

Excel Add-In

End User Documentation

oh22

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1 Overview

HEDDA.IO is a comprehensive Data Quality solution that enables easy integration of standardization, cleansing, matching, and enrichment tasks into existing processes.

By integrating an Excel Add-In into our solution Users get to directly work with data within a familiar environment, Excel being one of the most widely used tools for data management and analysis across industries.

With the Excel Add-In for HEDDA.IO Users can load Executions, view execution statistics, and easily export data back into Excel, enabling immediate editing without switching between solutions.

This is our step-by-step guide on how to use our Excel Add-In.

2 General Flow / Usage

- 1. Get the HEDDA.IO Add-On.
- 2. Add the HEDDA.IO Excel Add-In to the Ribbon Bar.
- 3. Add an Environment.

2.1 HEDDA.IO Add-On

For a HEDDA.IO, please contact us directly under https://hedda.io/get-started/.

2.2 HEDDA.IO Excel Add-In

Open Microsoft Excel 2016 or latest, Ms Office 365 Excel on Windows or Microsoft Excel Online (supported versions).

Open the Home Menu in the Excel Ribbon at the top of the Excel interface. In the Home Menu, go to My Add-ins on the right side and click on it. A pop-up will appear with all your Office Add-Ins. Search for HEDDA.IO.



Find & Select ~	Sensitivity	Add-ins	Analyze Data	
	Hedda			
My A	dd-ins			
	HEDDA	A.IO @ Excel		

Figure 1: "Add HEDDA.IO Add-In"

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Upon selecting the Add-In, HEDDA.IO will appear in the Excel Ribbon:

X A	utoSave Off 📙	∽ ~ ~ = B	ook2 - Excel				€ Search	
File	Home Insert	Page Layout Formul	as Data Review	View Automate De	eveloper Help	Power Pivot	WOODY.IO	HEDDA.IO
Paste	K Cut Copy ∼ ≪ Format Painter	Aptos Narrow ~	$\begin{array}{c c} 11 & \bullet \\ \hline 11 & \bullet \\ \hline \end{array} \begin{array}{c} A^{*} & A^{*} \\ \hline \end{array} \begin{array}{c} \equiv \\ \hline \end{array} \end{array}$		Wrap Text Merge & Center 🛛 👻	General 🖅 ~ %	• 00.00 0.00 0.00 0.00 0.00	Conditional Formatting ~
	Clipboard F	Font	Гы	Alignment	لاًا ا	Num	لکا ber	

Figure 2: "HEDDA.IO Excel Add-In Ribbon"

Clicking on the HEDDA.IO in the Excel Ribbon will display new buttons to your Ribbon Menu: Configure Environments, Load Executions, and Validate Data.

File	Home	e Insert	Page L
Ξ	_		Ş
Conf	ïgure .	Load	Validate
Enviror	nments	Executions	Data

Figure 3: "Add-In Buttons"



Upon completing the installation, the first step is to start with Configure Environment. In this case, an Environment is a HEDDA.IO instance to which you can connect in order to authenticate in order to retrieve the Projects which you have access to. Clicking on the button will trigger a task pane on the right side.

File Hom	e Insert	Page La	ayout F	ormulas	Data Re	view Vie	w Autor	mate De	veloper	Help Pov	ver Pivot	HEDDA.IC	0									(무 Comments) 년 Share ~
Configure Environments	Load Executions	Validate Data																				
HED	DA.IO																					Ű
A1 •		$\checkmark Jx \lor$																				~
A A	8	С	D	E	F	G	н	1	J	К	L	м	N	0	P	Q	R	S	Т	U	V	HEDDAJO V X
2																						
3																						▲ No Environment Selected
6																						Environments
7																						
9																						
10																						
11																						
13																						
14																						
16																						
17																						
19																						
20																						
22																						
23																						
24																						
26																						
27 28																						
29																						
30																						
32																						
33																						
35																						
36																						
37	Sheet	1	1										1.41	_		_		_			_	 Add Environment

Figure 4: "HEDDA.IO Task Pane"

The task pane presents you with the HEDDA.IO icon, that will always bring you to the Home Menu, displaying the same functions, as in the Ribbon Menu: Configure Environments, Load Executions, and Validate Data.





Figure 5: "HEDDA.IO Home Menu"

On the right side you will see the selected Environment, as soon as you have added one. On the bottom you will find the call-to-action button.





Figure 6: "Task Pane Closeup"

(B)



3 Configure Environments

3.1 Adding Environments

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The first step is to add your Environment. After clicking on Configure Environments in the Ribbon Menu, the Add-In will appear on the right of your Excel spreadsheet helping you to identify the Environment.

File Ho	me Insert	t Page L	ayout F	ormulas	Data Re	eview Vie	ew Autor	nate De	veloper	Help Po	wer Pivot	HEDDA.K	2												🖓 Comments 🖄 Share 🛩
Configue Las Visitate Environments Executions Data																									
н	HEDDALO (DEV)														~										
A1	$[] \sim \lambda c \sim 1 + c$														· · · · · · · · · · · · · · · · · · ·										
A	в	с	D	E	F	G	н	1.1	J.	К	L	м	N	0	Р	0	R	s	т	U	v	w	х		
																								HEDDA.IO	~ ×
																									A No Environment Selected
i																								Environment	ts
0																									
1																									
2																									
3																									
4																									
6																									
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8																									
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7																									
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Figure 7: "Configure Environments"

To add a new Environment, click on Add Environment and fill out the required input fields.





Figure 8: "Add Environment"

You can provide your own name, fill in the Environment URL (the URL you see in the browser when you are on the home page of your HEDDA.IO instance) and choose between an API-Key or OAuth as an authentication method.

API-Key authentication is a method where a unique key is used to authenticate API requests, which you can create in the HEDDA.IO Web App. See Documentation Chapter 3.3.1 API Keys Manager. OAuth, on the other hand, is a token-based system that allows user-specific access and permissions, often involving user consent.

Auth Provider *	
OAuth	\sim
API-Key	
OAuth	





In addition, you can select a color for the strip to mark different systems for an easier overview. For example, red can stand for a productive system with live data.

HEDDA.IO	~	×
	Production Alina Dabrowski	
Edit Environment	A Back	_
Name *]
Url *]
Auth Provider *		
OAuth	\sim	
Color		1
🛆 Test Connection	on	

Figure 10: "Environment Color"

Once all parameters have been entered, the connection can be saved. 'Test Connection' Clicking the 'Test Connection' button checks whether the Authentication works against the Environment and thus 'validates' it. If the validation is successful, the Environment can be saved.

Note: If the Authentication fails, the Environment is invalid and cannot be used.

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Figure 11: "Test Connection"

3.2 Edit Environments

If you want to edit the Environment, press the Edit button.



Figure 12: "Edit Environment"

Here you can adjust the parameters, change the color or delete the Environment completely.

3.3 Changing Environments

If you have created several Environments and want to change from one to another, there are several options:

3.3.1 Ribbon Menu

The first option is to click on Configure Environments in the Ribbon Menu.





Figure 13: "Configure Environments Ribbon Menu"

That will take you to all Environments you have added.



Figure 14: "Environment Overview"

3.3.2 Home Menu

Another option is to click on the HEDDA.IO icon. This takes you to the Home Menu which contains the same processes as the icons in the Ribbon Menu.



Figure 15: "Home Menu Icon"

If you then select Configure Environments, you will be taken to an overview of all the Environments you have added.



Figure 16: "Configure Environments Home Menu"

3.3.3 Drop-Down Menu

The third option would be to use the drop-down menu in the task pane and choose between your Environments.



HEDDA.IO		~ ×
	Planning Alina Dabrowski	~
Configure Environments Connect to your HEDDA.IO instance with API Key authentication.	y or OAuth	
Load Executions Select and load Execution results based on vario	us filters.	
Validate Data Select Knowledgebase and start Validation.		>

Figure 17: "Configure Environments Drop-Down Menu"

4 Loading Executions

Executions are results of tests in HEDDA.IO. They contain the results of Runs to which previously defined Business Rules have been applied.

Executions can be loaded and the data from them displayed in Excel.

4.1 Selecting an Execution

After the desired Environment has been added, an Execution can be loaded. The displayed parameters must be filled in for this.

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HEDDA.IO \times Planning Alina Dabrowski Project * IN Real Estate Data Knowledge Base * Version * CleanData Live Run * Preview Execution * 22 Sept 2024 to 22 Oct 2024 80 / 100 (80 %) 21 Oct 2024, 19:49 80 / 100 (80 %) 🔿 21 Oct 2024, 19:48 152.129 / 1.877.955 (8 %) 0 19 Oct 2024, 23:23 686 / 1.000 (69 %) 0 19 Oct 2024, 23:19 1.230 / 19.999 (6 %) 0 15 Oct 2024, 18:11 1.230 / 19.999 (6 %) 0 15 Oct 2024, 18:06 1.230 / 19.999 (6 %) 0 15 Oct 2024, 17:48 1.230 / 19.999 (6 %) O 15 Oct 2024, 17:04 1.230 / 19.999 (6 %) O 15 Oct 2024, 17:00 1.230 / 19.999 (6 %) O 15 Oct 2024, 16:57 1.230 / 19.999 (6 %) Ò 15 Oct 2024, 16:50 1.230 / 19.999 (6 %) 15 Oct 2024, 16:45





4.1.1 Project

Projects are essentially workspaces within HEDDA.IO, designed to cater to your distinct needs for utilizing the HEDDA.IO platform. Unless you have a Project established, it is not possible to generate a Knowledge Base. Knowledge Bases are entities responsible for containing comprehensive information about the structure of your data, the regulations it needs to adhere to, Execution metrics, and a variety of additional details.

4.1.2 Version

The Version here refers to the Knowledge Base. We differentiate between a Live Version and an Edit Version.



Figure 19: "Version"

While the Live Version is strict read-only, the Edit Version allows you to apply changes and publish those to update the Live Version.

4.1.3 Run

Within the HEDDA.IO application, a Run is simply a container in which Executions and their respective Statistics are stored. Runs add context to Executions so that you can then easily locate the statistics linked to respective Executions, whenever you require.

Suppose, you are initiating HEDDA.IO Executions utilizing distinct databases. If the Executions share the same Run, it would make the result convoluted and hard to locate specific metrics within the multitude of Executions. To prevent that, it is advisable to create a separate Run for each case. This way Execution statistics remain organized and easily accessible. Mappings and Tags can further help create more fine-grained Use Cases.

As soon as you have selected the required parameters, you then will be able be pick an Execution and klick on Next, to proceed.

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4.2 Loading Execution Data

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After loading an Execution, an overview with the general execution statistics is displayed. You can see not only the number of records, but also how many of them are valid or invalid.

EDDA.IO			\checkmark
{}		Planning Alina Dabrowski	~
Execution: 21 Oct 2024, 19:	:49		ď
Execution Statistic Row I	Details		
(Score 80	1	100 Records 80 /alid Items
		Im	20 valid Items
Load Configuration		u	Advanced
All	⊘ Valid	() Invali	d
Which Columns			



There are now several options for displaying the result of the statistics: All, Valid, Invalid. The status Valid or Invalid depends on whether the data fulfills the previously defined Business Rules or not.

Furthermore, you can select the following columns:



- Data only only shows the data from the Execution.
- Comparison compares the data from the Execution with the original data set. The separation is done by naming the columns as well as by color separation. The current data set is displayed in blue, while the original data set is displayed in orange.
- Validation Result if the Business Rules are fulfilled, the row is displayed as "TRUE". If they are not fulfilled, the validation result is displayed as "FALSE". The columns with the Rulebooks and BBusiness Rules that are valid or invalid are also displayed with "TRUE" or "FALSE".
- Full: all parameters are displayed.

4.2.1 Advanced Mode

Should you require a more advanced configuration, you can choose the Advanced mode.



Figure 21: "Advanced Mode"

In Advanced mode, you are no longer tied to the predefined parameters and can display very specific evaluations. If you are only interested in invalid data and the Business Rules, you can set the corresponding sliders to adapt the overview to your requirements.



HEDDA.IO			v ×
		Planning Alina Dabrowski	~
Execution Statistic	Row Details		
S	core 30	1 Reco Valid Ite Invalid Ite	100 ords 80 ems 20 ems
Load Configuration		U Sim	ple
Which Data	(2) Valid		-1
Which Columns	Valid		- 1
Include Row Id		Yes	
Include Row Validity		Yes	
Include Originals		Yes	
Include Rulebooks		Yes	
Include Business Rules		Yes	
Include Variable Domains		Yes	
Include Data Types Validity	/	Yes	
Include Member Search Va	lidity	Yes	•
Back		Load Data	

Figure 22: "Advanced Mode Selection"

(B



After the Execution has been loaded, the result appears as an Excel export on the sheet:

File Ho	me li	nsert Page Layout Formulas D	ata Review View Automate	Developer Help Power Pivot HEDDAJO	Table Design				🖵 Comments 🖬 Share 👻
Table Name:		🔝 Summarize with PivotTable	Properties	🗹 Header Row 🗌 First Column 🗹 Filter Butt	ton				
Table1		Remove Duplicates	Front Patrick III Open in Browser	Total Row Last Column					
🕀 Resize Ta	able	Convert to Range Slicer	* * S Unlink	Banded Rows Banded Columns			7		
Propertie	25	Tools	External Table Data	Table Style Options		Table Styles			~
W11	V 1	$\times \checkmark f_r \vee$							~
A 1 Bow T V	в blid y	region T Original: region T	serviceCharge T Original: service	G H	T halcony T Original: halcony T	nricetrend × Original: nricetrend × 1	elekon	HEDDA.IO	~ ×
2 0	FALSE	Sachsen Anhalt Sachsen Anhalt	100,00	100,00 central heating central heating		1,46 1,46			
3 1	FALSE	Sachsen_Anhalt Sachsen_Anhalt	169,50	169,50 central_heating central_heating		1,44 1,44			Planning 🗸 🗸
4 2	TRUE	Sachsen_Anhalt Sachsen_Anhalt	186,00	186,00 central_heating central_heating		1,65 1,65			Alina Dabrowski
5 3	FALSE	Sachsen_Anhalt Sachsen_Anhalt	179,10	179,10 central_heating central_heating		0,00 0,00			
6 4	TRUE	Sachsen_Anhalt Sachsen_Anhalt	160,00	160,00 central_heating central_heating		2,90 2,90		Execution: 21 Oct 2024, 19:49	C
7 5	FALSE	Sachsen_Anhalt Sachsen_Anhalt	120,00	120,00 central_heating central_heating		0,00 0,00			
8 6	FALSE	Sachsen_Anhalt Sachsen_Anhalt	150,00	150,00 central_heating central_heating		1,64 1,64		Execution Statistic Row Details	
9 /	TOUL	Sachsen_Annalt Sachsen_Annalt	147,00	147,00 central_neating central_neating	_	0,/5 0,/5			
1 0	FALSE	Sachsen Anhalt Sachsen Anhalt	179.10	179.10 central heating central heating		2,00 2,00			100
12 10	TRUE	Sachsen Anhalt Sachsen Anhalt	200.00	200.00 central heating central heating		1.59 1.59			Records
13 11	TRUE	Sachsen Anhalt Sachsen Anhalt	170.00	170.00 central heating central heating		2.73 2.73			
4 12	TRUE	Sachsen Anhalt Sachsen Anhalt	160.00	160.00 central heating central heating		1.54 1.54		Score	80
15 13	TRUE	Sachsen_Anhalt Sachsen_Anhalt	140,00	140,00 central_heating central_heating		2,53 2,53		80	valid Items
16 14	TRUE	Sachsen_Anhalt Sachsen_Anhalt	140,00	140,00 central_heating central_heating		3,57 3,57		00	20
17 15	TRUE	Sachsen_Anhalt Sachsen_Anhalt	84,00	84,00 central_heating central_heating		3,53 3,53			Invalid Items
18 16	TRUE	Sachsen_Anhalt Sachsen_Anhalt	140,00	140,00 central_heating central_heating		1,79 1,79			
19 17	TRUE	Sachsen_Anhalt Sachsen_Anhalt	68,00	68,00 central_heating central_heating		3,57 3,57		Load Configuration	[]] Simple
20 18	TRUE	Sachsen_Anhalt Sachsen_Anhalt	73,00	73,00 central_heating central_heating		2,53 2,53		5	
21 19	TRUE	Sachsen_Anhalt Sachsen_Anhalt	147,00	147,00 central_heating central_heating		1,79 1,79		Which Data	
22 20	TRUE	Sachsen_Anhalt Sachsen_Anhalt	147,00	147,00 central_heating central_heating		1,79 1,79		S All 📿 V	lid 🛈 Invalid
23 21	TRUE	Sachsen_Anhalt Sachsen_Anhalt	83,00	83,00 central_heating central_heating		3,57 3,57			
24 22	TRUE	Sachsen_Annatt Sachsen_Anhalt	140,00	140,00 central_heating central_heating		3,57 3,57		Which Columns	
25 23	TRUE	Sachson Anhalt Sachson Anhalt	147,00	68.00 central heating central heating		3.57 3.57		Include Row Id ⁽¹⁾	Yes
7 25	TRUE	Sachsen Anhalt Sachsen Anhalt	83.00	83.00 central heating central heating		2.53 2.53		In shude Raw Validity	
26 26	TRUE	Sachsen Anhalt Sachsen Anhalt	131.00	131.00 central heating central heating		1.79 1.79		include now validity	Yes
29 27	TRUE	Sachsen Anhalt Sachsen Anhalt	68,00	68,00 central heating central heating		2,53 2,53		Include Originals	Yes
30 28	TRUE	Sachsen Anhalt Sachsen Anhalt	68,00	68,00 central_heating central_heating		2,53 2,53		Jackula Rulakaala	No. 6
31 29	TRUE	Sachsen_Anhalt Sachsen_Anhalt	131,00	131,00 central_heating central_heating		1,79 1,79		INCIDE RUICDOURS	res e
32 30	TRUE	Sachsen_Anhalt Sachsen_Anhalt	80,84	80,84 central_heating central_heating		2,33 2,33		Include Business Rules	Yes 🔵
33 31	TRUE	Sachsen_Anhalt Sachsen_Anhalt	57,57	57,57 central_heating central_heating		2,01 2,01		Include Variable Domains	Var
34 32	TRUE	Sachsen_Anhalt Sachsen_Anhalt	66,07	66,07 central_heating central_heating		2,01 2,01		include variable collidits	
35 33	TRUE	Sachsen_Anhalt Sachsen_Anhalt	142,00	142,00 central_heating central_heating		1,75 1,75		Include Data Types Validity	Yes
36 34	TRUE	Sachsen_Anhalt Sachsen_Anhalt	61,00	61,00 central_heating central_heating		4,01 4,01			
\$7 35	TRUE	sacnsen_Annatt Sachsen_Anhalt	13,09	73,59 central_neating central_heating		1,98 1,98		Báck	Load Data
< >		heet1 +		1.4					

Figure 23: "Loaded Data with 'Full' Configuration

4.3 Row Details

(B)

Including a Row ID column in the Advanced settings enables Row Results.

HEDDA.IO \times Planning Alina Dabrowski Execution: 21 Oct 2024, 19:49 ß Execution Statistic Row Details 100 Records 80 Score Valid Items 20 Invalid Items Load Configuration Simple Which Data Valid Invalid 📚 <u>All</u> Which Columns Include Row Id ⁽ⁱ⁾ Yes

Figure 24: "Include Row ID"

If you have included a Row ID column, you can now select a row in the Excel sheet and proseed to Row Details. This view displays an overview of the result of the Execution in this Row. The domains with the current values from the Execution and the associated original values are displayed in summary. Furthermore, it allows you to see more precisely whether and why the result is valid or invalid.

4.3.1 Domain Values

In the Row Details, the Domain Result provides an overview of the domains that match the column headings in the Excel sheet. You can also see the comparison between the loaded data as Value, and the original data set as Original Value.



HEDDA.IO				\sim	×
			Planning Alina Dabrowski	~	
Execution: 21 Oct 2024, 19:49				ø	
Execution Statistic Row Details					I
Domain Result			 Toggle Var 	iables	
Domain		Value	Original Value		
region	Sachsen	_Anhalt	Sachsen_Anhalt	. 1	
serviceCharge	100		100	- 1	
heatingType	central_	heating	central_heating	. 1	
balcony	<null></null>		<null></null>	- 1	
pricetrend	1,46		1,46		
telekomUploadSpeed	40		40		
totalRent	350		350		
yearConstructed	<null></null>	-	NaN		
firinaTypes	aas		aas		
Validation Result					
	(!)			
	ls Inv	valid			
Rulebook					
() yearConstructed range and NA				\sim	
① yearConstruct	ted range and	NA		· · ·	
Back			Load Data		

Figure 25: "Domain Values"

4.3.1.1 Toggle Variables On the right-hand side, you also have the option of making Variable Domains visible, which are then also displayed in the Domain Result overview. Variable Domains aren't

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loaded from the source data but are added by HEDDA.IO and they are used during data validation in Rulebooks.

IEDDA.IO			\sim
	1	Planning Alina Dabrowski	~
Execution: 21 Oct 20	024, 19:49		ø
Execution Statistic	Row Details		
Domain Result		🐼 Toggle Va	riables
Domain	Value		C
condition	first_time_use_after_	_refurbishment first_t	ime_u
typeOfFlat	NA	NA	
noRooms	6	6	
garden	<null></null>	<nul< th=""><th>_L></th></nul<>	_L>
🕼 Var	^oil	^oil	
[@] Varnum	10,1	10,1	
[@] VarBool	True	True	
VarDate	12/10/2023, 12:13:1	4 12/10	/2023

Figure 26: "Toggle Variables"

These are special domains (columns in the results data) that are not automatically filled with data from the data source. A default value can be entered, or the value can also be filled or changed using Business Rules. If you want to know how to create and manage domains, you can find this information in the HEDDA.IO End User Documentation 2.7 Domains.

4.4 Validation Result

The Validation Result displays the overall validity status of the Row with the possibility to see the result for each Rulebook in the drop-down and upon selection for each Business Rule within.

If there is a mismatch, the Validation Result is displayed as invalid. From the Rulebook dropdown menu, you can also see which Rule was not fulfilled. Rulebooks and Rules which weren't executed

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are displayed greyed out.

! Is Invalid						
yearConstructed range and NA					~	/
yearConstructed range and NA						- - - -
	 . .					

Figure 27: "Invalid Validation Result"

It is also possible that several Business Rules were not fulfilled. These are displayed accordingly.



Domain	Value	Original Value
livingSpace	-413.616.930	-413.616.930
condition	modernized	modernized
typeOfFlat	roof_storey	roof_storey
noRooms	1.458.815.442	1.458.815.442
garden	<null></null>	<null></null>
to Man	A =0	A =0
⊘ totalRent range an	d NA	
⊘ yearConstructed ra	nge and NA	
() baseRent range		
⊘ livingSpace range		
⊘ condition NA		
⊘ typeOfFlat NA		
() noRooms range		
⊘ serviceCharge range	2	~

Figure 28: "Multiple Invalid Validation Results"

It is important to remember that different validation processes run through the Business Rules in the background. Some are simple, others have multiple nodes. As an example, the Rulebook "heatingType NA" in HEDDA.IO looks like this:

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Ru	e	bo	0	k

heatingType NA	<i>}</i> ₹ #	1	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
Condition	🗞 Validity																			
heatingType Is not null																				
	0	•																		•
· · · · · · · · · · · · · · · · · · ·																				
				•					•											
set heating type to unknown	<i>⊁</i> ₹ ≣																			
Condition heatingType Is null		:	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
	0																			
×			-	-	× -	-	1	1	-	1		1	•	•	•	•	•			
Gas	© ≠ ፣ ።	•		•	Oi	il											6	4	FI	
Condition Always True		•	•	•	Cor Alw	nditi /ays	ion Tru	ie												
		•						0								(0			

Figure 29: "heatingType NA Rulebook"

The display is then mirrored in the Excel Add-In:







4.5 Open Execution in HEDDA.IO

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To take a closer look at the Execution with the Rulebooks and Business Rules, you can open it directly in HEDDA.IO.



Figure 31: "Open Execution in HEDDA.IO"

4.6 Opening Excel Files with Data from HEDDA.IO

If you have saved an Excel file with Executions, or if somebody sent you one, you can load it again with Excel. However, you will notice that only the data in a sheet is displayed there. If you want to return to the Add-In, you have to select the HEDDA.IO Add-in in the Excel Ribbon again. Selecting Load Executions in the Ribbon Menu that appears underneath, the HEDDA.IO Add-In automatically suggests loading an Execution. If you click on Fetch Execution, you are automatically redirected to the Execution Statistic and can continue working with it.



HEDDA.IO	\sim ×
Planning Alina Dabrowski	~
Active Sheet does onot represent the Fetch display.	h Execution?
Project *	
IN Please select a Project	~
Knowledge Base *	Version *
Please select a Knowledg	~ ~
Run *	
• Please select a Run	\sim
Execution *	to 22 Oct 2024
A No Executions In Selected	Date Range

Figure 32: "Fetch Execution"

5 Validating Data

The Excel Add-In also offers users the option of validating their own data against Business Rules created in HEDDA.IO.

To serve as an example, a Project "Audit" with a "Travel Cost Audit" Knowledge Base was created in the Live Version in HEDDA.IO. The Domains containing the names of the employees and the travel costs will be our columns in Excel. "Cost Check" is created as a Rulebook with the Business Rules that the "Total Costs" should be greater than 0 and less than 1000. Everything that does not fulfill the Business Rules is displayed as invalid.



Rulebook



Figure 33: "Rulebook Total Cost Check"

5.1 Validating Data from Sheet

Once you have prepared the data you want to validate in an Excel sheet, click on Validate Data from the Ribbon or Home menu.

		Ş
Configure	Load	Validate
Environments	Executions	Data



The configuration window will then open. Here you enter what you want to validate your data against. With Select Data you can either validate the entire table, if you have previously formatted it as such, or just an individual selection of data. It is important that column headings match the Domain names.

Note: If you want to keep the original data, it is recommended that you copy it to another sheet and perform the Validation there.

Once the Validation started, the process for Load Execution is automatically triggered to carry out the Execution with the previously defined parameters. The result of the Validation is displayed as an Execution, where you can take a closer look at the result of the Execution Statistics and the individual Row Details.



HEDDA.IO	\vee ×
Planning Alina Dabrowski	~
Configure Validation	
Project *	
iii Audit	~
Knowledge Base *	Version *
📕 Travel Cost Audit 🛛 🗸	Edit 🗸
Run *	
• Excel	\sim
Select Data	
Table: Table1	
Range: Sheet1!B5	
Update sheet data after validation ⁽ⁱ⁾	No
Validate Data	

Figure 35: "Configure Validation"

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An invalid position is displayed during Execution. This means, that a Business Rules has not been fulfilled. In this case, the Total Cost Check has failed, since the amount should not have surpassed 1000. If you now want to load the Configuration, select the corresponding parameters and click on Load Data. This will trigger an Excel Export of the data onto the sheet.

hedda.io		\sim \times
	Planning Alina Dabrowski	~
Execution: 22 Oct 202	24, 12:10	്
Execution Statistic	Row Details	
		3 Records
Score		2 Valid Items
00		1 Invalid Items
Load Configuration		[]] Advanced
Which Data	⊘ Valid	① Invalid
Data only		~
Data only Comparison Validation Result Full		
Back	Loa	id Data

Figure 36: "Validation Execution"

In the view, you can see on the Excel sheet which result is invalid and which Rulebook and which Business Rules are affected.

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A2	- v i	\times	$f_x \sim 0$												
A	В	С	D	м	N	0	P	Q	R	S	т	U	v	w x	A
1 Row	 Valid 	Name	Original: Name	Rulebook: Cost Check 💌 Bu	siness Rule: Total Cost Check	 Datatypes Valid 	Member Search Valid								HEDDA.IO V
2	0 FALSE	Silvia	Silvia	FALSE	FALSE	TRUE	TRUE								
3	1 TRUE	Jean	Jean	TRUE	TRUE		TRUE								Planning 🗸
4	2 TRUE	Marc	Marc	TRUE	TRUE	TRUE	TRUE								Alina Dabrowski
5															
6															Execution: 22 Oct 2024, 12:21
7															- 1
8															Execution Statistic Row Details
10															Demain Brauk
11															Domain Result
12															
13															Domain Value Original Value
14															Name Silvia Silvia
15															Hotel Expenses 200 200
16															Domestic Flight Costs 750 750
17															Total Costs 1.010 1.010
18															Rail Costs 60 60
19															WELC N. N.
21															Validation Result
22															
23															
24															Is Invalid
25															
26															Rulebook
27															① Cost Check ~
28															
29															① Total Cost Check
30															- 1
22															+
33															- I I I I I I I I I I
34															
35															· · · · · · · · · · · · · · · · · · ·
36															Anna Care
37															Back Load Data
			Charles												

Figure 37: "Validation Result"

6 Glossary

6.1 Business Rules

Business Rules can be designated as Dataflow Rules, enabling HEDDA.IO to treat them as logical operations only. This configuration excludes them from the validation results and associated statistics, emphasizing their role in data manipulation or transformation without affecting validation outcomes.

It is essential to note that Business Rules can only be formulated within a Rulebook and must be part of the Business Rule sequence inside that Rulebook. A Rulebook can have just one Business Rule sequence, which is capable of forking any number of times.

6.2 Edit Version

While in a Live Version, you can exclusively view or read values, without the capability to alter, erase existing entities, or introduce new ones. To achieve any of the three actions, you must switch to the Edit Version mode.



Figure 38: "Edit Version Button"

Now you can add, edit, and delete entities. Create your own Rulebook and Business Rules and test



your data against them. It is important to note, that the changes will not apply until they are published. If they are, the Edit Version will become the Live Version.

6.3 Knowledge Base

Knowledge Bases are entities responsible for containing comprehensive information about the structure of your data, the regulations it needs to adhere to, Execution metrics, and a variety of additional details. More information on how to create, configure and use Knowledge Bases can be found in the HEDDA.IO User Documentation.

6.4 Live Version

In HEDDA.IO, the initial step to utilize a Knowledge Base involves publishing it. As soon as it is published, it goes "Live".



Figure 39: "Publish Version Button"

This functionality serves a dual purpose, allowing the establishment of a version history as well. The primary page of the Knowledge Base is perpetually set in Read Only mode. This signifies that you can exclusively view or read values, without the capability to alter, erase existing entities, or introduce new ones.

To achieve any of the three actions, you must switch to the Edit Version mode, accessible by selecting Edit Version.

6.5 Mappings

In HEDDA.IO, Mapping is an operation that associates Domains with columns from a dataset. It ensures that the data within different Domains and columns are correctly aligned, enhancing the overall consistency and accuracy of the dataset.

6.6 Projects

Projects are essentially workspaces within HEDDA.IO, designed to cater to your distinct needs for utilizing the HEDDA.IO platform.



Unless you have a Project established, it is not possible to generate a Knowledge Base. As a result, initiating a Project stands as the primary step towards making use of HEDDA.IO.

The Project page encompasses several vital Project-wide features, including External Connections, Events, and User Management. Moreover, it presents the list of Knowledge Bases and provides the capability to add new ones.

6.7 Rulebook

To further enhance the validation process for the data that is ingested, HEDDA.IO offers a feature known as Rulebooks. This serves as an encapsulation for a collection of Business Rules, enabling you to organize and arrange them in a coherent order, based on basic logical rules.

Furthermore, it provides an overview and a visual representation of the sequence of Business Rules on a canvas, allowing you to easily visualize the flow and make modifications.

Conditions and subconditions can be incorporated into Business Rules, allowing the utilization of Lookup values or other Domain values to validate Domains.

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