



SAP HANA Data Warehousing Foundation

PUBLIC

SAP HANA Data Warehousing Foundation Tools

Data Distribution Optimizer (DDO) *

to plan, adjust, and analyze landscape reorganizations for SAP HANA scale-out systems

Data Warehouse Scheduler (DWS) *

to maintain dependencies between single processes with the focus to provision data warehouse models

Data Warehousing Monitoring (DWM) *

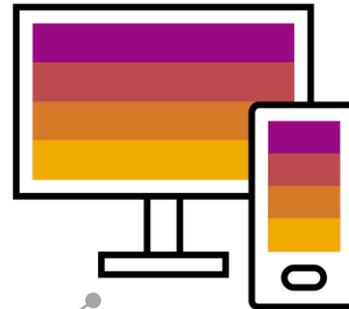
to provide a comprehensive overview about current and past activities in the data warehouse

Data Lifecycle Manager (DLM)

to archive or displace data from a SAP HANA persistency to multi-store tables, HANA Extension Node, Dynamic Tiering, SAP IQ, Hadoop or SAP Vora**

Native DataStore Object (NDSO) *

to support merging of delta data and full data loads into reportable content as well as delta data processing to connected data targets

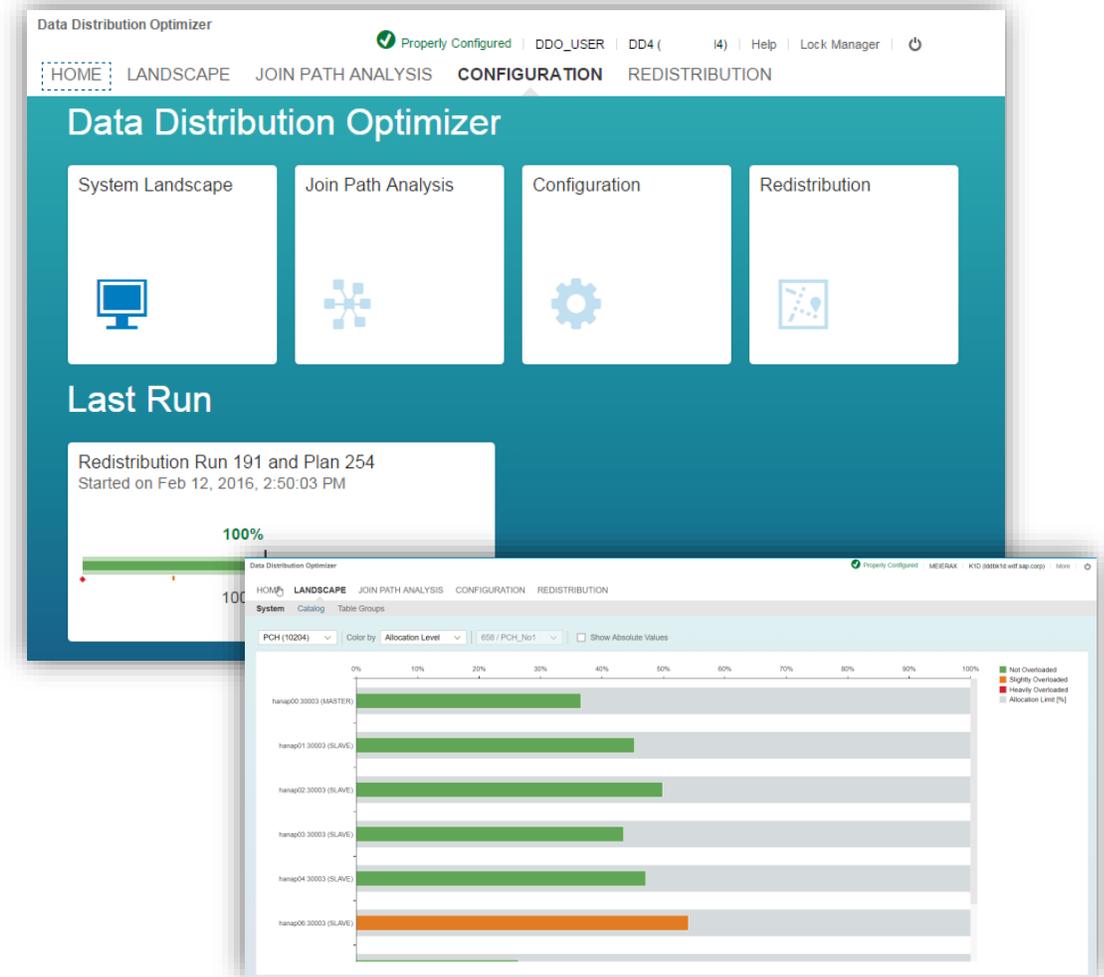


* available with DWF 2.0 SP01

** restricted shipment with DWF 2.0 SP02

Data Distribution Optimizer (DDO)

- SAP HANA Scale-Out Landscape Overview displaying system configurations and data distributions
- Specify different reorganization configurations for different levels of granularity
- Create, adjust, and simulate different reorganization plans to achieve an optimal data distribution in an interactive fashion
- Visualize reorganization plans graphically by comparing the simulations with the actual system landscape
- Export and import reorganization plans across systems (DDO remote mode deployment)
- Analyze reorganization planning steps and logs of planned and executed SAP HANA landscape reorganization runs
- Join path analysis to identify associated database tables in the system and create a proposal for table grouping



Data Warehousing Monitoring (DWM)

- Fiori-style application for (production) system environment w/o access to SAP Web IDE for SAP HANA
- Monitor artifacts, logs, and jobs in a runtime environment of a selected HDI container
- Monitor and schedule task chains executions
- Monitor data lifecycle profiles
- Monitor all Native DataStore Objects according to their execution times
- Display the status of task chains according to their execution times
- Enhanced capabilities for database procedures and DLM related tasks

SAP HANA Data Warehousing Foundation

Monitoring | DataStore Monitor | Task Chain Monitor

Container Explorer

Task Chain Overview

25 of 25 Task Chains | 9 Ok | 7 Error | 0 Aborted | Last Execution Filter | Show All

Namespace	Task Chain	Description	Service	Status	Last Execution At
DataWareHouse.Processes	Load_NDSO_and_Acti...		D031643-9b1djw7lbdy...	Ok	Jan 8, 2018, 4:30:44 PM
DataWareHouse.Processes	Load_NDSO_and_Acti...	This is a simple task c...	dwf_20171208_Extens...	Ok	Feb 13, 2018, 2:16:29 PM
DataWareHouse.Processes	CALL_PROC_WRITIN...		D031852-ez6fnpjulk39...	Error	Feb 28, 2018, 2:14:11 PM
DataWareHouse.Processes	Load_NDSO_and_Acti...	This is a simple task c...	D048584-2rdxgzbtbu17...		
DataWareHouse.Processes	Load_NDSO_and_Acti...	This is a simple task c...	D031852-ez6fnpjulk39...		
DataWareHouse.Processes	Load_NDSO_and_Acti...	This is a simple task c...	D031643-9b1djw7lbdy...		
DataWareHouse.Processes	CALL_PROC_WRITIN...		D031852-ez6fnpjulk39...		
DataWareHouse.Processes	Load_NDSO_and_Acti...	This is a simple task c...	D026118-3tpqy477yu...		
DataWareHouse.Processes	Load_NDSO_and_Acti...	This is a simple task c...	D049409-n9yklopsdru...		

Native DataStore Object (NDSO)

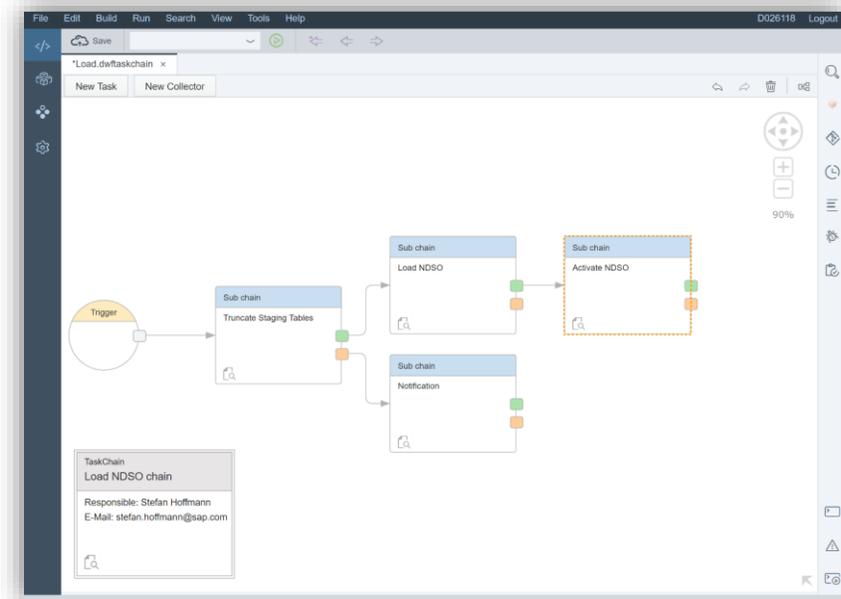
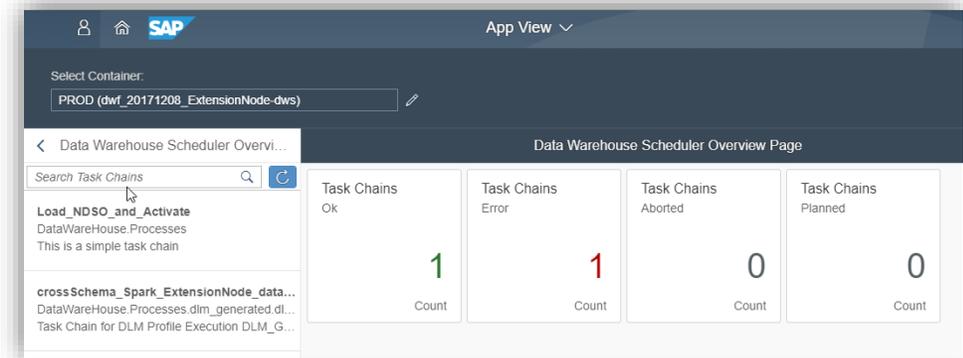
- The NDSO provides request management and delta handling out of the box
- The NDSO is delivered with a user-friendly interface (Web IDE) for load monitoring and request handling features such as roll-back
- The NDSO handles multiple inbound queues to load data from different sources
- The NDSO can be defined in a textual and graphical way
- The NDSO integrates natively with EIM flowgraphs, and with 3rd party ETL
- The NDSO supports the “delta language” of SAP data source extractors

The screenshot displays the SAP Web IDE interface. The top part shows the workspace with a project structure including folders like 'DWF_SIMPLE_DEMO', 'Backend', 'Persistence', and 'NDSO'. The 'Sales.hdbcds' file is selected, showing its content in a table view. The table has columns for 'SalesOrderID', 'OrderDate', 'CustomerName', 'ProductName', 'OrderQuantity', and 'Sales'. Below this, the 'Data Store Overview' section shows a summary of 36 DataStores, with 10 finished, 0 failed, and 0 running. A table below provides detailed information for each DataStore, including Name, Memory, Data Chart, Active Data, Change, Inbound, Last Action, Last Act..., Last Ch..., Status, Subs..., and Sh....

Name	Memory ...	Data Chart	Active Data	Change ...	Inbound ...	Last Action	Last Act...	Last Ch...	Status	Subs...	Sh...
▼ NDSO	24.75 MiB		8.2 MiB	11.41 MiB	5.14 MiB					4	
NDSO::SalesOr...	764.85 KiB		322.87 KiB	394.23 KiB	47.76 KiB	Activate	Jan 31, ...	SBSS_2...	✓ Finis...	0	>
NDSO::SalesOr...	126.33 KiB		30.93 KiB	47.72 KiB	47.68 KiB	Clean Metadata	Jan 17, ...	D031643	✓ Finis...	0	>
NDSO::SalesOr...	190.63 KiB		47.66 KiB	71.48 KiB	71.48 KiB					0	>
NDSO::SalesOr...	459.12 KiB		114.79 KiB	167.88 KiB	176.46 KiB	Load	Feb 26, ...	SBSS_4...	✓ Finis...	0	>
NDSO::SalesOr...	286.44 KiB		47.66 KiB	71.48 KiB	167.29 KiB	Load	Jan 19, ...	SBSS_6...	✓ Finis...	0	>
NDSO::test_nd...	131.3 KiB		24.08 KiB	53.61 KiB	53.61 KiB					0	>

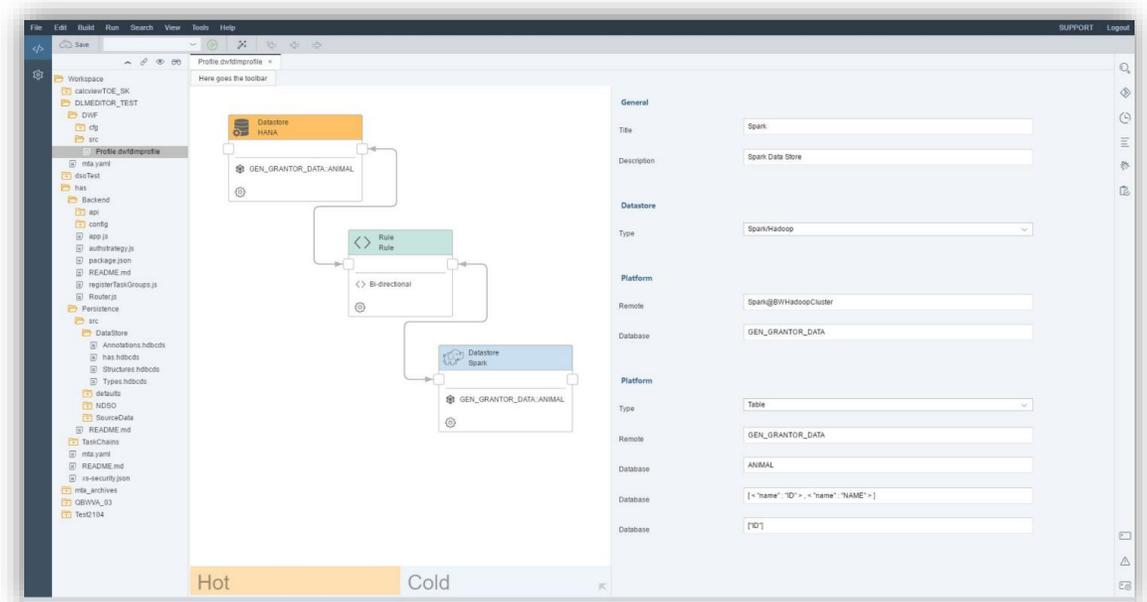
Data Warehouse Scheduler (DWS)

- Embedded in SAP Web IDE for HANA
- Provides a framework to define task chains as a sequences of single tasks
- Flexible start conditions
- Parallelization and dependency handling
- Provides the capability to schedule flowgraphs, NDSO related tasks, project local database procedures and DLM related tasks



Data Lifecycle Manager (DLM)

- Integration to custom-built or insert-only focused SAP HANA applications like IoT & Sensor data (Big Data)
- Modeling aging rules on persistence objects
- Generated pruning node views for optimized access between source tables and target tables
- Modeling relocation rules on remote source tables
- Automated and orchestrated data relocation between data stores
- Scheduling data relocation using SAP HANA task chains
- Generated stored procedures to perform mass data relocation – in and out



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