

erwin DT 9 User Guide

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About this guide

This guide explains how to configure and use the tool erwin Data Transformation, describing the various features and functionality available to the user.

It is recommended that you print this guide so that you can follow the instructions more easily. The guide is designed to be printed double-sided in booklet form.

Document audience

The User Guide is intended to be read by end users who are concerned with getting the most benefit from the erwin Data Transformation implementation.

Document conventions

- **DT** erwin Data Transformation
- **CM** CW Suite Desktop Modeling Suite (aka Corporate Modeler Suite)
- **CE** erwin CW Exchange (aka Corporate Exchange)
- Evolve erwin EA Web Platform
- WF Workflow

Chapter 1

1 Tool overview

DT is aimed at configuring multiple, dynamic data flows, and managing those flows without relying on programming resources, with an easy to use interface to organize them in logically consistent job sequences, to be run on schedule/on demand:

- Extract and transform raw data from third party tools in order to create and update data into erwin CW Exchange repository or into erwin EA Agile workspaces
- Extract data from erwin CW Exchange repository or from erwin EA Agile workspaces in order to update third party tools.
- Configure operation to *run on a schedule*: after the initial configuration and test, the data flows can run automatically with no need for the user to intervene.

From now on, "*model*" refers to data logically organized either into CW Exchange repository or into erwin EA Agile workspaces.

DT can therefore be classified as a tool that enables users to:

- Maintain model data aligned with external sources
 - Get raw data from external data source via adapters
 - o Transform data using XLST Transformation library
 - Map data to the model objects and load into the model
- Export and publish model data
 - o Unload data from the model, using custom filters
 - o Transform data using XLST Transformation library
 - Upload external databases, post data to cloud systems or send files to external folder data to destination

- Manage operations
 - o Back up data
 - Schedule the data flows to be executed
 - Review audit logs
 - Configure email notification alerts

DT offers a number of ready-to-use standard adapters that cover a wide number of integration needs. This enables the application of a standard approach to integration requirements.

To ensure safe data operations, all updating activities are performed using standard APIs, and are preceded by data mapping and consistency checks. A user operation log, e-mail notification, scheduled operation log and system log are also provided (sever errors are notified via e-mail to system administrator).

DT stores all the necessary settings (environment parameters, access control and profiling, job scheduling, workflows, adapter parameters and rules for file handling) in an embedded database (users do not need to interact with this database directly, a tool administrator may do).

User may interact with the tool during workflow testing activities, checking data previews and if necessary, discarding the updates.

2 Licensing

If no valid license is found on the system, the user is required to provide a license key when DT starts.



For offline licensing, a request code must be generated. This window should not be closed until the product activation is complete, as a new request would otherwise need to be generated.

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License Code:				
487701272176430386				
Request Code:				
a861d1#59c09d31aa6803488 5c59ca454c9ac0128c95917d 04800acae(209e90801b3648 080958d45d457b4b0719b18 068a55b5d50e4d8e2a0b10	a90494b30e1ach617b58b88a10a 634800c501804329059c371c45e3 856c9d7a40199a30d0o85976dbae xa7h29973854fc5f2ab7a2d4dc8a2 eb701957507a83ade13409b10902	560c4751a44tb5a6 id7cc45id743ab801 ieata37aa0313a290 Sebcd2e414ce771 24f3a20f493bc8538	052944c5900030540d510 10ax6a086252ca701a0bet 95a1095ee6e1a57a3735 511et3a7051a10d5e25950 c879715%5d08e24297f2e	e0852abe82b64c31ech54eeadt 0bd53525079bc85e8614775b25 742cb2091b0c6e7bt20c8e10b9 05150375461cca4d0c4ce0cf25o 12764e3078bbaec1605e997a7e1
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This code should be sent to erwin support, who will in turn provide an activation code specific to the request. This code should be used to activate the product. The activation code used must be specific to the request code provided to support; generating a new request code would necessitate a new activation code.

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*0				
O Online Activation		 Official 	Activation	
Jicense Code:				
487791272176480386				
Request Code:				
1097/05/05/05/05/05/05/05/05/05/05/05/05/05/	4700a094916602546046 841e47592a0e0370dbce0 1dec5ca8cd8a3823674ec0 e0c4548064b6054a13166 733210aa61d6a7430e303 ea8c76a47e3cdd4d2394f7	da4513688254dd46 a1dde43288279369 2e13d9d764ce334ci 0a0d502344c7e4a ae7b24ca1e530ba35 67705#d8869956ac	9942594237472943741 99454444657405414954 1ac542044514434487 8046248538945655536 54621111ac746145946 c31a3365457965918	D09000e00409090466ec1be36540404 fee8ad802633540380024148De332 560058bbd5a602887bd8234c5741 e254dbc0a020920820c57a94487ad0 445abcaa2a723384aD9144cd55219 878083878214e621eftc0839Db800ac
aodzede2004d9de0c503/9d43970 Actuation Code	1900402886/31ed9aed1	3010008058970829	410130902049061144	090100005140c503740c6877c718797
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	Generate Request	Activate	Exit	

3 Home page

The home page allows the user to select the operation by clicking on the buttons or selecting from the menu at the top of the window.



Operations are logically divided into 2 groups:

• Setting adapters:



• Define model (or workspace) configuration, workflow (data flows) configuration and schedule of the jobs/job sequences.



The same operations are available from the menu bar, as explained in following paragraphs.

1.1.1. File Menu

This menu is used to close the application.

*				
File	Confi	iguration	Tools	?
Ċ	Exit			

1.1.2. Configuration Menu

This menu provides access to add/delete/modify the settings for the following operations:



- Connection Configuration
- Adapter Configuration (DB, WebService or File Adapter)
- Model/Workspace Configuration
- Workflow Configuration
- Job Sequences/Scheduler
- Transformation Library

1.1.3. Tools Menu

This menu provides access to the application log viewer. Additionally the user can reset sequences that are running, reset logs, delete workflow files, backup CC database and import workflow from the CC workflow export file – (see <u>Chapter 9 - Utilities</u>)



"Cloud Environment" and "Reset Cloud Requests" items refer to external environment configuration and operations – See <u>"Chapter 7 - Running DT from Cloud Platform"</u>

1.1.4. Help Menu

This menu provides information and tools:

- Request for Help on a given workflow (see <u>Chapter 9</u> <u>Utilities</u>)
- DT User Guide (PDF)
- License
- About, DT version, build and type of license



Chapter 2

1 Adapters configuration

Adapters are tools used by DT to "GET" data from the external world (databases, web services, folders and files) or to "PUT", or send data to the destination. "GET" adapters can be used as a data source when configuring a workflow; "PUT" adapters can be used as a workflow operation target (see later). Any time a "GET" adapter is created, a job is also created, in order to be scheduled and produce its dataset (triggering all the workflows which use that dataset as source). A "PUT" adapter cannot be scheduled, as its execution is triggered by the execution of workflows using it as target.

1.1 DB Adapter Configuration

Going through this configuration window, the user can set up an adapter to be used as data source or operation target in a workflow. It's possible to:

- Execute a **query** on a specified relational database to use the result set as data source in a workflow
- Execute a **stored procedure** with the proper parameters to use the output file as a data source in a workflow
- Configure a **DB loader** to be used as the operation target in a workflow
- Execute a **query** on a MongoDB database to use the result set as data source in a workflow

The first group of fields in the window is the DB Adapter List, which lists all the DB Adapters available. The second group is the General Parameters, which include the Name, Description, Type and DB Adapter folder; all these fields are mandatory. The third group is the Connection Parameters, which includes all the parameters needed to connect to the Data Base and finally the last group is the DB Adapter Parameters, which describes the query or the Stored Procedure and its parameters.

1.1.1 Add or Modify DB Adapter

To create a new DB Adapter just press the **Add** button and start editing the new adapter parameters.

Alternatively modify an existing adapter, simply selecting from the list – the parameters are always in edit mode.

The name, description, type and folder (used to save intermediate and result files for adapter execution) of the DB adapter are the first fields to enter in the form; then for any type of DB Adapter the user must provide connection parameters and adapter details as described below.

W .			DB Adapter Configuratio	0		
DB Adapter List						
Name			Type	1	DB Type	1d
General Name:*	Descript	on:	Type:		Foider:	
MYSQL CMDB	-	interes and	DB Query	*	C:\Users\Alessio\Documents\ADAPTERS	1.11
Connection Parameters DB Type:		DB Adapter Pa	rameters			
MySQL		Query				
Driver:		SELECT				
MySQL Connector	*	Secce	ID_APPLICATION,			
Server Name:*			TXT_APPLICATION_NA	ME,		
127,0.0,1						
Port Humber:*		FROM	ID_STATE, DE_STATE, MAIN_TECHNOLOGY, TXT_SERVICE_NAME APPLICATIONS_SERVIC	- 4		
Database name:*		WHERE				
test			APPLICATIONS.FK_SER	VICES = TES = S	SERVICE.ID_SERVICE AND TATES.ID_STATE	
User:*					55. W	
root						
Password:						

1.1.2 Connection Parameters

In the Connection Parameters pane the user has to provide all the parameters needed to set up the connection with the database. In order to check if a connection can run correctly, press the **Test Connection** button.

Then, depending on what has been selected in the drop-down list named Type (Stored Procedure, DB Query, DB Loader and NoSQL DB Query) the DB Adapter Parameters section shows the following.

1.1.3 Stored Procedure

When the field "Type" is set to "Stored Procedure", then two other fields are highlighted:

- The field "Stored Procedure name" that has to be filled with the stored procedure name
- The field "Parameters" that has to be filled with the list of all the parameters separated by commas and optionally enclosed by quote (e.g. the same way the stored procedure could be called from outside DT, like a DB Client).

	08	Adapter Configuration						
Name SOGEL_DELTADB_RELAZIONI DI				DB Type	1d			
	DB Query		SQ	, Server	914			
STORED PROCEDURE for SERVICES Stored Procedure			SQ	. Server	315	ē.,		
SVC_CATALOG_D8_LOADER D8 Loader			SQ	. Server	714			
						_		
Name:* Descript		Type:		Folders	-			
1008		Stored Procedure	*	C:/Users/csalans/Documents/ADAPTER5		-		
	Stored Procedure					_		
DB Type: SQL Server								
		Parameters						
	CUTEMP', 'sp_1.csv'							
SQL Server 2005 *								
	-							
	7							
]							
	Descri xos *	DB Query Stored Procedure DB Loader Description: Xxx Stored Procedure Services ToFle Parameters: C:/TEMP', 'sp_1.	Type DB Query Stored Procedure DB Loader Description: toos Stored Procedure ServicesToFie Parameters: C(/TEMP', 'sp_1.csv'	Trpe De Query SQ Stored Procedure SQ Description: Type: loss Stored Procedure Stored Procedure servicesToFile Parameters: C(/TEMP', 'sp_2.csv')	Type DB Type D6 Query SQL Server Stored Procedure SQL Server Description: Type: Folder: Stored Procedure Stored Procedure C:/Usens/csalars/Documents/ADAPTERS	Type DB Type NB D6 Query SQL Server 914 Stored Procedure SQL Server 315 D6 Loader SQL Server 714 Description: Type: Folder: loss [stored Procedure]] C/Users/csslars/Documents/ADAPTERS Stored Procedure [c/Users/csslars/Documents/ADAPTERS] Image: Stored Procedure [c/Users/csslars/Documents/ADAPTERS]		

To be used as data source adapter in DT, stored procedures must produce a CSV file containing a data set; this means that at least two parameters are required (folder as the first paramater and file name as second), so that DT knows and accesses the resulting dataset.

For example, if an external database contains a stored procedure named "servicesToFile", which accepts two parameters "folder" and "filename", then the parameters text area must be filled with the folder path enclosed by quotes.

1.1.4 DB Query

When the field "Type" is set to "DB Query", then the "Query" field is highlighted. In this field, the user has to write the query to be run by the Database.

OB Added at 1 int								
Name		1	Tune		DB Type	65		
MY ADAPTER	_	DB Oserv	1164	08	60 i jue	255		
MY SOL ADD CATALOG		DB Ocary		Med	501	200		
MY SQL APP CATALOG DB Query MY SQL APP CATALOG DISMISSED DB Query		DB Claster		No.		10		
MY SQL APP CATALOG_DISMISSED DB Query				link.	age.	10,		
General-	Descrit	anisan-	Tunar		Evider			
MY SOL APP CATALOG	CEC	PARTS.	DR Overy	-	C:/Users/csalans/Documents/ ADAPTERS	10		
	1.5775		an deed	1.55		-		
Connection Parameters DB Type:		DB Adapter Param	inofen					
MySQL								
Driver:	201	- Query:						
MySQL Connector	+	SELECT						
Server Name:*		ID_APPLIC	ATJON,					
locahost		TXT_APPL	CATION_NAME,					
Port Number:*		DESUK_APP ID_STATE, DE_STATE TXT_SERVI FROM	DESCR_APPLICATION, DE_STATE, DE_STATE, TKT_SERVICE_NAME FROM					
2106	3306 Database name:*		APPLICATIONS, SERVICES					
3306			STATES					
3306 Database name:*		STATES						
3306 Database name:* test		STATES WHERE APPLICATE	ons.fk_service = s	SERVICES.	ID_SERVICE			
3306 Database name;* test User;*		STATES WHERE APPLICATI AND APPL	DNS.FK_SERVICE = S ICATIONS.FK_STATE	SERVICES. I = STATI	ID_SERVICE ES.ID_STATE			
2306 Database name:* test User:* root		STATES WHERE APPLICATS AND APPL	DNS.FK_SERVICE = S ICATIONS.FK_STATE	ERVICES. = STATI	ID_SERVICE ES.ID_STATE			
2306 Database name:* Cest Usen:* root Pasaword:		STATES WHERE APPLICATI AND APPL	ONS.FK_SERVICE = S ICATIONS.FK_STATE	SERVICES.	10_SERVICE ES.10_STATE			

In order to check if the previous DB query is written correctly, press the **Test** button. This opens a new window that contains the result set obtained from running the adapter.

The result set is paginated in groups of 50 records. Use the side window arrows to go up and down the list.

2			Adapter Preview			
Adapter Preview.						
MY SQL APP CATALOG						
ID_APPLICATION	COD_APPLICATION	TXT_APPLICATION_N	DESCR_APPLICATION ID_STATE	DE_STATE	TXT_SERVICE_NAME	ł
16	H05	Maling List	index_definitions_depl0	Production	Mailing Lat (T06)	P
B)	1.98	IP Phone System	The privilary objective6	Production	VOP wc (H65)	1
	(533	Fleet Management	9	Dismased	Repository (B31)	
	872	SAP Financials	It is based on the sta 6	Production	SAP SVC (L13)	1
A.	A23	iOnder to Cash	The new version's sig 6	Production	Sales and Customer 5	
	W32	Stock Control System	6	Production	Workflow4logistic (C12)	j.
7	A65	Project Management	3	Test	PPM service (P09)	1
8	C50	EA Repository	6	Production	Repository (B31)	
3	K51	Order Processing Syst	8	To be demosed	ERP Service order pro	1
0	T43	Customer Care System	The Customer Care a 6	Production	Sales and Customer S	
9	(99	Who's Who	Assassas whether a gi6	Production	Sales and Customer 5	1
A.						1
					Page 1 of 1 (1	10
					Exit	

1.1.5 DB Loader

When the field "Type" is set to "DB Loader", then the entire DB Adapter Parameters section is disabled. All the mapping parameters between source and target data structure, needed to upload a table in the externals database, will be provided in the workflow operation configuration (see later).

For every type, to save the new DB Adapter just created, press the **Save** button. The adapter will be saved and added to the DB Adapter List at the top of the window. Only if the Test Connection (and query execution, for that type) have valid results, the DB Adapter will be saved.

To cancel the adapter data just entered and to reset the window, press the <u>Cancel</u> button.

To delete an existing adapter, just select it and press the button. It will be permanently removed from the DB Adapter List. Please note, all the items linked to the deleted DB adapter (job and workflows that use it as source) are also removed.

The **Exit** button closes the window.

1.1.6 NoSQL DB Query

When the field "Type" is set to "NoSQL DB Query", then the "Query" field is highlighted. In this field, the user has to write the query to be run by the MongoDB Database and MongoDB item is selected in the "DB Type" dropdown list. The query must be written using SQL syntax; examples of supported SQL functions are:

- select object.key1, object2.key3, object1.key4 from my_collection where object.key2 = 34 AND object2.key4 > 5
- select * from my_table where date(column,'YYY-MM-DD') >= '2016-12-12'
- select * from my_table where date(column,'natural') >= '5000 days ago'
- select * from my_table where regexMatch(column,'^[ae"gaf]+\$') = true
- select distinct column1 from my_table where value IS NULL
- select * from my_table where value LIKE 'start%'
- select column1 from my_table where value IN ("the Value1", "the Value2", "the Value3")
- select column1 from my_table where value NOT IN ("theValue1", "theValue2", "theValue3")
- select column1 from my_table where column = true
- select borough, cuisine, count(*) from my_collection WHERE borough LIKE 'Queens%' GROUP BY borough, cuisine ORDER BY count(*) DESC;
- delete from my_table where value IN ("the Value1", "the Value2", "the Value3")

M Advantur Link								
Name		T.			1	DB Type	34	
local mineralida		Type NoSQL DB Query NoSQL DB Query		likus :	Ma	and type	70	
local mongood					Mo	ngobe ngoDB	93	4
total mongooo_test.		DE	Ouers		Mir	rnsoft SDI Server	70	-
vear we		1975	, daeit		1 Press	and and a series	11.2	15
Seneral Kame:*	Desc	riptio	nc .	Type:		Folder:		
iscai mongodb		-		NoSQL DB Query		s/Administrator/Documents/Adapter Folder	T	22
Connection Parameters		-	DB Adapter Parame	ters				-
DB Type:			Use SQL to query y	our MongoDB collection	a			
MongoDB	12	1	Query					
Driver;	1	-1	procession				-	
MongoDB Driver	3	•	select					
zonnection string." mongodb.//127.0.0.1.27017			restaurants where name like "%5Kosher%"					
Jatabase name:"								
test								
fou can hide your paseword using «PADDW videard inside Connection String specifying t selon Password:	ORD-> the real one							

In the Connection Parameters, user is asked for: Connection String, Database name and Password. For local connection, Connection string is usually *mongodb://127.0.0.1:27017*, while for cloud connections, Connection String can be automatically retrieved from the Connect button inside MongoDB web console. Connection String samples are:

mongodb://myusername:<PASSWORD>@cluster0-shard-00-00pncrc.mongodb.net:27017,cluster0-shard-00-01pncrc.mongodb.net:27017,cluster0-shard-00-02pncrc.mongodb.net:27017/admin?replicaSet=Cluster0-shard-0&ssl=true

and

mongodb+srv://myusername:<PASSWORD>@cluster0pncrc.mongodb.net/test The user can replace <PASSWORD> wildcard with the real one or can keep <PASSWORD> wildcard in the Connection string and provide the encrypted password in the "Password" field.

1.1.7 DB Metadata

Setting the "Type" field to "DB Metadata" allows metadata to be retrieved from an SQL databases.

If the "Connection Parameters" are valid, clicking the <u>Connect</u> button will result in options being displayed for filtering the results by catalog name, schema, table name, and/or table type, as appropriate to the database type and requested metadata type.

		007	confront Considered	(1999) (
DB Adapter List								
Name			Туре			DB Type	ld	
Metadata - MySQL - Table	D	8 Metadata			MySQL		111	1
Metadata - ORACLE - Table	D	B Metadata			ORAC	LE	112	
Ceneral								
Varme:*	Descrip	tion:	7	ype:		Folder:		
Metadata Adapter		DB Metadata		ta		C:\Test Data\TEST	-	E
Connection Parameters		Metadata Option	8					
D8 Type:		Table	-	*			Connect	
PostgreSQL	-	-harmon -		and a			Annelistation	
Driver:		dydrental		public				
Postgre5QL	-			- photo-color				
Server Name:"		TABLE	+	All Tab	les			
localhost								
Port Number:* 5432								
Database name:*	-							
dvdrental								
Usen*								
User:* testuser								
User:" testuser Password:								

If the a connection cannot be established, clicking the **Connect** button will result in a "Connection Refused" message being displayed.



The first 50 results can be previewed by pressing the button.

5		Adapter Preview	6		
Adapter Preview					
PostgreSQL Example					
Database	Schema	Table Name	Table Type	Decription / Remarks	05
dvdrental	public	actor	TABLE		
dvdrenital	public	address	TABLE		
dvdrental	public	category	TABLE		
dvdrental	public	oty	TABLE		
dvdrental	public	country	TABLE		
dvdrental	public	customer	TABLE		
dydrental	public	film.	TABLE		
dvdrental	public	film_actor	TABLE		
dvdrental	public	film_category	TABLE		_
dvdrental	public	inventory	TABLE		
dvdrental	public	language	TABLE		
dvdrental	public	payment	TABLE		
dvdrental	public	rental	TABLE		
dvdrental	public	staff	TABLE		-
dudrental	public	istore	TABLE		
dvdrental	public	actor_info	VIEW		
dvdrental	public	customer list	VEW		
Andreastral 4	- Aber	Was be	108-141		1
				Page 1 of 1	(1-22)
				Exit	

1.2 Web Service Adapter Configuration

Going through this configuration window, the user can set up an adapter to execute a connection with a known Web Service.

	Web Se	rvice Adapter			
┌Web Service Adapter L	ist				
1	Name	Descriptio	ld		
BMC ADDM - Hosts		sd		1137	
Global Weather		dfsdfsd		616	
My RSA Risk Report		dasd		1138	
My Smartheet Adapte	er for Projects	sadfasf		679	-
Web Service Adapter F	arameters	-		<u>.</u>	
My Smartheet Adapte	er for Projects				
Description:					
sadfasf					
Adapter Folder:					
C:/Users/csalaris/Docu	ments/ADAPTERS				
Web Service URL:					
https://app.smartshe	et.com/b/home				
Operation:					
READ_SHEETS					
Name	Value	Multi Value	Li	st	
Sheet name	My Smartsheet Integ	NO	NO		
Add	Mod	ify	Delet	e	
				Exit	

The first group of fields in the window relate to the Web Services Adapter List, which lists all the available adapters. For each adapter selected in the list, the Web Services Adapter Parameters fill the second group of fields, which describe the Web Service connection parameters and the third group of fields show the expected input parameters for the execution of the adapter.

When adding a new one, it's possible to choose between:

• **SOAP** Web Service

• **REST**/others specific adapters, from supported third party systems

1.2.1 Add or Modify SOAP Web Service Adapter

To create a new adapter just press the **Add**, and select "SOAP Web Service" in the following popup:

Web Service Configuration
Create a new Web Adapter
New from black options
SOAP Web Service
REST/Others Web Service
<choose type=""></choose>
O New - copy from
▼
OK Exit

To modify an existing adapter selected from the list, press the Modify. An editing window pops up.

The same pop up window applies in both cases. The fields will be empty if the user is creating a new adapter. The same fields will contain data, if the user is going to modify an already existing adapter.

The first group of fields concern the WDSL Parameters while the second group allows the user to specify login parameters, if required.

The first field contains the URL of the WSDL file that should apply for the Web Service. The side button of the first field allows navigating into the file system and selecting the WSDL file from a local path.

Should the Web Service require a login (username and password) to the WSDL server, a flag in the checkbox Login required will enable the related fields allowing entry of the credentials. Please note that this authentication only applies to the WSDL server and not to the web service operation – operation authentication is not supported at the moment.

Web Service Configuration	
rWSDL	
WSDL URL:	
http://www.webservicex.net/usweather.asmx?WSDL	
Select the WSDL file from a local path or from a URL	
Password:	
< Previous Next >	
	Exit

The Next > button steps into the next window that shows all the available operations of that Web Service.

Web Service Configuration	
eration	
elect an operation	
jetWeatherReport 🔹	
	_
dapter Name:	
VS Adapter	
escription:	
VS Adapter description	
dapter Folder:	
C:\Users\Alessio\Documents Browse	
	- I .
A Demoisson Handa b	
< Previous Next >	
Exit	

The first field of the window is a drop-down list that contains a list of the operations available for the selected Web Service.

After selecting the desired operation it is required to enter a name and a description for the adapter in the appropriate fields; the user must browse the file system for the adapter folder (used to save intermediate and result file for adapter execution).

The next button steps into the next window that allows the user to choose the values for the Web Service parameters.

If the Web Services has no parameters the user can leave the fields empty in the following wizard window.

F	Web 361	ee comgaradon	
Туре	Attribute Name	Attribute Value	isList
class java.lang.String	ZipCode		false
Name: ZipCode		Multi value	with newline separator
00144			Enter
00111			
			Modeler Objects
	< Previous	Test	Save

The first field shows the list of the Web Service parameters, as read from the WSDL:

- Type of parameter (Type),
- Attribute Name (Class Name),
- Attribute Value (Value),
- Capability to accept list of values, as defined in WSDL (isList)

For each of the shown parameters, a value can be entered into the multiline text field, while the parameter is selected in the list above.

The **Enter** button sets the entered data.

If a parameter is actually a list of values (column "isList" is true), then the user is required to optionally enter different values, separated by a new line (one per row). In this case, DT will call the Web Service only once, passing to it the multi-line string, containing the different values. If a parameter natively does not allow a list of values (column "isList" is false), but the user needs to pass more than one value to the Web Service call, selecting the option Multivalue with newline separator, the user is allowed to enter a list of values for the selected parameter, even if "isList" is false, with the new line as a separator.

DT will then perform all the implied calls (as many times as the number of desired values in the list) to the Web Service at the scheduled time, by scheduling just one job.

Pressing the **Save** button will save all the changes made in the window.

One common application may be extracting information from **MS SharePoint Lists, for on premise deployments.** In this case, the user could configure a web service adapter to read GetListItems operation from the Lists web service, specifying as a parameter the name of the list to get data from.

marked 5	August - Caller	Competence - 1, 3, 5 P	<u>Š</u>		Web Service	Configuration	(_
ATR.	17	Raichen Sadell	EN L	/SDL				1
_	R	Owy 1						
NO. 214 1-14	18	Accessif Territy, 3	1	WSDL URL: https://win-60ppalbbul4/sites/s	vous/ uti bis/Lists asmv	24/50		
Manufa din		The second				WDDL		
All the Darland	5 9 6	Statement in a subscription		Select the WSDL file from a lo	cal path or from a URL			
	1.4	Bacillar's F	1.					
	Ś		W	eb Service Configuration				
	Opera	tion .				2		
	Opera	aon						
	Sele	ct an operation		<u>.</u>	Web Se	ervice Configuration	F	(
	Getla	stitems						
	Linner	And the Real Processing of the Procesing of the Processing of the Processing of the Processing of the						
	Contraction			Туре	Class Name	Value	isList	
				Type class java.lang.String	Class Name	Value	isList false	
				Type class java.lang.String class java.lang.String	Class Name listName viewName	Value	isList false false	
				Type class java.lang.String class java.lang.String class com.microsoft.sch	Class Name listName viewName guery	Value projects	isList false false false	
				Type class java.lang.String class java.lang.String class com.microsoft.sch class com.microsoft.sch	Class Name IstName viewName query viewFields	Value projects	false false false false	-
				Type class java.lang.String class java.lang.String class com.microsoft.sch class com.microsoft.sch class java.lang.String	Class Name IstName viewName query viewFields rowLimit	Value projects	isList false false false false false	
				Type class java.lang.String class java.lang.String class com.microsoft.sch class com.microsoft.sch class java.lang.String class com.microsoft.sch	Class Name IstName viewName query viewFields rowLimit queryOptions	Value projects	isList false false false false false false	

After configuring the adapter, users can use it in any workflow as a source, applying for source normalization the provided parser *GetListItemResponseParser* (which may be customized in terms of extracted properties, if needed), so that the list content can be used in an end to end operation.

6				Work	Row Configurate	a		
1. GENERAL II	NFO T	2. CHOOSE SOU	RCES IN	3. TRANS	FORMONTA	1. OPERATION MARGET 1 5. SAVE	WD TEST 🛩	
Configuration:		Workflow	6111 NCTE (416)			Washflew folder:	1000	1
ALL THE HOUSE		a he year	Normalized Street			Tel til ener Lichaumertaussrenssenskenskensken	1 EUM (2314)	
IT PROBETS			Description:					
think context .		- Electronic March March	Hollowing C					
te source	es	INS ADAPTER	· Name Share	pont List - IT Pr	gect	• Topi III Commer 🖉 🔥	Remove	
1 BharapointLis	I-ITP	GatuiMemsRasponsePa	rier			Apply	Reat	
		Source Fields	4.7					
• Trenshimatio	orts	Level Moderator/Datus Adactoments					•	
* COMPERING		Country Constant Concept Resolutions Environme						
	ID.	Title	Manager	Created	Criticality	Description	End Date	Resources
Operations	1	Incident Management Optimization	Mr. Scott	2016-01-08 17:49-51	High	This project covers the incident level 5 management city, Objectives: - Guarantine a better incident record by the Call Center - Ensure the tracking between the creation, the management and the closing of the incident	2016-04-22 00:00:00	
Add	2	Unloading Process Optimization & Compliance	Mrs. Ross	2016-01-08 17:53:13	Low	The Unixeding Process Optimization & Compliance project aims at applying some changes on the Unineating Process in andra to - Reduce the truck queue on the unloading dock and their, manage all the delivery - Comply with a Security & Safety Audit.	2016-04-23 00:00:00	
			the second se	the second s			COLUMN TWO IS NOT THE OWNER.	

1.2.2 Test Web Service Parameters

Before saving the Web Service adapter, the user can test it. Pressing the **Test** button will open a new pop-up window and the XML SOAP response resulting from the Web Service call is listed.



The **Exit** button closes the data preview window and goes back to Web Service configuration form.

If you have not saved before testing the Web Service Configuration, remember to press the **Save** button, before leaving the parent window and all the entered parameters will be stored into the DT databases.

1.2.3 Add or Modify REST/others Web Service Adapter

To create a new adapter just press the **Add**, and select "REST/Others Web Service" in the following popup:

- Create	a new Web Adapter ew - from blank settings		
(SOAP Web Service		
(REST/Others Web Service		
	<choose type=""></choose>	-	
0 N	ew <choose type=""> BMC Discovery RSA Archer</choose>		•
	new ServiceNow		1
	SmartSheet		Exit
5	Ol Veracode		5
	Ceneric data provider - CSV		ORGANIZE

To modify an existing adapter selected from the list, press the **Modify**. An editing window pops up.

1.2.4 BMC Discovery

To use the adapter for **BMC Discovery**, fill the field "Web Service Home URL" with the SmartSheet home page URL you want to connect to. Then provide the **username** and **password** for a valid BMC Account or an **access token** to connect. To generate an access token, please refer to BMC Discovery System Administrator

ŧ.	Web Service Configuration	
Web Service Home UP	۲L:	
https://discovery.bn	ic.com	
○ Account	Access Token	
Access Token:		
OTNmMilbNDY0MDNr		VZkY2VmM2Y2OGVk

The button steps into the next window that shows the available operation of that Web Service, which is "QUERY DATA", allowing users to query all data stored in user worksheets.

	Web Service Configuration
Operation	
Select an operation	
QUERY_DATA	•
Adapter Name:	
BMC ADDM - Hosts	
Description:	
Get Hosts infos	

After selecting the desired operation, it is required to enter a name and a description for the adapter in the appropriate fields; the user must browse the file system for the adapter folder (used to save intermediate and result file for adapter execution).

The next button steps into the next window that allows the user to set values for the Web Service parameters.

		Web Servic	e Configuration		
Туре	Attribute Name			Attribute \	/alue
Qı	Jery	search Host	show name as	'Nome (CI', dns_domain
Jame:	Query				
vanie. /alue(s):				
search	Host show name as 'N	ome CI', dns_do	main as 'Dominic	', mod	Enter
search	Host show name as 'N	ome CI', dns_do	main as 'Dominic	', mod	Enter
search	Host show name as 'N	ome CI', dns_do	main as 'Dominic	', mod	Enter
search	Host show name as 'N	ome CI', dns_do	main as 'Dominic	', mod	Enter
search	Host show name as 'N	ome CI', dns_do	main as 'Dominic	', mod	Enter
search	Host show name as 'N	ome CI', dns_doi	main as 'Dominic	', mod	Enter
search	Host show name as 'N	ome CI', dns_doi	main as 'Dominic	', mod	Enter
search	Host show name as 'N	ome CI', dns_doi	main as 'Dominic	', mod	Enter
search	Host show name as 'N	ome CI', dns_do	main as 'Dominic Test	', mod	Enter

Pressing the **test** button will open a new pop-up window. The response resulting from the Web Service call is displayed.

Nome CI	Dominio	Modello	Tipe CPU .	Numero C.	RAM Fisica	\$.0.	Kemel	Versione	Hardware Virtual	Partition	indezzi iP	Alias DNS
edscopnew	aceaspad	VMware	Intel(R) X	1	1024	Microsoft	Uniproces	Server 20	VNware, true		10.55.21	
aberripe	aceaspad	VMware	Intel(R) X	2	4096	Microsoft	Multiproc,	Server 20	vNware, true		10.55.21	portalem
webstn2	accestrad	White	Intel(R) X	4	4096	Mcrosoft	Mutipipe	Servet 20	VHware, true		10.55.21	
abompra	acettoa.t	Wilware	Intel(R) X	1	4096	Microsoft	Multiproc	Server 20	VMware, true		172.16.7	ahomora
ahs4ypra	3.6086936	VMware	Intel(R) X	1	2048	Microsoft	Multiproc	Server 20	VNware, true		172.16.7	ahs4ypra
nepriti512		Where	Intel(R) X	4		CentOS r	2.6.18-3	5.9	VMware, true		10.65.30	-
ahtpwpr	aceaspa.8	VMware	Inited(R) X	2		CentOS r	2.6.32-3	6.4	VNware, true		172.16.7	
ahmebor	aceaspad	VMware	intel(R) X	2	4096	Microsoft	Multiproc	Server 20	VHware, true		10,55.34	aces2
adpdcprd		VNware	Intel(R) X	2		Microsoft	Mutproc	Server 20	VHware, true		10.55.33	
server04	aceasted	VMware	Intel(R) X	2	2048	Microsoft	Multgroc	Server 20	VNware, true		10.55.21.	
ahfp8prw		VMware	Intel(R) X	2		Microsoft	Multiproc	Server 20	VNware, true		10.55.34	documen
6000	aceaspad	VMware	Intel(R) X	4	4096	Microsoft	Mutproc	Server 20	VHware, true		10.55.21	COCD.3C9,
shwebor		VNIware	Intel(R) X	2		Microsoft	Muttproc	Server 20	VMware, true		10.55.34	acea2
adpdcpra		VNware	Intol(R) X	2	li	Microsoft	Multiproc	Server 20	VNware, true		10,55.34	
4												+ 6

Pressing the **SAVE** button will store all the entered parameters for the web service adapter in the DT database.

The **Exit** button closes the data preview window and goes back to Web Service configuration form.

1.2.5 RSA Archer – VIEW REPORT

To use the adapter for **RSA Archer, to read report contents**, fill the field "Web Service Home URL" with the RSA URL you want to connect to.

Then, provide a valid instance URL and username/password to connect.

ŧ	Web Service Configuration	
web Serv	CE HOME URL:	_
https://e	grc.archer.rsa.com	.]
		_
Acco	int	
@ //cco		
User:		
myrasac	ount	
Password		
Instance:		
66087		

The button steps into the next window that shows the available operations of this Web Service; choose "**VIEW REPORT**", to query data as per RSA report definition.

ta 🖞	Web Service Configuration
_Γ Operatio	n
0.1	
Select a	an operation
VIEW_	REPORT
Adapter	r Name:
My RS/	A Risk Report
Descrip	btion:
My all	risks report
Adapter	r Folder:
C:/Use	rs/csalaris/Documents/_ADAPTERS Browse
	< Previous Next >

After selecting the desired operation, it is required to enter a name and a description for the adapter into the appropriate fields; the user must browse the file system for the adapter folder (used to save intermediate and result file for adapter execution).

The next button steps into the next window that allows the user to set values for the Web Service parameters.

When a lens icon shows beside the parameter name:

reportIdOrGuid

this means that user may set the parameter value from a list of available items.

In the case of the RSA Archer "View Report" operation, double-click on the lens icon besides "reportIdOrGuid" parameter, a popup appears, with the available reports to query:

Type Attr	ibute Name OrGuid		Attribute	Value	
dantes Preview		Heid Values Preview			-
ty RSA Risk Report - reportIdOrG	ad I				
ReportFiame	ReportDescription	ReportGUID	ApplicationName	ApplicationGUID	- 1
ak With Metrics That Decinas	10 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 -	d3444d55-ecfd-4335-b154-1b0	Sof-Assessment	315c756f-b2ec-4ea2-afbf-0711.	
sk With Metrics That Increase		40152666-6070-425F-a121-460	Self-Assessment	31bc75bf-b2ec-4es2-afbf-0711.	-
ak With Metrics That Increase		9ef7e460-501f-46ea-a0e4-d36	Self-Assessment	31bc75bf-b2ec-4ea2-afbf-0711.	
ask and Control Matrix	The report displays the Risk and	2498b022-43b3-4603-abef-bbe	Control Procedures	b8bcbfa4-37c5-4e4a-a1f6-539d	-
sk by Model Category		7b3f5d63-e242-4751-a553-43b	Model Inventory	acf35c14-7c18-4a91-9e24-a52b	
skBusness All Process Records	This report provides a list of all	13e05804-1185-484a-8e0c-fc1,	Business Processes	s8ee6401-b423-46c2-basc-abd	
skBusness Al Products and Se	This report produces a list of vit	f944c35c-963e-4660-8466-365	Products and Services	782e5dfc-3789-43e0-b8cf-bcdb	
iskBusiness Dependent Metrici	a de la face de la consecta de la del de la consecta de la Conse	28/b09b1-e843-48c9-aed9-8e7	Metrica	95049677-98a0-4687-b1e6-02.	
liskBuilness Dependent Metrics		86099319-291-4639-ab56-5b2	Performance Monitoring	2b28240c-fc6b-4c0e-8857-e/48	5++
liskBulaness Product, Process,	The report depicts all of the Ris	5903b928-cd85-4745-a31f-3d8	Products and Services	782e5dfc-3789-43e0-b8cf-bcdb	
SkBusiness Risk to Metric Map	This report provides a list of the	01a533cb-376F-4a0f-9240-4a8a	, Füsk Reigister	136fb8c1-8fac-4e08-ba96-faab.	
isks - All	The report displays the Status	63e37893-32e3-4f85-62c3-bd8	Rok Register	135/58c1-6fac-4e08-ba96-faab.	4
tsks Added, Changed Or Remo		05286631-2c26-41de-b5e3-88	Self-Assessment	31bc75bf-b2ec-4ea2-afbf-0711.	
Seles Added Channed Dr Barres		d69e401f-2f3f-4d71-935f-fab39	Self-Assessment	31bc75bf-b2ec-4ea2-afbf-0711.	
and Public, changes of Renous					

Select and apply the selection, and the desired report GUID fills the parameter value:

Туре	Attribute Name	Attribute Value	
	eportIdOrGuid	63e37893-32e3-4f85-82c3-bd8f09b523	55
Should the provided account not be granted to read system tables (such as the one containing the list of user tables) the popup will be blank, but *the parameters* can always be *manually filled*.

Pressing the **test** button and a new pop-up window is opened and the response resulting from the Web Service call is displayed.

3						Adapter Pr	entere						
Adapter Previ	leix:												
My RSA Risk	Report			1									
Business	Risk ID	Rist	Description	Inherent Ri	Residual R.	Calculated	Status	Assessme	inherent Ri.	Residual R.	inherent Ri.	Residual R	10
Legal	246904	2013 HIP	This ru	High	High	High	Active	Qualitative	High	High	Medium High	Law	-
IT Services	246905	Access Co	Opera	High	High	Hah	Active	Qualitative	High	High	High	Law	1
Retail Ope	283296	Access Co		Not Rated	Not Rated	Not Rated		Qualitative	Not Rated	Not Rated	Not. Rated	Not Rated	
IT Services	246906	Access En	«p>Apple	Not Rated	Not Rated	Not Rated	Active	Quantitati	Medium High	Medium Low	Not Rated	Not Rated	1
Finance	246907	Account F	Clisto,	High	Medium Low	Nedum Low	Active	Qualitative	High	Medium Low	Not: Rated	Not Rated	1
AlbertaEN	246908	Account	The organ	Medium High	Nedium Low	Medium	Active	Qualtative	Medium High	Nedium Low	Not: Rated	Not Rated	1
Finance	246909	Accounts	«p>Losse	Medium	Nethim Low	Nedum Low	Active	Qualitative	Medium	Hedium Low	Not Rated	Not Rated	1
Aberta	246910	ACME Bro		High.	LOW	LOW	Active	Quantitati	Nedium High	Nedum High	High	Ldŵ	1
Asik Pac C	246911	Automatio	The IT of	Not Rated	Not Rated	Not Rated	Active	Qualtative	Not Rated	Not Rated	Not: Rated	Not Rated	1
Retail Ope	281193	Bodily Inpu	Loss	High	Nedium High	Nedsim High	Active	Qualtative	High	Hedum Hoh	Not: Rabed	Not Rated	P
IT Services	246912	Busness C	The organ	Medium Low	Nedium Low		Active	Qualitative	Medium Low	Medium Low	Not Rated	Not Rated	1
Asia Pac C	246920	Change M	The IT of	Medium High	Medium	Nedum	Active .	Qualitative	Hedsim High	Medium	Not Rated	Not Rated	1
Asia Pac C	246921	Communic	Maragem	Nedum High	Medium Low	Medium Low	Active	Qualtative	Hedium High	Hedium Low	Not Rated	Not Rated	T
Asia Par. C	246922	Configurati	The IT or	Madum	Medium Low	Medium Low	Active	Qualtative	Medum	Hedium Low	Not: Rated	Not Rated	-
											P	age 1 of 1 (1	-21
												tet	Ľ

Pressing the **SAVE** button will store all the entered parameters for the web service adapter in the DT database.

The **Exit** button closes the data preview window and goes back to the Web Service configuration form.

1.2.6 RSA Archer – EXECUTE DATA FEED

To use the adapter for **RSA Archer**, to execute a data feed, fill the field "Web Service Home URL" with the ServiceNow instance URL you want to connect to.

Then, provide a valid instance URL and ID, username/password to connect.

er	Web Service Configuration
Web Service Home URL:	
https://egrc.archer.rsa.com	
 Account 	
Lleor:	
muraca count	
Invidsaccounc	
Password:	
•••••	
Instance:	
66087	

The **Next >** button steps into the next window that shows the available operations of this Web Service; choose "**DATA FEED**", to manage data feed executions.

Web Service Configuration	
Operation	
Select an operation	
	_
Adapter Name:	
RSA - My DATA FEED 4 Vendors	
Description:	
Adapter Folder:	- · · · ·
C./Users/seelsrig/Desurrents/ ADADTEDC	Drowco

After selecting the desired operation, it is required to enter a name and a description for the adapter in the appropriate fields; the user must browse the file system for the adapter folder (used to save intermediate and result file for adapter execution).

The next button steps into the next window that allows the user to set values for the Web Service parameters.

.		Web Service Configuration	
Туре	Attribute Name	Attribute	Value
	DataFeedGuid		
	IsReferenceFeedsIncluded		
Name	e: DataFeedGuid		
	X-7.		Enter

After that, user should complete configuration, filling the parameters (select the parameter, write value and press the **Enter** button):

- **DataFeedGuid**: Data Feed GUID, it can be retrieved from RSA Archer application
- **IsReferenceFeedsIncluded**: must be "true" before any referenced data feeds can run. If you want to run a single data feed without any referenced feeds, you must ensure that the flag is set to "false".

Pressing the **SAVE** button will store all the entered parameters for the web service adapter in the DT database.

TheExitbutton closes the data preview window and goes backtoWebServiceconfigurationform.

1.2.7 ServiceNow – READ TABLES

To use the adapter for **ServiceNow, to read table contents**, fill the field "Web Service Home URL" with the ServiceNow instance URL you want to connect to.

Then, provide a valid instance URL, username/password to connect.

		Web Se	ervice Configuration	
WSDL				
WSDL UR	L:			
https://de	ev19038.ser	vice-now.com		
Select the V	VSDL file from	a local path or from a	a URL	
User:				
admin				
Password	:			

	required			
le cogin	required			
			1	
		< Previous	Next >	
				Exit

The button steps into the next window that shows the available operations of that Web Service; choose "**READ TABLES**", to query data stored in ServiceNow tables.

Web Service Configuration	
- Operation	
Select an operation	
READ_TABLES	•
Adapter Name:	
ServiceNow GET - Applications	
Description:	
Adapter Folder:	
C:/Users/ccUser/Documents/_ADAPTERS	Browse
< Previous Next >	
	Exit

After selecting the desired operation, it is required to enter a name and a description for the adapter in the appropriate fields; the user must browse the file system for the adapter folder (used to save intermediate and result file for adapter execution).

The next button steps into the next window that allows the user to set values for the Web Service parameters.

When a lens icon shows beside the parameter name:

 Table name
 cmdb_ci_appl

this means that user may set the parameter value from a list of available items.

In case of ServiceNow "read tables" operation, with the double-click on the lens icon besides "Table name" parameter, a popup appears, with the available tables to query:

туре Аштоне	Name		Attribute Value		
💫 Table name					
View name					
Pitters					
1 100-10					
-		Adapter Droving	70		
Adortor President		neathor Freners			-
My ServiceNow Adapter f	or applications - Table name				
inhei	nama	aumar diada	is extendable	ais undited on	- 3
App Log Entry	evelog app scope0006	Log Entry	false	2016-09-19 04:25:42	
App Log Entry	syslog app scope0004	Log Entry	fabe	2016-09-19 04:25:39	
Ace Los Estry	syslog_app_scope	Log Entry	fabe	2016-09-19 04:09:30	
The bet have by the true of		the Constant of the second sec			-
App Log Entry	syslog_app_acope0003	Log Entry	faise	2016-09-19 04:25:37	
App Log Entry App Log Entry	syslog_app_scope0003 syslog_app_scope0005	Log Entry Log Entry	false Take	2016-09-19 04:25:37 2016-09-19 04:25:41	-
App Log Entry App Log Entry App Log Entry App Template	syskog_app_acope0003 syskog_app_acope0005 sn_appreator_app_template	Log Entry Log Entry Application File	false false false	2016-09-19 04:25:37 2016-09-19 04:25:41 2016-09-19 04:31:40	
App Log Entry App Log Entry App Log Entry App Template Application	exilog_app_scope0003 exilog_app_scope0005 er_appcreator_app_templete exis_scope	Log Entry Log Entry Application File Package	faise Taise faise true	2016-09-19 04:25:37 2016-09-19 04:25:41 2016-09-19 04:31:40 2016-09-19 04:09:14	
App Log Entry App Log Entry Add Template Application Application	evidog_app_scope0003 evidog_app_scope0005 er_appcreator_app_templete evis_scope cmdb_er_appl	Log Entry Log Entry Application File Package Configuration Item	faise faise faise true true	2016-09-19 04:25:37 2016-09-19 04:25:41 2016-09-19 04:31:40 2016-09-19 04:09:14 2016-09-19 04:14:44	
App Log Entry App Log Entry App Cog Entry App Template Application Application Application Cluster	evidog_app_scope0003 evidog_app_scope0005 er_appcreator_app_templete evis_scope cmdb_d_applcation_cluster	Log Entry Log Entry Application File Package Configuration Item Configuration Item	false false false false false	2016-09-19 04:25:37 2016-09-19 04:25:41 2016-09-19 04:25:41 2016-09-19 04:31:40 2016-09-19 04:09:14 2016-09-19 04:14:44 2016-09-19 04:15:56	
App Log Entry App Log Entry Adp Log Entry Adp Campiste Application Application Application Cluster Application File	evidog_app_scope0003 evidog_app_scope0005 er_appcreator_app_templete evis_scope cmdb_d_appl cmdb_d_appl evidb_d_application_chister evis_metadata	Log Entry Log Entry Application File Package Configuration Item Configuration Item	false false false false false true false true	2016-09-19 04:25:37 2016-09-19 04:25:41 2016-09-19 04:25:41 2016-09-19 04:09:14 2016-09-19 04:09:14 2016-09-19 04:14:44 2016-09-19 04:15:56 2016-09-19 04:09:10	
App Log Entry App Log Entry App Log Entry App Catton Application Application Application Cluster Application File Application File	evidog_app_scope0003 evidog_app_scope0005 er_appcreator_app_templete evis_scope cmdb_d_appl cmdb_d_applcation_chister evis_metadata evis_app_file_type	Log Entry Log Entry Application File Package Configuration Item Configuration Item	false false false true false true false true	2016-09-19 04:25:37 2016-09-19 04:25:41 2016-09-19 04:31:40 2016-09-19 04:09:14 2016-09-19 04:19:14 2016-09-19 04:15:56 2016-09-19 04:09:10 2016-09-19 04:11:41	
App Log Entry App Log Entry Adp Log Entry Adp Template Application Application Application Custer Application File Application File Application File Application Nenu	evide_app_scope0003 evide_app_scope0005 er_apporeator_app_template evide_cappl cmdb_c_applcation_cluster evid_ad_applcation_cluster evid_adop_cfle_type evid_app_applcation	Log Entry Log Entry Application File Package Configuration Ibem Configuration Ibem Application File	false false false true false true false false false	2016-09-19 04:25:37 2016-09-19 04:25:41 2016-09-19 04:31:40 2016-09-19 04:31:40 2016-09-19 04:14:44 2016-09-19 04:15:56 2016-09-19 04:09:10 2016-09-19 04:11:41 2012-10:30 13:59:18	
App Log Entry App Log Entry App Log Entry Application Application Application Application File Application File Application File Application Menu Application Menu	evide_app_scape0003 evide_app_scape0005 evide_app_scape0005 evide_appleator_app_template evide_appleator_applate cmdb_d_applace cmdb_d_applace evide_app_file_type evide_app_septication evide_u_application	Log Entry Log Entry Application File Package Configuration Item Configuration Item Application File Application File	false false false true false true false false false false	2016-09-19 04:25:37 2016-09-19 04:25:41 2016-09-19 04:31:40 2016-09-19 04:31:40 2016-09-19 04:14:44 2016-09-19 04:15:56 2016-09-19 04:09:10 2016-09-19 04:11:41 2012-10:30 13:59:18 2016-09-19 04:12:56	
App Log Entry App Log Entry App Log Entry Application Application Application Custer Application File Application File Application File Application Menu Application Menu Application Menu	eydog_app_scope0003 evdog_app_scope0005 en_appcreator_app_template eva_scope cmdb_d_applcation_cluster eva_metadata eva_app_applcation eva_app_applcation eva_uapplcation eva_uapplcation eva_uapplcation	Log Entry Log Entry Application File Package Configuration Item Configuration Item Application File Application File	false false false true false false false false false false	2016-09-19 04:25:37 2016-09-19 04:25:41 2016-09-19 04:31:40 2016-09-19 04:09:14 2016-09-19 04:14:44 2016-09-19 04:15:56 2016-09-19 04:11:56 2016-09-19 04:11:41 2012-10:30 13:59:18 2016-09-19 04:12:56 2016-09-19 04:30:27	
App Log Entry App Log Entry App Log Entry Application Application Application File Application File Application File Application Menu Application Menu Application Menu Application Menu	oydog_app_scape8003 ovdog_app_scape8005 or_appcreator_app_templete ovd_scope cmdb_d_applcation_cluster ovd_metadata ovd_epp_applcation ovd_uspplcation ovd_uspplcation ovd_uspplcation ovd_app_metadata cmdb_applcation_product_mode	Log Entry Log Entry Application File Package Configuration Item Configuration Item Application File Application File Product Model	false false false true false false false false false false false false false false	2016-09-19 04:25:37 2016-09-19 04:25:41 2016-09-19 04:31:40 2016-09-19 04:31:40 2016-09-19 04:14:44 2016-09-19 04:14:464 2016-09-19 04:14:15:56 2016-09-19 04:11:41 2012-10-30 13:59:18 2016-09-19 04:12:56 2016-09-19 04:12:56	
App Log Entry App Log Entry App Log Entry Application Application Application Cluster Application File Application File Types Application Menu Application Menu Application Metadata Application Metadata Application Metadata	evide_app_scape8003 evide_app_scape8003 evide_app_scape8005 evide_app_cembite evid_scope cmdb_d_application_cluster evid_metadata evid_application evid_application evid_application vid_application vid_application vid_application vid_application_product_mode cmdb_pid	Log Entry Log Entry Application File Package Configuration Rem Configuration Rem Application File Product Model	false false false true false false false false false false false false false false false	2016-09-19 04:25:37 2016-09-19 04:25:41 2016-09-19 04:31:40 2016-09-19 04:09:14 2016-09-19 04:14:44 2016-09-19 04:14:46 2016-09-19 04:14:56 2016-09-19 04:12:56 2016-09-19 04:12:56 2016-09-19 04:12:56 2016-09-19 04:12:59	

Select and apply the selection, and the desired table name (as expected by ServiceNow export service) fills the "Table name" parameter value:

👆 Ta	able name	cmdb_ci_appl
Vi	iew name	ess
Fil	lters	ORDERBYname

Should the provided account not be granted to read system tables, as the one containing the list of user tables, the popup will be blank, but *the parameters* can always be *manually filled*.

After that, the user may apply optional formatting/filter settings, filling the parameters (select the parameter, write value and press the **Enter** button):

- View Name: name of the desired view. For example, to export fields visible from the Self Service view, parameter value is "ess"
- **Filters**: some additional parameters may be added to control for instance:
 - o the sorting of results: "ORDERBYname"
 - the data filtering: "category=Resource"

Concatenate different filters with ampersand; for instance:

category=Resource&ORDERBYname

Complete reference for filters can be found at the ServiceNow website:

https://wiki.servicenow.com/index.php?title=Excel_Export_Threshold# Using_URL_Queries_to_Filter_List_Results

Pressing the **Test** button will open a new pop-up window and the response resulting from the Web Service call is displayed.

Pressing the **SAVE** button stores all the entered parameters for the web service adapter in the DT database.

The **Exit** button closes the data preview window and goes back to Web Service configuration form.

dapter Preview					
ly ServiceNow Adapter for ap	plications				
name	sys_class_name	category	version	operational_status	1
pache inux den 200	Web Server	1.121 A 41 2	6.0	Operational	
pache Inux ny 100	Web Server		6.0	Operational	
MS App FLX	Application			Operational	
X04-50-05	Email Server			Operational	
XOH-SO-07	Email Server			Operational	
XCHANGE-NY-02	Email Server			Operational	
ronMail-SD-01	Email Server			Operational	
ronMail-SD-02	Ental Server			Operational	
ava Application Server FLX	JavaSeiver			Operational	
ty Corporate Collector app	Application	Resource	5.0.0	Operational	
S ApacheD1	Web Server	11112121212	6.0	Operational	-
5 Apacheli2	Web Server		6.0	Operational	
5 Apache03	Web Server		6.0	Operational	_
AP WEB01	Web Server		6.0	Operational	
AP WEB02	Web Server		6.0	Operational	
AP WEBD3	Web Server		6.0	Operational	
				drabble ware	

1.2.8 ServiceNow – PUSH DATA

To use the adapter for **ServiceNow, to push data to the system**, fill the field "Web Service Home URL" with the ServiceNow instance URL you want to connect to.

Then provide a valid instance URL, username/password to connect.

Web Service Configuration	
r WSDL	
WSDL URL:	
https://dev19038.service-now.com	
Select the WSDL file from a local path or from a URL	
User:	
admin	
Password:	
✓ Login required	

The button steps into the next window that shows the available operations of that Web Service; choose "**PUSH DATA**", to query data stored in ServiceNow tables.

Web Service Configuration
Operation
Select an operation
PUSH_DATA
Adapter Name:
ServiceNow - PUSH Adapter for Applications
Description:
This adapter pushes data to a ServiceNow staging table

After selecting the desired operation, it is required to enter a name and a description for the adapter into the appropriate fields; the user must browse the file system for the adapter folder (used to save intermediate and result file for adapter execution).

The button steps into the next window that allows the user to set values for the Web Service parameters.

When a lens icon shows beside the parameter name, as for "**Import Set Table name**":

🔍 Import Set Table name

this means that user may set the parameter value from a list of available items.

In case of ServiceNow "**push data**" operation, with the double-click on the lens icon, a table appears, with the available import set tables:

-			Web Service Co	nfiguration		
Тур	e A	ttribute Name		Attribute Value		
	Import	Set Table name				
	Transfo	rm after load				
	CSV sep	arator				
3))			Adapter Preview			
Kdapter Previe (Now - PUSH)	er. Vdapter for Appl	cations - Import Set Table name]				
	label	name	super_class	is_extendable	sys_updeted_on	ie:
Computer		ing_computer	Import Set Row	false	2017-01-17 83:21:41	
import Table i	or CW Apos	a_troport_table_for_cw	Import Set: Row	false	2017-01-19 06:08:16	
Lecation		ing_location	Import Set Row	false	2017-01-17 03:21:42	
Nothcation		imp_notification	Import Set Row	fabe	2017-01-17 03:21:41	
User		ing user	Import Set Row	faine	2017-01-17 03:21:41	

Select the proper one and apply the selection, and the desired import set table name fills the "Import Set Table name" parameter value:

Web Service Configuration					
Туре	Attribute Name	Attribute Value			
0	Import Set Table name	u_apps_from_casewise			
	Transform after load	true			
	CSV separator	,			

Should the provided account not be granted to read system tables, as the one containing the list of user tables, the popup will be blank, but *the parameters* can always be *manually filled*.

After that, user complete push operations configuration, filling the parameters (select the parameter, write value and press **Enter** button):

- **Transform after load**: set to "true" if there is a Transformation Map set between the Import Set Table and ServiceNow target table to be applied after staging table load, "false" or blank otherwise
- CSV separator: comma as default

Documentation about import set tables and transformation map can be found at the ServiceNow website:

http://wiki.servicenow.com/index.php?title=Importing_Data_Using_Imp ort_Sets#Posting_CSV_or_Excel_Files_Directly_to_an_Import_Set&gs c.tab=0

Pressing the **SAVE** button stores all the entered parameters for the web service adapter in the DT database.

The **Exit** button closes the data preview window and goes back to Web Service configuration form.

1.2.9 SmartSheet

To use the adapter for **SmartSheet**, fill the field "Web Service Home URL" with the SmartSheet home page URL you want to connect to.

•	Web Service Configuration	
Web Service Home U	RL:	
https://app.smartsh	eet.com/b/home	
O Account	Access Token	
Access Token:		
2qd5piory2bgs7pt8qf	a0puk47	

Then, provide a valid **access token** to connect. To generate an access token, requested to authenticate the SmartSheet service, follow instructions from <u>https://smartsheet-platform.github.io/api-docs/?shell</u>

The button steps into the next window that shows the available operation of that Web Service, which is "**READ SHEETS**", allowing user to query all data stored in user worksheets.

Web :	Service Configuration
Coperation	
Select an operation	
READ_SHEETS	▼
Adapter Name:	
My Smartheet Adapter for Projects	
Description:	
sadfasf	

After selecting the desired operation, it is required to enter a name and a description for the adapter in the appropriate fields; the user must browse the file system for the adapter folder (used to save intermediate and result file for adapter execution).

The next button steps into the next window that allows the user to set values for the Web Service parameters.

When a lens icon shows beside the parameter name:

Туре	Attribute Name	Attribute Value
0	Sheet name	

this means that user may choose the parameter value from a list of available items.

In case of SmartSheet "read sheets" operation, with the double-click on the lens icon, a table appears, with the available sheets to query:

ype Attribu	Attribute Name Attribute Value			
👢 Sheet nam	e			
	Autopher 5	Tryslew		
nji Aslagher Presenve	Adapter	19142		
dagter Preview Ny Snartheat Adapter for Project	Adapter 5 - Sheet name	Canar	Value	10
2 Adapter Press w He Smarthwat Adapter for Project D ex45210104232110	Adapter 15 - Sheet name Obest name We second project	Cana	Values	1
5 Adaphe Presile No Smarthwat Adapter for Project D ex45210304232110 2035/100001749428	Adapter 15 - Sheet name My Jacand project My Scandood Schapatan Project	Oane	Value	1

Select and apply the selection, and the desired sheet name (as expected by Smartsheet export service) fills the "Sheet name" parameter value:

	Web Service Configuration				
Type Attribute Name	Attribute Value				
🔍 Sheet name	Sheet name My Smartsheet Integration Project				

Pressing the **test** button opens a new pop-up window and the response resulting from the Web Service call is displayed.

6				Adapter Pres	iew -				
Adapter Preview.									
My Smartheet Ada	oter for Projects	-	_				_		-
TaskName	Duration	Start	Finish	Predecessors	Assigned To	% Complete	Status	Comments	101
Test REST API	168	2016-06-19708:	2016-07-067161		c.salate@sepcon	.0.15	In Progrees	-	*
test with postman	20	2016-06-19108	2016-06-20716:		Omar	0.0	At Risk		
Collector devela	6d	2016-06-267001	2016-07-017161		Chuda	0.25	On Track	Sembra fattatili	
Authentication	5.0	2016-07-04108:	2016-07-08716:		Fahin	0.1	On Track		13
•									田
•								Page 1 of 1	·田 (1-4)

Pressing the **SAVE** button stores all the entered parameters for the web service adapter in the DT database.

The **Exit** button closes the data preview window and goes back to Web Service configuration form.

1.2.10 SharePoint Online

To use the adapter for **SharePoint Online**, fill the field "Web Service Home URL" with the SmartSheet home page URL you want to connect to.

er	Web Ser	vice Configuration	
Web Service Home I	IDI ·		
https:///tenantl.sh	repoint com/sites//	siteNameV	
intps://tendity.site	repoint.com/sites/	siteivamen	
OAuth2			
Tenant ID:			
{tenantID}			
Client ID:			
{clientID}			
Badiraat URI:			
http://epwinCC			
indp.//erwined			
Resource:			
https://{tenant}.sha	repoint.com/		
	< Previous	Next >	
			Exit

To provide required parameters, please ensure that erwin DT is registered on target tenant Azure Active Directory.

See: <u>https://docs.microsoft.com/en-us/azure/app-service/app-service-mobile-how-to-configure-active-directory-authentication#optional-configure-a-native-client-application</u> about registering a **native application**.

Register DT with:

- Name: erwinCollector
- Application Type: Native
- Redirect URI: http://erwinCC

erwinCollector	* ×	Impostazioni	= ×
🌣 Impostazioni 🖌 Manifesto 🗉	Dimina	D Impelatazioni titte	
informazioni di base 🥱		GENERALI	
Norw wasaistante erwie/Collector Tap. 6 astelicatione	D applicatione b69088#0-3b20-4#u3-ab81-3d0bbe3f6c47 ID oparts	111 Proprietà	>
Nativa	81935c9e-fa9e-4419-8307-98fbd28ff582	UIU di reindrizzamento	>
nome page	erwinCollector	2 Proprietari	>
	Tutte le importazioni 🔿	ACCESSO ALL'API	
		👗 Autorizzazioni necessarile	>
URI di reindirizzamento	= ×	RISOLUZIONE DEI PROBLEMI E SUPPORT	0
E Salia X Rimucid		🗙 Raoludone dei problemi	>
-	1	Naova richiesta di supporto	>
http://ewinCC			

and provide all grants to read site list, for specific Microsoft API:

- Microsoft Graph:
 - o Read items in all site collection
 - o Access directory as the signed in user
- Microsoft Azure Active Directory:
 - o Read all users' basic profiles
 - o Sign in and read user profile
- Office 365 SharePoint Online (Microsoft.SharePoint)
 - o Read and write items and lists in all site collections
 - o Read and write items in all site collections
 - Read items in all site collections
 - o Read managed metadata

The Next > button steps into the next window, which requires user to browse to authorization URL and provide grant to the application



Wait for the browser to complete the request; a new page will be presented, with a URL like:

http://erwinCC/?code=

AwABAAAAvPM1KaPIrEqdFSBzjqfTGBCmLdgfSTLEMPGYuNHSUYB rqqf_ZT_p5uEAEJJ_nZ3UmphWygRNy2C3jJ239gV_DBnZ2syeg95Ki-374WHUP-i3yIhv5i-7KU2CEoPXwURQp6IVYMw-

DjAOzn7C3JCu5wpngXmbZKtJdWmiBzHpcO2alCJPu1KvJrDLDP20c hJBXzVYJtkfjviLNNW7I7Y3ydcHDsBRKZc3GuMQanmcghXPyoDg41g 8XbwPudVh7uCmUponBQpIhbuffFP_tbV8SNzsPoFz9CLpBCZagJVX eqWoYMPe2dSsPiLO9Alf_YIe5zpi-

zY4C3aLw5g9at35eZTfNd0gBRpR5ojkMlcZZ6lgAA&session_state=7 B29111D-C220-4263-99AB-6F6E135D75EF&state=D79E5777-702E-4260-9A62-37F75FF22CCE &session_state=7B29111D-C220-4263-99AB-6F6E135D75EF&state=D79E5777-702E-4260-9A62-37F75FF22CCE

Copy the entire URL to DT text area:

er	Web Service Configuration
Authorize Authorize URL:	
query&resource=htt http://erwinCC/?cod AwABAAAAVPM1KaF _nZ3UmphWygRNy2 Qp6IVYMv-DjAOzn7 VY3tkfjviLNNW7I7Y3) QpIhbuffFP_tbV8SN2 w5g9at35eZTfNd0gE AB-6F6E135D75EF&	ips%3A%2F%2Faepcons%2Esharepoint%2Ecom%2F i= PIrEqdFSBzjqfTGBCmLdgfSTLEMPGYuNHSUYBrqqf_ZT_p5uEAEJJ 2C3J2239gV_DBnZ2syeg95Ki-374WHUP-i3yIhv5i-7KU2CEoPXwUR 7C3JCu5wpngXmbZKtJdVmiBzHpcO2aICJPu1KvJrDLDP20chJBXz ydcHDsBRKZc3GuMQanmcghXPyoDg41g8XbwPudVh7uCmUponB zsPoFz9CLpBCZagJVXeqWoYMPe2dSsPiL09Alf_YIe5zpi-zY4C3aL BRpR5ojkMIcZZ6IgAA&session_state=7B29111D-C220-4263-99 ustate=D79E5777-702E-4260-9A62-37F75FF22CCE
	< Previous Next >

The button steps into the next window that shows the available operation of that Web Service, which is "**READ LISTS**.

After selecting the desired operation, it is required to enter a name and a description for the adapter in the appropriate fields; the user must browse the file system for the adapter folder (used to save intermediate and result file for adapter execution).

The next button steps into the next window that allows the user to set values for the Web Service parameters.

Select the list – double click on lens icon beside "List GUID" open a list of available lists – and apply the selection, and the desired list GUID (as expected by Sharepoint export API) fills the parameter value Pressing the **test** button opens a new pop-up window and the response resulting from the Web Service call is displayed.

Autor Freedow													
Adapter Preview													
Hy SPOL Adapter to a	pet lat diarre												
Those	Team	(0)	Delatura modifica	Datarora creazone	10108	Allegal	Month.	TAN	Carl	Norre	Aide	44.84	15
Level Hamilton	Phirtuches	1	17/01/2018 11:20:02	17/01/2018 11:29(0)		(lales							1
Sebastan Verbal	Pariari	2	17/01/2018 11:20:30	17/01/2018 11-20:30		Calgo							
Kirit Kakkonen	Portal	(a)	17/01/2018 11:21:02	17/01/2018 11/21:02		Yolea							
Fernando Alonad	McCaran	4	17/01/2018 11:21:08	17/01/2018 11/21/06		644							
Felor Hasa	Williame	5	17/01/2018 11/21/18	17/01/2018 11:21:16		folia .							

Pressing the **SAVE** button stores all the entered parameters for the web service adapter in the DT database.

The **Exit** button closes the data preview window and goes back to Web Service configuration form.

1.2.11 Generic data provider - CSV

To use the adapter for **a generic http data provider**, fill the field "Web Service Home URL" with the URL to the data provider service, ex:

https://pkgstore.datahub.io/core/country-

list/data_csv/data/d7c9d7cfb42cb69f4422dec222dbbaa8/data_csv.csv

*		Web Service Configuration
Webs	Service Home URL:	
coun	try-list/data_csv/da	ata/d7c9d7cfb42cb69f4422dec222dbbaa8/data_csv.csv
		0.
	Account	Anonymous

Then, provide a valid User/Password if service requires (basic) authentication, or select "Anonymous" access option

The button steps into the next window that shows the available operation of that Web Service, which is "**GET DATA**", allowing user to query web data.

After selecting the desired operation, it is required to enter a name and a description for the adapter in the appropriate fields; the user must browse the file system for the adapter folder (used to save intermediate and result file for adapter execution).

The next button steps into the next window that allows the user to set values for the Web Service parameters.

When a lens icon shows beside the parameter name:

C Encoding ISO885	9_1
-------------------	-----

this means that user may choose the parameter value from a list of available items. In case of this example, with the double-click on the lens icon, a table appears, with the available encoding:

Туре	Attribute Name	Attribute Value
	Parameters	
	CSV separator	,
0	Encoding	IS08859_1

÷	Field Values Preview
Adapter Preview	
ISO Country Codes - Encoding	
Name	Description
Cp838	Variant of Co850 with Earo character
Gp437	MS-DQS United States, Australia, Hew Zealand, South Africa
Cp775	PC Babic
C#850	M5-005 Later-1
Q1832	M5-005 Lata-2
Cp855	BH Cyrilic
Cplt57	BBH Turkab
Cp802	PC Hebrew
Cp866	MS 605 Restan
1508859_1	ISO-8859-1, Labo Alphabot No. 1
tion#59_2	Latri Abhabat No. 2
500059_4	Latin Alphabet No. 4
508859_5	Late/Owlk: Alphabet
1508859_7	Latary/Breek Apriabet (ISO-8859-7(2003)
4	

Select and apply the selection, and the desired values for other fields, like the CSV column separator and parameters should the service require them.

Pressing the **test** button opens a new pop-up window and the response resulting from the Web Service call is displayed.

😤 Ada	pter Preview	
Adapter Preview:		
ISO Country Codes		
Name	Code	Ē
Afghanistan	AF	-
Åland Islands	AX	
Albania	AL	
Algeria	DZ	
American Samoa	AS	
Andorra	AD	
Angola	AQ.	
Anguila	AI LA	
Antarctica	QA	
Antigua and Barbuda	AG	
Argentina	AR	
Armenia	AM	
Aruba	AW	
Australia	AU	-
4		E

Pressing the **SAVE** button stores all the entered parameters for the web service adapter in the DT database.

The **Exit** button closes the data preview window and goes back to Web Service configuration form.

1.2.12 Veracode – READ APPLICATION LIST

To use the adapter for Veracode, **to read application list**, fill the field "Web Service Home URL" with the Veracode URL you want to connect to. Then, provide a valid username/password to connect, or the API credentials (ID/KEY), that can be generated by a valid account. Please, make sure that the account has the correct permissions to use Veracode API:

https://help.veracode.com/reader/LMv_dtSHyb7ilxAQznC~9w/2nDnsq bBHfc2TPcl_Ps~KQ

-	22 - MAREEMANYSSI, AMATTER- MARTIN- ALAMAMI)	Custome
Pi Cred	entials	AccountName
Dreshertfals	Devials	
Bacces Nag	400	
Crucied	00 Hay (0.4 (0.4 (1.5 ± 0.01)))	

	The second se
.com	
PI ID KEY	Web: Service Configuration
Web Service	e Hame URL
https://ant	lysiscenter.veracode.com
Accour	t ● API ID KEY 6247238x57b81d3c37dd71e
Re	7a7d5be19946a429712ad59b521b4dc85e91592b9780681102b04109a0
	.com PIID KEY Web Service https://and 61eb6683c e4d296041

The **Next>** button steps into the next window that shows the available operations of this Web Service; choose "**READ APPLICATION LIST**", to get the list of application names and their Veracode ID.

Coperation	
Select an operation	
READ_APPLICATION_LIST	•
Adapter Name:	
ascd	
Adapter Folder:	
D:/_ADAPTERS	Browse
< Previous Next >	
	Exit

After selecting the desired operation, it is required to enter a name and a description for the adapter into the appropriate fields; the user must browse the file system for the adapter folder (used to save intermediate and result file for adapter execution).

The next button steps into the next window that allows the user to set values for the Web Service parameters, not required for this operation.

Pressing the **test** button and a pop-up window is opened and the response resulting from the Web Service call is displayed.

ŧ	Adapter Previow	
Adapter Preview My VERACODE app list adlapter]	
app_36	app_name	1
441384	Mailing List	
441009	IP Phone System	
58234	Fleet Management	
94818	SAP Financials	
329192	Order to Cash	
63237	Stock Control System	
154540	Project Management System	
47532	EA Repository	
65123	Order Processing System	
333305	Customer Care System	
114593	Who's Who	
27263	Mailing List	
377958	IP Phone System	
441822	Fleet Management	
	A rest w	+ 18
	Page 1 of 1	6(1-5
	Exit	1

Pressing the **SAVE** button will store all the entered parameters for the web service adapter in the DT database.

The **Exit** button closes the data preview window and goes back to the Web Service configuration form.

1.2.13 Veracode – IMPORT APPLICATION DATA

To use the adapter for Veracode, **to import application data**, fill the field "Web Service Home URL" with the Veracode URL you want to connect to. Then, provide a valid username/password to connect, or the API credentials (ID/KEY), that can be generated by a valid account. Please, make sure that the account has the correct permissions to use

Veracode

https://help.veracode.com/reader/LMv_dtSHyb7ilxAQznC~9w/2nDnsq bBHfc2TPcl_Ps~KQ

Web Service Configuration	Web Service Configuration
Web Service Home URL	Web Service Home URL:
https://enalysiscenter.veracode.com	https://analysiscenter.veracode.com
Account API ID KEY	Account I API ID KEY
User jaladu@erwin.com	61eb6685c6247238e57b81d3c37dd71e
Password:	
	e4d2960417a7d5be19946a429712ad59b521b4dc85e91592b9780681102b04109a00
< Previous Rext >	Next 5
East	Eut

The button steps into the next window that shows the available operations of this Web Service; choose "**IMPORT APPLICATION DATA**", to configure an adapter that can be used in a workflow to push application metadata to Veracode (see later).

Select an operation	1. 	120
IMPORT_APPLICAT	TION_DATA	•
Adapter Name:		
My VERACODE pus	h app id list	
Description:		
Adapter Folder,		
D:/_ADAPTERS		Browse

API:

After selecting the desired operation, it is required to enter a name and a description for the adapter in the appropriate fields; the user must browse the file system for the adapter folder (used to save intermediate and result file for adapter execution).

The next button steps into the next window that allows the user to set values for the Web Service parameters, not required for this operation.

	Alle and	inter a supergradiente	
rype	Attribute Name	Abibu	e Value
tame 'alue(s) 			Inter
	< Previose	Treft:	Save

Pressing the **SAVE** button will store all the entered parameters for the web service adapter in the DT database.

The **Exit** button closes the data preview window and goes back to Web Service configuration form.

The Adapter, as mentioned, can be used to push data to Veracode and fill applications metadata. For example, if the application object type in Veracode has two custom fields named "Casewise ID" and "Development Manager", the alignment can be done configuring a workflow, with a source providing values for the fields, and with the target operation "Web Service POST", using the configured adapter. To provide mappings between source and target field, use a "Data Formatting: Rename and Order Columns" transformation, with the required "**app_id**" and "**app_name**" fields, and all others desired fields. Where "**app_id**" (numeric) value is **null** or **0**, the application with

Later horrisottaval	I Ramana And Or	IN CITIZEN IN			Add
ranaformation fields	- Ford S		Apply	Remove	Reset
Sel. Column Name		* New Column Name		New Column On	der
36.	A				
V 1 None	5540 W 4540	opp_name	2	and the second second second second	

61

provided name will be created, or updated, if an existing Veracode application with the same name already exists.

1.2.14 Zendesk – Get Tickets

To use the adapter for Zendesk **to get tickets**, select the authorization method (Account / Access Token) and enter the relevant credentials.

Web Service Home URL:		
https://zendesk.com		
Account O Ac	cess Token	
User		
example		
Password.		
•••••		
Instance:		
d3v-example		
e Presia	Next >	
		11
		Fait

Click the Next > button to proceed to the next step, and select the operation "Get Tickets". Enter a name and folder for the adapter, and select the view from which to retrieve tickets. A description can also optionally be entered for the adapter.

Operation	
Select an operation	
Get Tickets	
Adapter Name	
Example Zendesk Adapter	
Description	
The description is optional.	
a diserber Feddar	
ChTest Data	Browse
Fer () end open	
TestView	•
The second se	Next >
< Previous	

Click the Next > button to proceed to the next step, where the adapter can be previewed and/or saved.

ype Athibu Tickets	te Name	Attric	ute Value
Vame: Ticket Value(s):	s		
			Enter
	< Previous	Test	Save

To preview a sample of the first 50 results, click the button.

Test

5									Adap	ster Pres	terw									
dapter	Preview																			
Example	e Zendesk	Adapte	()																	
8551g.	created	custo.	fields	priority	reque.	subject	scket.	Scket.	toletid	Bicket I.	tcket1	tcket1	ticset).	schet.	boxet.	ticket.	tickett.	licitetur	t update	4
3674_	2010	11	0	-	3674	PROVA	3600	PNG	513	3574	P910	2010	Inie	TUN	open	Papula.	nul	https:	2018	
3674	2018	0	0	-	3674	Frent	3690	ATE	510	3674	ATE	2018	true	nul	spen	Frencos	nd	https:	2018	
3674	2010	0	0		3674	Panama	3000	PAN	509	3674	PAN	2018	true	lue	open	Patianta	nul	https://	2018-	4
3674	2018	0	0	-	3674	Frenc	3600	PYF	508	3674	₽YF	2019	true	tur	open	Frencia	nul	https://	2016	1
3674	2018	D	0		3674	Palest	3600	PSE	507	3674	PSE	2018	true	mul	open.	Palest.	nut	https:	2018	
3674	2838	0	0		3074	Frenc	3600	GUF	500	3674	GUF	2018	the	rul	open	Prenc	mi	https://	2018-	1
3674	2018	0	0	e	3674	Pabu	3600	PLW	505	3674	PLW	2018	the	nul	open	Patria	nul	https:	2018	1
3674	2018	13	0		3074	France	3600	FRA	504	3674	FRA	2018	true	inul.	open	France	nut	https://	2018-	1
3674	2010-	0	0	0. 2	3674	Finland	3600	FIN	503	3674	EIN	2018	true	tut	operi	Finland	nut	https:	2018	1
3674	2018	0	0		3674	Pakistan	3600	PAK	502	3674	PAK	2018	true	nut	spen	Paketan	nat	https:	2018	1
3674	2018	Ω.	0		3674	FII	3660	F31	501	3674	F,II	2018	TIME	nut.	open	FII	nut	https:	2018	1
3674_	2018-	11	0		3674	Oman	3600,	ONE	500	3874	OMN	2018	true.	sul	open	Oman	nit	https:	2018-	1
3674	2018	0	0	2	3674	Fatter	3600	FRO	499	3674	FRO	2018	true	nut.	epan	Farde	nul	https	2018	1
3674_	2018	Π	0		3674	Netway	3600	NOR.	498	3674	NOR	2018	tipe	tun	open	Noniay	nıf	https:	2018	1
4																				1
																		Page 2 o	f 2 (51-	10
																		D		J.
																		1- 100		2

To save the adapter to the DT database, click the **SAVE** button.

1.2.15 Zendesk – Create Tickets

To use the adapter for Zendesk **to create new tickets**, select the authorization method (Account / Access Token) and enter the relevant credentials.

Map Service Home	URL	
https://zendesk.co	om.	
Account	O Access Token	
User		
example		
Password		
Instance:		
d3v-example		

Click the **Next** button to proceed to the next step, and select the operation "Create Tickets". Enter a name and folder for the adapter. A description can also optionally be entered for the adapter.

2	Web Service Configu	ration
peration		
Select an opera	fion	
Create Tickets	200112	
Adapter Name:		
Example Zeride	rsk Adepter	
Description		10
a service and a se		
This descriptio	n is optional.	
This descriptio	n is optional.	
This descriptio	n is optional.	
This descriptio	m is optional.	
This descriptio Adapter Folder: C:\Test Oata	n ≋ optional.	Browse
This descriptio Adapter Folder: C:\Test Onte	n is optional.	Browse
This descriptio Adapter Folder: C:\Test Onte	n is optional.	Browse

Click the **Next >** button to proceed to the next step. To save the adapter to the DT database, click the **SAVE** button.

THE DET	ce companion	
Abibute Name	Abrib	ute Value
kets		
Tickets		
		Enter
< Previous	Test	Sove
	Abribulo Name Abribulo Name Kets Tickets	Abribulo Name Abrib kets Tickets Configuration

The adapter can now be used as a target endpoint when mapping data in a workflow. To select the adapter as a target, select "Web Service POST" as the operation and select your Zendesk adapter. A mapping table will appear, allowing the source fields to be mapped to relevant target fields for creating Zendesk tickets.

			1000 CONT 8	ALCORDAN TRANSMIT	
andra torrate	1 4		+ 2 -	dane i	
ioixflow Hame: Scomple Zendick Worldflo		Description			
an cardini	Happing and Operation	_			
Seurces				East o milts	Encir arrest for record
Exemple Search File	with operation:		and states at the	The second second se	TTT such accession
	1	1.016			
	Source I	Seturnin .	TurgetField		Target Field Type
Transformations	1 name		subject	String	
	1 alpha-3		description	String	
	1 country-code				
	and the state of the				
S Operations					
Eastple Zendesk					
ag the					

1.2.16 Zendesk – Update Tickets

To use the adapter for Zendesk **to update existing tickets**, select the authorization method (Account / Access Token) and enter the relevant credentials.

https://zendesk.com	R.		
Account User	C Access Token		
example Password			
		1	
Instance:			
d3v-example			
		and the second s	

Click the Next > button to proceed to the next step, and select the operation "Update Tickets". Enter a name and folder for the adapter. A description can also optionally be entered for the adapter.

Select an operation Create Tickets Adapter Name Example Zendesk Adapter Description is optional Adapter Folder: C:\Test Onte Brows	perabon		
Create Tickets Adapter Name. Example Zendesk Adapter Description is optional. Adapter Folder: C:\Test Oata Brows	Select an operation		
Adapter Name. Example Zendesk Adapter Description This description is optional. Adapter Folder: C:\Test Oata Brows	Create Tickets		
Example Zendesk Adapter Description This description is optional. Adapter Folder: C:\Test Oata Brows	Arlanfer Name		
Description This description is optional. Adapter Folder: C:\Text Onte Brows	Example Zendesk /	Adapter	
This description is optional. Adapter Folder: C:\Test Onte Brows	Description		
Adapter Folder: C:\Test Oeta Brows	This description is	optional	
Adapter Folder: C:\Test Oata Brows	a monte sea therear is	all and a second s	
C:\Test Oata Brows	and dense through the	- Province	
	Adapter Folder:		
< Previous Next >	Adapter Folder: C:\Test Onte		Browse
< Previous Next >	Adapter Folder: C:\Test Onte		Brows

Click the Next > button to proceed to the next step. To save the adapter to the DT database, click the Save button.

	Web Ser	vice Configuratio	n.	
eration				
elect an operation				
pdate Tickets				•
dapter Name	101 Aliana (-	
xample Zendesk A	dapter			
escription			-	
dapter Folder.				
Users/AdamKaa	mey/Desktop/Adapte	ŕs		Browse
and the second second statement of the second	11 - CA - CA		1	5
	< Previous	Next >	8	
	< Previous	Next >	E	

The adapter can now be used as a target endpoint when mapping data in a workflow. To select the adapter as a target, select "Web Service POST" as the operation and select your Zendesk adapter. A mapping table will appear, allowing the source fields to be mapped to relevant target fields for updating Zendesk tickets (using the id as a key).

GENERAL INFO	2. CHOOSE SO	URCES INC.	Workfow Configuration		IN A TARGET (1) 5. SAVE AND TEST
ortifiew dyfinitian Configurations	Viewfo	w)		Workt	sw falter
and the family				• P Ada	
Warkflaw Name: Example Zandesk Workf	law /	Description:		Treader and the	
pe contant Sources L. Ecompte Source File	Mapping and Operation with sperators (Web Service POST	· · · · Example 2	indesk Adapter 🛛 💌		Send & mailte 🛛 🗔 Single email for record
Transformations	Source	Column	Target	naid	Target Field Type
	1 6/382-3		and from		
	1 country-code		M		munber
24					

1.2.17 CloudHealth – READ PERSPECTIVE GROUPS

To use the adapter for CloudHealth, **to read perspective groups**, fill the field "Web Service Home URL" with the CloudHealth URL you want to connect to. Then, provide a valid username/password to connect, or the API credentials (API Key), that can be generated by a valid account. Please, make sure that the account has the correct permissions to use CloudHealth API: http://apidocs.cloudhealthtech.com/#documentation_getting-your-apikey

SETTINGS	
API Access	
	Get API Key

Web Service	Home URL:	
https://app	.cloudhealthtech.com	
	API Kev	
API Key:	() / i / i / i	
a573862e-b	ab-63ac-bcc7-2a04cbaca12b	

The button steps into the next window that shows the available operations of this Web Service; choose "**READ PERSPECTIVE GROUPS**", to get the list of groups in the desired perspective.

¥	Web Service Configuration	
peration ——		
Select an opera	tion	
READ_PERSPE	CTIVE_GROUPS	•
Adaptor Namo:		
CH - Read App	lication Name perspective	
Description:		
1		
Adapter Folder:		
C:/Users/Adm	nistrator/Documents/DTAdapter	Browse
	< Previous Next >	

After selecting the desired operation, it is required to enter a name and a description for the adapter into the appropriate fields; the user must browse the file system for the adapter folder (used to save intermediate and result file for adapter execution).

The next button steps into the next window that allows the user to set values for the Web Service parameters.

When a lens icon shows beside the parameter name:

.		Web Service Configuration
Type	Attribute Name	Attribute Value
Per	spective ID	

this means that user may choose the parameter value from a list of available items. In case of this example, with the double-click on the lens icon, a table appears, with the available perspectives:

Adapter Preview.				
OH - Read Application Name perspective - Persp	ective ID			
Perspective Name	Perspective Id		Active	a a a a a a a a a a a a a a a a a a a
Ernel	1099511682435	fabe		
Matrix	1099512084097	false		
RES Matrix MLS Application	1099512084099	false		
Account	3710851744917	true		
test	371085174#953	faise		
Environment	3710851744966	true		
Patform	3710851744972	true		
Application	3710851744973	thue		
Data Center Migration	371085174+977	true		
84	371085174#996	true		
Account ID	3710851744999	true		
blank for tagging	3710851745002	Tabe		
cinternational-team	3710651745007	true		
CH - Tagging 4	3710851745008	Тавн		
				Page 1 of 1 (1-34
			August 1	the f

Select and apply the selection:

Type Att	ribute Name	Attribute Value
Q Perspec	tive ID	3710871253012

Pressing the button opens a new pop-up window and the response resulting from the Web Service call is displayed, with the name and ref_id of existing groups. These values can be stored in EA model object to manage groups creation and update, besed on CH identifier (see after).

Pressing the button will store all the entered parameters for the web service adapter in the DT database.

The button closes the data preview window and goes back to the Web Service configuration form.

5	Adapter Presiew	
Adapter Preview:		
CH - Read Application Name perspective		
Perspective Group Name	Perspective Group 1d	(a)
EDE Application	analogi rabas	
100	2112601793407	
Restort.com	3PURELPOPER	
Paul: 199, Dearlan	375-6801745448	10
landing (1824	311.0001.70000	
Network (Seri)	21.680.78284	10
pp Black Legery 11. Delea)	271881276090	
flag	3/1480-7680	
ani Dootsi (Ligate TT 196.)	provide Peter	
Crosses (24	proved method	
Page	37.080.7008	10
my TT: Grave	3711480.0M8087	
(1989), Sigger-K	371/0803/782508	
1746L Appressi Portal	LPUBBLI TRIDEN	
4	5 () () () () () () () () () ()
		Page 1 of 23 (1-50)
		Exil

1.2.18 CloudHealth – UPDATE PERSPECTIVE

To use the adapter for CloudHealth, **to update perspective**, fill the field "Web Service Home URL" with the CloudHealth URL you want to connect to. Then, provide a valid username/password to connect, or the API credentials (API Key), that can be generated by a valid account. Please, make sure that the account has the correct permissions to use CloudHealth API: http://apidocs.cloudhealthtech.com/#documentation_getting-your-api-key

TTINGS		
Access		
	Get API Key	
	Web Service Configuration	
Neb Service Horr		
https://apps.clou	udhealthtech.com	
	API Key	
API Key:		
API Key: a573862e-bcab-6	63ac-bcc7-2a04cbaca12b	
The "Next" button steps into the next window that shows the available operations of this Web Service; choose "UPDATE PERSPECTIVE", to push groups to the desired perspective in CloudHealth.

er	Web Service Configuration	
Operation]
Select an operation		
UPDATE_PERSPECTIN	VE	•
Adapter Name:		
CH - Update Applicati	ion Ecosystem]
Description:		-
update perspective "/	Application Ecosystem"	
Adapter Folder:		-
D:/DT_ADAPTERS		Browse
	< Previous Next >	

After selecting the desired operation, it is required to enter a name and a description for the adapter into the appropriate fields; the user must browse the file system for the adapter folder (used to save intermediate and result file for adapter execution).

The next button steps into the next window that allows the user to set values for the Web Service parameters.

¢.		Web Service Configuration
Туре	Attribute Name	Attribute Value
0	Perspective ID	
0	Queryable Assets	

When a lens icon shows beside the parameter name, this means that user may choose the parameter value from a list of available items.

In case of this example, with the double-click on the lens icon, a table appears, with the available perspectives:

Adapter Preview:			
OH - Read Application Name perspective - Persp	ective ID		
Perspective Name	Perspective Id	Active	6
Email	1099511682435	fabe	
Matrix	1099512084097	false	
RES Matrix MLS Application	1099512084099	false	
Account	3710851744917	true	
test	3710651744953	fabe	
Environment	3710851744966	วัวนส	1
Patform	3710851744972	trua	
Application	3710651744973	true	
Data Center Migration	371085174+977	true	
BU	371085174#996	true	-
Account ID	3710851744999	true	
blank for tagging	3710851745502	fabe	
cinternational-team	3710651745007	true	
CH - Tagging 4	3710851745008	Тавн	* 6
			Page 1 of 1 (1:36
		Analy	- mar 1

and Queryable assets:

8	Field Values Preview	
Adapter Preview		
CH - Update ApplicationEcosystem - Queryable Assets		
	Asset Name	10 A
AwsAsset		-
AwsTapgableAsset		
AlertlagicAccount:		
AnableAccount		
Ansbiellode		
AwsAccount		
AwsAdsConnection		
AwsAdsProcess		
AvesAdsServer		
AvisAlexiForBushesiDevice		
AvcsAlexaForBusriessUser		
AwsApKatewayStage		
AwsAppStreamFleet		
AwsAppStreamdmogeBuilder		
•		• G
		Page 1 of 5 (1-50
		Apply Exit

Select and apply the selection, even using multiselection in case of queryable assets:

1	er		Web Service Configuration	
Γ				7
	Туре	Attribute Name	Attribute Value	
	0	Perspective ID	3710581435024	
		Queryable Assets	AwsAsset AwsTaggableAsset AwsAccount GcpCompute	

Pressing the "Save" button will store all the entered parameters for the web service adapter in the DT database.

The "Exit" button closes the data preview window and goes back to the Web Service configuration form.

The Adapter, as mentioned, can be used to push data to CloudHealth and fill perspective groups. Based on an asset tag (for instance, application ID), corresponding metadata associated with the application ID will be pushed to CloudHealth in the form of perspectives and groups.

As an example, the perspective listing an Application Ecosystem and their associated applications can be aligned configuring a workflow, with a source providing values for application ecosystems name and associated application ID, and with the target operation "Web Service POST", using the configured adapter. To provide mappings between source and target field, use a "Data Formatting: Rename and Order Columns" transformation, with the mandatory "**Name**" field for the perspective groups, the optional "**ref_id**" field to manage

object renaming and additional fields name corresponding to tag fields to populate:

ata fe	armatting 💌	Rename and Order Col	umes 💌			Add
ansto	rmation fields					
				Apply	Remove	Reset
Sel	Column 1	Vame	* New Column Name	e)	New Column Or	der
and the second second	4 - Application Considered Alam	a a	Name	1	1	
1	1 <approximite ecosystem=""> nam</approximite>	fla-				
> >	1 <application ecosystem=""> Nam 1 <application ecosystem=""> CH_</application></application>	nef_id	ref_id	2		

apping and Operation—			
with operation:			
Web Service POST	-	CH - Update ApplicationEcosystem	-

1.2.19 Business Terms from BGM – Download Business Terms

To use the adapter for BGM **to get Business Terms**, select the authorization method (Account / Access Token) and enter the relevant credentials.

Glossary Mana	ger catalog download URI		
http://localhos	st:8077/erwinMMDG		
Account			
User:			
Administrator			
Password:			
•••••			
		1	
	< Previous	Next >	

Click the Next > button to proceed to the next step, and select the operation "Download Business Terms". Specify the specific Catalog ID or select "All" and click the Calculate URL button. Enter a name and folder for the adapter. A description can also optionally be entered for the adapter.

Click the Next > button to proceed to the next step. To save the adapter to the DT database, click the Save button.

eration				
elect an operation				
www.load Busines	s Terms			-
				1.1.1
	11	11		
• All O	Specific Catalog			
Calculate URL				
st:8077/erwinMM	DG/BGMCategoryActi	on.ads?action=do	wnioadAll8usinesC	atalog
dapter Name:	And and a second distance			- and
xample GET Ada	ster			
escription				
Sample Adapter				
dapter Folder.			Dress	T
/uit			0.04	194
	< Previous	Next >		

Click the **Next >** button to proceed to the next step, where the adapter can be previewed and/or saved.

Tune att	ibuta Name	attrib	uta Vakua
lame: (alue(s): 			Defer-
	< Previous	Test	Save

To preview a sample of the first 50 results, click the button.

Test

2	1 Chief	Set Presiew							
Adapter Preview:									
Example GET Adapter									
Path	Catalog Name	Business T.	Defi	-		 -	 	 	
AnotherBGMCatalog	Another8GMCatalog	BT - A			n n		TT.		
Another9GMEatalog/Hs8GMCatalog	HisBGMCatalog	BT+B		-	N N				
My8GMCatalog	MyBGMCatalog	BT - C		-	N N				
the second s				_					
HettiGMCatalog/MysGHCatalog/YetAnothettsGHCatalog	YetAnotherBGHCatalog	The neste			74 9				
HerbGMCatalog/MysGHCatalog/YetAnotherbGMCatalog	YetAnotherBGHCatalog	The nestered			11 10				
Methodik Latalogi MysGHCatalogi YetAnothensGHCatalog	YetAnotherBGHCatalog	The nestere			11 11				
Methodik Latalogi Myski HCatalogi Yet Anothenski HCatalog	YetAnotherBGHCatalog	The nestere			12 10			Page	1 of 1 (

To save the adapter to the DT database, click the **SAVE** button.

1.2.20 Business Terms from BGM – Upload Business Terms

To use the adapter for BGM **to get Business Terms**, select the authorization method (Account / Access Token) and enter the relevant credentials.

	Web Sen	vice Configuration	
Glossary Manage	er catalog download URL		
http://localhost:	8077/erwinMMDG		
0			
 Account 			
User:			
Administrator			
Password:			
•••••			
	d Dura da un	N	
	< Previous	Next >	
			Eult

Click the Next > button to proceed to the next step, and select the operation "Upload Business Terms". Specify the a specific Catalog ID or select "All" and click the Calculate URL button. Enter a name and folder for the adapter. A description can also optionally be entered for the adapter.

	1		
Upload Business	Ferms		•
All Calculate URL	Specific Catalog -1		
DG/BusinessGlos	aryAction.ads?action=	ImportCatvalidatio=	n&globalCategoryId=-1
Adapter Name:			
Example PUT Ada	pter		
Description:			
Example PUT Ada	pter		
Adapter Folder:			
C:\dt			Browse
	< Previous	Next >	
			Exit

Click the Next > button to proceed to the next step. To save the adapter to the DT database, click the Save button.

nin d	Dhibuda Manas	minis	ute Unive
194	ANNUUS Hanne	,400	ute value
tamer /alue(s)			(oter
	< Previous	Test	Save

The adapter can now be used as a target endpoint when mapping data in a workflow. To select the adapter as a target, select "Web Service POST" as the operation and select your BGM adapter. A mapping table will appear, allowing the source fields to be mapped to relevant target fields for creating BGM Business Terms.

*5			Workflow Configuration		
1. GENERAL INFO	2. CHOOSE SC 2. CHOOSE SC	JURCES	3. TRANSFORM DATA	4. OPERATION&TAR	IGET S 5. SAVE AND TEST
Configuration:	World	law:		Workflow folder	1
Heracity Fast	*			Adhe	
Workflow Name: BGN PUT Example		Description			
Steps consid. Sources Tenen EA Agile V3 (4002)	r Mapping and Operation with operation: Web Service POST	on	T Adapter 🔹	🗌 Send e-	mail to Single email for record
4 >	Sour	se Column	Target Fi	eid	Target Field Type
Tenaro Instante	1 Mame		Business Term	String	
	1 Description		Description	String	
	1 MyVal		Fath	String	
	I BGM Catalog (is part o	z f)	Catalog Name	String	
Coperations Example PUT Adapter					
661	nejete	Inpert W	Seve	Tret D	Cancel Exit

1.2.21 erwin DISuite Metadata Manager

To use the adapter for erwin DISuite Metadata Manager **to download Data Dictionary**, provide the url of erwin DISuite and enter the relevant credentials

*	Web Ser	vice Configuration	
Web Service Home	JRL:		
http://localhost:808	0/erwinDISuite		[]
User:			
Administrator			
Deserverd			
Password.			
•••••			
	< Previous	Next >	
			Exit

Click the Next > button to proceed to the next step, and select the operation "Download Metadata".

Provide the "System Name", "System Id", "Environment Name", "Environment Id" in their respective edit box.

Enter a name and folder for the adapter. A description can also optionally be entered for the adapter.

*	Web Service Configuration	
_ Operation		
Select an operation		
Download Metadata		-
System Name	System Id	
Unstructured Sources	s 24	
Environment Name	Environment Id	
JSON	32	
Adapter Name:		
unstruct JSON		
Description:		
asd		
Adapter Folder:		
C:/erwin/test-collecto	or/adapter	Browse
	< Previous Next >	
		Exit

Click the Next > button to proceed to the next step, where the adapter can be previewed and/or saved.

Cline contracts (1905)		Ath	oute Value
Name: Value(s)			
I			Dater.
	Previous	Test	Save

To preview a sample of the first 50 results, click the	Test	button
To save the adapter to the DT database, click the	SAVE	button.

1.2.22 erwin DISuite Mapping Manager

To use the adapter for erwin DISuite Mapping Manager **to download Mappings**, provide the url of erwin DISuite and enter the relevant credentials

÷	Web Service Configuration	
Web Service Hom	e URL:	
http://localhost:8	3080/erwinDISuite	
User:		
Administrator		
Password:		
	< Previous Next >	
		Exit
	-	LAIL

Click the **Next >** button to proceed to the next step, and select the operation "Get Mappings from DI Suite Mapping Manager".

Provide the "Project Id" of the project in Mapping Manager.

Enter a name and folder for the adapter. A description can also optionally be entered for the adapter.

Operation Select an operation Get Mappings from DI Suite Mapping Manager Project ID: 9 Adapter Name: get Mappings Description: description Adapter Folder: C:\erwin\test-collector\adapter Browse		Web Serv	ice Configuration	
Select an operation Get Mappings from DI Suite Mapping Manager Project ID: 9 Adapter Name: get Mappings Description: description description C:\erwin\test-collector\adapter Erowse	Coperation			
Select an operation Get Mappings from DI Suite Mapping Manager Project ID: 9 Adapter Name: get Mappings Description: description description Adapter Folder: C:\erwin\test-collector\adapter Browse	O de star an anti-			
Get Mappings from DI Suite Mapping Manager Project ID: 9 Adapter Name: get Mappings Description: description description C:\erwin\test-collector\adapter Browse	Select an operation			
Project ID: 9 Adapter Name: get Mappings Description: description description Adapter Folder: C:\erwin\test-collector\adapter Browse	Get Mappings from DI	Suite Mapping Man	ager	•
Project ID: 9 Adapter Name: get Mappings Description: description description C:\erwin\test-collector\adapter Browse				
9 Adapter Name: get Mappings Description: description Adapter Folder: C:\erwin\test-collector\adapter Browse	Project ID:			
Adapter Name: get Mappings Description: description Adapter Folder: C:\erwin\test-collector\adapter Browse				
Adapter Name: get Mappings Description: description Adapter Folder: C:\erwin\test-collector\adapter Browse				
Adapter Name: get Mappings Description: description Adapter Folder: C:\erwin\test-collector\adapter Browse				
get Mappings Description: description Adapter Folder: C:\erwin\test-collector\adapter Browse	Adapter Name:			-
Description: description Adapter Folder: C:\erwin\test-collector\adapter Browse	get Mappings			
description Adapter Folder: C:\erwin\test-collector\adapter Browse	Description:			╗
Adapter Folder: C:\erwin\test-collector\adapter Browse	description			
Adapter Folder: C:\erwin\test-collector\adapter Browse				
Adapter Folder: C:\erwin\test-collector\adapter Browse				
C:\erwin\test-collector\adapter Browse	Adoptor Foldor:			
< Previous Next >	C:\enwin\test-collecto	r)adapter		Browse
< Previous Next >	C. lei Win (test collecto			
< Previous Next >				
		< Previous	Next >	
Fvit				Fxit
				LAIL

Click the Next > button to proceed to the next step, where the adapter can be previewed and/or saved.

ribe woundre manne	£ (At	ribute Value
Name			
Value(s)			Deter
N.			-
			Save
	< Previous	Test	

To preview a sample of the first 50 results, click the	Test	button
To save the adapter to the DT database, click the	SAVE	button.

1.3 File Adapter Configuration

Going through this configuration window, the user can set up a file adapter to use as a data source or operation in a workflow.

It's possible to:

- Configure a File Adapter to use the file content as a data source in a workflow – GET type
- Configure a File Adapter to use as a workflow operation target PUT type

See later for a detailed description of using a <u>File Adapter</u> the workflow configuration.

₩ <mark>de</mark> F	ile Adapter
Name	Description Id
General * Name: * Description:	Connection * Host IP: * Port: 21 * UserName:
* Adapter Folder : * Operation : Get	* Password:
* Operation Parameters * Protocol: FTP * Type: CSV	Proxy Use Proxy Socks Host IP: Port:
* FTP Server Directory:	UserName: Password:
Add Delete	Save Cancel Test

The first group of fields in the window relate to the File Adapter List, which lists all the File Adapters available.

The second group is the General Parameters, which include the Name, Description, File Adapter folder and Operation type (GET - PUT); all these fields are mandatory.

Please note that in this case the adapter folder is the one used as the destination folder for the GET adapter and the source folder for the PUT adapters, as explained later.

The third group is the Operation Parameters, including all the parameters needed to actually perform the requested operation, as a Protocol (NFS or FTP), file type, etc.

The fourth group is the Connection Parameters to be set up when configuring an FTP file adapter.

To create a new File Adapter just press the Add button and start editing the new adapter parameters.

The name, description and adapter folder for the File Adapter are the first fields to enter in the form; then, depending on the selection in the drop-down list named **Operation** (GET or PUT) the Operation Parameters section shows the following:

1.3.1 Operation "GET"

When the field "Operation" is set to "GET", then the Operation Parameter section shows options for the file adapter execution. The first option is related to the protocol (NFS or FTP)

1.3.1.1 NFS Protocol

If the protocol is set to NFS, then the Operation Parameter section shows the following parameters:

- Type (CSV, Sheet, XML, MS Project, DM) file type the adapter will manage
- Target (remote) Directory that will be used at adapter execution time to get files from; this may be anywhere in the Windows network file system, provided that it is accessible

and readable by the Windows user ("local system account") performing batch operations.

Filters – used to include more than one file in the adapter operation (using "*" as a wildcard for the beginning, in the middle, or at the end of file name). If filter is set as a single "*", then the entire folder content will be used by the adapter during execution.

* Operation Para	ameters	
* Protocol:	NFS	-
* Type:	CSV 💌	
* Target Direct	ory:	
* File/Filters:		
*		

1.3.1.2 FTP Protocol

If the protocol is set as FTP then the Operation Parameter section shows the following parameters:

- Type (CSV, Sheet, XML, MS Project, DM) type of file the adapter will manage
- FTP Server Directory that will be used at adapter execution time; this may be anywhere in the network file system, provided that it is accessible and readable by the adapter specified in the FTP account (see below)
- Filters used to include more than one file in the adapter operation (using "*" as a wildcard for the beginning, in the middle, or at the end of file name). If filter is set as a single "*", then the entire folder content will be used by the adapter during execution.

* Protocol: FTP ▼ * Type: CSV ▼ * FTP Server Directory:	[* Operation Paran	neters	
* Type: CSV ▼ * FTP Server Directory:	* Protocol:	FTP	-
* FTP Server Directory: * File/Filters: *	* Type:	CSV 💌	
* File/Filters:	* FTP Server Dir	ectory:	
* File/Filters:			
*	* File/Filters:		
	*		

Moreover, the user has to define the Connection and Proxy sections with the parameters needed to access the FTP server.

Connection * Host IP:	* Port: 21
* UserName:	
* Password:	
Proxy	
Use Proxy Socks	
Host IP:	Port:
UserName:	
Password:	

All the parameters in the Connection section are mandatory, including the FTP account to be used to access the specified directory; if a proxy is used then the user must complete the Proxy section parameters.

1.3.2 Operation "PUT"

When the field "Operation" is set to "PUT", then the Operation Parameter section shows options for the file adapter execution. The first option is related to the protocol (NFS or FTP)

1.3.2.1 NFS Protocol

If the protocol is set to NFS, then the Operation Parameter section shows the following parameters:

 Target (remote) Directory that will be used at adapter execution time, to drop files coming out from workflows using it as operation target; this may be anywhere in the Windows network file system, provided that it is accessible and writable by the Windows user ("local system account") performing batch operations.

[* Operation Para	meters —		
* Protocol:	NFS		-
* Target Directo	ory:		

1.3.2.2 FTP Protocol

If the protocol is set to FTP, then the Operation Parameter section shows the following parameters:

• FTP Server Directory that will be used at adapter execution time, to drop files coming out from workflows using it as operation target, provided that it is accessible and writable by the adapter specified FTP account (see below)

* Operation Par	ameters ——	
* Protocol:	FTP	-
* FTP Server I	Directory:	

Moreover, the user has to define the Connection and Proxy sections with the parameters needed to access the FTP server.

Connection	
* Host IP:	* Port:
	21
* UserName:	
* Password:	
Proxy	
Use Proxy Socks	
Host IP:	Port:
UserName:	
Password	

All the parameters in the Connection section are mandatory, including the FTP account to be used to access the specified directory; only if you have a proxy you must complete the Proxy section parameters.

To save the new File Adapter just created, press the **Save** button. The adapter will be saved and added to the File Adapter List at the top of the window.

To cancel the adapter data just entered and to reset the window, press

the **Cancel** button.

To delete an existing adapter, just select it and press the **Delete** button. It will be permanently removed from the File Adapter List (all the items linked to the file adapter are removed: job, workflow using it as source).

The button closes the window.

2 Transformation Library Configuration

In the Transformation Library there are some pre-built parsers (based onto XSLT) to apply transformations to the data managed through the workflow (see after):

- Data cleanse (like Data Type Check,Not Allowed Text Check)
- Data format (like Format Date Format Number -Capital/Small letter - Suffix/Prefix - Replace Text)
- Data structure change (like Combine Field Split Field Add Fixed value field)
- Data filter (like Fixed values, Interval Value)
- Data Derivation (like Sum values in rows/columns, counting values in rows/columns, Match keys and pick values)

These kinds of XSLT files can't be modified or deleted by the user.

Library Configuration					
Library List					
Operation	Activity	Description	File		
Custom Transforma	CC2CSV	Transform workflow	CC2CSV.xsl		
Custom Transforma	SharePointListPar	Extract List items in	GetListItemsResp		
Custom Transforma	CC2EXCEL	Transform workflow	CC2EXCEL.xslt		
Custom Transforma	CC2HTML	Transform workflow	MyXSLT2HTML.xslt		
Custom Transforma	CC2PDF	Transform workflow	wkhtmltopdf.exe		
Data filtering	Distinct Values	Distinct Values	distinctValues.xsl	-	
CC2CSV XSLT (other) CC Schema				a	
Transform workflow ou	utput in CSV format				
File:*					
C:/ProgramData/erwin	Collector/library/Cust	om Trasformation/CC2C	SV.xsl Browse	•	
Add	Delete	Save	Cancel		
			Exit		

The top field of the window shows the contents of the XSLT library, with a short description and the relative XSL file.

Selecting an activity from the list automatically completes the Library Parameters fields with the parameters of the library.

Optionally, it's also possible here to define custom XSLT library elements to be used in the workflow configuration for input or output data formatting (see later). The custom parsers must have been developed in advance, with a proper XML/XSLT editor.

To add a new custom XSLT to the library, press the **Add** button; once the name and description are provided, the browse button pops up a new window allowing the user to select an .XSLT file from the file system. The selected file will be copied into the subfolder "library\Custom Transformation" of your DT data installation folder.

A custom transformation could be alternatively defined as:

- CC compliant output is XML, compliant with the CC internal XML schema
- CC uncompliant output is XML, with a different schema, or HTML, or TXT, or MS Excel
- CM compliant output is XML, compliant with CM operation schema (only to be used to load in CM models multiple intersection object type at once)

It's possible to have a preview of the CC internal Schema / CM operation Schema pressing the cc schema button, with the appropriate dropdown type selection:

Type:*		
XSLT (other)	-	CC Schema
XSLT (CC complian	t)	
XSLT (CM compliant)		
XSLT (other)		



The **save** button saves the XSL library once created or modified by the user.

The **Delete** button deletes the XSL library that user selected from the list.

The button resets all the fields just edited by the user.

The **Exit** button closes the window.

Chapter 3

1 Model Configuration

If logged to a CE Repository, this window can add, delete or modify a *model configuration*. A *model configuration* is a group of parameters that:

- Allows DT to connect to models in CE repository
- Allows the user to configure preferences (publication sets, export folder, etc.)

In order to prevent inconsistency that may arise if two or more configurations address the same data, one model can be associated to only one configuration.

***		Model	Configuration
Configuration			Exchange Connection:
EA Foundation - Sample Model		-	Model Name:*
Configuration workflows	1	1	L LeA Foundation - Sample Model
Name	State	ld	EASAMP14
			Configuration name:* EA Foundation - Sample Model Configuration folder:* C:\Users\Alessio\Documents\Model Export Userid for import/export operations: ADMIN Password: C:
Add Delete	Save WF	status	Save Cancel Exit

The first step is to select a configuration from the pick list, or add a new one by clicking the **Add** button.

Selecting an existing configuration fills all fields in the form automatically.

On pressing the "Add" button, the user is required to set the configuration name, to select a model name and an export folder, which will be also the working folder for automatically created adapters to import/export data from workspace.

In particular, the user should select model name and preferences in the section "Model parameters". All fields are mandatory.

In detail, the following parameters have to be defined:

- *Model name* select the name of the model you want to work with.
- Configuration Folder browse to a path where you wish the model backups and exports to be saved

At the left side of model configuration window, is a list of the existing workflows created to manage information flows in and out of that model. In particular, you can see the name, the activation status and ID of each (useful for troubleshooting purposes, see later).

onfiguration				
1000			Exchange Connection:	
enain EA			locabort	-
Select Configuration			Configuration Parameters	
EA Foundation - Sample Model			Hodel Name:*	
			D.A.Foundation - Sample Header	+ 100
Configuration workflows	327.1	1.05	Hedal Script Name:*	the state
Name	State	10	FASAMO14	
			Centiguration folden* CritisentAksanDoorments/Model lopar Usend for impet/export operations: ADHDI	
			Password	

You can change "Active/Not Active" status of the single workflow by double-clicking on status cell, and then simultaneously saving the current set with the save WF status button.

To save the Model Configuration use the	Save	hutton	
TO Save the Model Configuration use the		Dullon	

Pressing the	Cancel	button clears all fields on this form.
--------------	--------	--

To delete an existing configuration just select it from the configurations list and press the **Delete** button. The configuration will be removed from the list. Please note that if a configuration is deleted, all the adapters, jobs and workflows associated to the configuration will be deleted.

The ______ button closes the window.

2 Workspace Configuration

If logged in to EA Agile or EA Agile V3, this window is to add, delete or modify a *workspace configuration*. A *workspace configuration*, in a similar way to CM *model configuration*, from the tool perspective, is a group of parameters that:

- Allows DT to connect to an EA Agile workspace
- Allows the user to configure preferences for export folder

In order to prevent inconsistency that can arise if two or more configurations address the same data, one workspace can be associated to only one configuration.

<u>}</u>		Model C	Configuration			
configuration						
			Base URL:			
erwin EA Agile		-	https://uk.myerwin.io			
Select Configuration			r Configuration Parameters			
My AS IS Architecture		-	Workspace Name:*			
Configuration workflows			My AS IS Architecture			
Name	State	Id	Workspace ID:*			
_A SALSAL MULTI 3	Not Active	1303	1705			
BMC ADDM getting Hosts	Active	1288	Configuration name:*			
EA AGILE - Load Apps from App catalogue	Active	1275	- Coniguration name:			
EA AGILE - Export app compoent to DB Lo	Not Active	1272	My AS IS Architecture			
EA AGILE - Export app component to PDF	Active	1279	Configuration folder:*			
EA AGILE - Export app components to Serv	Active	1274	C:\Users\csalaris\Documents_CC_EAGILE			
EA AGILE - Exporting View My Reqs	Not Active	1276	llaarid faa immaat (armaat aa amtiaaa			
EA Agile - Getting Applications from Service	Active	1284				
Exporting requirements (OT)	Not Active	1287	csalaris			
My CRM Portfolio	Active	1283	Password:			
		·				
		1				
Add Delete	Save WF	status	Save Cancel Exit			

The first step is to select a configuration from the pick list, or add a new one by clicking the **Add** button.

Selecting an existing configuration fills in all fields on the form automatically.

On pressing the "Add" button, the user is required to set the configuration name, to select a workspace name and the export folder, which will be also *the working folder for automatically created adapters to import/export data from workspace*.

In particular, the user should select model name and preferences in the section "Model parameters". All fields are mandatory.

In detail, the following parameters have to be defined:

- *Workspace name* select the name of the workspace you want to work with.
- **Configuration Folder** browse to a path where you wish the exports to be saved

At the left side of model configuration window, is a list of the existing workflows created to manage information flows in and out of that model. In particular, you can see the name, the activation status and ID of each (useful for troubleshooting purposes, see later).

Configuration workflows		1
Name	State	ld
_A SALSAL MULTI 3	Not Active	1303
BMC ADDM getting Hosts	Active	1288
EA AGILE - Load Apps from App catalogue	Active	1275
EA AGILE - Export app compoent to DB Lo	Not Active	1272
EA AGILE - Export app component to PDF	Active	1279
EA AGILE - Export app components to Serv	Active	1274
EA AGILE - Exporting View My Reqs	Not Active	1276
EA Agile - Getting Applications from Service	Active	1284
Exporting requirements (OT)	Not Active	1287
My CRM Portfolio	Active	1283

You can change "Active/Not Active" status of the single workflow by double-clicking on status cell, and then simultaneously saving the current set with the Save WF status button.
To save all the Model Configuration use the Save button.
Pressing the Cancel button clears all fields on this form.
To delete an existing configuration just select it from the configurations list and press the Delete button. The configuration will be removed from the list. Please note that if a configuration is deleted, all the adapters, jobs and workflows associated to the configuration will be deleted
Eult

The ______button closes the window.

Chapter 4

1 WorkFlow Configuration

This window goes through the configuration and management of the Workflow. For each CW model, for which a configuration has been set up (see

Chapter 3), the user can define more than one workflow.

Each workflow is described through three main sections: - Data Source, containing information for getting the input data - Transformation, containing activities to be applied to transform the input data

- Operation, which details the target of the workflow, i.e. where to send the output data

10	Workt	low Configuration	
GENERAL INFO S	2. CHOOSE SOURCES 3. TRANS Woldow: Uod APPS AND VENDORS DATA FROM Description: VATA FROM AFP CATALOS	FORM DATA 📰 🔪 4. OPE	RATION & TARGET (2) 5. SAVE AND TEST // rooddow folder: rogramOsta/etwmCollector/workflox_s/workflow_945
Steps content Sources 2 Mr SQL APP CATALO App Vandors App Vandors	Source Fields Source Fields D_APPLICATION COD_APPLICATION COD_APPLICATION DESCR_APPLICATION DESCR_APP	Completed 1% of task - W Completed 5% of task - W Completed 5% of task - W Completed 25% of task - I Completed 35% of task - I	Add J VENDO ROM APP CATALOG (487)" Prog 35% Jorifiow execution has been queued (1 sec.) Source Adapter(s) queued (18 sec.) Source (dapter(s) completed (65 sec.) Source(s) normalized - Transformation started (1:19 min.) NNE INPUT 2-2-TRANSE OUTPUT 30
Operation EA Nodel - IT Archtischures Mer.com Add	Seleter Export WF	Save Test	Cancel Dat

Configuring a workflow means:

- 1. Providing **general information**, like name, descriptions and "active" status
- 2. Choosing applicable **data sources**, and providing normalization parameters (like name of the sheet for Excel files, or the object type to extract for an EA/EA Agile Adapter)
- Optional data transformation filters on source data and other needed data manipulations settings
- 4. **Operation and target** what system/human resource is the target for the desired operation

5. **Test** and **save** the workflow: workflow is ready to be tested (whatever the setting for "Active" checkbox is) and saved for further scheduled executions (if set in "Active" mode)

First of all the user is required to select a model/workspace configuration in the **Configuration** drop-down list.

In the "Workflow" drop down list are displayed all the existing workflows for that model configuration.

To create a new Workflow, press the button. This pops up a new window with two options:

- Create the new Workflow from blank settings (option "New from blank settings"), or
- Copy it from an existing Workflow, that the user can choose from the displayed drop-down list (option "New copy from").

	Workflow definition
Create a ne	w Workflow
New -	from blank settings
O New -	copy from
	~
	OK Exit

When the user presses the "Add" button the workflow name and description are set and then the three sections of a workflow are defined.

1.1 Data Source

To define the source of a Workflow follow the steps in the section "External Data Source Definition":

- Select ADD button
- Select the external data source type

According to the type of the data source, the External Data Source Definition section shows the requested data normalization parameters as described below.

User may also create File Adapter, DB Adapter and Web Service Adapter using the <Create New> item in the available adapters list, and pressing "Apply" button.

1.1.1 File Adapter

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Select the name of the File Adapter from the drop-down list, Name (as mentioned in Chapter "File Adapter Configuration" only "GET" File Adapters will appear in the list).

- If the type of file is "CSV" it's necessary to complete the following information:
 - Header (yes/no)
 - Separator (between columns)
- If the type of file is "Sheet" it's necessary to complete the following information:
 - Header (yes/no)
 - 1° column
 - 1° row
 - Sheet name
- If the type of file is "XML" it's necessary to complete the following:
 XSL Parser

This parser can be selected in a list containing all "non CC compliant" custom transformations, previously defined in "XSLT

Library". Any XSLT parser developed to manage XML data has to provide a CSV structure, with a "semicolon" as a separator.

- If the type of file is "*Project*" it's necessary to complete the following:
 Project Information (TASK, RESOURCE)
 This allows the user to extract information from the project file, related to the work breakdown structure, task start and end dates, task duration, task cost; or the resource assignments in task, with earned value information, budget and actual cost and work.
- If the type of file is "*DM*" it's necessary to complete the following:
 DM Information (ENTITY_ATTRIBUTES, RELATIONSHIPS) This allows the user to extract information from DM export file, about Entities, their attributes and Primary Key/Foreign Key roles and Relationships:

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creates	Person creates Task	Person	Task	-3	
logs in	Person logs in Message_Log	Person	Message_Log	-3	

- Click the "Apply" button to save the data source
- A preview of the source fields will be shown
1.1.2 DB Adapter



- Select the name of the DB Adapter from the drop-down list, Name (only DB Query and Stored Procedure Adapters will appear in the list)
- Click the "Apply" button to save the data source
- A preview of the source fields will be shown

1.1.3 WS Adapter



- Select the name of the Web Services Adapter from the dropdown list
- Select XSL Parser for source normalization from the list

This parser can be chosen in a list containing all "non CC compliant" custom transformations previously defined in "XSLT Library"; in particular, any XSLT parser developed to manage outside XML data has to provide a CSV structure, with "semicolon" as separator, to be effective in this step.

- Click on the "Apply" button to save the data source
- A preview of the source fields will be shown

1.1.4 EA Adapter (formerly CM Adapter)



When creating a model configuration, adapters to import / export data from model are automatically created (the working folder is the one set as "Export folder"):

Select the name of the EA Adapter from the drop-down list Name (only the "EA Adapters for import" will be shown in the list)

- Select the object type from the drop-down list "Select Object Type"
- Click on the "Apply" button to save the data source
- A preview of the source fields will be shown

It's also possible to choose which Properties/Associations extract through an EA Adapter for the selected object type. The "Source Filters" button allow user to pick only the desired information from a model, while default operation includes all of them.

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When selecting an intersection object type, the list of exportable fields includes not only the ones defined for the intersection object itself, but the ones defined for associated objects. This way, it's easy to have with a single data source a combined set of source object and target object of the association:



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1.1.5 EA Agile Adapter

When creating a workspace configuration, adapters to import / export data from workspace are automatically created (the working folder is the one set as "Export folder"):

- Select the name of the EA Agile Adapter from the drop-down list Name (only the "EA Agile Adapters for export" will be shown in the list)
- Select the object type from the drop-down list "Select Object Type"
- Click the "Apply" button to save the data source
- A preview of the source fields will be shown

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Source Fields					
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It's also possible to choose which Properties/Associations

extract through an EA Agile Adapter for the selected object type. The "Source Filters" button allow user to pick only the desired information, while default operation includes all of them.



1.1.6 EA Agile V3 Adapter

When creating a workspace configuration for EA Agile V3, adapters to import / export data from the platform are automatically created (the working folder is the one set as "Export folder"):

- Select the name of the EA Agile V3 Adapter from the dropdown list Name (only the "EA Agile V3 Adapters for export" will be shown in the list)
- Select the object type from the drop-down list "Select Object Type"
- Click the "Apply" button to save the data source
- A preview of the source fields will be shown

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It's also possible to choose which Properties/Associations extract through a EA Agile V3 Adapter for the selected object type. The "Source Filters" button allow user to pick only the desired information, while default operation includes all of them.

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It is also possible to optionally select a "Container type" for the selected; for an object type that contains either an object of the same type or the selected object type as a terminal node, the hierarchy of the source object type will be resolved in generated fields. This cannot be combined reliably with the source filters.

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Regardless of the data source type, it is possible to insert more than one data source in the same workflow of the same type or of different types); each data source is then marked with a sequence number.

In this case you have a "multi source" workflow, and a specific "**multisource job**" is created to be scheduled and produce all the different data sets involved at the same time (thus ensuring the time consistency of the whole set of related information). The data sources defined in a workflow will be displayed in the section Source Definition in the left upper area of the Workflow window:



It's possible to select one of these data sources to modify it. Please be careful, as when a user modifies the source of a workflow, all fields will be deleted for the transformation and mapping rules, where they are not required by the new source definition.

The **Remove** button deletes the selected source from the workflow; the **Reset** button clears all the settings for the selected source.

Dutton clears all the settings for the selected source.

Please note that changing the source will result in a transformation and mappings reset, unless the new source provides exactly the same source columns as the previous.

1.2 Transformation

To define the transformations in the intermediate step of the new Workflow follow the following steps in the section Transformation Configuration:

- Click on the ADD button to insert a transformation. It's possible to add more than one transformation for each workflow and apply a specific transformation to the data source fields or to the new columns coming from a previous transformation of the same workflow. - Select the transformation from the "Transformation" and "Activity" drop-down lists

- Click the "Apply" button to apply the selected transformation rule

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The available Transformations and Activities are:

1.2.1 Data Cleansing

1.2.1.1 Data Type Check

The "*Data Type Check*" Transformation applies in the case the user needs to check the *format* of the columns and perform an *action* in case the data format is not compliant with the specified format. The actions are *drop text* (exclude from the following workflow steps only the invalid format values in the specified column), *drop row* (exclude from the following workflow steps the whole record containing an invalid value for any specified column) or *drop file* (discard the entire file – no following operations will be performed). All these configurations may be done separately for each source field.

1.2.1.2 Not Allowed Text Check

The "*Not Allowed Text Check*" Transformation applies when it's required to check if in the selected column there is a specific *string value* and perform an *action* in the case of invalid data.

If a cell contains a value containing that text (i.e. is not valid) the user can choose the action to perform. The possible choices of action are *drop text* (remove specified text from the cells in the specified column), *drop row* (exclude from the following workflow steps the whole record containing an invalid value for any specified column) or *drop file* (discard the entire file – no following operations will be performed). All these configurations may be done separately for each source field.

1.2.1.3 Normalize Blank Spaces

The "*Normalize Blank Spaces*" Transformation applies when it's required to delete some redundant blank spaces in the cell value. It's possible to choose between "Left Trim", "Right Trim", "Trim (both sides)", "Normalize Blank Spaces" (this will trim blank spaces from both sides and delete internal spaces between words if more than one. All these configurations may be done separately for each source field.

1.2.2 Data Formatting

1.2.2.1 Format Date

The "Format Date" Transformation applies if it is required to *transform* a column with internal data type DATE from a specific *source format* (for example EUR date format) into a different *target format* (for example USA date format). If the column value can't be transformed into the specific format, the user can choose the action to perform. The possible actions are; *drop text* (exclude from the following workflow steps only the values in the specified column where transformation can't be performed), *drop row* (exclude from the following workflow steps the whole record for a specified column where the transformation can't be performed in any specified column) or *drop file* (discard the entire file – no following operations will be performed). All these configurations may be done separately for each source field.

1.2.2.2 Format Number

The "Format Number" Transformation applies if it is required to transform a column with internal data type NUMBER (integer or decimal) from a specific source format (for example EUR number format) into a different target format (for example USA number format). If the column value can't be transformed into the specified format, the user can choose the action to perform. The possible actions are *drop text* (exclude only the values in the specified column where the transformation can't be performed), *drop row* (exclude the whole record for a specified column where the transformation can't be performed) or *drop file* (discard the entire file and stop). All these configurations may be done separately for each source field.

1.2.2.3 Capital/Small letter

The "*Capital/Small Letter*" Transformation applies if it is required to change the string format of a specific column; the user can choose from Capitalized, To Upper and To Lower. The transformation will be applied to the specified column value. All these configurations may be done separately for each source field.

1.2.2.4 Suffix/Prefix

The "*Suffix/Prefix*" Transformation applies if it is required to add a specific string to a specific column value; the user can choose between Suffix and Prefix and insert the string to add as prefix/suffix to the column value. All these configurations may be done separately for each source field.

1.2.2.5 Replace Text

The "*Replace Text*" Transformation applies if it is required to replace a specific string value with another string value into a specific column values; the user can edit the text to be replaced and the text to replace it with. Some special replace can be obtained: in a cell containing multi-values separated by commas, for instance, using "**\n**" to replace "," will result in a cell containing a list of those values separated by a newline. Also, wildcards can be used: for instance, when asked to replace "**PROC*_**" with "", DT will delete this sub word from the cell value regardless of the

dynamic part of it. All these configurations may be done separately for each source field.

Special parameter can be used for particular replace requirements:

- <%BLANK%> as text to be replaced: to replace empty text
- <%SYSDATE%> as text to replace with: to obtain datetime (at execution time) in UTC format or <%SYSDATE_EUR%> to obtain datetime in European format or <%SYSDATE_USA%> to obtain datetime in United States format (see here for date format descriptions).

1.2.2.6 Replace Value on Condition

The "*Replace Value on Condition*" Transformation applies if it is required to set a specific value if a condition is matched and another if it's not. The user can edit the condition on the source column, choosing between "Equal", "Not Equal", "Less than (numeric value)", "Greater than (numeric value)", "Like" or "Not Like" options, and then editing the value to be compared with the source column value. Then the user may pick between the available columns to set the column target to be used in case the condition is matched or not. Parameters can be applied as previous transformation.

1.2.2.7 Rename and Order Columns

The "*Rename and Order Columns*" Transformation applies if it is required to change the name of a specific column, and or its order, in the output; the user can choose to rename a column, to give it a different order from the natural one (as coming from the source), or both. The order is not mandatory, while the given orders must not be conflicting. The transformation will be applied to the specified column value. All these configurations may be done separately for each source field.

1.2.2.8 Selected Value in List

The "Selected Value in List" Transformation applies if it there is a column containing a multiline text, as when exporting from a CM model an object and a list of associated objects, and it's needed to have a single item of that list, either the first or the last. The user can set the option on the source column, choosing between

"First value in List", "Last value in List". All these configurations may be done separately for each source field.

1.2.2.9 Multiple Rows Values to Multiline Cell

The "*Multiple Rows Values to Multiline Cell*" Transformation applies to get a list of items from a column containing different values, fixed other columns, grouping them in a multiline cell.

Typical use case: when exporting an intersection object type, with couples of associated objects, from a model, for a given couple obj1-obj2, obtain one single row with obj1 and a list of all the obj2 for that obj1 value.

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1.2.2.10 Multiline Cell to Multiple Rows

The "*Multiline Cell to Multiple Rows*" Transformation applies to get, from a single multi-value (multiline) cell, one different row for one single different value in multiline value

Typical use case: getting an object from CM, with properties and associations and obtain one row per associated object, for selected association type

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1.2.2.11 Group data from datasets

The "Group data from datasets" Transformation applies when data belonging to different dataset must be grouped into one.

Typical use case: different lists of the same object type are provided by different data sources, and must be loaded into

model, in a single workflow operation. This can be obtained defining:

- one dataset to be the master (this will contain all merged data): set this option on whatever column in the dataset
- one or more dataset providing data to append by column name (data will be appended to the master one by its columns name): set this option on whatever column in the dataset
- one or more dataset providing data to append by column position (data will be appended to the master one by its columns position): set this option on whatever column in the dataset

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After the transformation, the master dataset will contain all data as per configured merging options, and can be used to send data to model:

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1.2.2.12 Sort Data by Columns

The "Sort Data by Columns" Transformation applies if it is required to sort data by column contents. Use columns "Order Index" (1..4) and "Order Type" ("A to Z", "Z to A", "Numerical

Ascending", "Numerical Descending") to have data sorted by the corresponding content and settings.

1.2.2.13 Compare and Replace

The "Compare and Replace" Transformation applies if it is required to compare two column values, and replace a third or fourth column value, if the condition is matched or not. Check the source column to be compared, set the condition, and the value for the comparison; select the true value (column to be used to replace value of the source, when condition is matched) and false value (column to be used to replace value of the source, when condition is not matched). After the transformation, the source column value will be replaced with the "true" value or "false" value, depending form the result of the condition evaluation.

1.2.3 Data Structure Changing

1.2.3.1 Combine Field

The "*Combine Field*" Transformation applies if it is required to create a new column as result of the combination of two other column values. The user can insert a name of the new column, the *first field* of the combine operation, a *separator* and the *second field*.

The user must indicate which is **the data source to assign to** the new column, using the "Adapter to assign column" drop-down list. This new column can be used by another transformation or by the mapping operation. Special chars like "**\n**" (combine with newline) can be used for specific requirements.

1.2.3.2 Split Field

The "*Split Field*" Transformation applies if it is required to create two new columns as result of the splitting an existing column value.

The user can insert the name of the *two new columns* and the *separator* that the system must use to perform the split operation. If you have more than one data source, you must indicate which is the data source to assign the new column to, using the "Adapter to assign column" drop-down list. This new column can

be used by another transformation or by the mapping operation. Special chars like "**\n**" (split by newline) can be used for specific requirements.

1.2.3.3 Add Fixed value field

The "Add Fixed Value Field" Transformation applies if it is required to create a new column with the same value for all the entries. The user can insert a name for the new column and the value to assign to it. When you have more than one data source you must indicate which is the data source to assign the new column to, using the "Adapter to assign column" drop-down list. This *new column* can be used by another transformation or by the mapping operation. A parameter can be used to populate the new column with the system date and time: <%SYSDATE%> for <%SYSDATE EUR%> UTC format. for EUR format. <%SYSDATE USA%> for USA format (see paragraph 1.3.1 for date format descriptions).

1.2.3.4 Copy Column

The "*Copy Column*" Transformation applies if it is required to create a *new column* with the *same values of another*. The user can insert the name of the new column and the column value to assign to it, picking it from a list of available columns. The user must indicate which is the data source to assign the new column to, using the "Adapter to assign column" drop-down list.

This new column can be used by another transformation or by the mapping operation.

1.2.3.5 Drop Column

The "*Drop Column*" Transformation applies if it is required to delete one or more *columns* from the output. The user must check the column to be deleted and set the action to "DROP COLUMN". The selected columns will not be included in the resulting output. A second option, "DROP DATASET", will remove from the output the entire dataset that the column is in.

1.2.4 Data Filtering

1.2.4.1 Fixed value manager

The "Fixed Value Manager" Transformation applies if it is required to *filter* the workflow data by some *fixed value* specified for a given column. The user can insert the format of the column, the *filter operator* between "Equal", "Not Equal", "Greater than", "Less than", "Like" or "Not Like", "Equal sysdate", "Later than (days ago)", "Later than (hours ago)", "Later than (minutes ago)", "Earlier than (hours ago)", "Earlier than (days ago)", "Earlier than (hours ago)", "Not in (semicolon separated)" and the value to use as filter. For example, the condition "Not Like" and the value "a" will remove from the resulting dataset all the rows in which that column value does not contain "a" (case sensitive). All the configurations may be done separately for each source field.

When using "Like" and "Not Like", wildcard "%" can be used to filter content containing text ("%CRM%": only cells containing "CRM" match filter), starting with text ("CRM%": only cells starting with "CRM" match filter), ending with text ("%CRM": only cells ending with "CRM" match filter).

When possible, filters defined as first transformation in the list, for columns coming from a CM Object Type export, are executed at export time, allowing for more compact and less consuming workflow execution.

1.2.4.2 Interval value manager

The "*Interval Value Manager*" Transformation applies if it is required to *filter* the workflow data by a *list of possible values* specified for a given column. Users have to define the *value list*, and the *separator* between the list items. All these configurations may be done separately for each source field.

1.2.4.3 Distinct values

The "Distinct Value" Transformation applies if it is required to obtain distinct occurrences of data by a list of columns specified as the keyset. Users have to define the columns to be the keyset setting the action "DISTINCT". The result will contain only one

occurrence for any combination of values of the selected "DISTINCT" columns list.

1.2.4.4 Not All Null values

The "Not All Null values" Transformation applies if it is required to check that at least one value is not null in a list of columns specified by user. Users have to define the columns to be verified setting the action "Check value in Column". The result will contain only rows containing at least one non null value in the selected columns.

1.2.4.5 In/Not In Dataset

The "In/Not In Dataset" Transformation applies if it is required to filter one dataset by the condition that a key column value is (not) in the allowed values list, provided by a slave key column in a second dataset. Users have to define for the master dataset a column as the "Key (master)" and a column as the "Key (Slave) – IN" or "Key (Slave) – NOT IN". The result will contain rows in the master dataset, only if its master key column value (does not) exist in the slave dataset, in the slave key column.

1.2.5 Data Derivation

1.2.5.1 Match Keys and Pick Values

The "*Match Keys and Pick Values*" Transformation (former "*Format Values On Conditions*") applies if it is required to join values from different data sets, apply conditions to different column values, and then specify a result column value if the conditions (evaluated all together) are matched or not. For first, given two datasets, the user must choose a column for the first and a column for the second, setting one as "*Key (master)*" and the other as "*Key (slave)*" for the join operation. Then, for the remaining columns, the user may optionally define a "*condition*" as described for the "Replace value on condition" transformation: they have to all be matched to make the transformation condition be true. Lastly, the user can choose one or more columns as "*result*" column, thus choosing which column value to set for it if the condition is true and which if it's false, picking them from the

joined dataset columns. User may also define a single column as "*Key (master)/Result*", to be used both as a key for the join, and to host the result when matching occurs. Please be sure that column that is identified as "Key (slave)" contains only one occurrence per key value, while this is not mandatory for the master.

1.2.5.2 Count Items In Column

The "*Count Items In Column*" Transformation applies if it is required to evaluate the number of item in a list, with an item per line in a multiline *column*. The user must give a name for the new column that will contain the number of items (one per line of the multiline cell) and select from a dropdown list the column containing the multiline text. The output column will contain the number of items (lines) in the selected multiline column.

1.2.5.3 Count Items In Rows

The "*Count Items In Rows*" Transformation applies if it is required to count the *occurrence of a given keyset for several rows*. The user must choose one or more columns to be the "*Key (for data aggregation)*", a column to be the "*Source column (to count items for keyset)*" and a third column to be the "*Result*". The output will contain a single row for any combination of keys; the "*Result*" column will contain the count of selected "*Source*" column in different rows for the same keyset. It can be used for instance to count associated objects for a master object.

1.2.5.4 Sum Values In Rows

The "Sum Values In Rows" Transformation applies if it is required to sum the numerical values in a selected column for several rows. The user must choose one or more columns to be the "Key (for data aggregation)", a column to be the "Source column (to sum values from)" and a third column to be the "Result". The output will contain a single row for any combination of keys; the "Result" column will contain the sum of values in the selected "Source" column in different rows (non numerical values will be skipped).

1.2.5.5 Sum Values In Columns

The "Sum Values In Column" Transformation applies if it is required to sum the numerical values in selected columns for one single rows. The user must choose one or more columns to be the "Source column (to sum values from)" and another column to be the "Result". The "Result" column will contain the sum of values in the selected "Source" columns in same row (non numerical values will be skipped).

1.2.5.6 Divide Values In Two Columns

The "Divide Values In Columns" Transformation applies if it is required to get the division between values in two columns of a dataset . The user must choose one column to be the "Numerator", a column to be the "Denominator" and a third column to be the "Result (number)" or "Result (percent)". The output will contain in the "Result" column the division between values in "Numerator" and "Denominator" columns in the selected format (non numerical values will produced a blank result).

1.2.5.7 Two Levels Aggregation

The "*Two Levels Aggregation*" Transformation applies if it is required to sum the *numerical* values in a selected *column for several rows, with two different levels of aggregation*.

The user must choose one column to be the "Key (for first level aggregation)", a column to be the "Result (for first level aggregation)", a column to be the "Key (for second level aggregation)", a column to be the "Result (for second level aggregation)", and a column to be the "Source column (to sum values from)". The output will contain a single row for any combination of keys; the "Result (for first level aggregation)" column will contain the sum of values in the selected "Source column (to sum values from)" column in different rows, given a single "Key (for first level aggregation)" column in the selected "Source column (to sum values from)" column will contain the sum of value, and the "Result (for second level aggregation)" value, and the "Source column in different rows, given a single "Key (for first level aggregation)" column in different rows, given a single "Key (for second level aggregation)" column in different rows, given a single "Key (for second level aggregation)" column in different rows, given a single "Key (for second level aggregation)" column in different rows, given a single "Key (for second level aggregation)" column in different rows, given a single "Key (for second level aggregation)" column in different rows, given a single "Key (for second level aggregation)" column in different rows, given a single "Key (for second level aggregation)" column in different rows, given a single "Key (for second level aggregation)" column in different rows, given a single "Key (for second level aggregation)" column in different rows, given a single "Key (for second level aggregation)" column in different rows, given a single "Key (for second level aggregation)" column in different rows, given a single "Key (for second level aggregation)" column in different rows, given a single "Key (for second level aggregation)" column in different rows, given a single "Key (for second level aggregation)" column in different rows, given a single "Key (for second level aggregation)" column in different rows, given a sin

Typical use case: A model contains a technical chain from server with number of CPU, associated to IT services, associated with application, aggregated in platforms: exporting the two intersection object types, and using the "Sum Values in Rows" for association between servers (with CPU) and IT Services, collecting the CPU for IT Service in the first dataset (association between platform and application), using the IT service as key in "Match keys and pick values" transformation, this output can be obtained:

Platform	CPU per Platform	Application	CPU per Application
Billing&Credit Management	6730	CELLOM 2.0	92
Billing&Credit Management	6730	ADM Credit Care	52
Billing&Credit Management	6730	SAP IS-U QW	1222
Billing&Credit Management	6730	SAP IS-U IB	1222
Billing&Credit Management	6730	SAP IS-U EC	1346
Billing&Credit Management	6730	SAP IS-U EB	1346
Billing&Credit Management	6730	SAP IS-U EG	1346
Billing&Credit Management	6730	CREDIT CARE IRW	52
Billing&Credit Management	6730	CELLOM 1.0	52
Business Intelligence	3527	812.0	1819
Business Intelligence	3527	Operational Intelligence	720
Business Intelligence	3527	SAP Process Mining	15
Business Intelligence	3527	SAP LT Replication Server	973
CRM	222	CCU FYN 3.0	100
CRM	222	CCU FYN 1.0	100
CRM	222	HU	22

1.2.6 Custom Transformation

If it is required to apply a custom transformation the user must define a specific XSLT Library using the XSLT Library Configuration Tool (see before).

The user may define a "**CC Uncompliant**" or "**CC Compliant**" (compliant to CC schema) XSLT Library item.

Please note that the "**CC uncompliant**" custom transformation can't be followed by any other transformation and the workflow operation can only be set to "File Adapter".

"**CC compliant**" transformations are instead not subject to any constraint (besides adhering to CC internal XML schema) when used in workflow transformations.

A number of "CC uncompliant" transformations are included, producing a formatted workflow:

- CC2CSV: produces a csv output file
- CC2HTML
- CC2EXCEL: produces a MS Excel compatible file via XSLT, so that it can be slightly customized
- CC2MSEXCEL: produces an XLSX file through Excel API, not configurable
- CC2OGFF: Produces an Open Group File Format XML output file. Note that this additionally requires the application of a fixed value field (*OGFF_Type*) specifying the target object type.

A special third type is "**CM Compliant**" transformations, which means that the output file is an XML ready to be consumed by the import module CM4Collector (i.e. describing target model, operation, objects metamodel, identity constraints, maps and object instances to be uploaded). Using that one, all the user interface setting for operation will be skipped at workflow execution time.

Please note that saving the entire workflow using the "Save" button will also save the selected transformations.

It's possible to insert more than one transformation in the same workflow of the same type or of different types. The transformation defined in a workflow will be displayed in the section "Transformation" in the left middle section of the Workflow window.

It's possible to select one of these transformations to delete it; if the user deletes a transformation in a workflow, the mapping rules applying to the fields that are no longer required (i.e. created by that transformation) will also be deleted.

1.3 Operation

To define the operation of a Workflow follow the steps in the section "Mapping and Operation":

- Select the operation in the "with operation" drop-down list.
- Optionally, provide the email configuration parameters (see specific chapter for details)

According to the rules of the operation type, the Mapping and Operation section shows the requested parameters as described below.

1.3.1 Load in CM Repository

In the "Model Name" field you can see the model linked to the selected configuration.

The user may proceed with the mapping operation in the mapping table, having the requested parameters described in the following list:

Column Name: shows the columns coming from the data source and from the transformation steps; a sequence number that the system assigns to each data source can be seen as prefix to the column name, so the user can easily recognize the source of the data, in the case of multiple data sources.

Column type and format: choose the type and format of the column of the source (String, numeric, boolean, date). This is important if user wants DT to perform a re-format operation on the target column data type.

with operation:	Ho	del Name:		×	Send e-mail to	Single em	all for reco	nt.
Load in CH! Repository	▼ EA	Foundation - Sampl	le Model john bi		black@customer.com	itack@customer.com		
Column Name	Type	Objectionee	Napoling	(Properbee/Associations)	Type	Action	KeySet	Nones
1 <application> Category</application>	Generi	«SKIF-COLUMIY>	(SEP COLUM	10 C			D	
1 <application> Numbe</application>	Generi	<582F COLUMN-	<3KIP COLUMN	Di C				
Application> TC0	Generi	-CSRIP COLUMN>	-SIGE COLUMN	(P)			F	
1 <it portfolio=""> Name</it>	Genera	<skp columns<="" td=""><td>SEP COLIM</td><td>Di -</td><td></td><td></td><td></td><td></td></skp>	SEP COLIM	Di -				
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2 <application> Name</application>	Generi	Application	< OQJ NAME > 3	leme	Single-Ine t		11:	
2 <application> Category</application>	Generi	<skep column=""></skep>	ISCE COLUM	(a)				
2 <application> Code</application>	Generi	-SKP COLUMNS	-SCP COUM	la la				
2 <it portfolio=""> Name</it>	Generi	<skip column=""></skip>	SEF COLUMN	De .				
2 <it portfolio=""> Category</it>	Gener	<skip colimns<="" td=""><td>STOP COLUMN</td><td></td><td></td><td></td><td></td><td>0</td></skip>	STOP COLUMN					0
2 «IT Portfolio» Creelio	Generi	<skip column-<="" td=""><td>-DOF COLUMN</td><td>£6.5</td><td></td><td></td><td>EF.</td><td></td></skip>	-DOF COLUMN	£6.5			EF.	

In particular, to properly import *date fields* with DT, it's important to follow the following rules.

First, it's helpful to configure the query/file in order to have preformatted source data.

In particular, dates coming from data sources that are mapped onto *CM datetime* property types have to be one of the following:

- DD/MM/YYYY i.e. 31/08/2016 (EUR FORMAT)
- *MM/DD/YYYY i.e. 08/31/2016 (USA FORMAT)*
- YYYY-MM-DD i.e. 2016-08-31 (UTC FORMAT)

while time, when provided, has to be mandatory in the format:

• *HH24:mm:*ss

This input date format has to be set in workflow mapping step:

2 <ii portfolio=""> Category</ii>	Generic string	Ameration	< BRODERTYS Cr. Data / Time	
2 <11 Portiono> creation bate	bate in Eok fornsa	Appacation	<property> Cr., Date / Time</property>	had been

Model object type: choose the model object type to load the data; it's possible to select different object types in the same operation

Mapping (prop./assoc.): once you have selected the object type you can map the property or the association between the ones defined in CM for that object type. Please be sure that the "Name" property of an object type is always mapped, in order to allow DT to identify the object instance to work with (except for Association Types imports, see later). Please take into consideration that you can map Unique ID to keep the values when moving objects from a model to another.

Type: shows the type of the mapped column of the target (String, numeric, boolean, date)

Action: user can now choose what to do for a single attribute/association mapping. This means that:

- For multiline property: the user can choose between APPEND, REPLACE or EMPTY model values

- For other data type properties: the user can choose EMPTY model values (not for Name or ID)
- For association type: user can choose between MERGE, REPLACE or EMPTY model values
- For property types:
 - o UUID
 - Created By
 - Creation Date
 - Updated by
 - Updated Date

user is requested to choose between two Actions: KEEP TARGET (default) and KEEP SOURCE.

KEEP TARGET: target object property is maintained regardless of what is mapped from the user (the property is skipped)

KEEP SOURCE: target object property is overridden with source property

UUID, Creation Date and Created By properties, can be retained only if you are creating a new object in the target models and therefore cannot be updated if the object already exists.

KEEP SOURCE action should be used in a federated models environment and is also supported by <u>Synch in CM</u> <u>Repository</u>

Unique Key: users must check, for all the mapped object types, which set of columns must be considered as the unique keyset when performing the upload of the data. Keep in mind that this setting will work according to the usual Corporate Modeler behaviour, where "Name" has to be unique in the object type instances list, while mapping ID or Unique ID allows object name to be updated. For example, the user may check "Name" as key, and all other properties/associations of

an existing object with that name will be updated, or a new object with that name will be created by DT if it is not already in use, or will concatenate it with a sequence number.

Any other mapped column can be included in the keyset, without the "name" – in this case, if an object is identified by the configured keyset, DT will try to update the name with the uniqueness rules described above.

No New: when importing data from an external source, it's possible that the master list of objects involved in the operation is the one contained in the model. In such a case, the user would want existing objects to be updated (only for the properties used in mapping), but no new objects to be created. If so, user may choose to check "No New" option, on the keyset of the master object type, and this will prevent new objects to be created, while existing will be updated within bounds of mapped properties. The same applies when the object list which has not to be extended is the one related to an object type associated with the master, involved in the operation. In such a case, the user may choose to check the "No New" option, on the record related to the association, and this will prevent new associated objects from being created.

As a result for this operation, data coming from the source adapter will be transformed as defined in "Transformation" step and uploaded into specified model according to the defined mapping rules.

Some additional requirements apply to specific kind of operations, as follows.

- In case of "All Objects" type of associations, differently from other type of associations, the target object type has to be specified, allowing a proper execution of data import. To do this, after mapping a source column to an association to all object, it is then mandatory to map one more specific column:
 - **TARGET_OBJTYPE:** scriptname of the **object type** at the other side of the "all object" association with the same name, which user wants the objects to belong

with operation:	Nodel Name:			Send e-mail to					
Load in CM Repository + EA Foundation		- Sample Me	adel]					
Column Name	Туре	Object ty	Mappin	g (Properties/Associations)	Type	Action.	KeySet	No nev	
1 <application> Category</application>	Generic string	<5KIP	<skif coll<="" td=""><td>#4U></td><td></td><td></td><td></td><td></td></skif>	#4U>					
Application> Number of	Generic string	<54(P)	-SKIP COL	2MN>					
1 <application> TCO</application>	Generic string	<\$KDP	<skif cou<="" td=""><td>Mic></td><td></td><td></td><td></td><td></td></skif>	Mic>					
1 <ii portfolio=""> Rame</ii>	Generic string	CW User	<associa< td=""><td>110ll> All Objects (has as</td><td></td><td>Replace</td><td></td><td></td></associa<>	110ll> All Objects (has as		Replace			
1 <it portfolio=""> Total TCO</it>	Generic string	<5KIP	-SCF COL	MN>					

To help this mapping, the tooltip of Model Object type, when selecting one, is equal to the SCRIPTNAME of the selected.



This can be added in the source with a fixed value field, with scriptname value, to be then used in mapping.

- 2. In case of *multiple data source*, it is implied that the different dataset, alternatively:
 - Have to be joined, if each of them contains a subset of properties/associations information for the same Object Type. If so, the "Name" property of the object type must be mapped onto each dataset resulting in multiple "Name" mappings this will be the field used to perform the join operation at runtime on the actual data.
 - Have to be used to map on different object types; if so, "Name" property must mapped only once for each Object Type.
- In case of association type, when the user wants, for instance, to import the association's properties, it is mandatory to map four specific columns:
 - CCAboveName: name of the object instance at one side of the association (the one defined as "Source Object Type" at design time)

- CCBelowName: name of the object instance at one side of the association (the one defined as "Target Object Type" at design time)
- **CCAboveTableName**: scriptname of the **object type** at one side of the association (the one defined as "Source Object Type" at design time)
- **CCBelowTableName**: scriptname of the **object type** at one side of the association (the one defined as "Target Object Type" at design time)

To help the last two mappings, the tooltip of Model Object type, when selecting one, is equal to the SCRIPTNAME of the selected.

/format	Model object type	Model object types		
ic string	Referente AM		Ţ	<above ob<="" th=""></above>
ic string	SocietaVSOrg	_	~	<below of<="" td=""></below>
ic string	Software di Infras		<propert)< td=""></propert)<>	
ic string	SoftwarediInfrast		<skip coll<="" td=""></skip>	
ic string	Standard			<propert)< td=""></propert)<>
ic string	Subcontractor			<propert)< td=""></propert)<>
ic string	SWInfrServizio (SURCO	NIT	
ic string	Technology l	SOBCO	NI	RACTOR
ic string	Utenti esterni		Ŧ	<propert)< td=""></propert)<>

- 4. In case of *Users or User Group* import operation, which is allowed using the Admin Model configuration, the operation, will be executed within the following conditions:
 - New users can be created, if:
 - User Name and Logon Name are both unique records which are uncompliant to this Corporate Modeler requirement are skipped at import time, and logged into the operation log file
 - Password cannot be provided
 - **Power Level** has to be **provided**, in a numeric form, and is documented by a tooltip:

Users - 1 (System Manager), 2 (Project Manager), 3 (Normal User), 4 (Read Only User)

- No new **user groups** are going to be created; user can only associate **users** to existing user groups
- The operation **key** has to be one and only one of the following fields:

- User Name in that case, for existing objects, fields can be updated, except for Logon Name, Power Level and Password
- Logon Name in that case, for existing objects, name and other fields can be updated, except for Power Level and Password
- CW ID in that case, for existing objects, name and other fields can be updated, except for Logon Name, Power Level and Password

1.3.2 Delete in CM Repository

When selecting this operation, the only mandatory mapping is the NAME of the object type that the user wants to manage: as a result of this operation, data coming from the source adapter will be *physically deleted* in the specified model accord to the defined mapping rules, for the ones that are not diagrammed (while diagrammed ones will be listed in the operation log file).

1.3.3 Synch in CM Repository

When selecting this operation, it is mandatory that user choose a *keyset* that's *unique in the source dataset* to avoid undesired results. In particular:

- Objects coming from the source dataset will be inserted/updated in the specified model accord to the defined mapping rules
- Objects already in the specified model object type, that are not listed in the source dataset, will be:
 - When "*logical*" option is set, *logically deleted*, and renamed with the prefix "_TO_BE_DELETED_"
 - When "*physical*" option is set, *physically deleted*, if not diagrammed, or renamed with the prefix "_TO_BE_DELETED_" if diagrammed
 - When "*physical forced*" option is set, *physically deleted*, even if diagrammed

If the synchronization operation must be done against a subset of objects, and not the whole set of instances (for example, when contributing external source are more than one for a given object type, each one managing a set of instances, like a CMDB providing data for "Applications in Production environment"), this can be managed using the **sync filters** interface.

Double clicking on the "filter" icon on object type column name

with operation:		Model N	lame:		Logical	Send e-mail to			
Sync CM Repository	*	EA Fau	indation - Sample 8	Model	Physical Forced				
Column Name	Typ	e l	1 object types	Mapping	(Properties/Associatio	ns) Type	Action	KeySel	Noney

Opens a popup window allowing the creation of sync filters and showing previously defined filters:

User can add, delete (uncheck the filters to be deleted) and apply desired filters.

When the sync operation is defined to be executed according to filters, the involved object type name will be marked with a specific filter icon in the map table, the name will be plain otherwise:

Mapping and Operation-	Mor	del Name:	Logical Definition	iand a-mail to			
Sync CM Repeatory	* EA	Foundation - Semple	Model Physical Forced				
Column Name	Type	C Object types	Mapping (Properties/Apapociations)	Туре	Action	KeySet	Nonew
Application> Category	Generi	<0.01 COLUMN	 state cocume- 				
1 «Applicatios» Rumbe	Generi-	KINP CILLWRF	+ SADY COLUMNA-				
Application> TCD	Generi-	CERT COLUMN	-SKIP COLUMP-				0
1 <it portfolio=""> Name</it>	Generi	CW User	=SALIP CILLINGS>				0
🥼 <it portfolio=""> Total T</it>	Genen	<sop columb=""></sop>	<skip colume-<="" td=""><td></td><td></td><td></td><td>0</td></skip>				0
2 tizma	Generi	Y Application	<ob3 name=""> Name</ob3>	Single-line t			
2 Category	Generi-	<sud contract<="" td=""><td><ship columic:<="" td=""><td></td><td></td><td></td><td></td></ship></td></sud>	<ship columic:<="" td=""><td></td><td></td><td></td><td></td></ship>				
2 <application> Name</application>	Generi	Y Application	<0B) NAME> Name	Single-line t			0

For filtered sync option, the load step will follow the usual behavior, while the deletion of redundant object instances will be done within the filtered subset on objects compliant with the filters.

1.3.4 POST to EA Agile

In the "Workspace Name" the name of target workspace will be shown.

POST to EA Agile	• My	AS IS Architecture		csalar	csalaris@erwin.com			Config
Column Name	Type	Objecttypes	Mapping	(Properties#asociations)	Туре	Action	KeySet	No nev
1 D_APPLICATION	Generi	<skip column=""></skip>	<skip colump<="" td=""><td>(P</td><td></td><td>-</td><td></td><td></td></skip>	(P		-		
COD_APPLICATION	Generi	Application comp	<association> Requirement (realizes)</association>		Relationship		C	C
TXT_APPLICATION_N	Generi	Application comp	<obj name=""> Name</obj>				2	
DESCR_APPLICATION	Generi	Application comp	<property> Description</property>			Replace		D
D_STATE	Generi	<skif columna=""></skif>	<skip columna-<="" td=""><td></td><td></td><td>D</td><td></td></skip>				D	
DE_STATE	Generi	Application comp	<property></property>	Lifecycle status				
TVT CEDAIVE NAME	Generi	Application come	<associatio< td=""><td>R> Goal (Influences)</td><td>Relationship</td><td>Replace</td><td>E1</td><td>T</td></associatio<>	R> Goal (Influences)	Relationship	Replace	E1	T

User may proceed with the mapping operation in the mapping table, having the requested parameters described in the following list:

Column Name: shows the columns coming from the data source and from the transformation steps; a sequence number that the system assigns to each data source can be seen as prefix to the column name, so the user can easily recognize the source of the data, in the case of multiple data sources.

Column type and format: choose the type and format of the column of the source (String, numeric, boolean, date). This is important if user wants DT to perform a re-format operation on the target column data type.

Date in UTC format

Date / Datetime

The following ISO-8601 formats are supported:

- YYYY-MM-DD (e.g. 2019-01.28)
- YYYY-MM-DDThh:mm (e.g. 2019-01-28T01:02)
- YYYY-MM-DDThh:mm:ss (e.g. 2019-01-28T01:02:03)
- YYYY-MM-DDThh:mm:ssTZD (e.g. 2019-01-28T01:02:03+04:05)

When positing to EA Agile, if a time and offset are not provided, these will default to 00:00Z (i.e. 00:00+00)

Date Ranges

For the supported UTC date formats outlined above, DT supports the following separators:

- \$UTCDATE/\$UTCDATE
- \$UTCDATE,\$UTCDATE
- \$UTCDATE;\$UTCDATE
- start:\$UTCDATE end:\$UTCDATE
- start: \$UTCDATE end: \$UTCDATE

Date in EUR format

Date / Datetime

The following formats are supported:

- dd/MM/yyyy (e.g. 28/01/2019)
- dd/MM/yyyy HH24:mm (e.g. 28/01/2019 13:01)
- dd/MM/yyyy HH24:mm:ss (e.g. 28/01/2019 13:01:02)
- dd/MM/yyyy HH:mm AM/PM (e.g. 28/01/2019 01:01 PM)
- dd/MM/yyyy HH:mm:ss AM/PM (e.g. 28/01/2019 01:01:02 PM)
- dd/MM/yyyy HH:mmAM/PM (e.g. 28/01/2019 01:01PM)
- dd/MM/yyyy HH:mm:ssAM/PM (e.g. 28/01/2019 01:01:02PM)

Date Ranges

For the supported EUR date formats outlined above, DT supports the following date range formats:

- start:\$EURDATE end:\$EURDATE
- start: \$EURDATE end: \$EURDATE
- \$EURDATE;\$EURDATE
- \$EURDATE,\$EURDATE

Date in USA format

Date / Datetime

The following formats are supported:

- MM/dd/yyyy (e.g. 01/28/2019)
- MM/dd/yyyy HH24:mm (e.g. 01/28/2019 13:01)
- MM/dd/yyyy HH24:mm:ss mm (e.g. 01/28/2019 13:01:02)

Date Ranges

Dates ranges may be formatted as:

- start:\$USADATE end:\$USADATE
- start: \$USADATE end: \$USADATE
- \$USADATE;\$USADATE
- \$USADATE,\$USADATE

This input date format has to be set in workflow mapping step:

2 <it portfolio=""> Category</it>	Generic string	<skip column=""></skip>	<skip column=""></skip>	
2 <it portfolio=""> Creation Date</it>	Date in EUR forma	Application	<property> Cr, Date / Time</property>	

Object type: choose the model object type to load the data; it's possible to select different object types in the same operation

Mapping (prop./assoc.): once you have selected the object type you can map the property or the association between the ones defined in EA Agile for that object type. Please be sure that the "**Name**" property of an

object type is always mapped, in order to allow DT to identify the object instance to work with (except for Association Types imports, see later).

About **associations** mappings, multiple values can be associated putting the different values in a single cell, **newline** separator. Other separators can be replaced with "Data Formatting: Replace Text":

Sel	Column Name	* Text to be replaced	* Replace with
	1 name		
0	1 busines_oriticality		
	1 service_classification		
2	1 managed_by	1	Vn :

If an association is of "composition" type, like "Entity is part of Data Model", the action "set as parent" must be selected from drop down list in order to properly identify objects parent in the platform.

1 ENTITY_NAME	Generi	Entity	<obj name=""> Name</obj>	String		
1 SCHEMA4TABLES_N	A Generi	Entity	<association> Data Model (is part of)</association>	Composition Set as par	nent	

Type: shows the type of the mapped column of the target (String, numeric, boolean, date). To help the user in mapping, in case of list or key values allowed values are shown in the "type" cell tooltip:

DE STATI
 Generic Application component «FMOPERTY» Lifecycle status
 List
 TxT_SERVICE_MARE
 Generic - Application component «ASSOCIATION» Good (influences)
 Prefetter
 Preposet in Deamagneeit Lice. Photos Out Relevent Prest of Calessys. Phot Implementation

No New: when importing data from an external source, it's possible that the master list of objects involved in the operation is the one contained in the workspace. In such a case, the user would want existing objects to be updated (only for the properties used in mapping), but no objects from being created. If so, the user may choose to check the "No New" option, on the keyset of the **master object type**, and this will prevent new objects from being created, while existing will be updated within bounds of mapped properties.

The same applies when the object list which has not to be extended is the one related to an object type **associated with the master**, involved in the operation. In such a case, user may choose to check "No New" option, on the record related to the association, and this will prevent new associated objects from being created.

1.3.5 Delete in EA Agile

When selecting this operation, user should map only the "**Name**" of the object type that he wants to manage: as a result of this operation, data

coming from the source adapter will be deleted in the specified workspace according to the defined mapping rules.

1.3.6 POST to EA Agile V3

In the "Workspace Name" the name of target workspace will be shown ("Default").

User may proceed with the mapping operation in the mapping table, having the requested parameters described in the following list:

Column Name: shows the columns coming from the data source and from the transformation steps; a sequence number that the system assigns to each data source can be seen as prefix to the column name, so the user can easily recognize the source of the data, in the case of multiple data sources.

POST to DG	▼ Def	fault	csala	csalarts@erwin.com			Config
Column Name	Туре	Object types	Mapping (Properties/Associations)	Туре	Action	KeySet	None
name Generk System		System	<08J NAME> Name	String			1
busines_criticality	Generi	System	<property> Notes</property>	String			
service_classification	Generi	<ship column=""></ship>	< SKIP COLUMII >				
managed_by	Generi	System	<association> Person (has SME)</association>	Relationship	Replace		
owned_by	Generi	System	<a5sociation> Person (owned by)</a5sociation>	Relationship	Replace		
change_control	Generi	<skip column=""></skip>	<skip column=""></skip>				
location	Generi	<ship column=""></ship>	<skip columne=""></skip>				
operational_status	Gener	System	<property> Status</property>	List (Single)			
sys_id_display	Generi	<sof column=""></sof>	«SICP COLUMII»				
SN URL	Generi	<skip column=""></skip>	<skif-column></skif-column>				
URL	Generi	System	<property> CMDB link</property>	URL			

Column type and format: choose the type and format of the column of the source (String, numeric, boolean, date). This is important if user wants DT to perform a re-format operation on the target column data type.

Date in UTC format

Date / Datetime

The following ISO-8601 formats are supported:

- YYYY-MM-DD (e.g. 2019-01.28)
- YYYY-MM-DDThh:mm (e.g. 2019-01-28T01:02)

- YYYY-MM-DDThh:mm:ss (e.g. 2019-01-28T01:02:03)
- YYYY-MM-DDThh:mm:ssTZD (e.g. 2019-01-28T01:02:03+04:05)

When positing to EA Agile, if a time and offset are not provided, these will default to 00:00Z (i.e. 00:00+00)

Date Ranges

For the supported UTC date formats outlined above, DT supports the following separators:

- \$UTCDATE/\$UTCDATE
- \$UTCDATE,\$UTCDATE
- \$UTCDATE;\$UTCDATE
- start:\$UTCDATE end:\$UTCDATE
- start: \$UTCDATE end: \$UTCDATE

Date in EUR format

Date / Datetime

The following formats are supported:

- dd/MM/yyyy (e.g. 28/01/2019)
- dd/MM/yyyy HH24:mm (e.g. 28/01/2019 13:01)
- dd/MM/yyyy HH24:mm:ss (e.g. 28/01/2019 13:01:02)
- dd/MM/yyyy HH:mm AM/PM (e.g. 28/01/2019 01:01 PM)
- dd/MM/yyyy HH:mm:ss AM/PM (e.g. 28/01/2019 01:01:02 PM)
- dd/MM/yyyy HH:mmAM/PM (e.g. 28/01/2019 01:01PM)
- dd/MM/yyyy HH:mm:ssAM/PM (e.g. 28/01/2019 01:01:02PM)
Date Ranges

For the supported EUR date formats outlined above, DT supports the following date range formats:

- start:\$EURDATE end:\$EURDATE
- start: \$EURDATE end: \$EURDATE
- \$EURDATE;\$EURDATE
- \$EURDATE,\$EURDATE

Date in USA format

Date / Datetime

The following formats are supported:

- MM/dd/yyyy (e.g. 01/28/2019)
- MM/dd/yyyy HH24:mm (e.g. 01/28/2019 13:01)
- MM/dd/yyyy HH24:mm:ss mm (e.g. 01/28/2019 13:01:02)

Date Ranges

Dates ranges may be formatted as:

- start:\$USADATE end:\$USADATE
- start: \$USADATE end: \$USADATE
- \$USADATE;\$USADATE
- \$USADATE,\$USADATE



Object type: choose the model object type to load the data; it's possible to select different object types in the same operation

Mapping (prop./assoc.): once you have selected the object type you can map the property or the association between the ones defined in EA Agile V3 for that object type. Please be sure that the "**Name**" property of an object type is always mapped, in order to allow DT to identify the object instance to work with (except for Association Types imports, see later).

About **associations** mappings, multiple values can be associated putting the different values in a single cell, **newline** separator. Other separators can be replaced with "Data Formatting: Replace Text":

Sel.	Column Name	* Text to be replaced	* Replace with
	1 name		
	1 busines_orticality		
	1 pervice_classification		
2	1 managed_by	1	Vo :

If an association is of "composition" type, like "Entity is part of Data Model", the action "set as parent" must be selected from drop down list in order to properly identify objects parent in the platform.

1 ENTITY_NAME	Generi	Entity	<obj name=""> Name</obj>	String		
SCHEMA4TABLE5_NA	Generi	Entity	<association> Data Model (is part of)</association>	Composition	Set as parent	

Type: shows the type of the mapped column of the target (String, numeric, boolean, date). To help the user in mapping, in case of list or key values allowed values are shown in the "type" cell tooltip:

I	4	DE_STATE	Gennrie	Application compo	«PROPERTY» Lifecycle etatus	tiet C
I	4	TXT_SERVEDE_NAME	Generic	Application sumperiorit	+ASSOCIATION> Goal (Influences)	Personal in Desergment Line, Phasing Carl Rating Proof of Carcoge, Plus implementation

No New: when importing data from an external source, it's possible that the master list of objects involved in the operation is the one contained in EA Agile V3 workspace. In such a case, the user would want existing object to be updated (for the only properties used in mapping), but no objects to be created. If so, user may choose to check "No New" option, on the keyset of the **master object type**, and this will prevent new objects to be created, while existing will be updated within bounds of mapped properties. The same applies when the object list which has not to be extended is the one related to an object type **associated with the master**, involved in the operation. In such a case, user may choose to check "No New" option, on the record related to the association, and this will prevent new associated objects to be created.

1.3.7 Delete in EA Agile V3

When selecting this operation, user should map only the "**Name**" of the object type that he wants to manage: as a result of this operation, data coming from the source adapter will be deleted in the specified workspace according to the defined mapping rules.

1.3.8 Send to File Adapter

Mapping and Operation									
with operation:	Choose Adapter								
Send to File Adapter 👻	MANAGER FOLDER								
Optional output file naming convention, without extension:									
APPandVendorsEXCEL									

- Choose the *File Adapter* in the "Choose Adapter" drop-down list (only the "PUT" File Adapter will be available in the list)
- Optionally, define a customized name for the ouput file, without the extension (it will be .xml, if no final custom transformation is applied; it will be .csv, if Custom transformation (CC uncompliant):CC2CSV transformation is .xls, for Custom transformation applied. or (CC uncompliant):CC2EXCEL, or .html, for Custom transformation (CC uncompliant):CC2HTML, etc). Moreover, the user can choose between overwriting file if existing, or have a different file for different executions (in this case, the name will be post fixed with a timestamp)

As a result of this choice, data coming from the source adapter will be transformed as defined in "Transformation" step and sent to the File Adapter folder. When completed it will be delivered to the destination.

with operation		Choose Adapt	ter				Send e-n	nailto	Single email for record
Send to DB Loader	*	MYSQL LOAD	ER	-]				
Fable to be updated:	services		-	Key field for this o	peration	ID_SERVICE		• • N	o new (only updates)
Object field		Object type		Table column		FK table	FK ma	tch column	FK key column
1 Name	Generic	string	TXT	_SERVICE_NAME					
1 1d	Generic	string	ID_S	SERVICE					
1 Status	Generic	string	RC.	STATE	states		DE_STATE	8	ID_STATE
1 Updated Date	Generic	string	< 53	KIP COLUMNS					

1.3.9 Send to DB Loader

- Select the *Table* to be uploaded with data, coming from the source and transformations of the workflow, among the ones owned by the user specified at DB Loader Adapter configuration time.
- Select the Key column among the ones describing the Table, to be used to allow DT to properly perform an "INSERT" or "UPDATE" SQL command at runtime, for any given field value occurrence in input data.
- Then, for each input column name the user may alternatively:
 - 1. Map onto a specified column of the previously chosen table, when the input value is natively hosted by that
 - 2. Map onto a specified column of the previously chosen table, when this contains the foreign key of another table in the same database, actually containing the input values, providing:
 - The name ("FK table")
 - The column hosting the input values ("FK match column")
 - The column hosting the foreign keys for given table ("FK key column")
- The option "*No New (only updates)*" allows user to set import operation to be limited to updates on selected table

As a result of this choice, data coming from the source adapter will be transformed as defined in "Transformation" step and sent to the DB Loader Adapter for the upload operation previously defined.

1.3.10 Web Service POST

[Mapping and Operation ·		
with operation		
Web Service POST	ServiceNow - PUSH Adapter for App	
11		

- Choose the *Web Service POST Adapter* in the "Choose Adapter" drop-down list (only the Web Service "POST" Adapters will be available in the list)

As a result of this choice, data coming from the source adapter will be transformed as defined in "Transformation" step and sent to the Web Service, as defined in its configuration.

1.3.7 Evolve Site Import

with operation:	Mod	iel Name:	-	Send	e-mail to	Single email to	ir reco	(Ø
Evolve Site Import	e Model							
Column Name	Type	Object types	Mapping (Properties/Associatio	ons)	Туре	Action	Key	/Set N
Application> Category	Generi	<skip column=""></skip>	<skip column=""></skip>		1		D	
Application> Num	Generi	<skip column=""></skip>	<skip column=""></skip>					
Application> TCO	Generi,	<skip column=""></skip>	<skip column=""></skip>					
🚺 <it portfolio=""> Name</it>	Generi	IT Portfolio	<obj name=""> Name</obj>	S	ngle-line t,		-	
Tr Portfolio> Total T	Generi	IT Portfolio	<property> Total TCO</property>	w	hole num			

In order to copy Evolve sites from model to model, you should consider that:

- A target site has to be created before executing the operation
- Only the following components are copied from source model to target model: Menu, Index Pages, Object Pages, Diagram Popouts, Diagram Designer Layouts
- If you want to manage Diagram Designer Layouts you should enable target model with Diagram Designer
- If any objects is already defined in the target site it will be overwritten
- It is recommended that all the pages linked to source Evolve site, should not be associated to other Evolve sites

The following instructions have to be followed in order to copy an Evolve Site. It is recommended to back up your target model before the operation, as a bad configuration may result in a loss of information.

1 Create a new workflow configuration on your target model configuration

- 2 Select as source EA Adapter and select the export adapter related to your source model
- 3 Select **CW Site** as object type and filter only Name and Description properties

External Data Source Defi	nition
External Data Source Den	
EA ADAPTER 🔻 Name	EA Foundation - Sample Model (EASAMP14) Export 🔻
Select Object Type	
CW Site	▼ Source Filters
Source Fields	
1 Name	
1 Id	
1 Average Rating	
1 Category	
1 Created By	
1 Creation Date	
1 Date Validated	
1 Description	

- 4 Add a second source EA Adapter and select the export adapter related to your source model: select **CW View** as object type and filter the following properties/associations:
 - a. Name
 - b. App Type
 - c. Business Description
 - d. Category
 - e. Description
 - f. Display Name
 - g. Hash Code
 - h. Root Object Type
 - i. CW Site (belongs to (index))
 - j. CW Site (belongs to (single))
 - k. CW Site (belongs to (diagram pop out))



- 5 (Optionally, only if you want to copy **Diagram Designer Layouts**) Add a third source EA Adapter, select the export adapter related to your source model and filter the following properties:
 - a. Name
 - b. Automatic Diagram
 - c. Category
 - d. Description
 - e. Enabled Version
 - f. Root Object Type



6 Add a Fixed Value Manager transformation on the following columns:

Src.	Column Name	Consider	Operator	Value
Number		as		
1	Name	String	Equal	source_site_name

2	CW Site (belongs to (index))	String	In (semicolon separated)	;source_site_name*
2	CW Site (belongs to (single))	String	In (semicolon separated)	;source_site_name*
2	CW Site (belongs to (diagram popout)	String	In (semicolon separated)	;source_site_name*

*: use semicolon in value cell as specified

7 Add a Replace Text transformation on the following columns:

Src	Column Name	Text to be replaced	Replace with		
Number					
1	Name	source_site_name	target_site_name		
2	CW Site (belongs to (index))	source_site_name	target_site_name		
2	CW Site (belongs to (single))	source_site_name	target_site_name		
2	CW Site (belongs to (diagram	source_site_name	target_site_name		
	popout)				

8 Choose the operation **Evolve Site Import** that will automatically map all needed fields

with operation	Model:		Send e-mail	10				
Evolve Site Import	EA Mode	- PRODUCTION						
Column Name	Type	Object types	Mapping (Properties/Associations)	Type	Action	KeySe		
1 Name	Genetic	OW Site	<obj name=""> Name</obj>	Single-Ine text				
1 Description	Generic	CW Site	<property> Description</property>	Multi-line text				
2 Name	Generic	OW View	<08J NAME> Name	Sogie-Ine text		1		
2 App Type	Genetic	CW View	<property> App Type</property>	Drop-slown list				
2 Business Description	Generic	CW View	<property> Business Description</property>	Multi-Ine text				
2 Category	Genetic	CW View	<property> Category</property>	Drop-down lst				
2 Description	Generic	ON View	<property> Description</property>	Multi-Ine text				
2 Display Name	Generic	CW View	<property> Display Name</property>	Single-Ine text				
2 Hash Code	Genera	CW View	<property> Hash Code</property>	Whole number		D.		
2 Root Object Type	Generic	CW Vew	<property> Root Object Type</property>	Single-line text		0		
2 CW Site (belongs to (index))	Generic	OW View	<association> CW Site (belongs to (index))</association>		Replace			
2 CW Site (belongs to (single))	Generic	CW Yew	<association> CW Site (belongs to (single))</association>		Replace	D.		
2 CW Site (belongs to (diagra	Generic -	OW View	<association> CW Site (belongs to (diagr</association>		Replace	0		

1.3.11 Email Configurations

The email notification allows the user to be easily aware of what's going on with DT operations, particularly for the owners of model information managed by the tool.

Notification email for the workflow operation results can be configured with a custom setting for recipients, CC recipients, email subject and message text.

The workflow output, in HTML format, will be attached to email. If it is not needed – for example, the workflow is configured to produce a file that will be also attached to email – the option "Attach workflow output file" should be deselected:

Attach workflow output file (HTML)

another option is provided to send email always (per default), only with data, or only on errors:



Some parameters can be used in subject or message text:

- <%SYSDATE%>,<%SYSDATE_EUR%>,<%SYSDATE_USA%>,<%SYSDATE_UTC%>: replaced at execution time with date time, using requested format.
- <%OPERATION_FOLDER%>: replaced at execution time workflow operation folder path.
- <%WORKFLOW_FOLDER%>: replaced at execution time workflow folder path.

The email can contain links to specified URL: just use "Add URL" button to have a sample link text and replace your own site address and name:

Configure message	
Configure message	
Email To:	
john.black@customer.com	
Email CC:	
Email Subject:	,
Application Catalog updated - <%SYSDATE_EUR%>	
Attach workflow output file (HTML)	
◯ Email Always	ly on errors
Message:	
Please, check HTML report in <%OPERATION_FOLDER%>.	
Refer to: Enterprise Application Catalog for details.	
Collector Team	

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The resulting email looks like this:

Application Catalog updated - 06/10/2017 19:22:20



It is possible to use the option "*Single email for record*" to send a notification for each input dataset record.

Users may put parameters in the email configuration using column name to give specific information regarding the recipient: to be recognized by DT as a parameter, a column name must be enclosed between a prefix "<%" and a suffix "%>".

For instance if the first dataset of a workflow has a column named "**1 AM email**", containing the application manager email related to the column "1 Application name", a proper email recipient could be configured in the email as <%1 **AM email** %> and the subject of the message could be:

'Application <%1	Application	name%> ha	as been i	ipdated in	EA model"
------------------	-------------	-----------	-----------	------------	-----------

*5	Workflow Carily	arwind	
1. GENERAL INFO	2. CHOOSE SOURCES 🐋 主 3. TRANSFORM D	ATA 🔄 🔪 a operationatancet 👁	5. SAVE AND TEST
Configuration	mostos:	vicetifius full-te:	
Party Committee Party	 Check back, Sc. Math. [1146] 	+ Alle operations were Collectory	nertifions/weitfice:_1348
TEET DINKE HO GATE	Decurtur.		111
ber tract	logging and light also	Traine o	
Seren Trais 49 coluio	AND ADDRESS AND ADDRESS AND ADDRESS AD	-th 1 Alt analysis	Config
*	Configure message		Action: Waster No now
Configure message —			- H-H-H-H-H-H-H-H-H-H-H-H-H-H-H-H-H-H-H
Conligure message			d b
Email To:			Res D D
<%1 AM email%>			8 8
Email CC:			10:10
servicedesk@custome	r.com		
Email Subject:			
Application <%1 Appl	ication name%> updated in EA Mode	I	
Attach workflow o	utput file (HTML)		<u></u>
C Email Always	Only with data	Only on errors	

This setting, when the "*Single email for record*" option is selected, produces a single notification per source dataset record, replacing parameters with their value as read from the input.

Menergen e HPSv/MVR, 79, 20108435,34000	127.Mei 0.98		
Application E-Learning has been up	data From Application		
Catalogue, with status 1 - Feasibi Please, check attachment for detai	Corporate Coll	ector	2013/06/19 16:01:0
Best regards	1 Application name	1 Status	1 AM email
	Sales Force	1 - Feasibility	t.jones@customer.com
Concerned a Solitorhouse	Customer Care	2 - Preproduction	n.rhodes@customer.com
corporate contentor	E-Learning	1 - Feasibility	b.becker@customer.com
	Inventory Management	2 - Preproduction	c.salaris@customer.com

2 Workflow Test

Once configured, the workflow can be tested using the button "Test", even if is not yet active.

When tested, a progress bar will make the user aware of the major workflow steps:

- 1. Adapter execution
- 2. Source data normalization to provide transformation input data
- 3. Transformation execution
- 4. Workflow output normalization to provide data for operation

As soon as the step is performed and corresponding data is produced, a specific button makes it available to the user.

	Workflow "Somma TCO (3)" Progress Bar	
	35%	
Comple Comple Comple Comple	ted 1% of task - Workflow execution has been queued (1 sec.) ted 5% of task - Workflow started - Adapter(s) queued (12 sec.) ted 25% of task - Source Adapter(s) completed (1:33 min.) ted 35% of task - Source(s) normalized - Transformation started (1:52 min.)	
1- SOU	IRCES 2.1-TRANSF. INPUT 2.2-TRANSF. OUTPUT 3-OPERATION DAT	4
orporate	e Collector	

Application > Category	«Application > Number of Users	<application> TCO</application>	
Legacy	40	7500	
ERP	402	100000	
Legacy	200	78000	
Middleware	150	220000	
Software	150	30000	
ERP	110	50000	
ERP	150	7500	
ERP	20	80000	
Legacy	152	7500	
ERP	370	200000	
Software	300	65000	
		and the second s	

	35%		
Completed 1% of ta	🐑 Messag	e 🔀)	
Completed 5% of ta Completed 25% of t Completed 35% of t	Do you confirm o	peration execution?) d (1:35 min.)

The user is then informed about the result of the operation execution, if requested.



Chapter 5

1 Administrator Tools

1.1 Execute and Schedule Jobs

The administrator tools include the scheduler, which is the engine that runs the jobs mainly related to the adapters set up by the user. The scheduler allows the user to schedule a single job; the user may define and schedule job sequences that run the desired jobs with the assigned priority.

According to the type of jobs available and the timing facilities, the user may schedule each single job (or a job sequence) with a certain frequency.

In this window the user can choose to manage the jobs available for all the configurations or to select a specific model configuration to work on the model administration jobs. In particular, selecting from the upper dropdown list:

 "All Configurations", the user can schedule the Custom Job (see related section) and the Adapters (CM, WS, File and DB Adapters) which may be used by different models within their specific workflows. In this case, when an adapter is executed by the scheduler engine, an embedded workflow manager will trigger all the workflows using that adapter as its data source to execute

For each of the available Adapters, the user can set up the definition of single job to be scheduled (section "Job Scheduler")

- A specific model configuration name, the user manages the scheduling of the given model administration jobs, as
 - o Model backup

 Multisource jobs defined within that configuration workflow (thus needed only for those and not available for any other)

For each of the available model configuration, the user can set up:

- If it is active or not (checkbox "Active configuration") a configuration could exist even if it is not active
- The definition of single job to be scheduled (section "Job Scheduler")
- The definition of each job sequencer ("Job Sequencer")

1.1.1 Job Scheduler

For any kind of job, the user can set the scheduling time for each job after selecting it from the list.

and the second se	Sc	heduler	
configuration		outparties:	
Select Configuration			
All the configurations		- ACTIVE O	ONFIGURATION
ob Sequence			
Sequ	erice Name	Description	Next Execution Time
	Add	0 Outere	
icheduler Job		1(A) N	
	wh Marma	Description	Next Exercition Time
Adapter Job - E& Foundate	n - Sample Model (EASAMD14)	CH repository amont	These successions of the
Adapter Job - File di test		SHEET folder	
Adapter Job - Nuovo DB Ad	apter	DB Query	
Adapter Job - WS Adapter		WS Consumer	
		here and a la	
	Add	Delvie	
iming Parameters	1211		
Repettion	Parameters	5	
10330530 IVU 1044	 Evers 3 	daya	
Daily			
Daily Start Time	Time window	1	
Daily Start Time (Mr.mm.sa)	Time window From	To	

Here are the timing parameters available:

• *Time Window* - gives the opportunity to set a date interval for job execution. The jobs are executed according to the following repetition options and set-up time field.

Time window	
From	То
21/09/2018	23/11/2018

• *Repetition by "Minutes"* - set the repetition of a job every "xx" minutes (optionally within an hour interval).

Repetition			Parameters –			
	Minutes	-	Every 15	minutes	Set Hours Interval	From: 8 + To: 24 +

• *Repetition "Hourly"* - set the repetition of a job every "xx" hours (12 hours in the example).

_ Repetition		Parameters
Hourly	-	Every 12 hours

• *Repetition "Daily"* - set the repetition of a job every "xx" days (2 days in the example).

- Donotition	- Parametere
Repetition	I didificiero
Daily	Every 2 days

• *Repetition "Weekly"* - set the repetition of a job each "day" of the week (Sunday and Monday in the example).

- Dopotition -		E	Doromotor	<u> </u>				
-Repeation-			alameter	5				
	Weekly		Sun	1	Mon Tue	Wed Thu	Fri	Sat
	recently		▼ Out	×				Oat
1								

• *Repetition "Monthly*" - the repetition of the job every "xx" (ordinal number) of the month (first day in the example).

Repetition			Parameters	
	Monthly	•	The 1 💌 of the n	nonth

• *Repetition "Once"* - schedule the job to run just once, in the specified date and accordingly to the "Start Time" field.

Repetition Once	
Start Time (hh:mm:ss)	Date
	20/09/2017 🗔

When the user has completed the scheduling configuration, the user can store the scheduling parameters in the DT database by pressing the

Apply button.

When the user presses the "Apply" button, either if they selected a job sequence or a single job, the field "Next Execution Time" (in the Job Sequencer or Job Scheduler respectively) is filled with the next expected time the job will run.

If it is required to unschedule a job, the user has to select it in the list and then press the unschedule button.

If it is required to execute a job or a job sequencer immediately, the user

has to select it in the list and then press the **Run Now** button.

The **Exit** button closes the window.

1.1.2 Active Configurations

If you want the scheduler to execute the jobs at the scheduled time, activate the configuration by checking the ACTIVE CONFIGURATION check box. Once activated the check-box changes colour from yellow to green.

Please note that a configuration does not necessarily need to be activated in order to schedule its jobs. The user is allowed to schedule any of the jobs, but the jobs will not be executed if at the execution time the configuration is not checked as "active".

۲(Configuration ————		
	Select Configuration		
	All the configurations	•	ACTIVE CONFIGURATION

The "All the configurations" configuration is always active:

Configuration	
Select Configuration	
All the configurations	ACTIVE CONFIGURATION

1.1.3 Define Jobs Sequences

The user may define job sequences, configuring *adapters and workflow* in a real *logical flow*; the user may choose between available adapters and related workflows which ones, and which order they belong in the Job Sequence:



Using right/left arrows to include/ exclude an item, and up/down arrow to change their order.

User may include more than one occurrence of adapter, with different workflows, backup and custom jobs.

You can schedule a job using the standard timing parameters: the job will result in the execution of all the adapters belonging to the job sequencer definition and all of the selected workflow, in the configured order.

Please take into consideration that if a workflow included in a sequence is set *inactive* in the workflow configuration, then it will still belong to the sequence, but it will appear "*grayed out*" in the sequence definition window, and its execution will be skipped when running the sequence itself. Take into account the following internal behavior: when different workflows use source objects exported from the same model:

Job Sequencer	
Adapter Job - EA Model - Enterprise (EAENT) Export	
> Workflow - CALCULATE TECH OBSOLESCENCE (493)	
> Workflow - EXPORT_ALL USED_SERVICES (638)	
> Workflow - EXPORT_ALL_UNUSED_SERVICES (535)	
> Workflow - CREATE EVOLVE FAVOURITE APPLICATIONS (951)	

All the different requests will be aggregated, in terms of **different object types**, and in terms of **filters** (which attributes/associations are to be exported; the definition of filters on data).

So, if the objects to be exported, all at once, are typically more than a few thousand, or the filters are conflicting, it's recommended to replicate the adapter execution, moving workflows in order to make the adapter request more efficient and avoid conflicts:

Job Sequencer				
Adapter Job - EA Model - Enterprise (EAENT) Export				
> Workflow - CALCULATE TECH OBSOLESCENCE (493)				
Adapter Job - EA Model - Enterprise (EAENT) Export				
> Workflow - EXPORT_ALL USED_SERVICES (638)				
Adapter Job - EA Model - Enterprise (EAENT) Export				
> Workflow - EXPORT_ALL_UNUSED_SERVICES (535)				
Adapter Job - EA Model - Enterprise (EAENT) Export				
> Workflow - CREATE EVOLVE FAVOURITE APPLICATIONS (951)				

This is not mandatory and a single rule of workflow aggregation cannot be provided, as it hugely depends on the size/type of required export.

Sometimes, if DT Windows Services are forced to stop, or in case of severe internal error, sequences may enter an inconsistent state, that could stop other jobs from being executed. In that case the administrator may use the "**Reset sequences**" item in the "Tools" menu (view <u>Chapter 9 – Utilities</u>).

1.1.4 Multi Source Jobs

When the user in a workflow configuration defines more than one source (workflow with multi source) the system creates a "special" job named "MultiSource Job" that will be shown in the Job Sequencer and Job Scheduler sections of the specific workflow configuration:

Job Sequence		
Sequence Name	Description	Next Execution Time
Sequencer multisource	CONDITIONAL	
Scheduler Job		
Job Name	Description	Next Execution Time
Job Name Backup Job - EA Foundation - Sample Model	Description Backup	Next Execution Time

You can schedule it using the standard timing parameters: the job will result in the execution of all the adapters belonging to the source definition of the workflow that will the trigger the workflow execution itself.

Workflows that have any of those adapters as single source or in a different multisource definition will not be triggered.

1.1.5 Custom jobs

If needed, users can configure a custom job, aimed to run any external executable that can be launched through a command line, using the "Add" button at the bottom of the job list, available with the "All the configurations".

	S	:heduler	
onliguration			
elect Configuration			
All the configurations		· P ATTINET	PRE-SUPERING A
b Sequence			
Sequence Name		Description	Next Execution Time
Sequencer multisource		CONDITIONAL	
	Add	dit Delete	
cheduler Job	10000	i accordina i i	100 mm
Job Job - EA Enundation	Sample Model (EASAMD14)	Description	Next Execution Firme
vlapter Job - Ele di test	· sample model (crosser 21)	SHEET folder	
dapter Job - Nuovo DB Adap	ter	DB Query	
dapter Job - WS Adapter		W/S Consumer	
	Add	te Delete	
ming Parameters			
Repetition	Parameters		
Start Time	Time window		

To configure a Custom Job, beside the Job Name and Description, the user must provide the environment information, such as the IP of the server in which the execution has to be launched, the username and password of a Windows account (as specified in the Windows domain) which has the grant to login to the server and run the execution.

b Description:				
sver P.*	Usemame."		Password*	_
ecutable path (server)	(*			
rameters				
				-
				Ŧ
Walt For Datum	Timeout after 0	minutes. (Kill the custom lab if not completed after x nivuto	tes?	

The user must provide the physical path, including the file name, of the given execution in the server, and the optional parameters required by the execution itself, enclosed by quotes if needed, as they would be written in a command line.

10	Custom Job Confi	guration	
Job Name.*			
My custom job			
Job Description:			
post processing jobs to c	omplete links		
Server IP.*	Usemame.*	Password*	
192.168.29.18	Administrator		
Executable path (server):*			
FitempipbiPostProcessin	gbat		
Parameters:			
"Filtemploutput.ht"		<u>ا</u> ن	
🕑 Walt For Return	Timeout after 1 minutes gill the autom job if not a	ngérini after x neulogi	
Save	Test	tot	

The option "Wait For Return" forces the process that launches the execution to be listening for the external process to end and wait for the exit code. In this case it's mandatory to define the timeout in minutes, to avoid DT hanging, if the executable does not exit in the given elapsed.

DTWhen "Wait For Return" is not checked, user may define a number of minutes that DT will wait before scheduling the next job, if the custom job is included in a job sequence.

✓ Wait For Return	Timeout after	1	minutes (Kill the custom job if not completed after x minutes)
-------------------	---------------	---	--

After saving the configuration, user can test the execution of the job:

10		Custom Job Configuration	
Job Name.*			
My custom job			
Job Description:			
post processing jobs to c	omplete links		
Server IP.1	Usemame."		Password*
192.168.29.18	Administrator	Nessupe 🔀	******
Executable path (server):*	6	JOB SUCCESSFULLY LAUNCHED	
FitempipbiPostProcessi	ng bat		
Parameters:		[OK]	
'F thempioutput ht"			¢
🛃 Wat For Return	Timeout after	minutes (## the custom job if not completed after x minutes)	74 F
Save	Test		Fait

In case of error, DT will provide the return code of the process execution.

0	Custom Job Configuration	
Job Name.*		
My custom job		
Job Description:		
post processing job to complete links		
Server IP.* Usemame.*	Mossage 🔯	Password*
192.168.20.18 AEPDATASE	EXECUTION END WITH RETURN CODE #	
Erecutable path (server)*		
F 'publiciappoggio_Salaris'pbiPostProcessing ba	OK	
Parameters		
"C \TEMP\outpout bit"		
Walt For Return Timeout aber	minutes (All the autom jub if not completed after a moules)	
Save Test		Exit

You can schedule it using the standard timing parameters: the job will result in the launch of the external execution.

Custom Job - My custom job	CustomJob
Add	Edit Delete
Timing Parameters	
Repetition	Parameters
Weekly	Sun 🗸 Mon 🗌 Tue 🗌 Wed 🗌 Thu 🗌 Fri 🗌 Sat
Start Time	Time window
(hh:mm:ss)	From To
	22/09/2017 30/09/2017
Арріу	Unschedule Run Now

Chapter 6

1 Running DT on Event

1.1 Running an Adapter on Event

In a real life environment, it could be important to acquire external data on a scheduled basis, or in an "*on event*" mode; in particular, when a DB Adapter is used for reading the information from a database. It's quite easy to implement, for example, a stored procedure that drops a text file, containing the trigger information for DT to start a given adapter.

The trigger file can be detected by DT if dropped in a given folder:

- any of the DT *adapter folders* (including the specific adapter, but not mandatory)
- the folder "C:\ProgramData\erwin\Data Transformation\workflows"

The described *triggering feature* applies to any other adapter type.

The trigger files must be compliant with the naming convention:

CCTRG_ADAPTER_YYYYMMDD_HHMMSS.xml

and the sample content describing the schema is detailed below (see next paragraph for *<PARAMETERS*> tag):



Please note that you could even choose whether to execute all the (active) workflows defined against that adapter as source, or a sub list of your choice:

```
<?xml version="1.0" encoding="UTF-8"?>
<CC_TRIGGER>
<PARAMETERS>
<PARAMETER name="APP_ID_LIST" value="2,5,20"/>
</PARAMETERS>
<ADAPTER name="APP CATALOGUE APPS">
<DELAY HH="0" MIN="0" SEC="30" />
<UELAY HH="0" MIN="0" SEC="30" />
<WORKFLOWS all="false">
<WORKFLOWS all="false">
<WORKFLOWS all="false">
</WORKFLOW name="CCWORKFLOW_1">
<DELAY SEC="0" MIN="0" HH="0"/>
</WORKFLOW>
</WORKFLOW>
</WORKFLOW>
```

1.1.1 Running a DB Adapter on Event with Parameters

When configuring and using a trigger file for executing a DB adapter on event, it is possible to add parameters to drive the query resultset through them.

Let's suppose that you want to configure a DB Query Adapter, which is named "MY ADAPTER" and extract detail of just the Applications that have been updated / inserted in a table named "MY_TABLE". The Applications are selected, based on their ID.

The SQL query to do this would look like:

SELECT * from MY_TABLE where APPLICATION_ID in (131, 156, 653)

When triggering DT on event, you may want this adapter to just process applications that were updated or inserted in the DB table. The IDs of the updated / inserted Applications can be obtained and passed to the adapter using parameters in the SQL query. e.g.

SELECT * from MY_TABLE where APPLICATION_ID in (<%APP_ID_LIST%>)

<%APP_ID_LIST%> in the SQL query is the parameter name to obtain the name of the parameter in the XML trigger file.

Please note the required syntax for DT: parameter names must be provided enclosed by the prefix "<%" and suffix "%>", like: <%PARAM_NAME%>.

The values of the parameter must be written in the XML trigger file each time that the SQL Trigger executes on the Table where the Application detail will be updated / inserted.

The XML trigger file must contain the following:

<PARAMETERS>

<PARAMETER name="APP_ID_LIST" value="345, 436"/>

</PARAMETERS>

The parameter name is hard coded into the SQL Trigger, and the values are the IDs of the changed Applications which is written directly into the xml trigger file by the SQL Trigger. These values can be different, each time that the database trigger is executed.

When the DT Database query is executed, the values will be put in place of the parameter name, as follows:

```
SELECT * from MY_TABLE where APPLICATION_ID in (345, 436)
```

Parameters included in the trigger file can be used even in workflow transformations, when they accept fixed values, like:

Transform	mation:		Activity:					
)ata filte	ring	•	Fixed Value Manager	*				Add
Transform	mation fields	- Yiel		1995				2
						Apply	Remove	Reset
Sel.	Column N	tame	*C:	onsider as	* Ope	erator	* Val	ue
	1 <application> Categor</application>	y -						
	1 <application> Number</application>	of U	lsers					
	Application> TCO							
-	1 <it portfolio=""> Name</it>		String		Equal		<%CUSTOMER9	h>

Special parameters include:

<%SYSDATE%>: a parameter can be used to populate a fixed value column, or a filter value, with the system date and time (*UTC format*); if the value <%SYSDATE%> is entered, DT will replace the parameter with the datetime value, at execution time.

112	V DATA OP	<%sYSDATE%>
1.00		The event of the state of the s

<%BLANK%>: in Replace Text transformation, when you want it to be applied to an empty value.

Set.	Column Name	* Text to be replaced	* Replace with
1	1 <application> Category</application>	<%68LANK%>	Critical

1.2 Running a Sequence on event

In this version, you can define job sequences, not only on schedule time basis, but in a real logical flow; that is, the user may choose between available adapters and related workflows; which ones, and in which order they belong in the Job Sequence:

) Worl	kflow sequence	- Sequencer multisource	
Fil	ter		
Avaitable Jobs		Job Sequence	
CONFIGURATION - All the configurations		MultiSource Job - Somma TCO	
Castom Job - My castom job		> Workflow - Somma TCD (3)	
CONFIGURATION - EA Foundation - Sample Model	0	Backup Job - EA Foundation - Sample Hodel	
Backup Job - EA Foundation - Sample Model		MultiSource Job - Somma TCO	1.5
AultiSource Job - Somma TCO	0	> Workflow - Somma TCO (2)	1
> Workflow - Somma TCO (3)		Custom Job - My custom job	1
shaded workflows are not "ACTIVE" Imail config	Trigger sa	mple Save Exit	

The job sequences can be launched on demand, on schedule, or on event in a similar way to adapters.

A sample of the needed trigger file could be obtained pushing the "Trigger sample" button:

<?xml version="1.0" encoding="UTF-8"?> <CC_TRIGGER sequence="MySequenceJob"> <PARAMETERS> <PARAMETER name="MY_CATEGORY_PARAM" value="sample_value" /> </PARAMETERS>

</CC_TRIGGER>

And it will contain all the parameters included in the included adapter/workflow definitions (where "*sample_value*" must be replaced by the actual "*MY_CATEGORY_PARAM*" value when producing the real trigger file).

The trigger files must be compliant to the naming convention:

CCTRG_SEQUENCE_YYYYMMDD_HHMMSS.xml

Chapter 7

1 Running DT from Cloud Platform

Collector4Cloud provides EA Agile/EA Agile V3 users the capability to interact with onPrem DT:

- View available DT flows / job scheduler
- View the **workflow definition**, in terms of sources/target Adapters and configuration
- View the **Job Sequence definition**, in terms of included workflows and custom jobs
- Run a specific flow or job sequence on demand or by schedule, following the execution status
- view the data managed by the flow to the target system / people
- check if the flow exited with no data
- check if there were errors, and view the logs in case
- Have a complete updated view of the **daily operations log**

Both **erwin EA Agile** and **erwin EA Agile V3** are supported, depending on the specific configuration (see <u>Cloud Environment</u>). This enables Listener Windows service to support on premise application to work with cloud:

• Job (workflows and sequences) definitions are pushed to cloud

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- Job requests are pulled from cloud
 - o one time requests- drag and drop to "Requested" status kanban

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Neet Job N.A.	
DG - Load Country Codes DG Glossary - Report	
Custom Julia poliated	
Last Execution ID 1522065263365	
Job Sequence ID -17099281	

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Please, note that **repetitive schedules** are only configurable by **on premise application**.

User can **monitor** the **execution of jobs** by different views and fields and linked reports:



• "Last execution Dataset" for workflows:

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• *"Execution Progress"* for Job Sequences (with links to workflows dataset), continuously updated:

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		and another constraints, management to many to four .			
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• *Notification emails* – can be requested by cloud setting the "Notify Result to" field on workflow/job sequences

Schedule Task for		
Notify Result to		

Business Glossary from erwin DG - 03/04/2018 08:28:27

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x	glossary.xlsx 59 KB	~

PFA the Business Glossary.

See more information on:

Go to Erwin

Other **summary views** show more detailed information about last run, including last execution datetime and link to output file (if any) or error file (in case of errors):

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A dedicated **logs view** enables cloud users to be aware of DT operations, from the request through intermediate steps to execution, with a XLSX report, updated in near real time:

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User can also reset requests:

- one time requests drag and drop on "unassigned" status kanban
- *on schedule* clearing the datetime field "Schedule Job for", if not started; with drag and drop on "unassigned" status kanban, if running

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 all requests can be deleted through "RESET CLOUD REQUESTS" job from cloud, or "Tools→Reset Cloud Requests" command from onprem UI.



Chapter 8

1 Log Viewer

The log window lists all the most important actions performed by DT.

For each row, you can see the name of the configuration (column name *CONFIGURATION* – available only if linked to the action), the date (column name *DATE* – timestamp of the action), the user (column name *USER* – the user who owns the action), the operation (column name *OPERATION* – what has been done) and a short description of the action (column name *DESCRIPTION*).

Filters (one for each column) can be used to see a subset of the whole Log.

By pressing the elected filters are applied.

Clicking on the head of each column, the rows will be ordered alphabetically.

If "Note" refers to a file or folder, double click on the note text will open it.

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Fiters									-
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	2		50				•		2
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EA Foundation - Sample Model	2017-09-20 1	6:36 AL	oman .	Scheduler	User "ADHIN" scheduled the Job "MultiSource Job - Somma TCO"				
EA Foundation - Sample Model	2017-09-20 1	6/52 M	DMIN	Worldfaw configuration	User "ADHDI" updated the workflow "Somma TCO".				
All the configurations	2017-05-20 1	5:59 W	orkflaw meneg	er workflow completed	Workflow: Somme TCO (ID:3) - operation not requested				
EA Foundation - Sample Model	2017-09-20 i	5:57W	oridio e manag	er waiting for operation	Workfass: Samma TCO (20:3)				
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1.1 Client, Scheduler and Workflow log

The buttons open different kinds of logs showing a detailed view of the system events. Very detailed information can be found there, such as query messages, exceptions, errors etc.

The log will be shown in your predefined text editor:

- *Client Log* refers to the operations executed through the user interface
- Scheduler Log refers to the batch operations related to Adapter execution
- *Workflow Log* refers to the operations required by workflow transformation and operation

Chapter 9

1 Utilities

Additional administration features are available from the "Tools" Menu.



1.1 Reset Workflows/Sequences

If DT Windows Services are forced to stop, or in the case of a severe internal error, sequences may enter an inconsistent state which could stop other jobs from being executed. In such a case, the administrator may use the "Reset WF/Sequences" item in the "Tools" menu.

This operation can be done manually, as described, or by scheduling it in a custom job, using the sample execution: *resetSequencesUtil.bat* that can be found in the DT installation folder:
and a second	custom and company	
Job Name "		
Resel Sequences Ulli		
Job Description:		
the job will reset running a	nd pending sequences	
Server IP.*	Usemame."	Password*
ALESSIONOBILE	AlessioAdmin	
Executable path (server)* C IProgramFiles(x86)/Corp	orateCollector/resetSequencesUBI bat	
Parameters.		
Walt For Return	Timeout after 1 minutes (kil the custom job if not comple	leted after a minutes)
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1.2 Reset Logs/Files

When needed, it is possible to reset the logs table just by pressing the "Tools" menu item "Reset Logs/Files".

This action will clean the database of all the application logs, thus preventing the DB from being overloaded by historical tracking data.

All the physical files mentioned in the deleted logs will also be deleted in the internal workflow folders; please be sure that no active workflows are running when using this feature.

This operation can be done manually, as described, or by scheduling it as a custom job, using the sample execution: *resetLogsUtil.bat* that can be found into the DT installation folder. The executable optionally accepts a numerical integer parameter, which is "days to be maintained". For example, if called with "3", past logs until 3 days before the job execution will be deleted.

0	Custom Job Configuration	0
Job Name."		
Reset Logs Util		
Job Description:		
The job will delete tempor	ary files and logs produced until 3 days before the job execution	
Server IP.*	Usemame*	Password*
ALESSIOMOBILE	AlessioAdmin	••••••
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Parameters:		
3		
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Wait For Return	Timeout after 1 minutes (kill the custom job if not completed	(after x minutes)
Save	Test	Exit
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1.3 Backup DB

Regular DT database backups are recommended as a best practice. This can be obtained with "Tools \rightarrow Backup DB": it produces a zip file with a dump of CC DB into "C:\ProgramData\erwinDataTransformation\data\H2\BAK" folder, with backup datetime:



1.4 Export/Import Workflow

It can sometimes be necessary to configure and test workflows in a working DT instance before deploying them in a production site.

Workflows can be exported and imported in a different DT instance.

 To Export workflows, just open the workflow of interest, and create an archive (zip file) containing the workflow and its adapters/activity information:



• To **Import workflows**, use the "Tools"→"Import WF" - or the button "Import" in the workflow configuration interface, after selecting a model configuration - and browse to the exported zip file previously created (or drag the file to the text field):

Workflow Import Management	
Import file:	
C:\ProgramData\erwinCollector\workflows\WF_EXPORT_487_20171010_1401058.	zip
Workflow name:	
LOAD APP AND VENDORS DATA FROM APP CATALOG	-
Workflow description:	
This workflow updates Application and Vendor ifor towards EA model	
Exit Next	

Then map the **model configuration**, **source(s) adapter(s)**, and **target adapter**. In every step, should the needed configuration or adapter not exist in the target DT instance, **it can be contextually created**, allowing for smart import operations:

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Adapter Name EA Foundation - Sar Adapter Description lation - Sample Mod poort - Target Ada Existing: EA Foundation - San Adapter Description EA Foundation - San New: Back Back	npie Model (EASANP14) Import - loc pter npie Model (EASAMP14) Import - loc pter npie Model (EASAMP14) Im npie Model (EASAMP14) Import Umport Umport c UK	port Adapter Type ahost CM repository cM repository import	import

The result of the import operation is then shown to the user, which can edit/test/schedule workflow as usual:

2	WORNOW CONSeration	
1. GENERAL INFO 😒	> 2. CHOOSE SOURCES 😹 🔪 3. TRANSFORM DATA 🚡 🕥 4. OPERATIC	INATARGET 199 5. SAVE AND TEST
fortifion definition Configuration:	Wankflow: Wark	few feider:
EA Fouldation - Tampila M	Nos. 💌 Summa 100 - BHORTID (4) 👻 🗌 Active 🔐	gramData/erwinCollector/workflows/workflow_4
Workflow Name: Somma TCD - IMPORTED	Description: Calcolo della comma dei TCO delle applicazioni di tipo ERP con più di 106	utenti
Teps cootest	Edonal Data Source Defaution	
Sources		Add
1 EA Foundation - Same		Apply Result
	- Snora Elaite	
Transformations	Application> TCO ST Partfolio> Name	
i Fixed value Managur I Sam Values in Rows	IT Portfolio> Total TCD	
f Fixed value Manager 2 Sum Values in Rows Operations	IT Portfolio- Total TCD	
Effixed value Manager 2 Sam Values in Rows Operations EA Foundation - Lample Model	IT Portfolio> Total TCD	

Request for Help 1.5

Users can ask for assistance for workflows through a dedicated features in main toolbar:



*9	
Configure message	185
Email To:	
servicedesk@erwin.com	
Email CC:	
Email Subject:	

5

A message with a workflow definition and log file attached (more files can be added) will be prepared to be sent to ServiceDesk if DT email parameters have been provided during tool configuration.

1.6 Cloud Environment

Use this menu item to configure Cloud Environment parameters, to connect DT to erwin Cloud platform (<u>see Running DT from Cloud</u> <u>Platform</u>)

*	Configure Cloud Environment
Environment:	erwin Data Governance 💌 https://myerwin.io 💌
Username:	csalaris
Password:	••••••• Test
Workspace:	Default VS Id: 2121 Active
Folder:	F:\CollectorExtEvents
Output URL:	http://localhost/CollectorWorkflows
Brow	se Save Exit

- Select environment parameters erwin EA Agile or erwin EA Agile V3 – and instance
- 2. Provide credentials for the selected instance
- 3. Test the connection
- 4. Select workspace containing the DT package (see before)
- 5. Set the communications to be active or not. In last case, DT will not take charge of requests from cloud. This may be applied as a temporary setting for upgrade/maintenance purposes etc.
- Select a physical folder. This will be used as a publishing folder for web reports (HTML, pdf, csv, Excel), like web logs, workflows operation data, sequence progress reports. It has to be:
 - a. Readable/writable by Windows user running Windows services and the DT UI on premise
 - Published in LAN or public web, making DT reports visible and accessible by web.
- 7. Save
- 8. Restart Windows service "erwinDataTransformationEventManager"
- 9. Reset WF/Sequences from Tools menu item.

1.7 Reset Cloud Requests

Use this menu item to reset requests sent by erwin Cloud platform (see Running DT from Cloud Platform).

If DT Windows Services are forced to stop, or in the case of a severe internal error, sequences may enter an inconsistent state which could stop other jobs from being executed. In such a case, the administrator may use the "Reset Cloud Requests" item in the "Tools" menu, or request for "RESET CLOUD REQUESTS" job by cloud.



Chapter 10

1 Users, Roles and Security

DT interacts with CM contents – models, objects and so on – through the same logic and application components that Corporate Modeler and Evolve rely on.

Normal authentication is the only fully supported option.

Windows Authentication is not supported in DT, as it is not suitable for batch job execution.

General rules about security, authentication and authorization are:

- *Users' logon* is performed using their CM userid/password, provided that a valid DT license has been installed.
- Once logged on, users can define *model configurations*, and associated *workflows*, only for *models* which have been granted through Corporate Modeler Administration.
- When a user defines a model configuration, users' credentials of related CM Adapters (created automatically for data export/import on that model) are encrypted and stored in the CC internal database. This is needed in order to be available when workflows using those adapters are executed in a batch mode (which "Test workflow" simulates).

This means that CM Users actually executing the operation are the person that configured and saved the associated model configuration. *If the user has to be changed*, the new user must log on to DT, and save the configuration, in order to bind their CM credentials to it; the workflows will be automatically updated.

 Read/write/delete operations on object type instances will be executed within the same user's rights scope existing in model. This means that they are impacted by general and specific grants on model and object type, by the status of the object (for instance, Frozen level) and property type configuration (Read Only properties will be not updated).

When requested, these operations will be executed, if possible, or a log will be produced, containing details about what prevented the operation to be finalized.

Chapter 11

1 Troubleshooting Information

DT creates and uses some specific paths/folder during the execution of client configurations or scheduled operations. Main folders and files are explained in the following paragraphs.

1.1 Installation Path

The **installation path** is by default:

C:\Program Files (x86)\erwin\Data Transformation

Contents:

- Configuration files:
 - <inst_path>\config\erwinDataTransformation.properties
 - o <inst_path>\config\quartz.properties
 - <inst_path>\config\workflows\config\jdbc\CollectorDS.properties
 containing the DT database connection string
- Binaries
- External libraries
- CM4Collector.exe performs import/export CM models operations

1.2 Data Path

The data path is by default:

C:\ProgramData\erwin\Data Transformation

Subfolders:

data

DT database files

• libraries

XSLT parsers used for library/custom transformations

• log

Client.log, event.log, server.log, listener.log

• workflows

Workflows operation data, workflow testing triggers

The data path can be different from the default; configure the tool providing the desired path:

erwinCollec		
General Database		
Select Language:	English	
Sciect Language.		*
Select JDK version:	1.7.0_79 (64bit)	~
Credential for Windows	services creation:	
User:	CLAUDIAMOBILE\ClaudiaAdmin	
Password:		
Attention: for service creat	ion user with password is mandatory.	
elect Data Folder	~	n.*

1.3 Setup / Windows Services

DT installs four Windows Services, which have to be launched by a Windows user belonging to the Administrator group:

erwinDataTransformationH2DB:

Runs the application database

• erwinDataTransformationListenerManager

Detects newly created files into DT folders (see later)

• erwinDataTransformationEventManager

Manage the event queue, as workflows to be run for adapter files detected by Listener manager

• erwinDataTransformationServerManager

Performs scheduled jobs (adapters or sequences execution)

1.4 Adapter Folders

When configuring an adapter, DT requires to assign a folder.

This will contain:

• A file, created when saving the adapter, which is used to inherit the information about the structure of datasets coming from the adapter, named:

ADAPT_<adapt_id>_struct.<adapt_ext>

For instance, ADAPT_79_struct.csv will be produced when saving a DB adapter with internal id equal 79, containing the resultset columns and a sample of data.

• The following adapter files coming from its execution, that will be named as:

```
ADAPT_<adapt_id>_<operation_timestamp>.<adapt_ext>
```

1.5 Model Configuration Folder

When setting up a model configuration, DT requires assignment of a folder for the backup. This will be used also as *adapter folder* for the automatically created CM import-export adapter.

This will contain:

• The backup of the model, when required by scheduling:

<model scriptname>_<operation_timestamp>.mdb

- The structure file for export adapter, containing the metamodel: ADAPT_<adapt_id>.xml
- The CM export adapter files, when requested:

ADAPT_<adapt_id >_<operation_timestamp>.xml

• Operation folders for the given model (see later)

1.6 Workflow Folder

When configuring a workflow, DT will automatically create a subfolder in the <datafolder>/workflows, assigned for the specific workflow, named:

workflow_<wf_id>

This will contain:

- the source adapter normalized file
- the multisource folder when using more than a source
- Support file containing trigger and parameter information
- the xslt dynamically created to perform requested transformation
- the intermediate and final result of the transformation chain

1.7 Operation Folder

When configuring a workflow operation, this will be in charge of an adapter (*CM Import, DB Loader, Folder*).

The workflow manager, at the end of the transformation chain, prepares the files which allow it to perform the requested operation, and puts them into a subfolder of the adapter folder.

In particular, for:

Load/Synch/Delete CM Repository

The subfolder will be created into target model folder

• Send to DB Loader

The subfolder will be created into adapter folder

• Send to File Adapter

The subfolder will be created in the target folder

Chapter 12

1 Examples of Workflow Configurations

1.1 Loading data from external sources into a model

This example describes the following use case: application and vendor data stored in different external tools must be loaded consistently in a CE repository.

Let us suppose that:

 a CMDB manages the application data, stored in a MySQL database table. The application table identifies the item with a "COD_APPLICATION" field, which has a different erwin ID for the model for the same item:

a infe	Columns Data	😝 Raw Count 🤌 Prie	nary Key 🗳 Indexes 🔛 Grants 🗍	🖗 Ram Id	🖻 References 🧳 Na	righter ADDL Anative DDL 🙆 Triggers
	> - Ita Ita II	1 III III • • • • •	5 24			
• 2 D.A	PRICATION PKJ	ERVICE COD_APPLICAT	ION TXT_APPLICATION_NAME	PK_STATE	MAIN, TECHNOLOGY	DESCR_APPLICATION
T. Statutes	2	41.99	IP Phone System		63aa	The primary objective for the site is the diss
2	3	6.F33	Field Management		9.Java	
3		7872	SAP Financials		6 Cobol	Gaucherpartners.com is a non-branded we
4	5	10 A23	Order to Cash		6 NET	Prova prova del'aprostroto
~	6	#W32	Block Control System		6 DB2	multi
-	13	2 K51	Order Processing System		8 AS400	(mail)
1	20	10 143	Customer Care System		6 NET	The Customer Care application
1	26	3 H16	Mailing List		6-Java	http://evolve.pfizer.com/pfizer/statics/bluepri
1	27	5,465	Project Management System		3 Java	(mail)
-1	28	8 050	EA Repository		6 DB2	unuity
-1	29	15 C89	Where Whe		6 NET	It is in-house implementation of the sigPath

• Vendor data for any application are provided by another APM tool, via an **Excel** report. The file relates the Vendor and the Sales Contact with an Application through its CMDB code:

		Α	В	С	D
	1	Vendor name	Vendors Sales Manager	ApplicationID	Role
	2	Alfa S.p.a	Mark	K65	AM
	3	Beta S.rl.	Lewis	V32	PM
1	- 1	lta	Carl	L43	AM/DM
X	Ŧ	mma	Antonio	A30	AM
TE	hd				

A DT workflow importing and refreshing application and vendor data can be configured with the following steps:



CREATE MODEL CONFIGURATION

Log in to DT and create a model configuration, for instance on model "Framework Example". To load data into a model choose the specific model configuration.

 CREATE DATABASE ADAPTER FOR SAMPLE APPLICATION CATALOG DB

Press the "DB Adapter" button on the Home Page and configure the following adapter:

0		DB Adapter Configuration	on.				
OB Adapter List							
Name		Type		DB Type			
MY ADAPTER	DB Query			OR	LACLE	255	٠
MY SQL APP CATALOG	SQL APP CATALOG DB Qui		Query		sq.	298	
MY SQL APP CATALOG_DISMISSED D		DE Query		My	sqL	10,	
General Namer*	Descript	boni	Type:		Folder:		
HY SQL APP CATALOG	600		DB Query		CU/Users/csalars/Documents/_ADAPTERS		
DB Type: HySQL Type: HySQL Type: Driver: HySQL Connector Type: Sever Name:* locahost Port Number:* 3308 Database name:* red		Guery SELECT D_APP COD_AV TXT_AF DESOL D_STA TXT_SE	LICATION, PRICATION, MAME, APPLICATION, MAME, APPLICATION, TE, TE, STUDE, NAME				
		FROM APPLICATIONS, SERVICES, STATES WHERE					
User:*		APPLIC AND A	ATIONS.FK_SERVICE + PPLICATIONS.FK_STAT	SERVICES E * STAT	S.ID_SERVICE TES.ID_STATE		
Password:							

having the database type equal to "MySQL", server, port, database name, user, password and query producing the desired data (preview with the "Test" button):

ID_APPLICATION	COD_APPLICATION	TXT_APPLICATION_N.	DESCR_APPLICATION	ID_STATE	DE_STATE	TXT_SERVICE_NAME
6	HEE	Mailing List	index_definitions_deployment	6	Production	Mulling List (Till)
t i i i i i i i i i i i i i i i i i i i	139	IP Phone System	The primery objective for to-	6	Production	VOIP set (HIS)
5	P23	Firet Nanagement		9	Damiaad	Repository (831)
•	872	SAP Financiele	$\mathbb{R} \neq \text{based}$ on the standard	ē.	Production	SAP SVG (L13)
	A23	Order to Call	The new version's significa-	6	Production	Seles and Oustimer Servic-
1	W32	Stock Control System		8	Production	Workfow-Rogistic (C12)
¢.	AEI	Project Management System		3	Test	PPM service (P09)
8	CS0	EA Reportary		6	Profilation	Repository (E31)
a -	831	Order Processing System		8	To be demosed	BIP Service order procees
10	743	Cudoter Care Syden	The Customer Care applicat	*	Production	Sales and Gustomer Servic
16	C99	Whe's Who:	Assesses whether a given g	6	Production	Sales and Outloner Servic

CREATE FILE ADAPTER FOR VENDORS INFORMATIONS FILE

Press the "File Adapter" button on the Home Page and configure the following adapter:

*	File Adapter		
Name	Description	Id	
ADAPTER CSV FROM ARCHER		333	
AFD		293	
App Vendors		373	
CAP ONE - 1002-Requirement_Coverage_Detail	sf	682	1
CAP1 - Requirement Details		78	-
General * Name: App Vendors * Description: * Adapter Folder : C:/Users/csalaris/Documents/ADAPTERS * Operation : Get	Connection * Port: * Host IP: * Port: 21 * UserName: * Password:		
* Operation Parameters * Protocol: NFS * Type: Sheet ▼ * Target Directory: sktop/CW Collector Training 2016.02.04/Support files * File/Filters: Vendors.xlsx			

CREATE WORKFLOW TO LOAD APPLICATIONS AND VENDOR DATA

Press the "Workflow configuration" button on the Home Page and configure the following workflow choosing the model configuration set in the previous steps:

SOURCE DEFINITION – Source 1

Choose previously configured DB adapter on MYSQL:



SOURCE DEFINITION – Source 2

Choose previously configured file adapter for vendor info:



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Let us suppose that "Status" field in CM model is coded, combining the status id with the status description (for example "6 - Production"). Combine the application status code and application status description (columns "1 ID_STATE" and "1 DE_STATE") in a new column named "1 Coded state" with a given separator according to target model conventions:

Calute Name Calute	*Festies	SQL APP CATALOG · Apple Apple Beparator	Romme R	Add
Column Name Column Name Column Name Column Name Column Name Column Name Column Name Column Name Column Name	*Fistfaid	Apple	Bonnet N	leset
Column Mame	*Finitian	Beparator	* Second field	leset
Column Mame	*Finitiald	Beparator	* Second Reid	E
D_APPLICATION COR_APPLICATION TXT_APPLICATION DOSTA APPLICATION				
CDIL_APPLICATION TXT_APPLICATION TXT_APPLICATION_MANE COSTR APPLICATION				
TXT_APPLICATION_NAME				
T DESCE ARR PATEOR				
and the second s				
1 D_STATE				
1 DE STATE				
TXT_SERVICE_NAME				
2 Vendor name				
2 Vendor/ Sales Manager				
2 Application ID				
2 ton				
L Coried State	1: 10_STATE		1 DE_STATE	
	Control Control Contr	DL D_STATE DE_STATE TAT_SERVICE_INVME Vindor name Vindor name Vindor Stats Manaper Role Conied Stats L D_STATE	Control State Control State	Image: State Image: State Image: State Image: State

TRANSFORMATION 2 – Filter Status Values

CM model manages only active applications: choose "DATA FILTER", "Expected fixed Value Manager" to manage only application with a status different from "Dismissed":

Sources	Transformat	son Advinj:			
1 WY SQLAPP CATALO	Law Three	192 Find Ve	nai Mamirpet		Add
2 App Vandors	Transformati	on fields			
				Apply	Remove Reset
4 9	Sel	Column Nome	7 Consider as	* Operator	* Value
The surger strength and	1	ID_APPLICATION			
C Transformations	0 1	COD_APPLICATION			
E Combine Fleids	0 1	TXT_APPLICATION_NAME			
2 Foed value Manager	1	DESCR_APPLICATION			
4 Add Fixed value Field	1	ID_STATE			
entrope and a contraction of the	2 1	DE_STATE	String	(Not Equal	Devices E
	0 1	TXT_SERVICE_NAME			
1	2	Vandor marte			
The second second	2	Veridar Seles Hanager			
uperations	2	Application(E)			
Bad in CM Repository EA Model - IT Architectur	2	Rola			
RA	1	Costad State			
errail@john.black@cuitom	11.000				

TRANSFORMATION 3 – Pick the application name from the App catalogue dataset, given its id

The "Data derivation" activity "Match keys and pick values" applies if it is required to join values from different data sets and have a different result column value if the keys are matched or not. For the purposes of this exercise:

 Set the 'Category' field to "Key (slave)" for "COD_APPLICATION" and "Key (master/result)" for "ApplicationID" in the Vendor dataset: pick "TXT_APPLICATION_NAME" column from app catalogue dataset to get the application name, when the keys match ("Value If True") and the column itself, otherwise ("Value If False").

Sourcea	Transfe	imation.	Activity:						
NV SQL APP CATALO	Data inc	100 P	Mart New Williams	ahaa 🛉					Add
2 App Vendors	Transfor	mation fields					The second second		
							Apply	Hemove	Reset
5	5el.	Column Féarle	Calegory	Consider as	Operator	Value	Value # True	Vahier	tfalse .
and the second second second		1 ID APPLICATION						_	
Transformations	1	1 COD_APPLICATION	(Key (slave)						
Combine Fields 🔄 🔺		TXT_APPLICATION_NAME							
Ined Value Manager		DESCE_APPLICATION							
Add Fixed value Field		1 D.STATE							
Batch keye and pick v		1 DE_STATE							
432 Fixed value Field		1 TXY_SERVICE_MAME							
Contraction of the local sector		2 Vendor Hank							
		2 Vender Sales Hanager							
Operacions	1	2 ApplicationID	Key (mater)/Heart				1 THT_APPLICATION	2 Application	00
ad in CM Repository A Model - IT Architectur		2 naiv							
1.1		Coded State							
sel@sphn.black@custon*		App Vendor							
	1. 23	100 and dates from the			111111				

TRANSFORMATION 4 – Set Vendor Category.

Choose "DATA STRUCTURE CHANGING" and "Add fixed value Field", with name "Vendor Category" and value "VENDOR" and assign to Adapter "2 App Vendors":

Sources	Transformatio	ń.	Activity		Adapter to accept color	min.		
IN SOL APP CATHLO	Set thursday	A Maria	 Appli Filled Value Field 		2 App Vendors	+		Add
App xendors	Transformation	Reitz		2010	- Charles Contractor	Apply	Remove	Reset
	Set		Cutarra Name			* Fires	Evalua	
Transformations	84	D_APPLICATER						
Convisione Frields	D 1	INT_APPLICATION_HAP	NE .					
datch keys and pick value	1	ESCR_APPEICATION D_STATE						
	8.4	€_BTATE						
	2	endor name						
Operations	2	Vendor Sales Hanager						
ad in CM Repository A Hodel - IT Architectur	2	(delange) (delange)						
aldishn.bb/sdc.stam	0 1	odes State						

OPERATION – Load in CM Repository

Load application and vendor data in to model, as in the next picture.

Shirces	with operation	Mo	della constanti della constanti		Send e-mail to	Bagle ents	a tor reca	HR
1 MY SQL APP CATALO	Load in CM Repository	▼ EA	Notel - IT Architect	WHE	ohn blacs@costerner.c	20.01	Co	ofig
2 App Vendets	Colume Name	Type	Object types	Mapping (Properties/Associations)	Type	Action	Regfiel	No net
	1 ID_APPLICATION	Genetic	<srp td="" tilling<=""><td><sof columns<="" td=""><td></td><td></td><td></td><td></td></sof></td></srp>	<sof columns<="" td=""><td></td><td></td><td></td><td></td></sof>				
	1 COD_APPLICATION	Generic	Application	<property> CED</property>	Single-line text		4	
Transformations	1 TXT_APPLICATEON_N	Generic.	Application	«OBJ MAME» Name	Single-Ine text		11	0
Combine Fields	1 DESCR, APPLICATION	Genetic	Application	«PROPERTY» Description	Multi-Ine text		CI.	
Ibad Value Manager	1 D_STATE	Genetic	- skip (0),0901-	- SATE COLUMNS	0.0000000000		0	
Add Fired value Field	1 DE_STATE	Genetic	<510 (011391)	«SADP COUVERIN			0	D
	1 TXT_SERVICE_NAME	Generic	Application	«ASSOCIATION» IT Service		Forced replace	1	
	2 Ventor name	Genetz	Organization	«DEI NAME> Name	Single-Ine tast		4	
	2 Vendor Sales Harager	Generic	Organization	«PROPERTY» Contact Person	Single-Inve text		11	E
	2 ApplicationED	Generic	Organization	«ASSOCIATION» Application		Replace.		
E-Operations	2 Role	Generic_	<skf columns<="" td=""><td>-CSIGP COLUMNS</td><td></td><td></td><td>L.</td><td>1</td></skf>	-CSIGP COLUMNS			L.	1
and other stresses	1 Coded State	Genett	Application	<property> Status</property>	Drop-down lat		10	1 CP
ad in CM Repository +	2 Org Category	Senera.	Organization	<property> Category</property>	Drop-down lett			E.
- EA Nodel - IT Amhte clures emai@chn.black@cuat email@chn.black@cuat	2 Org Category	Genesc.	Organication	<property> Ortegory</property>	Drop-down left		14	

Note that the keyset for operation is set to "<Property> CIID" to manage the renaming of applications. The "Forced replace" option under 'Action' for "TXT_SERVICE_NAME" will make the association between "applications" and "IT services" be replaced even when associations are diagrammed.

• TEST THE WORKFLOW

Test the configured workflow with the "Test" button, and follow its execution through the progress bar or Logs and email notifications.

*	Workflow "LOAD APP AND VENDORS DATA FROM APP CATALOG (487)" Prog	
	35%	
	Completed 1% of task - Workflow execution has been queued (1 sec.) Completed 5% of task - Workflow started - Adapter(s) queued (18 sec.) Completed 25% of task - Source Adapter(s) completed (56 sec.) Completed 35% of task - Source(s) normalized - Transformation started (1:19 min.)	
	1-SOURCES 2.1-TRANSF. INPUT 2.2-TRANSF. OUTPUT 3-OPERATION DATA	

At the end of workflow transformation if operation data is available and ready, the user may choose whether to execute the operation or not:

		35%	
Completed 1% of tas	**	Message	X,
Completed 5% of tas Completed 25% of ta Completed 35% of ta	?	Do you confirm operation execution	? ed (1:19 min.)
		<u>S</u> <u>N</u> o	

CHECK RESULT

Moreover, you can check the result:

o from the test workflow **progress bar**:

Workflow "LOAD APP A	AND VENDORS DATA FROM APP CATALOG (487)" Prog	
	100%	
Completed 1% of task - Completed 5% of task - Completed 25% of task Completed 35% of task Completed 75% of task Completed 100% of task	Workflow execution has been queued (1 sec.) Workflow started - Adapter(s) queued (18 sec.) - Source Adapter(s) completed (56 sec.) - Source(s) normalized - Transformation started (1:19 min.) - Operation queued (1:29 min.) k - Operation result: OK - (1:59 min.)	
1-SOURCES 2.1-TF	RANSF. INPUT 2.2-TRANSF. OUTPUT 3-OPERATION DAT	A

 $\circ~$ in CM, accessing the tool through the CM icon provided in the button bar.

Igailona ana motore Isana ang sanata Isana ang sanata Isana ang sanata Isana ang sanata	Manager Street and Hele - Here Hele - Here Hele - Here Hele - Here Hele - Hele - Hele - Hele Hele - Hele - H	Sa ata bata terap Terapati Terapati Salatat aga				
And they are called		Name	Licenses used	Next status re	Number of lic	Status
Construction of the state of the second seco	encentration container	Stock Control System	0	00.00.00	0	6 - Production
termination of the local division of the loc	and the state	SAP Financials	0	00.00.00	0	6 - Production
Canoni otera regittation	where we have	Order to Cash	0	00.00.00	0	6 - Production
Salaria alkey Digensider	-concursion agencies	Maling List	0	00.00.00	0	6 - Production
		Repository	0	00.00.00	0	6 - Production
1000		Project Management System	0	00.00.00	0	3 - Test
him	<u> </u>	Brder Processing System	0	00.00.00	0	8-Tobe dit
		IP Phone System	0	00.00.00	0	6 - Production
		Contoner Care Suttern	94	16/06/2009	100	6 - Production

• with the **email notification**, if configured for the single workflow:

	collector@	annonculting it	6			
\sim	conector	aepconsultingin				
	Update App inf	ormation workflow -	executed	15		
A Case ensig	webcounneu@ru					
Messago	WFOUTPUT 375	20160202 143802581.html (7 M	(8)			
-	100 C C C C C C C C C C C C C C C C C C	na ana sa kara na kara na kara	78			
Applicatio	or dates seen seeds and					
Appacatio	n data are upoat to.					
Regards						
a configuration of the second						
8						
orporate	Collector	•				
orporate	Collector	•				
orporate		DESCH APPLICATION	ED STATE	DE STATE	TAT SERVICE NAME	Coded State
orporate		DESCH_APPLICATION	ID_STATE	DESTATE Production	TRT_SERVICE_NAME Mailing List (Tels)	Coded State
orporate	Collector Tat, APPLICATION, NAME Malling List IF Priced System	DESCH_APPEICATION	ID_STATE A	DESTATE Production Production	TAT JERNICE NAME Multing List (Teb) VOIP SHE (H45)	Coded State 8 - Production 8 - Production
orporate	Collector TAT, APPLICATION, NAME Malling List IF Proof System SAP Floandale	DESCH_APPLICATION	ID_STATE 6 6	DE_STATE Production Production Production	TAT JERNICE NAME Multing List (T66) VOIP Sic (H45) SAP SVC (J.13)	Coded Iters 8 - Production 8 - Production 8 - Production
orporate	Collector TAT_APPLICATION_MAKE Mailing List IP Proceo System SAP Francials Order to Cash	DESCH_APPLICATION	10_57ATE 14 16 16	DE_STATE Production Production Production	TAT SERVICE NAME Mailing List (Tito) VOIP soc (145) SAP SYC (L13) SAP SYC (L13) Salet and Exstormer Services (Q51)	Coded Lots 6 - Production 6 - Production 6 - Production 6 - Production
orporate	Collector TKT_APPLICATION_NAME Mailing Ust IP Preed System SAP Floandals Onter to Cath Stock Costrol System	DESCR_APPLICATION	D_STATE 9 9 9 9 9	DE_STATE Production Production Production Production	TRT_SERVICE_WAVE Mailing Unit (T66) VOIP-six (H45) SAP SVC (L13) Sales and Existemer Services (UH1) Weinflowkogstic (C12)	Coded tests 8 - Production 9 - Production 9 - Production 9 - Production 9 - Production
orporate	Collector Tet, APPLICATION, MARE Malling Ust P Prend System SAP Francials Onter to Caph Stock Control System Project Management System	DESCR_APPLICATION	D_STATE 8 8 8 8 8 8 3	DE_STATE Production Production Production Production Test	TRT_SERVICE_WAVE Mailing Ust (Tee) VOIP sec (H8) SAP SYC (L1) Sales and Existence Services (D81) Workflow-Register (C12) PPM service (P99)	Coded State 8 - Production 9 - Production 9 - Production 9 - Production 9 - Production 9 - Frontaction 9 - Final
orporate	Collector Tat, APPLICATION, MARE Mailing List P Phono System SAP Financials Onlar to Caple Stock Control System Project Management System Report Management System		D_STATE + + + + + + + + + + + + +	OCSTATE Production Production Production Production Test Production	TAT SERVICE WAVE Mailing List (Teb) VOIP six (H45) SAP SYC (L13) Safet and Castomer Services (Q41) Workforwikigetic (C12) PMM service (PMP) Repository (D11)	Coded State 8 - Production 8 - Production 8 - Production 9 - Production 9 - Production 2 - Tint 6 - Production
orporate	Collector TAT, APPLICATION, MARK Mailing List IF Preed System SAP Francidas Onter to Cash Stock Control System Project Management System Repository Order Processing System	BESCH_APPLICATION	0_57ATE 6 6 6 8 8 9 3 4 4 8	CE_STATE Production Production Production Production Test Production To be duringed	TET_SERVICE_WAVE Multing List (Teb) VOIP soc (HAS) Safe Sirc (L.13) Safe and Exstormer Services (QA1) WarkEnveRogestic (C12) FPM Jennice (P09) Reporting (D11) EBF Service order processing (F43)	Coded Icets 6 - Production 6 - Production 6 - Production 6 - Production 3 - Tent 6 - Production 3 - Tent 6 - Production 8 - To be duringers
orporate	Collector TAT_APPLICATION_MAKE Mailing Ust IP Proced System SAP Floandals Onter to Cath Stock Control System Project Management System Report Management System Order Proceeding System Outpare Care System	DESCH_APPLICATION	B_STATE 6 6 6 3 6 8 8 8 8 8 8	CE_STATE Production Production Production Production Test Production Test Production	TRT_SERVICE_NAME Mailing List (T66) VOIP six (146) SAP SYC (1:1) Sar and Castomer Services (Q81) WorkflowRogatic (C12) PPM service (P09) Repository (R11) EXP Service order processing (F43) Sales and Castomer Services (Q81)	Coded texts 6 - Productive 9 - Production 9 - Production 6 - Production 2 - Tint 6 - Production 9 - Production 6 - Production 6 - Production 6 - Production

Vendor name	Vender Soles Musager	ApplicationID	Nie	Application Name	Vender Extension
Afs5.p.s	John Black	13	AH	Order Processing System	VENDOR
Beta S.A.	Mark Srown	5	Wandor	Order to Cash	VENDOR
Delta	Litua White		AH	SAP Phrancials	VENDOR
Garina	Rick Jones	1	AH	IP Phone System	VENDOR
Ganvaa	Rick Jones	13	VENDOR	Order Processing System	VENDOR

$\circ~$ from the DT Log Viewer:

*o			Log V	ewe	rii.			
Filters Configuration:		Cate: User:		Operation:		•	Description:	2
CONFIGURATION	DATE	USER	OPERATION	Ĩ			NOTE	010
EA Model - IT Architectures	2017-09-30 13:3	ISCH Ailapter	workflow completed	N 8 3	Vorkflow: LOAD APP AND ed folder: C/Users/csialaris 131.36283	VENDOR /Docum	IS DATA FROM APP CATALOG HITU/_CC_ITARCH/CC4CM004L_	(ID:497) - Proces * 375_20170930_1
EA Model - IT Architectures	2017-09-30 13:3	11	waiting for operation	V	Warkflow: LOAD APP AND	VENDOR	IS DATA FROM APP CATALOG	(ID:487)
EA Nodel - IT Architectures	2017-09-30 13:3	12Workflow manager	workflow starting	V	Norkflow: LOAD APP AND	VENDOR	IS DATA FROM APP CATALOG	(1D:487)
All the configurations	2017-09-30 13:3	0File Adapter	file(s) transferred	É	ldapter file: C:/ProgramDa :_467_20170930_133003	ta/erwitri 0/ADAP1	Collector/workflows/workflow_ 1_299_2_20170930_1330306	487/MULTISOURC
All the configurations	2017-09-30 13:3	0	end DB Export	É	ldapter file: C:/ProgramDa :_487_26176930_133003	ta/erwtri 0/ADAP1	Collector/workflows/workflow_ 1_298_1_20170930_1330305	487/MULTISOURC 15.ctv

1.2 Align External DB with Model Contents

The example describes the following use case: business service data, managed natively into a CE repository, must be loaded consistently in a MS SQL database, hosting a third party Service Catalogue.

Let us suppose that:

• Business service data are into the CM model, in a dedicated object type

Name		 Category 	Creation Dat
83.1		Filter	Filter
A1	Caloret Satafacter Hangevert	-Served Area	14/10/2015
	Service properties: C.PRE.A1 Customer Satefaction Management		-
AMR.AL	General Description Nome Catalogo Access Rights Status Version		
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G.AMR.AZ	Customer Satisfaction Management		
G.AMR.AZ	N Normal R		
G.AMR.A2	C PRE A1 Customer Satisfaction Management		
G.AUD.A1	Calebrary		
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SeAmo	Business Ortical		
Name	Customers		
G.PC.P.Pe	Internal		
S.PC.S.Pa	g Service Hanagen		
LPRE.AL.	Graham tiering		
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LPRE.ALM	g 5m		
LOBELAL	SLA:		
LPRE.ALM	Gold		
E Prope	Status		1000
- General	Active	¥]	Edt

 a Service Catalogue manages enterprise services data, stored in a MS SQL database table. The service table identifies the item with a "COD_APPLICATION" field, which is differentiated by the Erwin ID of the model for the same item:

		510,0	NAME	DESCRIPTION	CATEGORIT	16.8	BIN, CRITCH,	10006	OP_DATE	CC_OP_DATE
1	5	CEREAL	Predication strikere		Service Away	Gett	1.	Aller	2016-10-08-09.31.60	2016-10-06 (0.18.16)
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		S ANNE AL MOT	Cirvalanas statutus etumiete		MarcGenine	Die .	6	1014	2015-12-14 10:36:49	2016-10-06.10 13:14
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	1	5 AMR AT MIT 512	Elaboracione e enella statutico attuatele	Sole, analyted elaborat	Service	Geb	1.	1004	2015-12/14 16:38:45	2016-10-08.10 19.14
1	2	S. MMR. AZ	Publiche di Indetso		Service Area	Silver -	1	Acres .	2015/12/14 16:36:45	2016 10:08 10 19 14
	7	DIAMI AZ HOT	Fatticine di mátricas		Manufactor	Gee	1.	Ame	2015-12/14 18:36:48	2018-10-06 10 19-14
No. of Concession, name	d	G'ANR ADHOLSON	Fallacies, hope quints a rubical in materie al rea-	Pedagonizie à politie	Inves	Geel	1.	Ame	2015-12-14 18:38:50	2016-10-06-10-19-14
	۲.	G,AUD.A1	Audit stratigers		Service Area	Petrum	1	Acres	2015-02141636.00	2016-12-06 10.13.14
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	11	G AUD AT MOT SET	Audt au process de buarrens per reglierenweter	Carnolis matukologica wa	Service	Gald	1	Address	2015/12/14 10:36:00	2010-10-06 10:19:14
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	16	G ALEO A2 MO1 802	Autom	Valutazione dei teutri è dei	Service	044	11	Atte	2016-01-28 16:57.38	2016/10/06 10:10:14

A DT workflow aligning Business Services data from Erwin to the Service Catalogue database can be configured with the following steps:



CREATE MODEL CONFIGURATION

Log in to DT and create a model configuration for the model involved in the use case

• CREATE DATABASE ADAPTER TO LOAD SERVICE CATALOG DB

Press "DB Adapter" button in Home Page and configure the DB Loader Adapter:

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CB Adapter List							
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STORED PROCESSIVE for SERVICES IN		ed Precedury		52	L Sainer	31.9	
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EVC_CATALOG_DB_LOADER	[π		DB Loader		salen/Documents/ADAPTERS/DB LOADER		
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D0 Type: SQL Sever	+						
DO Typel SQL Sever Driver:	-						
DD Type: SQL Server Driver: SQL Server 2000							
D0 Type: SQ. Sense Driver: SQ. Server 2008 Server Rance*	•						
DD Typel SQL Second Driver: SQL Server 2008 Server Tanker* LLAUDOARDELE							
DD Typel SQL Second Driver SQL Second 2008 Server Aprille TLAUDSVICELE Distance Forme							
00 Type: 120, Server Diver: 500, Server 2008 Server Manor * EXACOMPORTLE Instance Forme	•						
00 Type: TQL Server Diver: SQL Server 2000 Server Name: Diver: Name: Part Hamber:*							
00 Type) 5(0, Server 5(0, Server 2008 Server Tables * CalcosworkLic Initiance Rome Pert Number:* 543							
00 Type) 2(0, Server 2008 5(0, Server 2008 Server Tateot: * CLAUDAVEOLLE Instruct Tateot Font Number: * 2431 Totobase raceo: *							
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00 Type) SQL Server SQL Server 2008 Server Tables * CALCOMPORTLE Instance Forme Fort Number:* 2433 State ratewark SA00 Kerr							
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00 Type: 2Q. Server Diver: SQ. Server 2008 Server Trans: " CLAUDWADDLE Server Trans: " Server Harrise:" Server Harrise: " SAT3 Cotobase science" SAD9 SAD9 SAD9 Same							

with the proper DB type, server, port, database name, user, password for the target

CREATE WORKFLOW TO ALIGN SERVICE CATALOG DATABASE

Press the "Workflow configuration" button on the Home Page and configure the following workflow choosing the model configuration according to requirements (please note that the model configuration is mandatory for a given model, only for "Load, Sync or Delete" operation against that model)

SOURCE DEFINITION – Source 1

Choose CM Adapter and the specific CM Model Export adapter from the dropdown list; then pick the "Service" object type from the list and check the desired properties / associations from the "CM Filters" interface:

2		Workflow Configuration		
1. GENERAL INFO	2. CHOOSE SOURCES I	3. TRANSFORM DATA 🔳	4. OPERATION&TARGET	5. SAVE AND TEST
ortflew definition	Workflow:		Worldlow folder:	
EA MODEL	+ ALIGN SERVICE C	ATALOG 08 (948) -	Active TrogramData/erwinCollector/v	vorkflows/workflow_948
Workflow Name:	Descrip	tion:		
ALIGN SERVICE CATALOG	508			
teps content	External Data Source Definitio	1		
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E CAMUDEL (MACAM)	Service Eleids	* Source recers		
	Dence Prints	EA MODEL	- Model Export Filters	13
4 1 1	1 Catalog ID			1.00
Transformations	1 Category	E- [EA NODEL (INAC4W) Export - Service	 Properties/Associations List[-
1 Fixed Value Manager	1 Description	1 Name		
Add Fixed value Field	1 SLA	- 1 Id		
Replace Value On Cond	1 Service Manager	- 1 Availability		
Add Fixed value Field	L Status	- 1 Average Baling		
112, 342 (124 VIA (14 14 14 14	Svc Catalog name			
	1 Process (used by)	1 Business Childa		
4 E		- M 1 Catalog ID		
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		i arc caulog name		
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	1.4	Texas -	All Onland Bloom Anoth	
		Select	vel [Selectione] [vbbik]	

TRANSFORMATION 1 – Filter services at export time

To optimize the data flow, filter source data in order to export only the more recently updated. Use then a "Data filtering", "Fixed Value Manager" to manage only services with "Updated Date" up to 3 days before the operation (i.e. running the workflow every 3 days, they will be only needed services, if updated in the last 3 days).

Please note that filters defined as the first transformation will be shown in the source field list (see picture above) and executed at export time (if a CM Adapter is the source for filter fields):

11320	ng Iti Post ve	tor Monigér			Add
anathe	mation fields		Apply	Resource	Reset
Sel.	Ciclumn Name	* Clanisider as	* Operator	* V.M	ue
	L Business Critical				
	Catalog ID				
	Citivany				
	Description				
	1 5.4				
	Service Manager				
	1 Status				
	9yc Catalog name				
	1 Updated Date	Date in ELR format (DD-MHLa	atler than (days ago)	3	
	Fracess (used by)				

TRANSFORMATION 2/3 – Add Fixed Value fields for target Business Critical fields

The target database stores the Business Criticality information in a bit field, with "0" or "1" values. In CM there is a checkbox field, exported by CM Adapter as "True" / "False" values.

A text conditional replace is then needed so that two different fixed value fields, with values 0 and 1 respectively, replace "False" and "True" in the following replace transformation (see later):

Steps content	Trantormation	a Configuration —						
Stuttes	Transformation		AdMb		Adaptar to assign colorne			
EANODEL INNO400	Data illustration da	angerg	 Add Fland pailing Plant 		1 EA HODEL (NAC4/II) E	apat 👻		Add
	Transformation fields Apply Remove							Reset
	24		Column Name		11	* Pto	dvatue	
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1 Fixed Value Manager P Add Fixed value Field	10	tegory						
3 Add Fined value Field 4 Replace Value On Cond		Accession						
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1		atue c Catalog name						
Operatorie	1 1 14	odataci Data						
Send to DB Loader	9 1 M	nome (used by) IN BSN CRITECAL			0.			

Sources	Transfs	mation	Activity		Adapter	to assign column			
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	Transfor	mation fields					And the last		
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	5ei	and the second	Column Name				⁴ Fixe	5 value	
The second second second		1 Burtwest Critical							
Transformations		Catalog ID							
Fixed Value Manager	I.	Category							
Add Fued value Field		1 Description							
Replace Value On Condi		1 8.4							
Add Fixed value Field	107	1 Service Matager							
		1 Statur							
1992		1 Sw: Catalog name							
		1 Updated Date							
Operations		1 Process (used by)							
Ind to DB Loader		1 NON BEN OUTICAL							
ER- 85N_SERVICE	12	1 IS BSN CRETECAL				1. 1.			

TRANSFORMATION 4 – Prepare Application name column into Vendor dataset

Vendors are to be imported as Application associated objects, but the Vendor file does not contain the application name, which is needed to execute the operation.

A "Replace Value on Condition" is needed to decode the "True"/"False" value for the source field hosting Business Criticality information in Modeler to the target 1/0 format:

a fium	witting 3	Reptace Value On Co	mation) 🙁			Add
nsfor	mation fields				Apply	Remove Reset
Sel.	Column Name	* Consider as	* Operator	* Value	* Value if True	* Value if False
~	1 Business Ortical	String	Equal	True	1 IS 85N CRITICAL	1 NON BSN CRITICAL
	1 Catalog ID			22.52		
	1 Category					
	1 Description				1	
	1 SLA					
	1 Service Manager				1	
	1 Status					
	1 Svc Catalog name					
	1 Updated Date					
	 Process (used by) 		-			
	1 NON BSN CRITICAL				1	
	1 IS BSN CRITICAL					

TRANSFORMATION 5 – Add Fixed Value to fill a datetime target field

Let's suppose that a datetime field in the target table is uploaded with the DT execution datetime, for any created/updated record. In such a case, a fixed value field, with value equal to parameter "<%SYSDATE_EUR%>" (to get a European "DD/MM/YYY" format, or "<%SYSDATE_USA%>" for a "MM/DD/YYYY" format or "<%SYSDATE%>" for a standard "DDDD/MM/YY" UTC format):

tourcan	Transformatore Advity	Adapter to sesige column
EA MODEL (NACAW)	For surger spectral [.] but see and an	TEA MODEL (PIACAW) Exploit
	Transformation fields	2000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 -
		Apply Hernove Result
Second View	Det Column Name	* Find value
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Transformations	1 Catalog ID	
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R- KOR, MANNE	L 1 - L IS TON CHITEAL	a manufacture deland
	A CUDANALON DAL	CONSTRUCT STATE
AND DOT	and the second sec	L (D) Final L Fill

OPERATION – Send to DB Loader

In the "Mapping and Operation" step, choose the previously configured DB Loader, the target table, and the target field to be used as a key for the operation. Then map all the relevant source fields to target fields. In case of datetime, boolean or numeric target fields, the source datatype must be specified to ensure a correct data transfer:

nth operation	Choose Adapter		1	Send e-mail to	ngle email for record
Send to DB Loader	VC_CATALOG_D	B_LOADER	8	johnson@customer.com	Config
able to be updated	ISN_SERVICE	• Key field for this operation:	SVC_ID		
Object field	Object type	Table column	FK table	FK match column	FK key column
1 Business Critical	Boolean (true/false or 0/1)	BSN_CRETICAL			
1 Catalog ID	Generic string	SVC_ID			
1 Category	Generic string	CATEGORY			
1 Description	Generic string	DESCRIPTION			
1 SLA	Generic string	SLA			
1 Service Manager	Generic string	SERVICE_MANAGER			
1 Status	Generic string	STATUS			
1 Svc Catalog name	Generic string	NAME			
1 Updated Date	Date in EUR format (DD/	OP_DATE			
1 Process (used by)	Generic string	PROCESS_SUPPORT			
1 NON 85N CRITICAL	Generic string	<skip column=""></skip>			
1 IS BSN CRITICAL	Generic string	<sof columns<="" td=""><td></td><td></td><td></td></sof>			
1 CC_OPERATION_D.	Date in EUR format (DD/	CC_OP_DATE			

Email can be configured with default text (simply filling the "email to" field) or with custom properties ("Conf"). Please refer to the "Email configurations" chapter for a detailed description on the email configuration options.

2	Configur	e message
Configure messag	1	
Email To:		
s.johnson@custor	ner.com	
Email CC:		
l collins@provider	com	
Email Subject		
Service Catalog U	odated	
Altach workfo	w output file (HTML)	Send on errors only
Message:		
HI, Business Services Regards	have been updated.	
CC Integration Tea	m	
Add URI		

TEST THE WORKFLOW AND CHECK RESULT

Test the configured workflow with the "Test" button, and follow its execution through the progress bar or Logs and email notifications. At the end of the workflow execution, check the result in the target database:

		35%		
Completed 1% of ta	* <u>@</u>	Message	X	.)
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1.3 Align Federated Models

This example describes the following use case: an enterprise organized its EA information in two federated models, one specifically aimed to support IT and the second for more general business analysis purposes. The two models partially share the same metamodel, given to different IT and business teams requirements.

The first model is used to synchronize the second about application data, but only for a specific subset of applications, i.e. applications with a given lifecycle status ("production") and only for those coming from the enterprise application catalogue (the source of application information for IT models, while the second hosts applications from other sources, relevant for the business).

Let us suppose that:

• Application data are in the source CM model in a dedicated object type:

Application properties: Customer Care System	- 🗆
al Description System information Access Rights Status Version	
Justomer Care System	
Status:	
6 - Production	• Edit
Category:	
System	• Edit
CIID:	
[T43	
SOURCE SYSTEM:	
Application Catalog	
Sales Manager:	
Carrie Bloom	

• a **second CM Model** hosts **application data**, which is needed to execute Business Analysis in a dedicated object type, and a slightly different metamodel from the IT Model:

2	Application properties: Customer Care System		
100	Description Business Information Access Rights Status Version		
THE R			
Com	non Name:*		
Custo	mer Care System		
Cates	poryi		
Syste	11	-	Edit
Appli	cation Manager:		
Willar	n Keley		

A DT workflow aligning the database of two CM models can be configured with the following steps:



CREATE WORKFLOW TO ALIGN FEDERATED MODELS

Press the "Workflow configuration" button on the Home Page and configure the following workflow choosing the model configuration according to requirements (please note that the model configuration is mandatory for a given model, when the "Load, Sync or Delete" operation must be executed on that model)

SOURCE DEFINITION – Source 1

Choose the CM Adapter and specific CM Model Export adapter (i.e. the IT Model one) from the dropdown list; then pick the "Application" object type from the list and check the desired properties/associations from the "Source Filters" interface:

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TRANSFORMATION 1 – Filter Application in "Production"

To optimize the data flow, filter source data in order to export only the more recently updated. Use then a "Data filtering", "Fixed Value Manager" to manage only services with "Status" equal "6 – Production".

Please note that filters defined as the first transformation will be shown in source field list (see picture above) and executed at export time (if an EA Adapter is the source for filter fields):

Apply Remove Reset
Operator *Vature
6 - Production

OPERATION – Sync CM Repository

In the "Mapping and Operation" step, choose "Sync CM Repository". The target model is the one related to the Model Configuration the workflow has been assigned to. Then map all the relevant source fields to the target fields for "Application" object type. Define the desired synchronization action ("Logical", "Physical" or "Physical Forced" deletion, which will affect redundant objects in the target model in comparison with the exported list from the source model):

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Please note the keyset on the operation defined to be the CI ID of the applications is a reasonable setting because the second model receives application data from various sources. For object types with instances coming only from the source model, it can be also used the Erwin Id.

To apply the synchronization within requirements (it must occur only for applications with a specific source system - the Application Catalogue) configure a filter for the synch operation, by double clicking on the filter icon on the "Object Type" column:

	LTJ PILLIN		Physical Ford	ed				
Column Name	Туре	Doject types	Mapping (Properties/Assoc	siations)	Туре	Action	KeySet	No nev
		/						
0		ALIGN APPLICAT	IONS FROM IT MODEL - Operatio	n Fillers				
Sel.	Column Name		* Consider as		* Operator * Val		*Value	
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Appication	pokation PROPERTY> Source System		String	Equal		Application Catalog		

TEST THE WORKFLOW AND CHECK RESULT

Test the configured workflow with the "Test" button and follow its execution through the progress bar, Logs and email notifications. At the end of workflow execution, check the result in the target CM Model:

Korkflow "ALIG!	NAPPLICATIONS FROM IT MODEL (490)" Pro	gress Bar		
	75%			
Completed 1% of tas	k - Workflow execution has been queued (1 s	sec.)		
Completed 5% of tas	k - Workflow started - Adapter(s) queued (9 s	ec.)		
Completed 25% of ta	Colects - Abbications			
Completed 35% of ta	Common Name	A CI ID	Source System	Update Date
Completed 75% of ta	Filter	Filter	Filter	Filter
	_TO_BE_DELETED_Customer Care	SC7	Application Catalog	09/10/2016 19:17:10
	_TO_BE_DELETED_Parts Ordering System	509	Application Catalog	09/10/2016 19:17:10
1-SOURCES 2.1	Customer Care System	5C20	Application Catalog	09/10/2016 19:31:13
	EA Repository	5C13	Application Catalog	09/10/2016 22:35:38
	Fleet management	SC14	Application Catalog	09/10/2016 22:35:49
	IP Phone System	sc16	Application Catalog	09/10/2016 22:35:55
	Maling List	SC26	Application Catalog	09/10/2016 19:31:53
	Order to Cash	SC5	Application Catalog	09/10/2016 19:32:07
	QuidBooks	SC8	Others	09/10/2016 19:32:11
	Repository	SC27	Others	09/10/2016 19:32:17

1.4 Deriving values and update consistency data

The example describes the following use case: an enterprise organized its EA information in a model which supports general business analysis purposes with reports and dashboards. One of them is about IT Portfolios, and shows summary information to managers.

Let us suppose that:

• IT Portfolio data are in the source CM model in a dedicated object type:

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				same map

and the "Total TCO" value must be calculated as the sum of associated application TCO, for the ones of "ERP" category and a number of users greater than 100.

Name:*					
Enterprise S	Randard:				
3 - Approve		Application propertie	is: HR Access		- =
ERP	General Description Details Access Rig Go Live Date:	phts Status Version			
	2009 goved 1 gennaio 2009 third of Life:	• 00:00:00	÷	Now	
	Sabeta 31 doenbre 2016 Number of Users: 370	• 00:00:00		Nove	
	Product Turner				

A DT workflow calculating Total TCO for IT Portfolios can be configured with the following steps:



 CREATE WORKFLOW TO DERIVE VALUES AND UPDATE CONSISTENCY DATA

Press the "Workflow configuration" button on the Home Page and configure the following workflow choosing the model configuration according to requirements (please note that the model configuration is mandatory for a given model, when the "Load, Sync or Delete" operation must be executed towards that model)

SOURCE DEFINITION – Source 1

Choose CM Adapter, and specific CM Model Export adapter (i.e. the IT Model one) from the dropdown list; the select "Association IT Portfolio-Application" from the Object Type list, and select <Application> Category, <Application> TCO, <Application> Number of Users, <IT Portfolio> Name, <IT Portfolio> Total TCO fields:


TRANSFORMATION 1 – Filter application by "category" and *"number of users"*

To export the relevant application, set a filter on "category" and "number of users" with "DATA FILTERING"-"Fixed Value Manager" to manage applications having:

- o "Category" equal to "ERP"
- "Number of users" greater than "100".

Fransform	mation:	Activity:				Add
ransfor	mation fields			Apply	Remove	Reset
Sel.	Column Name	* Consider a	is Opi	erator	* Val	ue
-	1 <application> Category</application>	String	Equal		ERP	
-	1 <application> Number of U</application>	sers Numeric in EUR form	nat (ex Greater than (numeric value)	100	
	1 <application> TCO</application>					
D	IT Portfolio> Name					
[]	1 <it portfolio=""> Total TCO</it>					

TRANSFORMATION 2 – Derive IT Portfolio "Total TCO" from associated applications

Choose a "DATA DERIVATION", "Sum Values in Column" transformation and set:

- The "<Application> TCO" column as "Source Column (to sum values from)"
- The "<IT Portfolio> Name" column as "Key (for data aggregation)"
- The "<IT Portfolio> Total TCO" as "Result" for the transformation

Transform	mation:	Activity:		
ota der	wation 🗶	Sum Values in Room		Add
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Sel.		Column Name	* Field	category
0	1 <application> Category</application>			
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	1 <application> TCO</application>		Source column (to sum values !	hom)
-	1 <it portfolio=""> Name</it>		Key (for data aggregation)	
1	1 <it portfolio=""> Total TCO</it>		Result	

OPERATION – Sync CM Repository

In the "Mapping and Operation" step, choose the "Load CM Repository". The target model is the one related to the Model Configuration which the workflow has been assigned. Then map all the relevant source fields to target fields:

with operation:	Mod	del Name:		Send e-mail to Single email for recol				
Load in CM Repository 💌 EA Foundation - Sample			Model					
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• TEST THE WORKFLOW AND CHECK RESULT

Test the configured workflow with the "Test" button and follow its execution through the progress bar, Logs and email notifications. At the end of the workflow execution check the result in CM Model IT Portfolios:

-	Workflow "Somma TCO (3)" Progress Bar	
	100%	
Completed 1 Completed 5 Completed 2 Completed 3 Completed 7	% of task - Workflow execution has been queued (1 sec.) % of task - Workflow started - Adapter(s) queued (17 sec.) 5% of task - Source Adapter(s) completed (1:16 min.) 5% of task - Source(s) normalized - Transformation started (1:39 min.) 5% of task - Operation queued (1:43 min.)	
Completed ·	IT Portfolio properties: Business Intelligence	- 🖽
1-SOURCE	General Description Access Rights Status Version Name:*	
	Dusiness Intelligence	
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