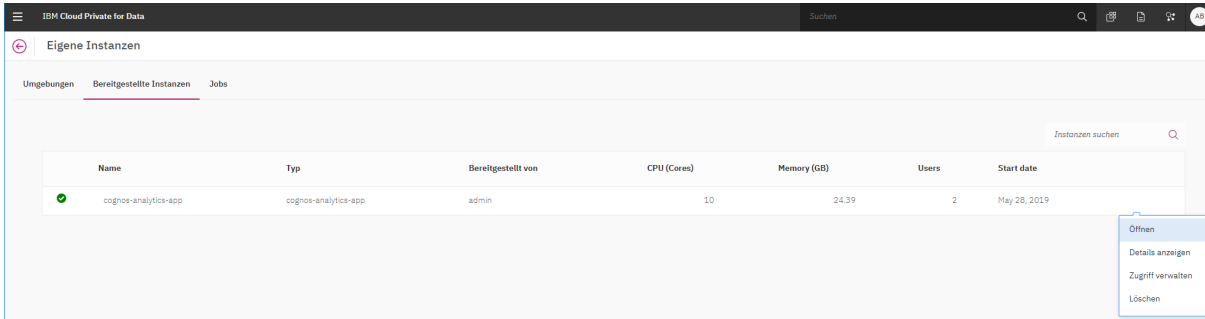
Execute the script

```
./oa4erp.sh
```

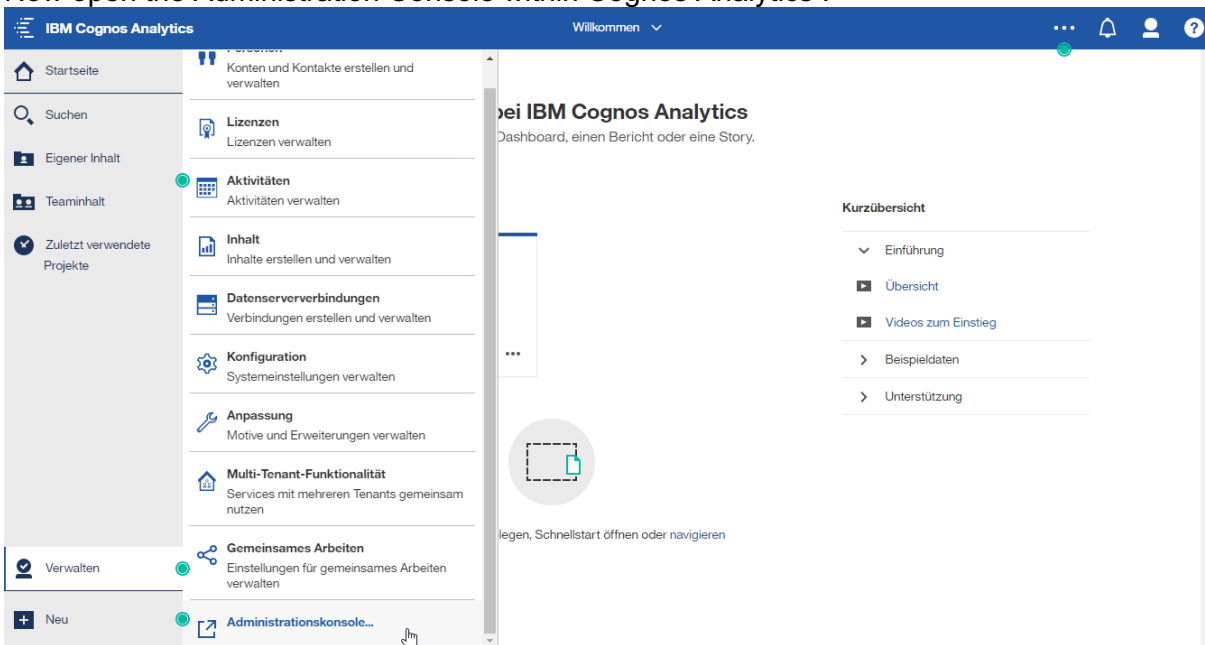
The script will get the latest version of the OA4ERP package and transfer it to the deployments folder on the pod which is currently running the Cognos Contentstore service.

Cognos Analytics Administration

Click on “Launch” from the dropdown of the “Cloud Pak for Data” tile. This will open your “IBM Cloud Pak for Data” homepage. Navigate to your “Instances” and open the “cognos-analytics-app” :

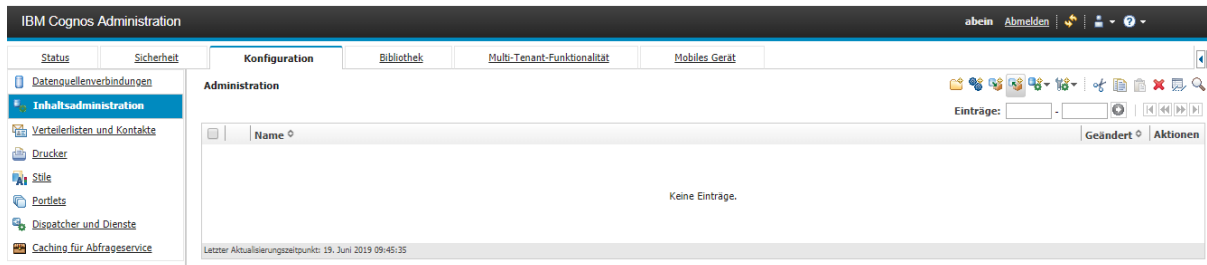


Now open the Administration Console within Cognos Analytics :

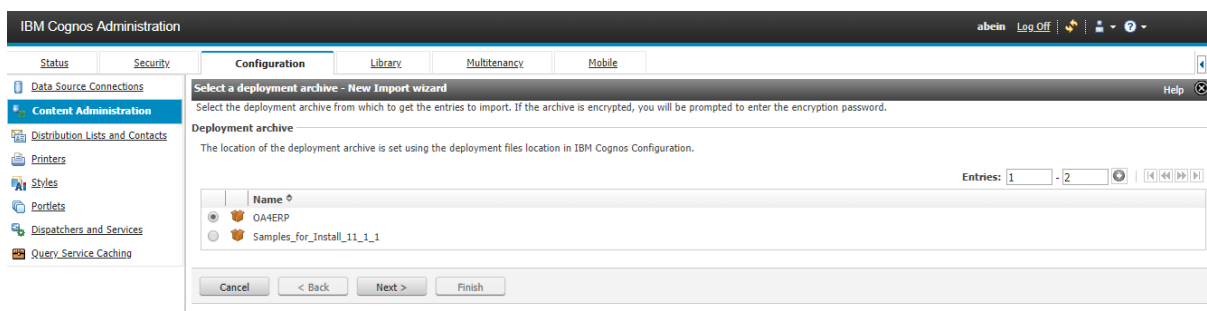


Import Deployment

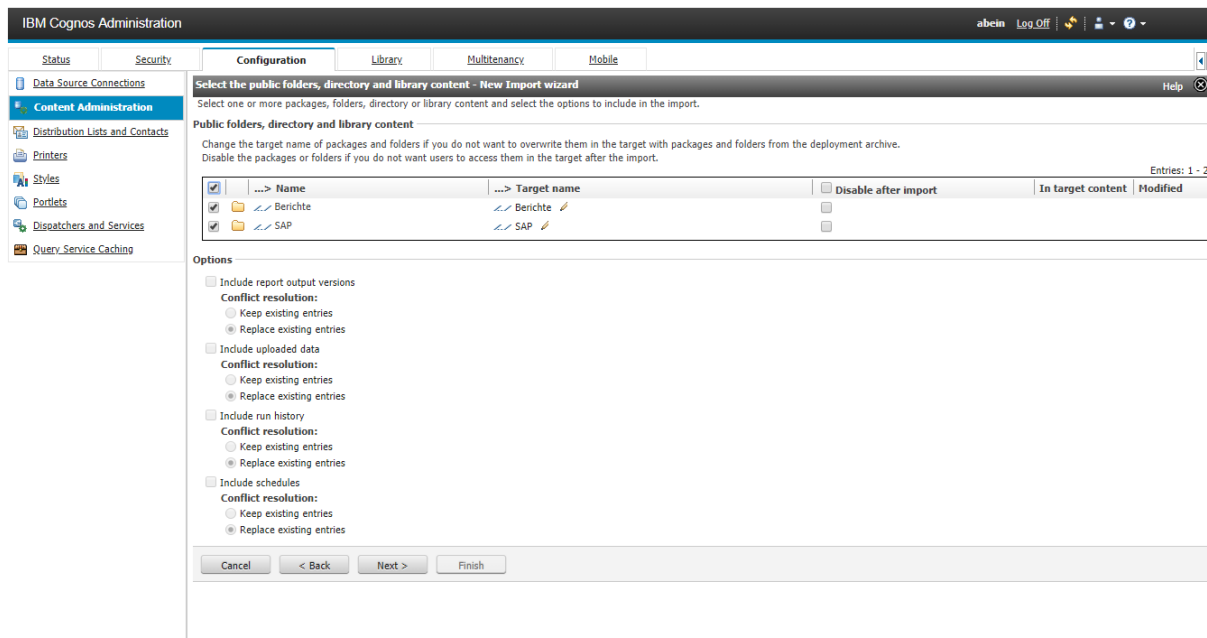
Goto “Configuration” tab on top and choose “Content Administration” on the left. Click on the 4th icon “New Import” in the top-right menu :



Select the “OA4ERP” deployment archive, Next>

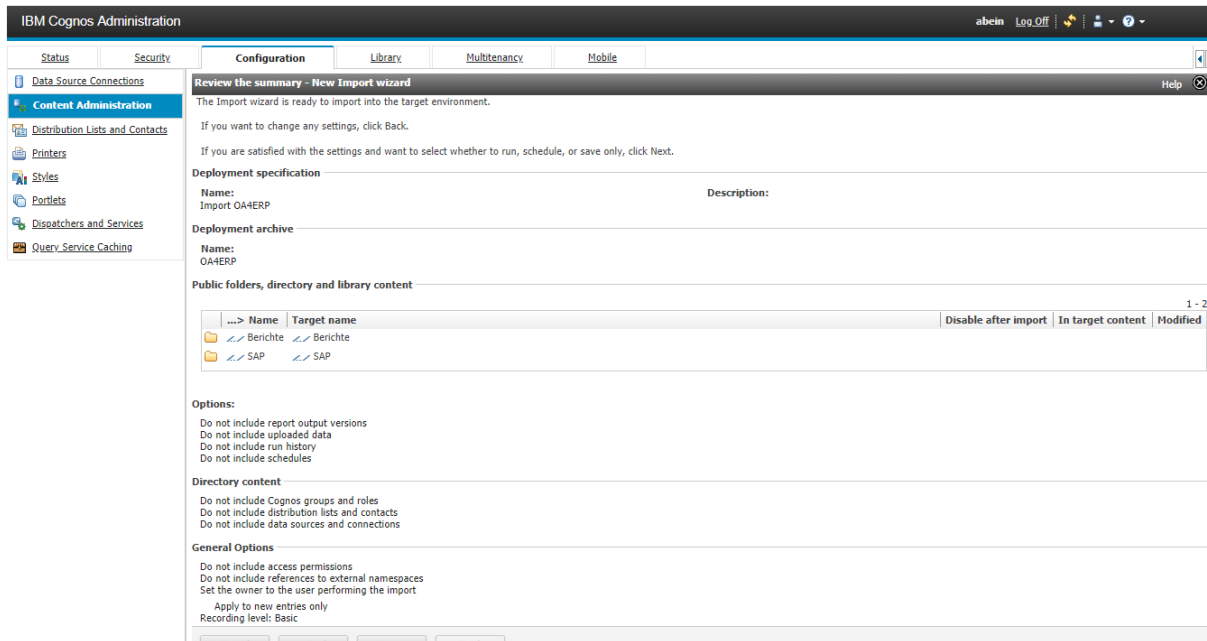


Enter a name (i.e. Import OA4ERP), Next>
Select all content to import, Next>

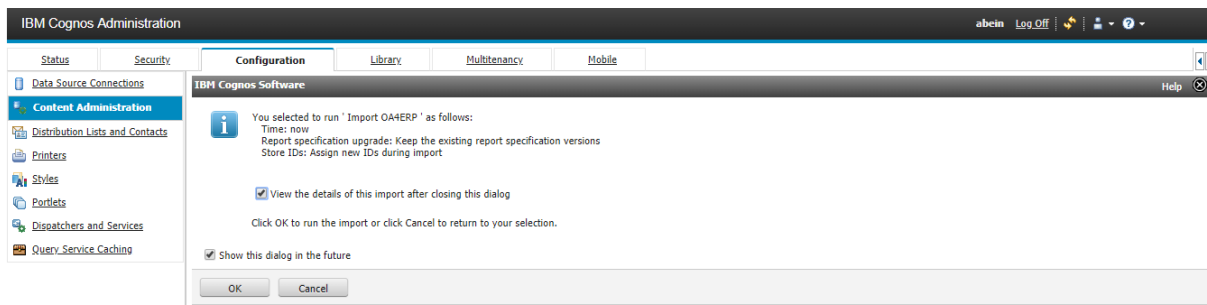


Leave general options to default settings, Next>

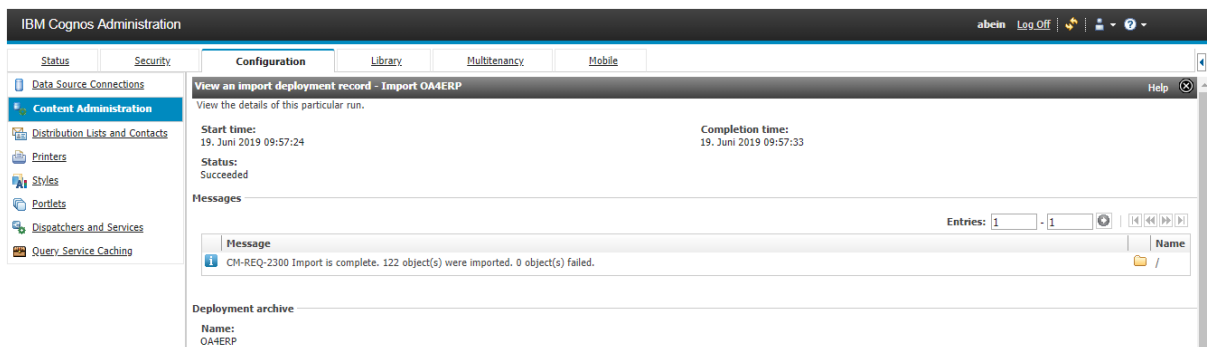
Review the summary, Next>



Choose "Save and run once" for action, Next>
 Leave run options to default "Now" and Run
 Enable to view the details, OK

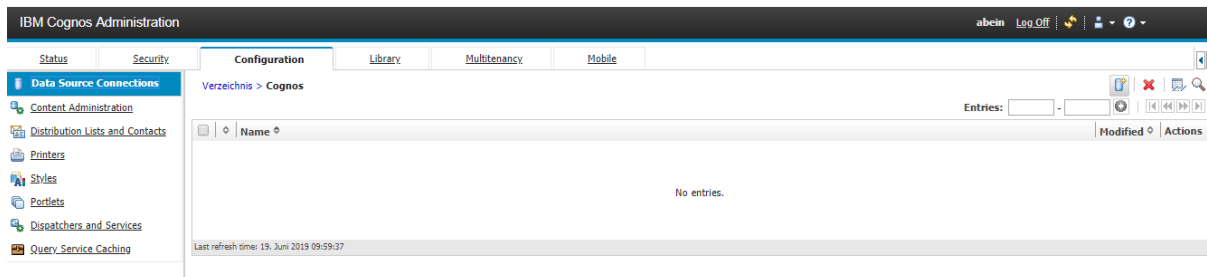


Wait a minute and click "Refresh" in the top-right corner. After the job finished check if all objects were imported without errors :

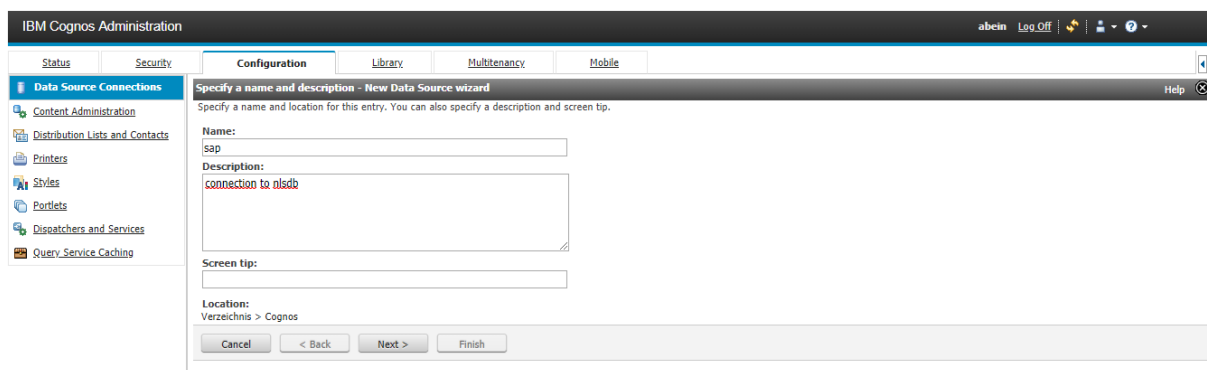


Create Connection

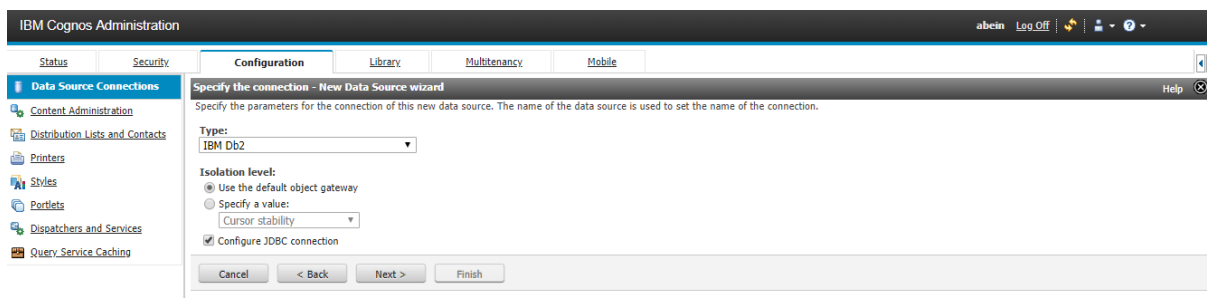
Within Administration choose “Data Source Connections” in the left menu and click on the 1st icon “New Datasource” in the top-right button bar :



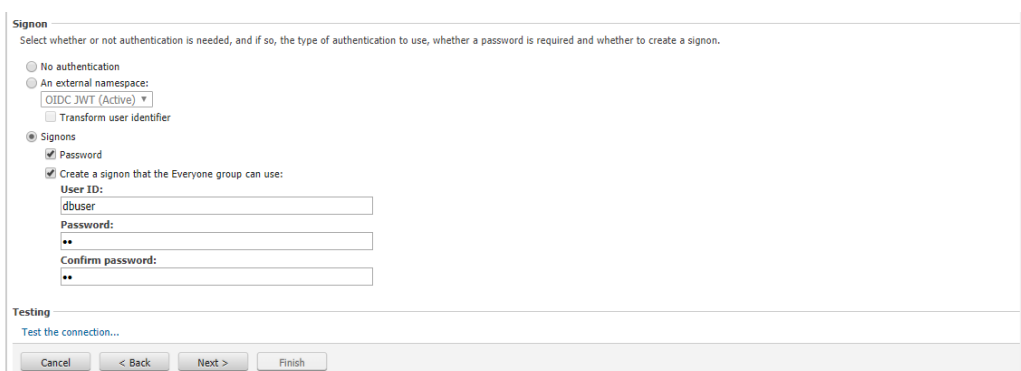
Specify “sap” as Name (using exactly this name is important), enter Description optionally, Next>



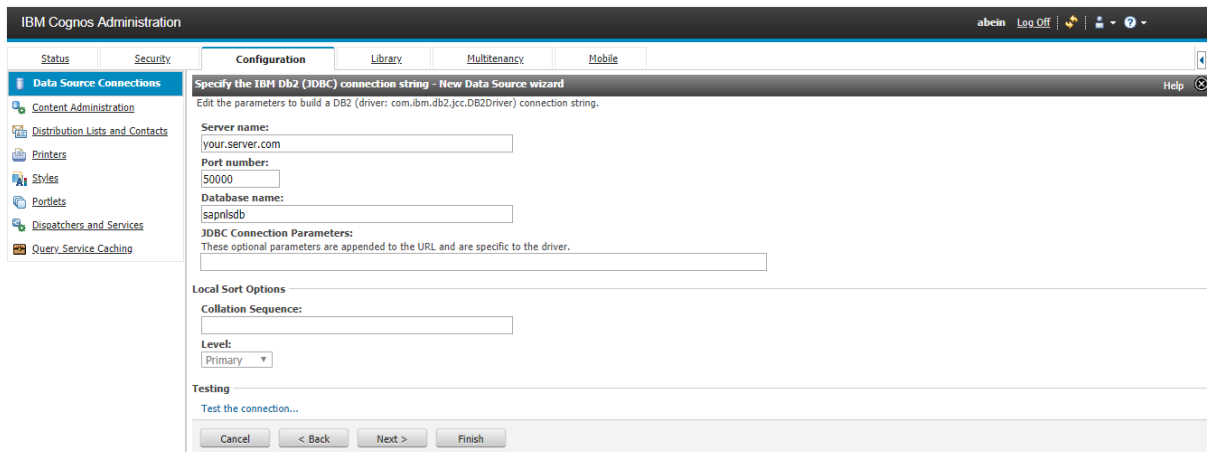
Choose Type “IBM Db2” from dropdown, check “Configure JDBC Connection” to be enabled, Next>



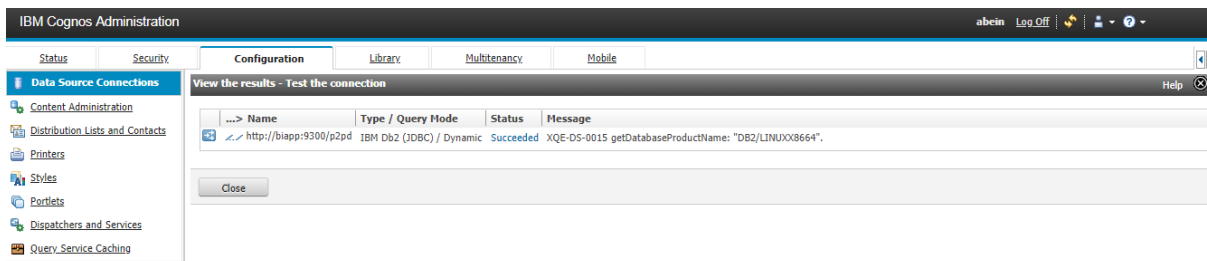
On the lower part in section “Signon” enter your User-ID and Password for the login, Next>



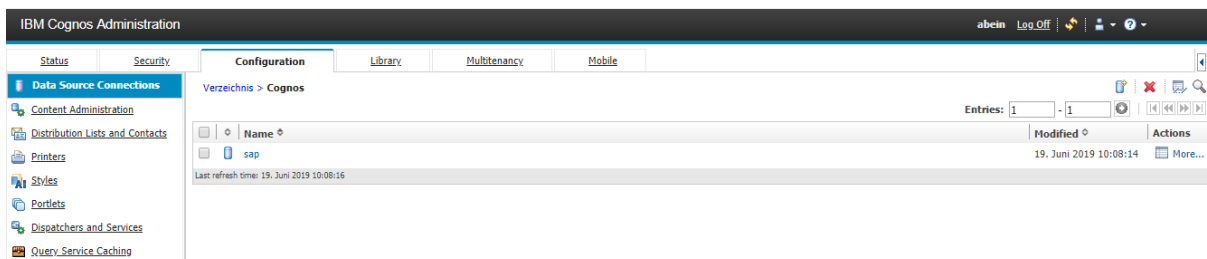
Enter Server, Port and Database for JDBC connection and “Test the connection...”



In the end the results should have Status “Succeeded” like this, then Close the Testresults



After “Finish” you have the connection available like this :



Finish

Your users can start the reporting tools of CA in the cloud accessing the data on premise.