

LAPORAN DATA WAREHOUSE SOFTWARE PENTAHO DAN ETL1

Dosen Pengampu : Edi Satriyanto,S.Si., M.Si





Bagas Cahya Fajar Bastian

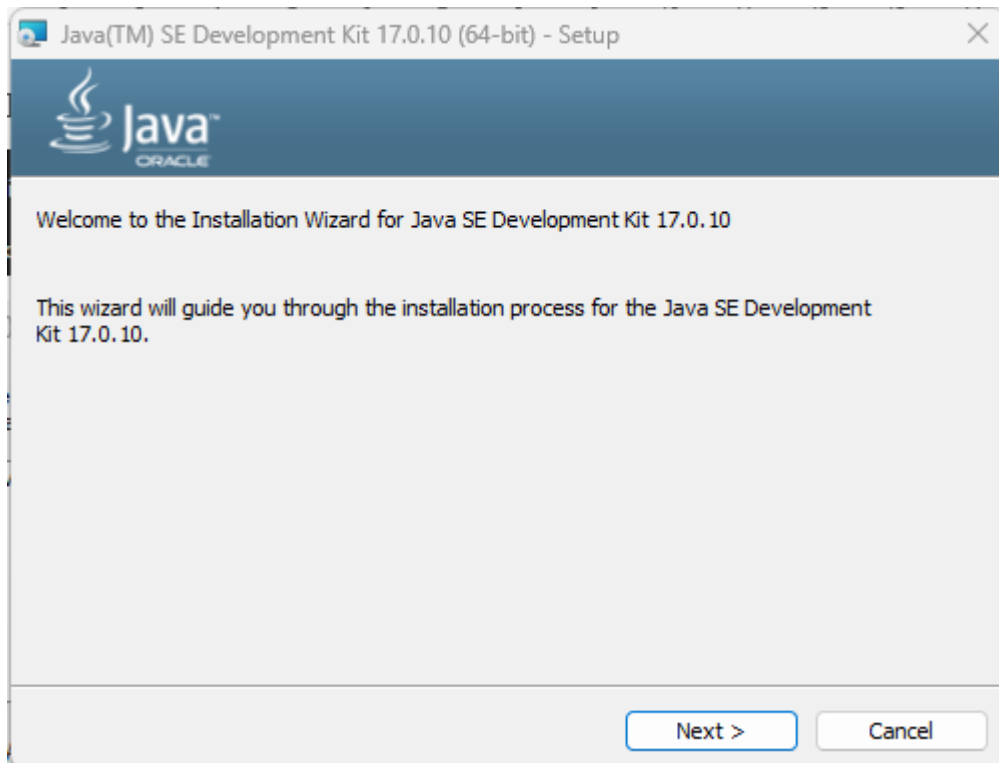
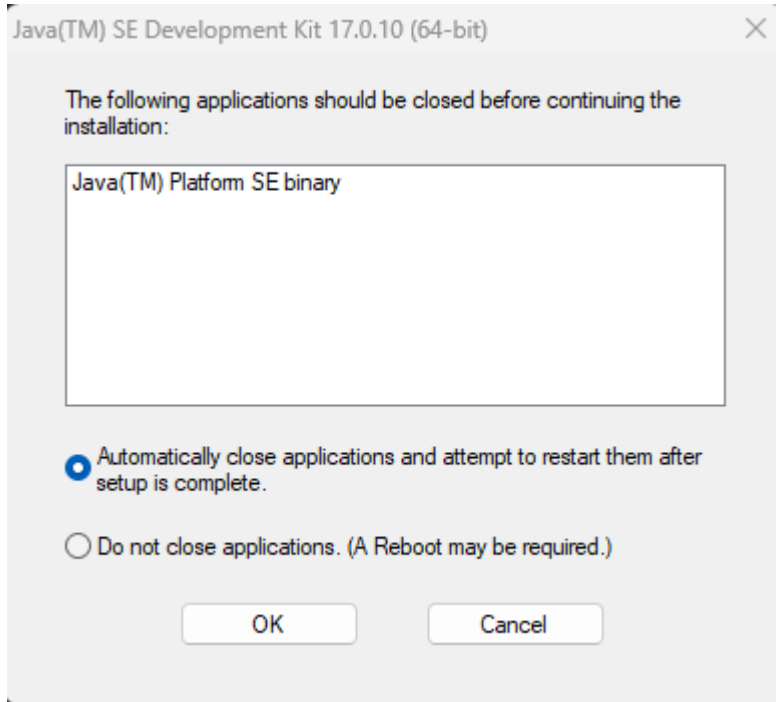
3322600016

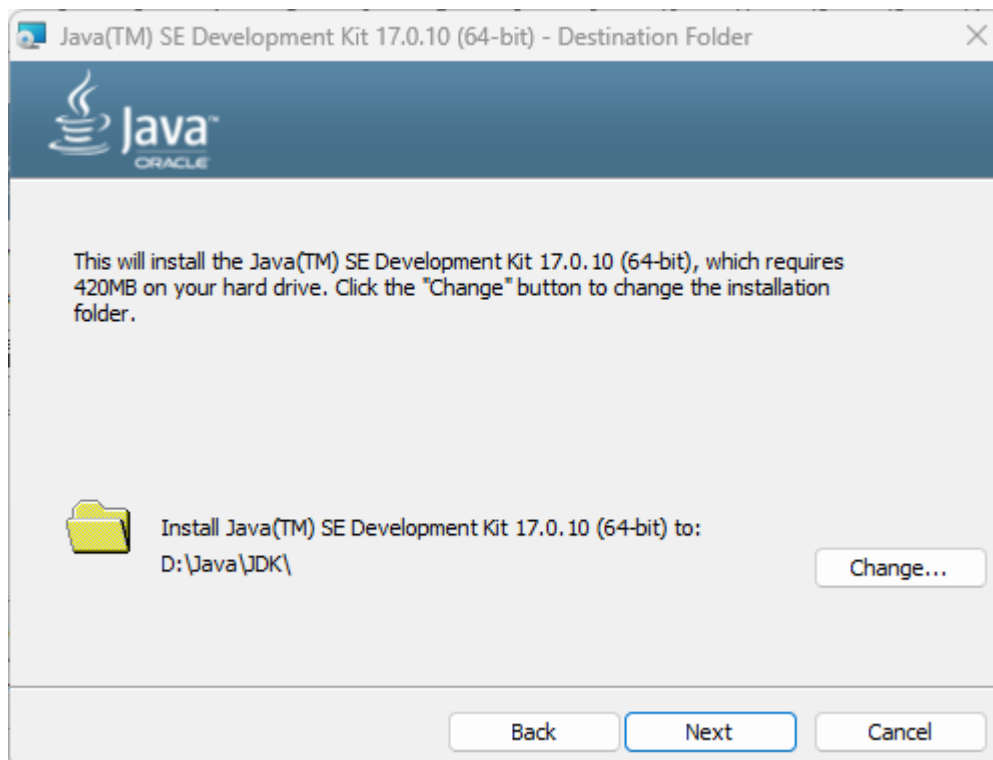
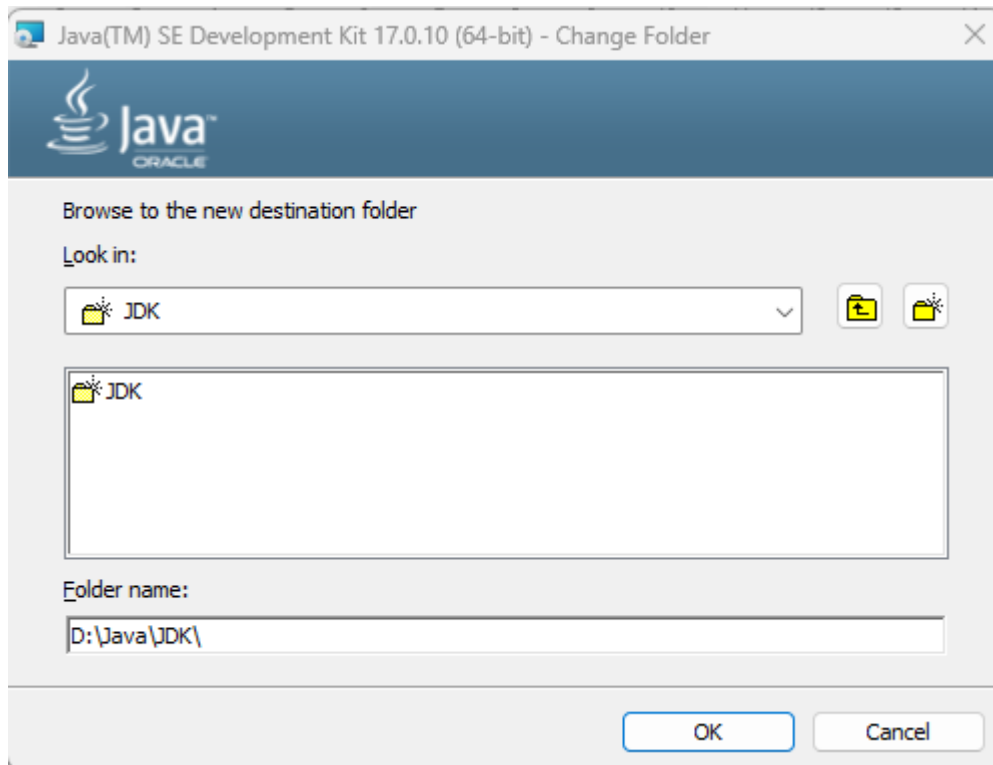
**POLITEKNIK ELEKTRONIKA NEGERI SURABAYA
DEPARTEMEN TEKNIK INFORMATIKA DAN KOMPUTER
SAINS DATA TERAPAN
FEBRUARI 2024**

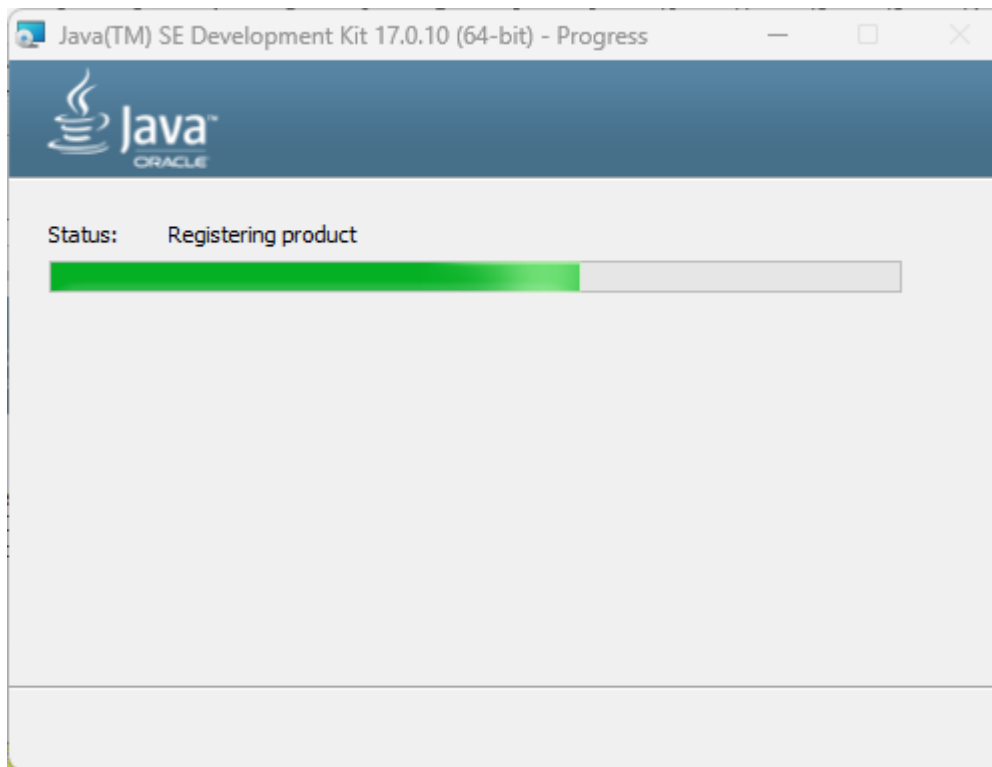
Install Pentaho dan JDK

 pdi-ce-9.4.0.0-343.zip	26/02/2024 14:11	Compressed (zipp...	376.445 KB
 jdk-17_windows-x64_bin.exe	20/02/2024 21:29	Application	157.238 KB

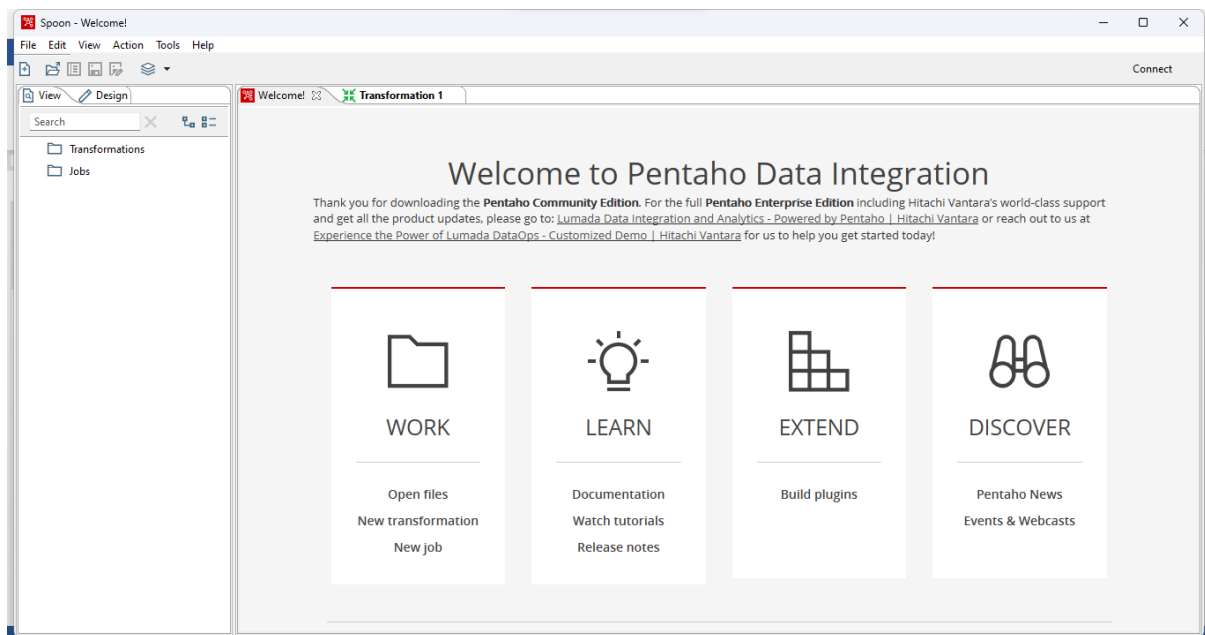
Install JDK terlebih dahulu.



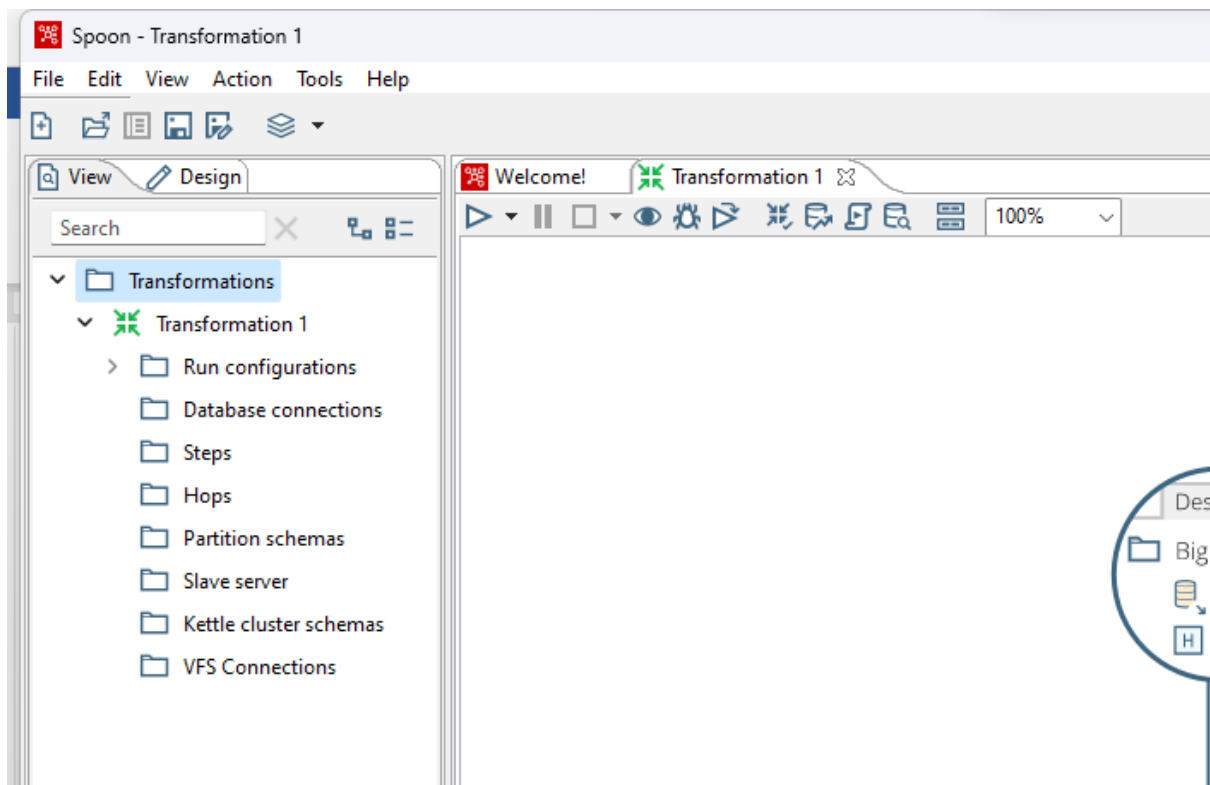


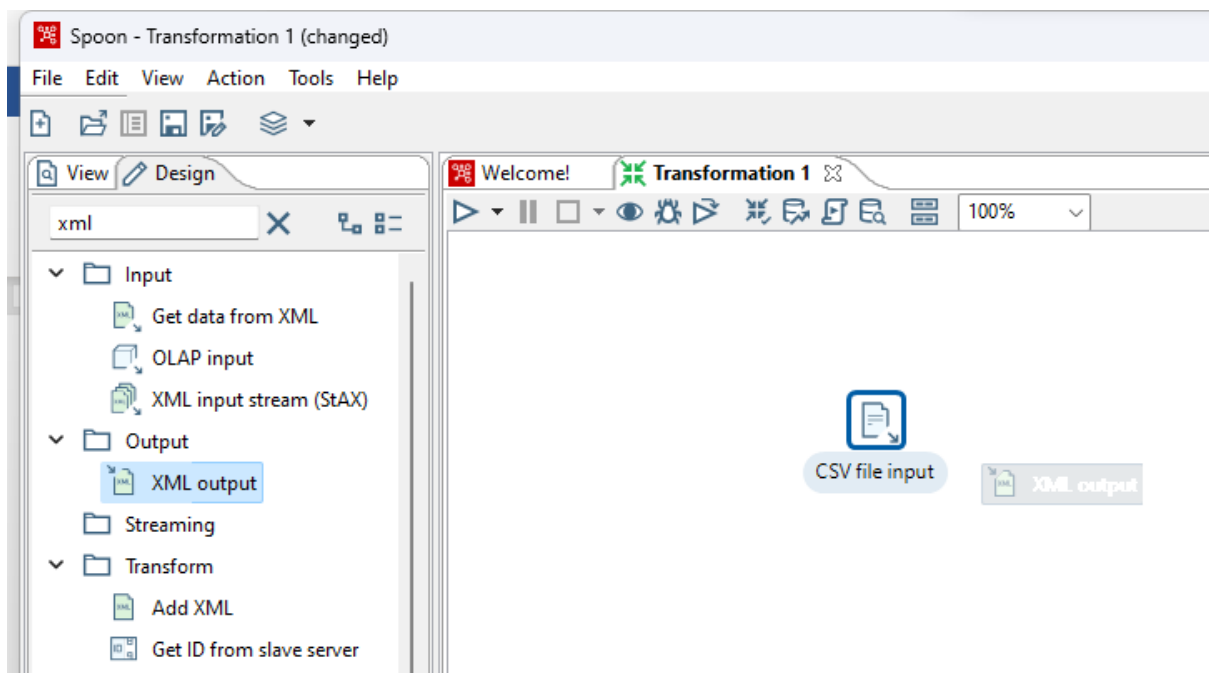
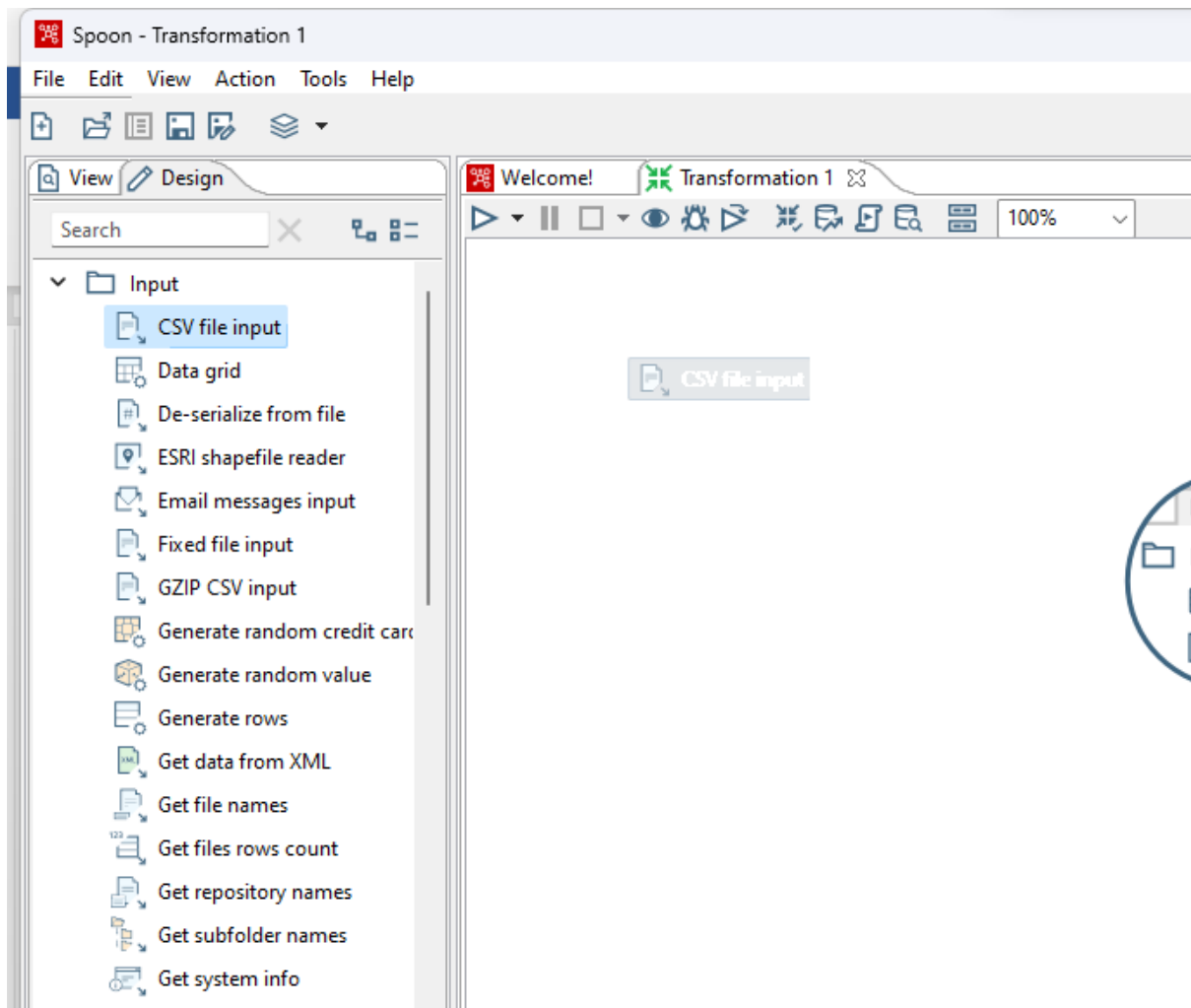


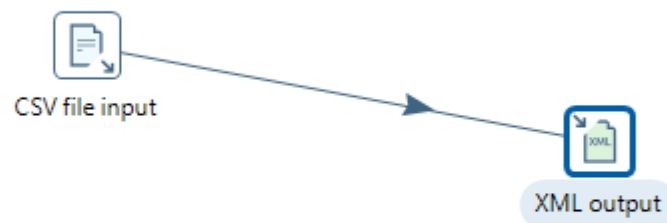
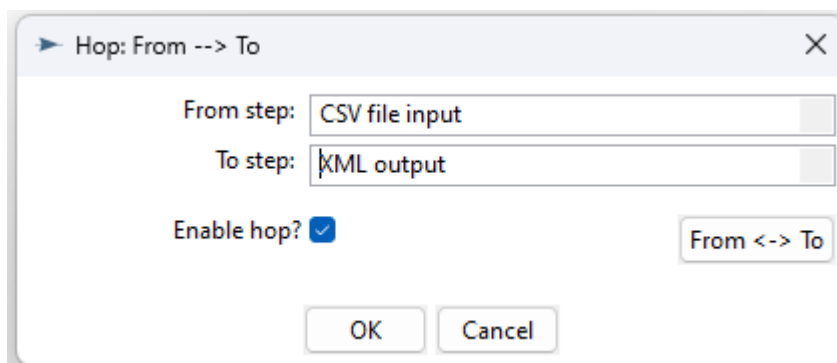
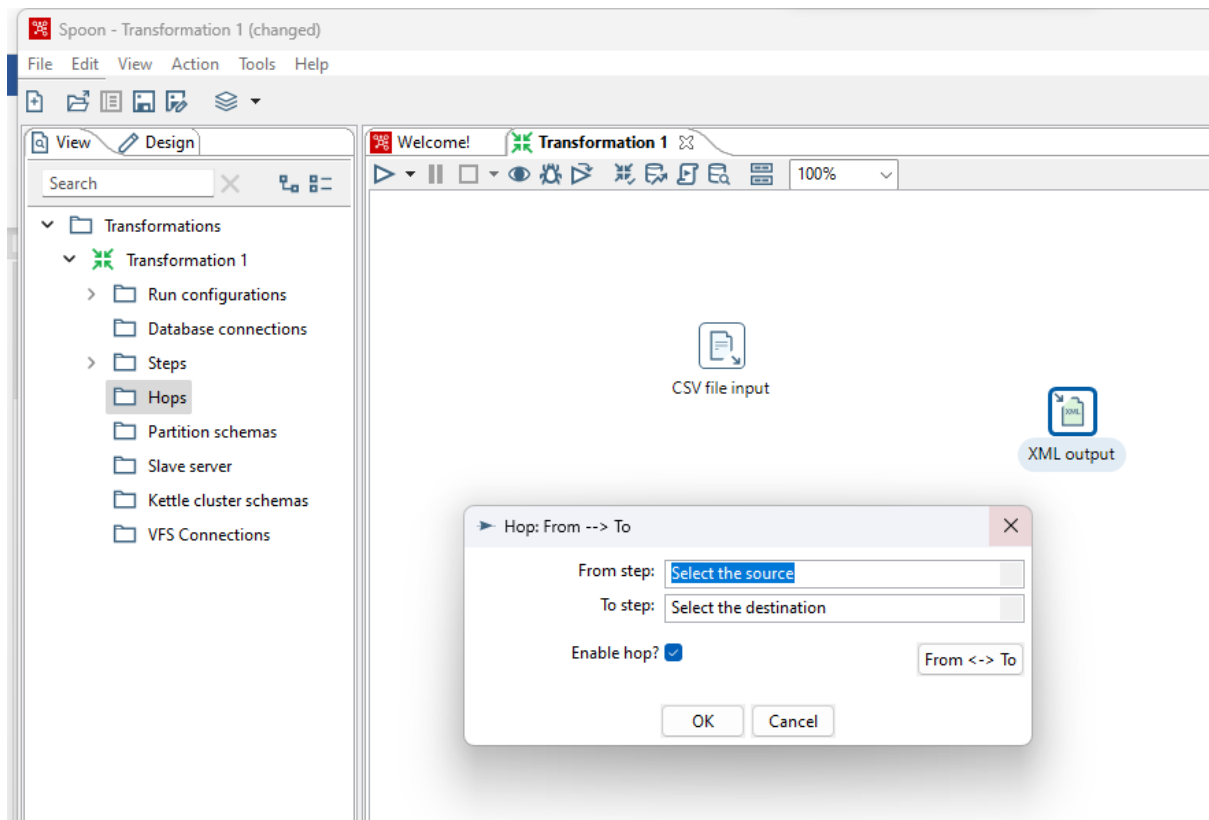
Extract file data pentaho, kemudian buka file spoon.bat.



Percobaan Pertama







CSV file input

Step name: CSV file input

Filename: Browse...

Delimiter: , Insert TAB

Enclosure: "

NIO buffer size: 50000

Lazy conversion? ☒

Header row present? ☒

Add filename to result ☐

The row number field name (optional):

Running in parallel? ☐

New line possible in fields? ☐

Format: mixed

File encoding:

#	Name	Type	Format	Length	Precision	Currency	Decimal	Group	Trim type
1									

Help OK Get Fields Preview Cancel

CSV file input

Step name: CSV file input

Filename: D:\Kuliah\Semester 3\Data-Slayer\train.csv Browse...

Delimiter: ; Insert TAB

Enclosure: "

NIO buffer size: 50000

Lazy conversion? ☒

Header row present? ☒

Add filename to result ☐

The row number field name (optional):

Running in parallel? ☐

New line possible in fields? ☐

Format: mixed

File encoding:

#	Name	Type	Format	Length	Precision	Currency	Decimal	Group
1	Id	Integer	#	15	0	IDR	.	,

Help OK Get Fields Preview Cancel

Get Fields

CSV file input

Step name: CSV file input

Filename: D:\Kuliah\Semester 3\Data-Slayer\train.csv Browse...

Delimiter: ; Insert TAB

Enclosure: "

NIO buffer size: 50000

Lazy conversion? ☒

Header row present? ☒

Add filename to result ☒

The row number field name (optional): 1000

Running in parallel? ☐

New line possible in fields? ☐

Format:

File encoding:

#	Name	Type	Format	Length	Precision	Currency	Decimal	Group
1	Id	Integer	#	15	0	IDR	.	,

Help OK Get Fields Preview Cancel

Examine preview data

Rows of step: CSV file input (1000 rows)

#	Id	Make	Vehicle Class	Engine Size(L)	Cylinders	Transmission	Fuel Type	Fuel Consumption City	Fuel Consumption Hwy	Fuel Consumption Comb	CO2 Emi
1	1	MITSU	SUV - SMALL	1.5	4.0	AV8	X	8.40 km/L	0.72 L/100km	0.98 L/100km	
2	2	TOYOTI	PICKUP TRUCK - SMALL	not-available	6.0	A5	X	7.25 km per L	9.70 L/100km	11.96 L/100km	
3	3	MATSUDA	COMPACT	2.0	4.0	AS6	X	9.80 km/L	38.70 mpg Imp.	31.76 mpg Imp.	
4	4	CHEVO	VAN - PASSENGER	unknown	8.0	A6	X	1.73 L/100km	11.70 liters per 100 km	14.78 liters per 100 km	
5	5	TOYOTI	COMPACT	1.8	4.0	M6	X	8.10 L/100km	35.76 mpg Imp.	8.01 liters per 100 km	
6	6	DOGE	MID-SIZE	2.4	4.0	A6	X	8.85 km per L	29.40 MPG (AS)	9.81 L/100km	
7	7	BMV	COMPACT	2.0	unknown	M6	Z	<null>	8.10 liters per 100 km	32.87 mpg Imp.	
8	8	LECUS	MID-SIZE	3.5	6.0	AS6	X	19.60 MPG (AS)	10.10 km/L	21.28 MPG (AS)	
9	9	KIO	SUV - SMALL	2.4	4.0	AS6	X	13.90 liters per 100 km	<null>	<null>	
10	10	TOYOTI	PICKUP TRUCK - SMALL	2.7	4.0	M5	X	7.63 km per L	8.90 L/100 km	not-available	
11	11	FOLD	SUV - STANDARD	3.5	6.0	AS6	X	14.70 MPG (AS)	8.47 km per L	1.41 L/100km	
12	12	MATSUDA	SUV - SMALL	2.0	4.0	AS6	X	10.87 km per L	26.73 MPG (AS)	11.09 km per L	
13	13	KIO	SUV - SMALL	2.4	4.0	AS6	X	8.62 km per L	35.31 mpg Imp.	9.98 L/100 km	
14	14	JIPU	SUV - SMALL	2.4	4.0	A9	X	12.30 L/100km	0.94 L/100km	21.39 MPG (AS)	
15	15	NIRAN	STATION WAGON - SMALL	1.6	4.0	M6	Z	9.50 L/100km	30.95 MPG (AS)	8.64 L/100km	
16	16	CADILUXE	FULL-SIZE	2.0	4.0	AS8	Z	1.09 L/100km	32.47 mpg Imp.	10.09 km/L	
17	17	JIPU	SUV - SMALL	na	na	A9	<null>	25.92 mpg Imp.	0.87 L/100km	10.09 km per L	
18	18	MITSU	COMPACT	1.2	3.0	AV	X	12.66 km per L	12.66 km/L	7.90 L/100 km	
19	19	FOLKSWA	MID-SIZE	unknown	6.0	AM6	X	8.06 km/L	0.84 L/100km	26.65 mpg Imp.	
20	20	BARUSU	COMPACT	2.5	4.0	M6	Z	15.90 L/100km	0.95 L/100km	13.02 liters per 100 km	
21	21	LECUS	MID-SIZE	3.5	6.0	AV8	Z	25.22 mpg Imp.	7.10 L/100km	0.94 L/100km	
22	22	NIRAN	STATION WAGON - SMALL	1.6	4.0	M6	Z	<null>	9.71 km per L	24.66 mpg Imp.	
23	23	GONDA	SUV - SMALL	3.5	6.0	A6	X	11.40 liters per 100 km	10.50 L/100 km	1.10 L/100km	
24	24	JIPU	SUV - SMALL	3.2	6.0	A9	X	19.90 liters per 100 km	10.99 km per L	18.78 mpg Imp.	
25	25	GONDA	FULL-SIZE	1.5	4.0	AV	X	56.00 MPG (AS)	14.71 km/L	<null>	
26	26	LAND CRAWLER	SUV - STANDARD	5.0	8.0	AS8	E	5.65 km/L	1.16 L/100km	6.69 km per L	
27	27	DOGE	TWO-SEATER	8.4	10.0	M6	Z	14.60 liters per 100 km	8.80 L/100km	19.62 MPG (AS)	
28	28	FOLD	VAN - PASSENGER	3.5	6.0	AS10	X	5.52 km per L	11.00 L/100km	<null>	
29	29	CHEVO	SUV - SMALL	1.4	4.0	AS6	X	12.05 km/L	14.71 km per L	7.62 L/100 km	

Close Show Log

XML output

Step name XML output

File Content Fields

Filename file Browse...

Do not create file at start ☐

Pass output to servlet ☐

Extension xml

Include stepnr in filename? ☐

Include date in filename? ☐

Include time in filename? ☐

Specify Date time format ☐

Date time format

Show filename(s)...

Add filenames to result ☐

Help OK Cancel

Save To

D:\Kuliah\Semester 4\Data Warehouse

Name	Type	Modified
data-integration	Folder	02/26/24 02:14 PM

File name: Data coba1 File type: *.xml (*.xml) Save Cancel

XML output

Step name XML output

File Content Fields

Filename D:\Kuliah\Semester 4\Data Warehouse\Data coba1.xml Browse...

Do not create file at start ☐

Pass output to servlet ☐

Extension xml

Include stepnr in filename? ☐

Include date in filename? ☐

Include time in filename? ☐

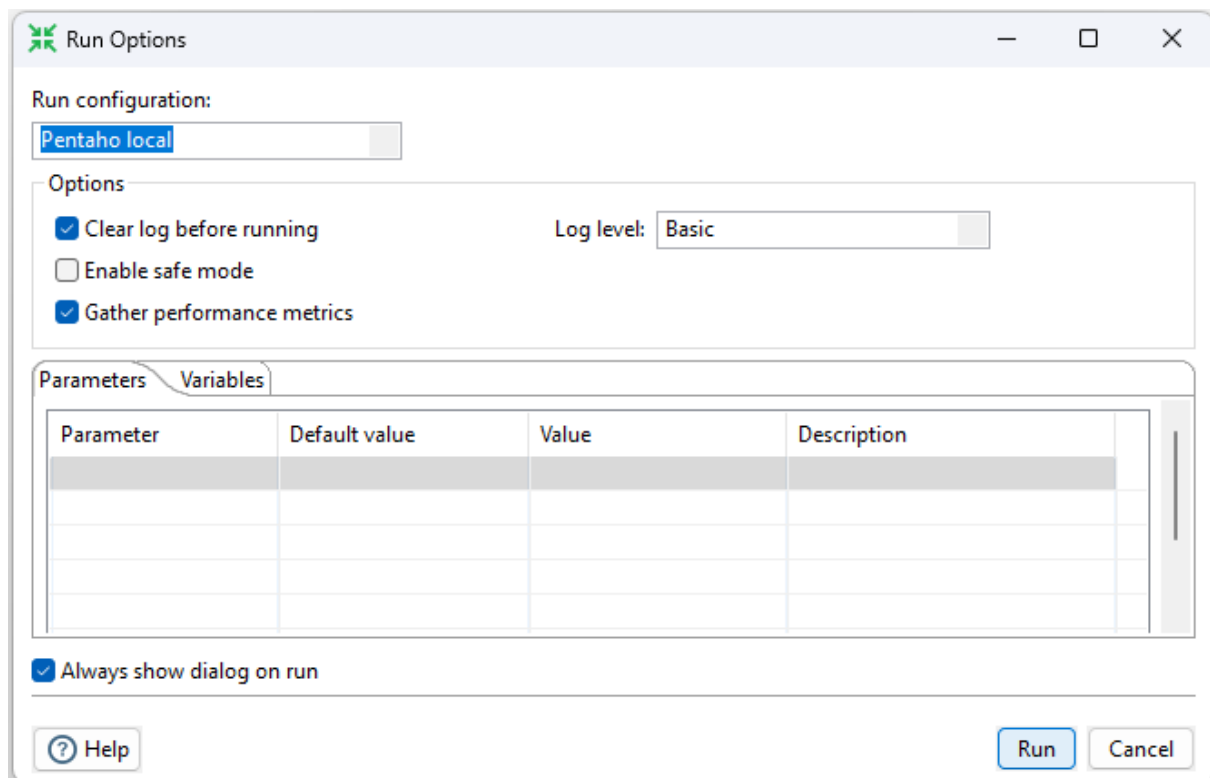
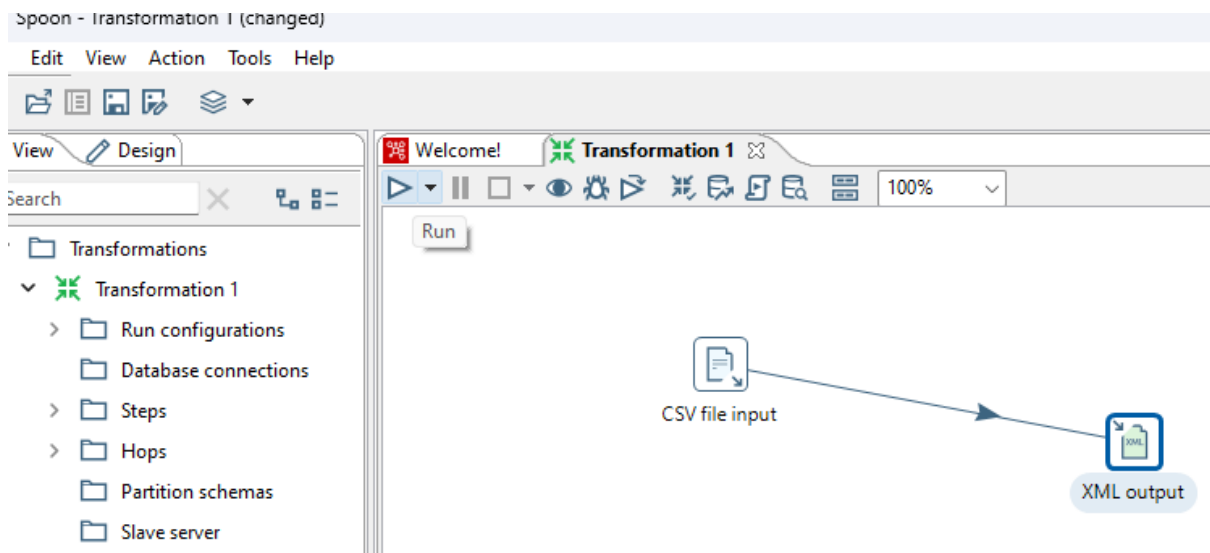
Specify Date time format ☐

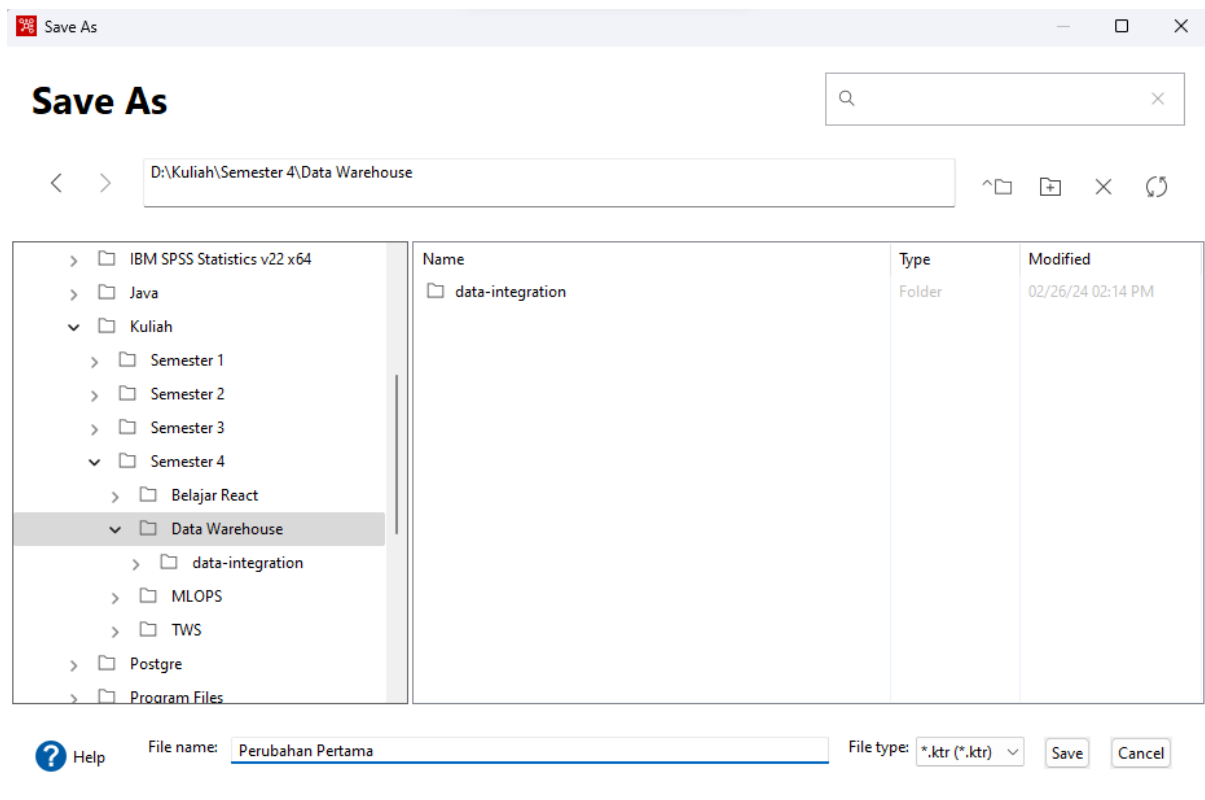
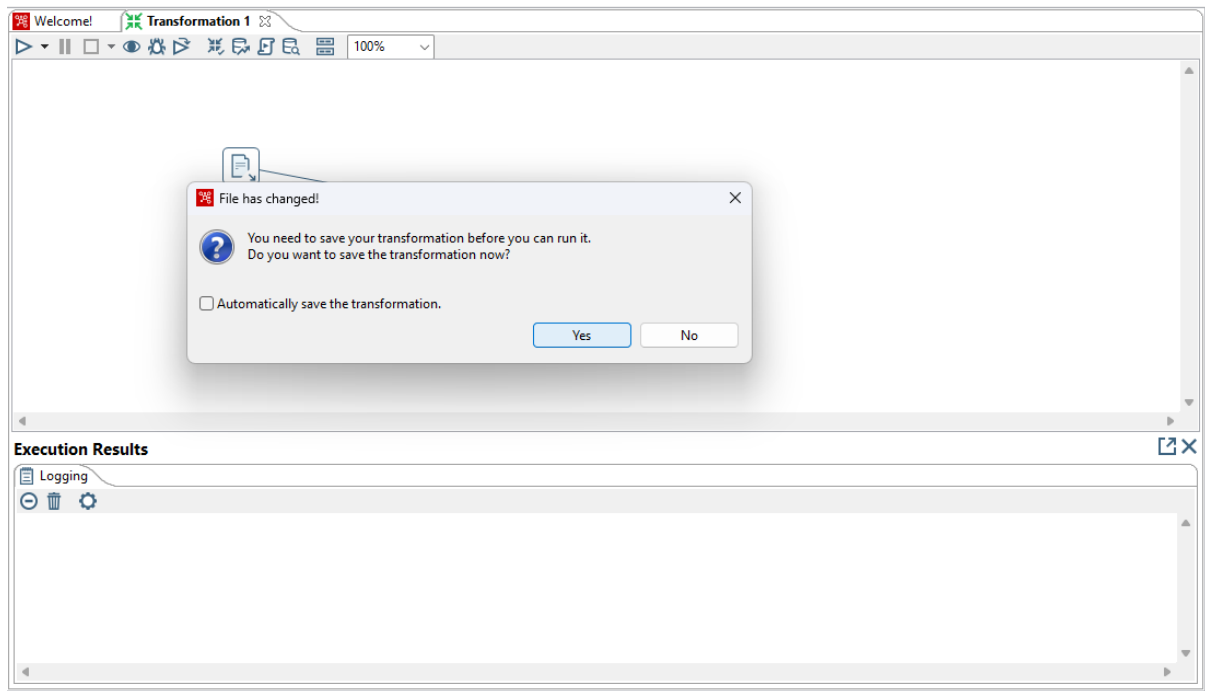
Date time format

Show filename(s)...

Add filenames to result ☐

Help OK Cancel





Execution Results

Logging

Execution History

Step Metrics

Performance Graph

Metrics

Preview data

2024/02/26 15:06:54 - Perubahan Pertama - Dispatching started for transformation [Perubahan Pertama]

2024/02/26 15:06:54 - XML output.0 - Opening output stream in encoding: UTF-8

2024/02/26 15:06:54 - CSV file input.0 - Header row skipped in file 'D:\Kuliah\Semester 3\Data-Slayer\train.csv'

2024/02/26 15:06:57 - CSV file input.0 - Line number : 50000

2024/02/26 15:06:57 - CSV file input.0 - Finished processing (I=54938, O=0, R=0, W=54937, U=0, E=0)

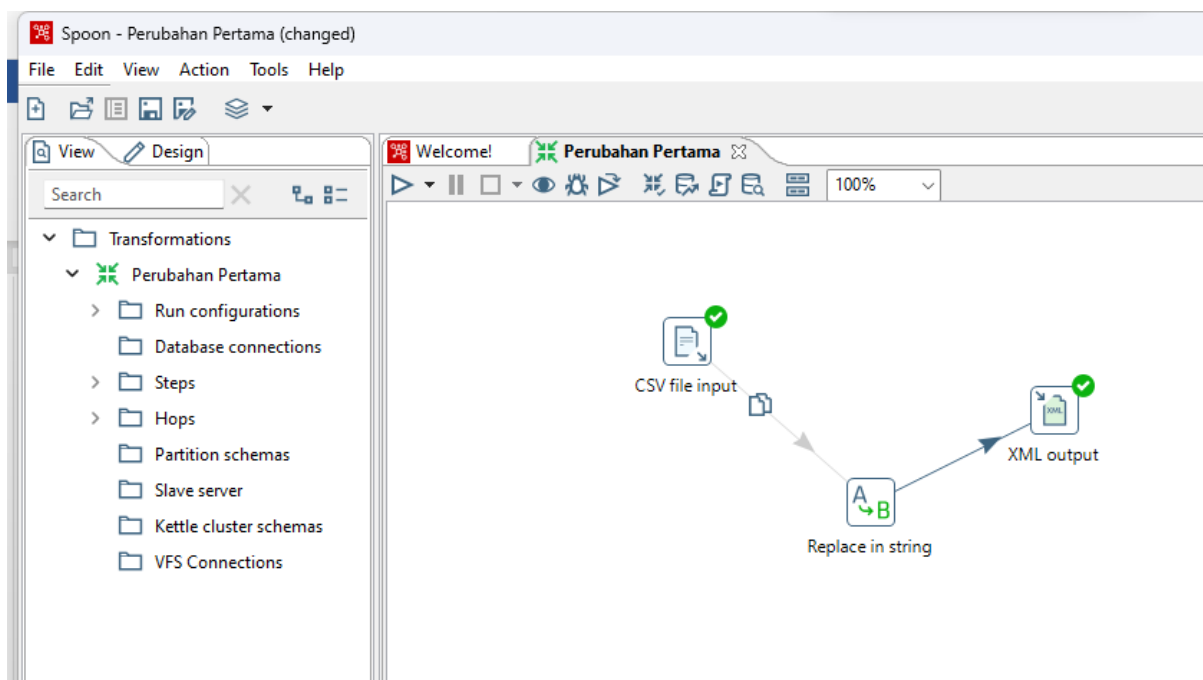
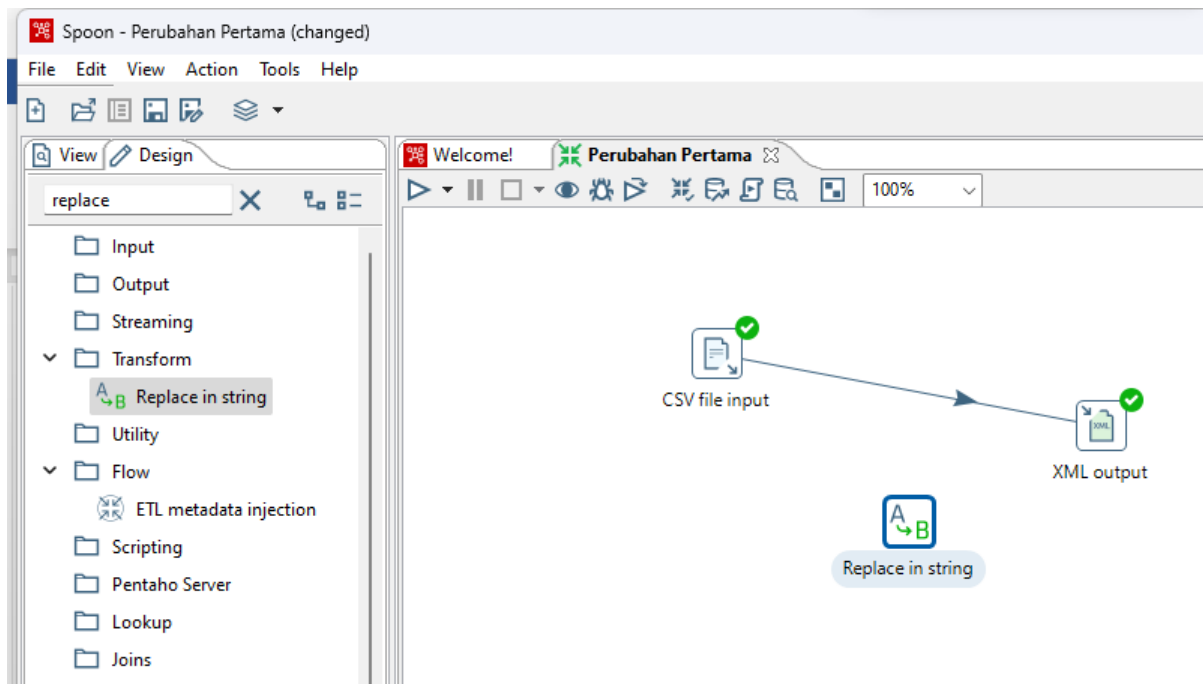
2024/02/26 15:06:58 - XML output.0 - linenr 50000

2024/02/26 15:06:58 - XML output.0 - Finished processing (I=0, O=54937, R=54937, W=54937, U=0, E=0)

2024/02/26 15:06:58 - Spoon - The transformation has finished!!

data.coba.xml.xml	
D:\Kuliah\Semester%204\Data%20Warehouse\data%20coba.xml.xml	
Id Make Vehicle Class Engine Size(L) Cylinders Transmission Fuel Type Fuel Consumption City Fuel Consumption Hwy Fuel Consumption Comb CO2 Emissions(g/km) 1 MITSU SUV - SMALL 1.5 4.0 AV8 X 8.40 km/L 0.72 L/100km 0.98 L/100km 208 2 TOYOTI PICKUP TRUCK - SMALL not-available 6.0 A5 X 7.25 km per L 9.70 L/100km 11.96 L/100km 325 3 MATSUDA COMPACT 2.0 4.0 AS6 X 9.80 km/L 38.70 mpg Imp. 31.76 mpg Imp. 170 4 CHEVO VAN - PASSENGER unknown 8.0 A6 X 1.73 L/100km 11.70 liters per 100 km 14.78 liters per 100 km 362 5 TOYOTI COMPACT 1.8 4.0 M6 X 8.10 L/100km 35.76 mpg Imp. 8.01 liters per 100 km 180 6 DOGE MID-SIZE 2.4 4.0 A6 X 8.85 km per L 29.40 MPG (AS) 9.81 L/100km 216 7 BMV COMPACT 2.0 unknown M6 Z 8.10 liters per 100 km 32.87 mpg Imp. 201 8 LECUS MID-SIZE 3.5 6.0 AS6 X 19.60 MPG (AS) 10.10 km/L 21.28 MPG (AS) 221 9 KIO SUV - SMALL 2.4 4.0 AS6 X 13.90 liters per 100 km 245 10 TOYOTI PICKUP TRUCK - SMALL 2.7 4.0 M5 X 7.63 km per L 8.90 L/100 km not-available 297 11 FOLD SUV - STANDARD 3.5 6.0 AS6 X 14.70 MPG (AS) 8.47 km per L 1.41 L/100km 347 12 MATSUDA SUV - SMALL 2.0 4.0 AS6 X 10.87 km per L 26.73 MPG (AS) 11.09 km per L 192 13 KIO SUV - SMALL 2.4 4.0 AS6 X 8.62 km per L 35.31 mpg Imp. 9.98 L/100 km 237 14 JIPU SUV - SMALL 2.4 4.0 A9 X 12.30 L/100km 0.94 L/100km 21.39 MPG (AS) 235 15 NIRRAN STATION WAGON - SMALL 1.6 4.0 M6 Z 9.50 L/100km 30.95 MPG (AS) 8.64 L/100km 198 16 CADILUXE FULL-SIZE 2.0 4.0 AS8 Z 1.09 L/100km 32.47 mpg Imp. 10.09 km/L 219 17 JIPU SUV - SMALL na na A9 25.92 mpg Imp. 0.87 L/100km 10.09 km per L 225 18 MITSU COMPACT 1.2 3.0 AV X 12.66 km per L 12.66 km/L 7.90 L/100 km 167 19 FOLKSWA MID-SIZE unknown 6.0 AM6 X 8.06 km/L 0.84 L/100km 26.65 mpg Imp. 232 20 BARUSU COMPACT 2.5 4.0 M6 Z 15.90 L/100km 0.95 L/100km 13.02 liters per 100 km 305 21 LECUS MID-SIZE 3.5 6.0 AV8 Z 25.22 mpg Imp. 7.10 L/100km 0.94 L/100km 167 22 NIRRAN STATION WAGON - SMALL 1.6 4.0 M6 Z 9.71 km per L 24.66 mpg Imp. 187 23 GONDA SUV - SMALL 3.5 6.0 A6 X 11.40 liters per 100 km 10.50 L/100 km 1.10 L/100km 263 24 JIPU SUV - SMALL 3.2 6.0 A9 X 19.90 liters per 100 km 10.99 km per L 18.78 mpg Imp. 257 25 GONDA FULL-SIZE 1.5 4.0 AV X 56.00 MPG (AS) 14.71 km/L 178 26 LAND CRAWLER SUV - STANDARD 5.0 8.0 AS8 E 5.65 km/L 1.16 L/100km 6.69 km per L 367 27 DOGE TWO-SEATER 8.4 10.0 M6 Z 14.60 liters per 100 km 8.80 L/100km 19.62 MPG (AS) 406 28 FOLD VAN - PASSENGER 3.5 6.0 AS10 X 5.52 km per L 11.00 L/100km 397 29 CHEVO SUV - SMALL 1.4 4.0 AS6 X 12.05 km/L 14.71 km per L 7.62 L/100 km 191 30 GONDA PICKUP TRUCK - STANDARD 3.5 6.0 A6 X 16.23 mpg Imp. 28.25 mpg Imp. 14.07 L/100km 265 31 RYUNDAI FULL-SIZE 3.8 6.0 AS8 X 8.13 km/L 11.80 liters per 100 km 12.07 L/100km 314 32 JIPU SUV - SMALL unestablished 4.0 M6 X 9.10 L/100 km 11.49 km/L 0.89 L/100km 213 33 JIPU SUV - SMALL 2.4 4.0 A9 X 27.35 MPG (AS) 0.76 L/100km 217 34 DOGE FULL-SIZE 6.2 8.0 A8 Z 4.95 km/L 1.84 L/100km 494 35 FOLKSWA SUV - SMALL 2.0 4.0 AS8 X 14.30 L/100 km 9.50 liters per 100 km 1.21 L/100km 223 36 MITSU COMPACT 2.0 4.0 AM6 Z 14.00 L/100 km 7.30 L/100 km 10.98 liters per 100 km 311 37 KIO MID-SIZE 1.8 4.0 M6 X 0.95 L/100km 0.79 L/100km 11.39 km per L 196 38 MATSUDA COMPACT 4.0 M6 X 54.70 MPG (AS) 7.40 L/100km 41.30 MPG (AS) 150 39 CHEVO SUBCOMPACT 1.4 4.0 M5 X 8.80 liters per 100 km 37.94 MPG (AS) 0.76 L/100km 167 40 FOLD 2.0 4.0 AM6 E 56.00 MPG (AS) 0.71 L/100km 18.17 km per L 107 41 LAND CRAWLER SUV - STANDARD 5.0 8.0 AS8 Z 13.90 L/100 km 10.40 L/100km 12.32 liters per 100 km 354 42 KIO STATION WAGON - MID-SIZE 2.0 4.0 A6 X not-available 0.82 L/100km 9.74 liters per 100 km 200 43 LAND CRAWLER SUV - SMALL 2.0 4.0 AS9 Z 9.71 km/L 0.81 L/100km 9.31 liters per 100 km 222 44 LECUS MID-SIZE 3.5 6.0 AV8 Z 12.10 liters per 100 km 13.70 km per L 10.06 km per L 177 45 BMV SUV - STANDARD 4.4 8.0 AS8 Z 16.60 liters per 100 km 6.41 km/L 6.19 km/L 364 46 TOYOTI COMPACT 1.8 4.0 AV X 22.19 MPG (AS) 34.87 mpg Imp. 9.47 L/100km 174 47 GONDA MID-SIZE 2.0 4.0 M6 X 12.50 L/100 km zero 9.59 km/L 192 48 TOLVO COMPACT 3.0 6.0 AS6 X 5.88 km/L 20.03 mpg Imp. 1.57 L/100km 283 49 FOLKSWA COMPACT 3.6 6.0 unestablished X 15.78 mpg Imp. 14.50 L/100km 1.64 L/100km 289 50 RYUNDAI SUV - SMALL 2.4 4.0 AS8 X 17.02 mpg Imp. 0.99 L/100km 13.59 liters per 100 km 226 51 DOGE MID-SIZE 6.2 8.0 M6 Z 20.60 L/100 km 1.11 L/100km 16.32 liters per 100 km 393 52 CHEVO SUBCOMPACT 1.4 4.0 AV X 10.31 km per L 7.30 L/100 km 8.62 liters per 100 km 162 53 FIAR STATION WAGON - SMALL 1.4 4.0 M6 X 0.98 L/100km 7.20 liters per 100 km 8.63 L/100 km 189 54 CHEVO STATION WAGON - SMALL 1.8 not-recorded M5 X 32.10 mpg Imp. 0.84 L/100km not-available 187 55 TOYOTI SUV - STANDARD 3.5 6.0 AS8 X 16.56 MPG (AS) 8.10 liters per 100 km 20.53 MPG (AS) 234 56 ASURA COMPACT unknown 4.0 AM8 missing 8.50 liters per 100 km 10.41 km per L 36.73 mpg Imp. 190 57 BMV SUBCOMPACT 3.0 6.0 AM7 Z 15.60 L/100 km 10.40 liters per 100 km 17.74 MPG (AS) 320 58 TOYOTI MID-SIZE 1.8 4.0 AV X 7.20 L/100km 51.36 mpg Imp. 15.54 km/L 126 59 TOLVO STATION WAGON - MID-SIZE 2.0 4.0 AS8 Z 18.09 MPG (AS) 0.84 L/100km 21.52 MPG (AS) 223 60 DOGE MID-SIZE 5.7 8.0 M6 X 7.30 km/L 9.40 liters per 100 km zero 342 61 CADILUXE FULL-SIZE na unspecified AS6 Z 6.06 km/L 18.09 MPG (AS) 6.70 km per L 337 62 DOGE MID-SIZE 2.4 4.0 M6 X 8.62 km per L 8.00 L/100 km 1.00 L/100km 209 63 GONDA STATION WAGON - SMALL 1.8 4.0 AV7 X 23.81 km/L 14.49 km/L 18.47 km per L 139 64 LAMBOGI TWO-SEATER 5.2 10.0 AM7 Z 11.92 mpg Imp. 5.92 km/L 4.84 km/L 371 65 MATSUDA COMPACT 2.0 4.0 M6 X 10.00 liters per 100 km 14.49 km/L 11.62 km/L 173 66 CADILUXE SUV - STANDARD 3.6 6.0 AS6 X 19.00 L/100km 11.10 liters per 100 km 1.54 L/100km 304 67 FOLKSWA COMPACT 1.8 4.0 M5 X 9.80 L/100 km zero 0.87 L/100km 187 68 BMV COMPACT 3.0 6.0 AM7 Z 14.70 liters per 100 km 29.73 mpg Imp. 19.03 MPG (AS) 295 69 BMV SUBCOMPACT 3.0 6.0 M6 Z 10.31 km per L 0.77 L/100km 8.80 liters per 100 km 267 70 DOGE MID-SIZE 6.4 8.0 M6 Z 16.70 L/100 km 7.52 km per L 6.59 km per L 356 71 LECUS COMPACT 5.0 8.0 AS8 Z 12.40 L/100 km 27.16 mpg Imp. 24.56 mpg Imp. 314 72 DOGE SUV - SMALL 3.6 6.0 A6 E 1.03 L/100km 9.08 km per L 262 73 FOLD SUBCOMPACT 2.3 4.0 AS10 X 27.35 MPG (AS) 12.66 km/L 8.29 L/100km 230 74 BMV COMPACT not-recorded 4.0 M6 Z 11.50 L/100 km 9.00 L/100km 1.04 L/100km 215 75 TOYOTI MID-SIZE	

Percobaan kedua : Filter Replace



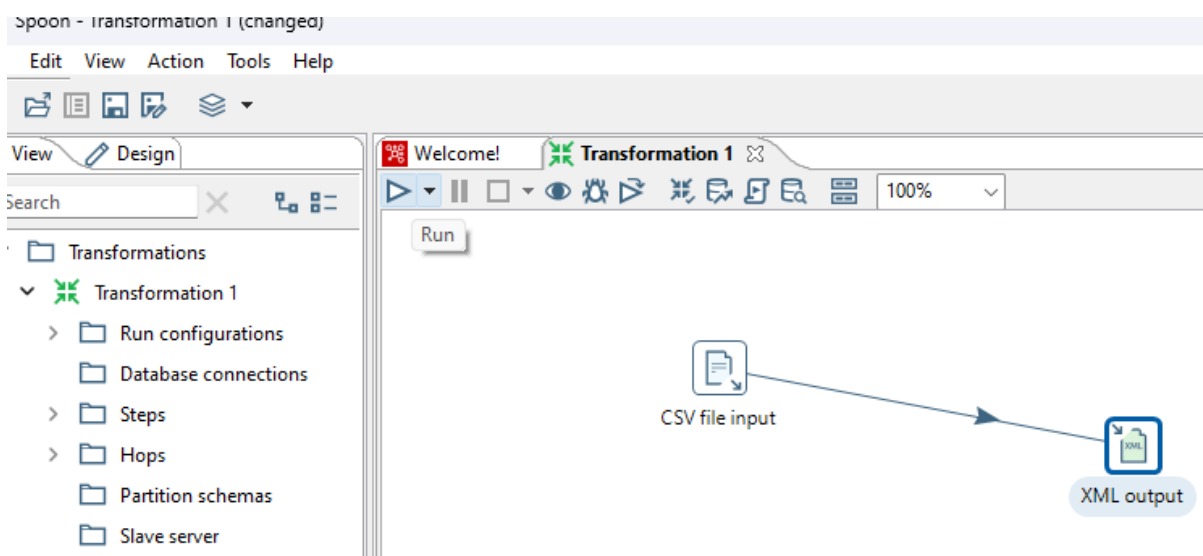
Replace in string

Step name: Replace in string

Fields string

#	In stream field	Out stream field	use RegEx	Search	Replace with	Set empty string?	Replace with field	Whole Word	Case sensitive	Is Unicode
2	Field_001		N			N		N	N	N
3	Field_002		N			N		N	N	N
4	Field_003		N			N		N	N	N
5	Field_004		N			N		N	N	N
6	Field_005		N			N		N	N	N
7	Field_006		N	X	Y	N		N	N	N
8	Field_007		N			N		N	N	N
9	Field_008		N			N		N	N	N
10	Field_009		N			N		N	N	N
11	Field_010		N			N		N	N	N

Help OK Get fields Cancel



Run Options

Run configuration: Pentaho local

Options

☒ Clear log before running Log level: Basic

☐ Enable safe mode

☒ Gather performance metrics


Parameters Variables


Parameter	Default value	Value	Description


☒ Always show dialog on run


Help Run Cancel


Execution Results


 Logging

 Execution History

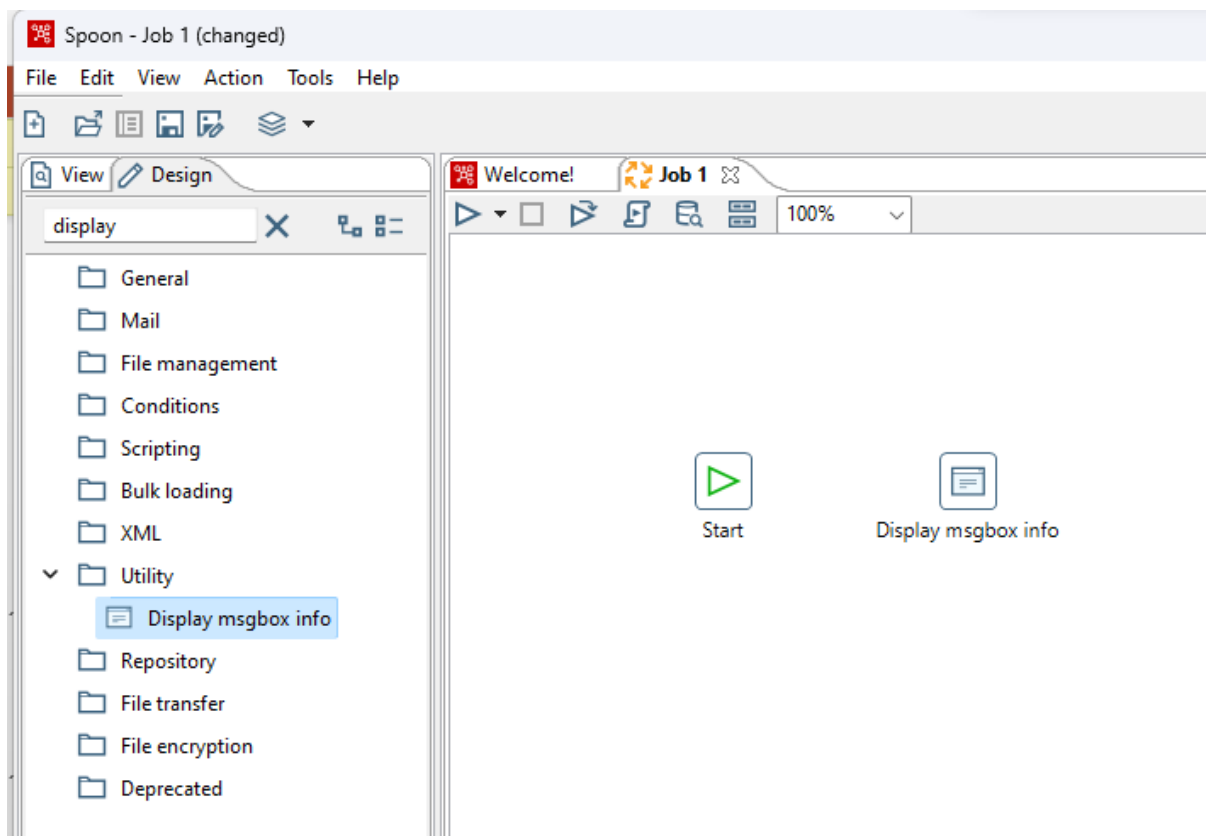
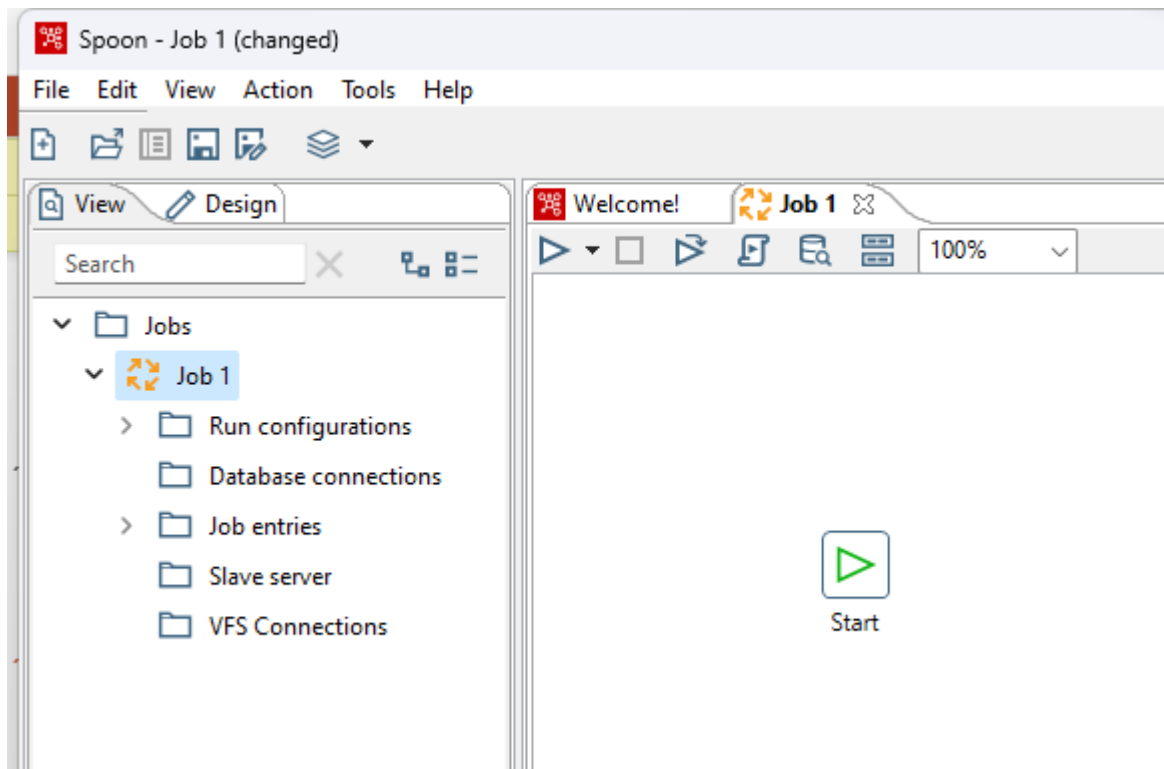
 Step Metrics

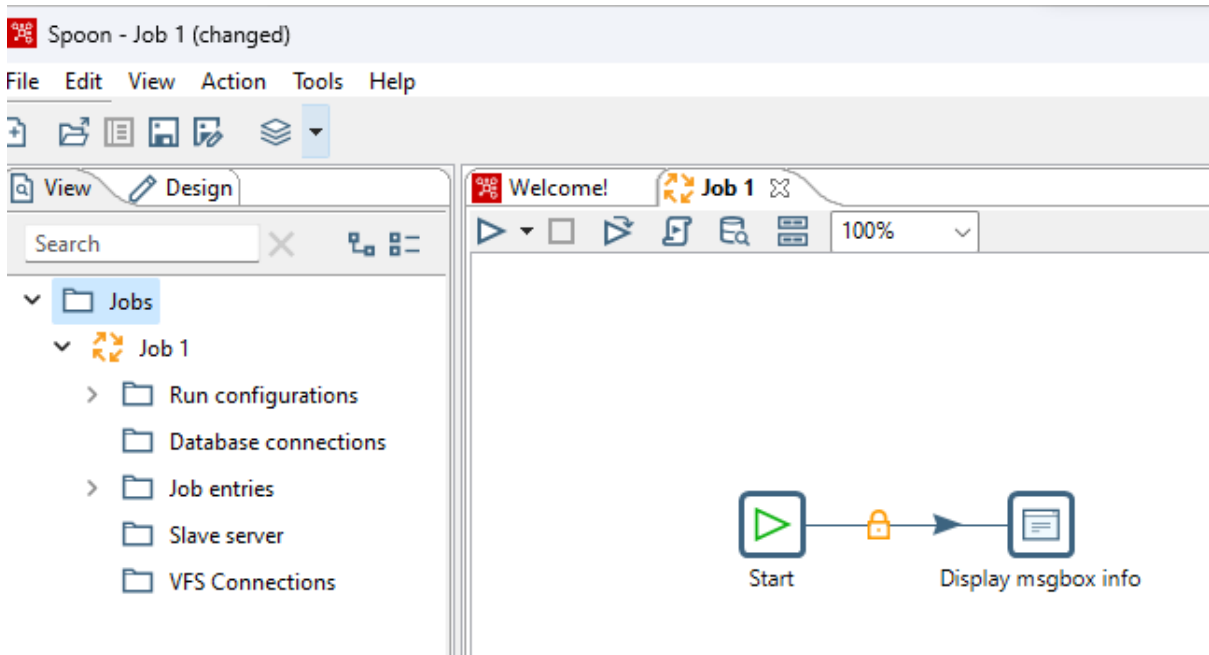
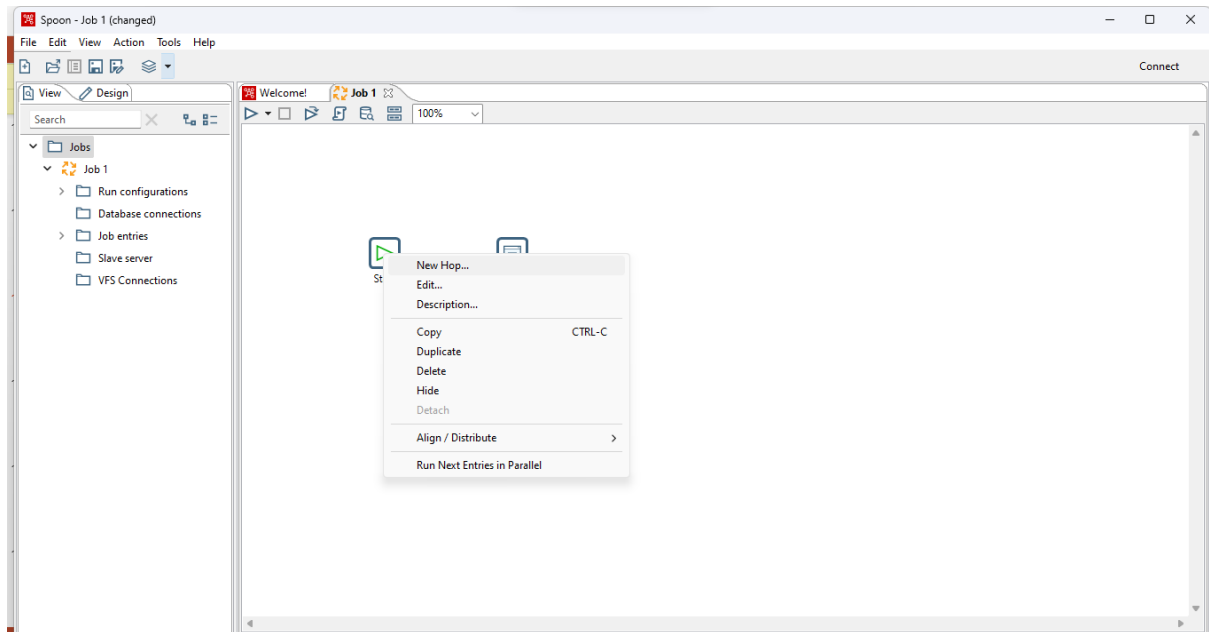
 Performance Graph

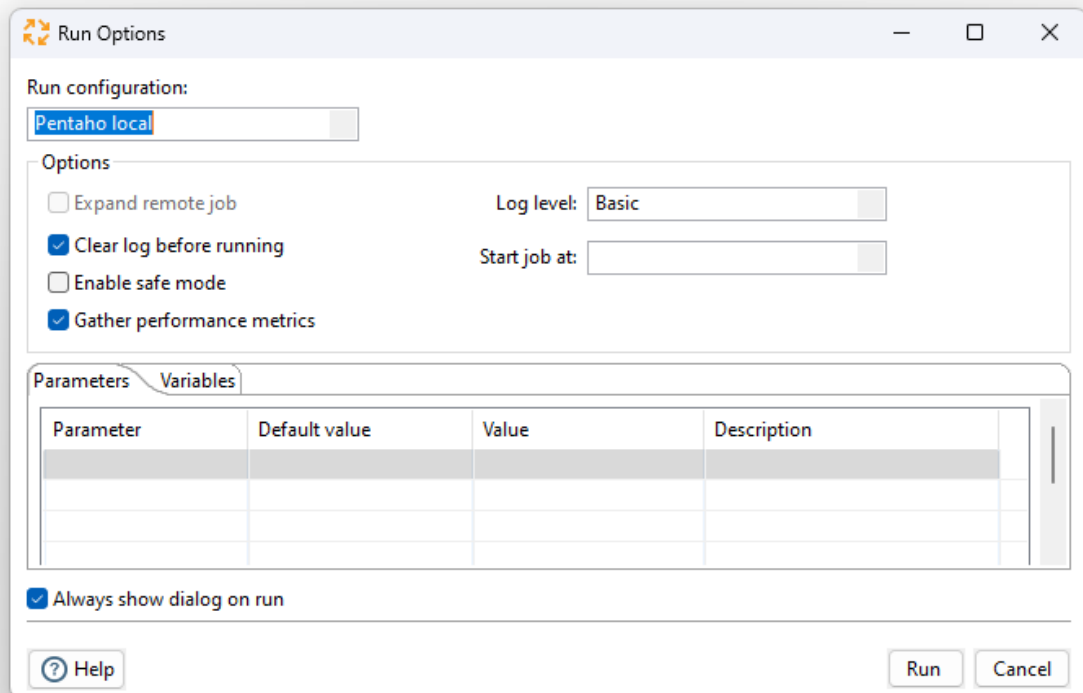
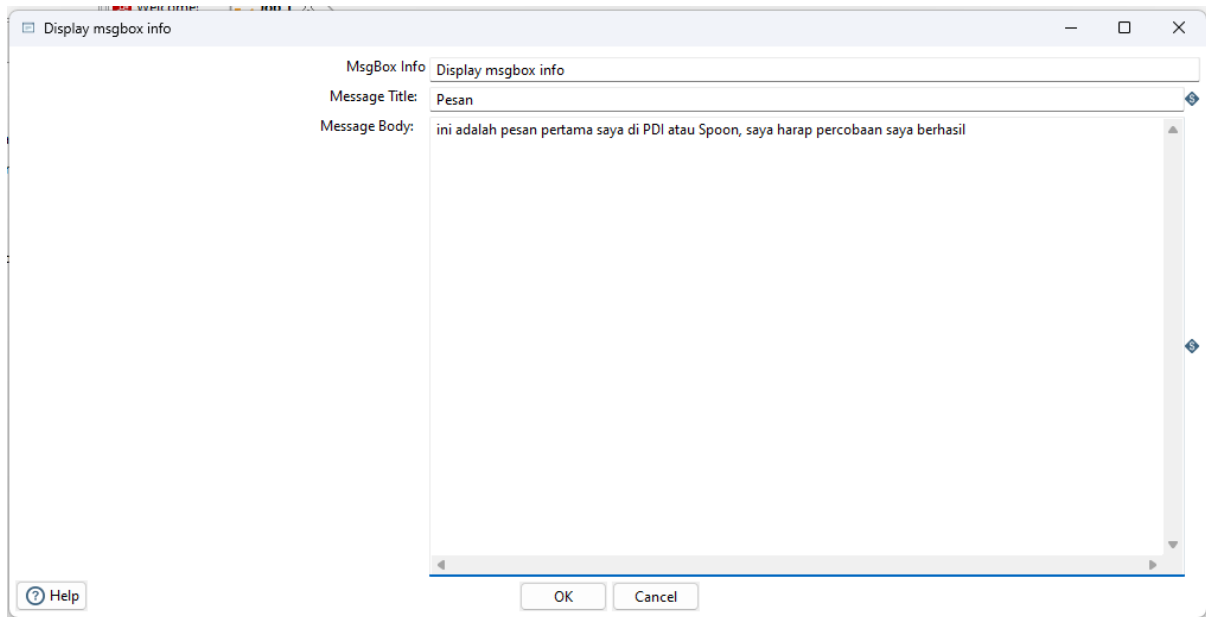
 Metrics

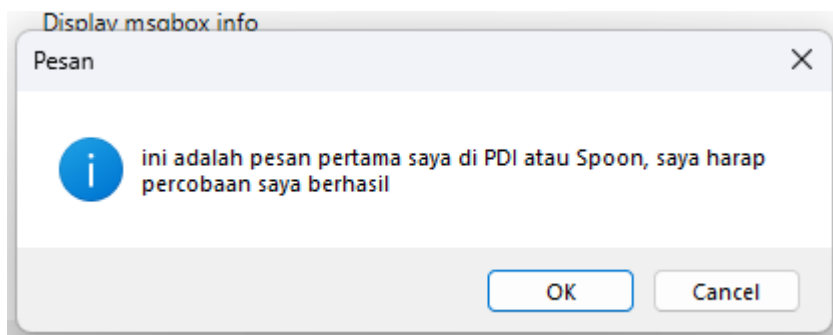
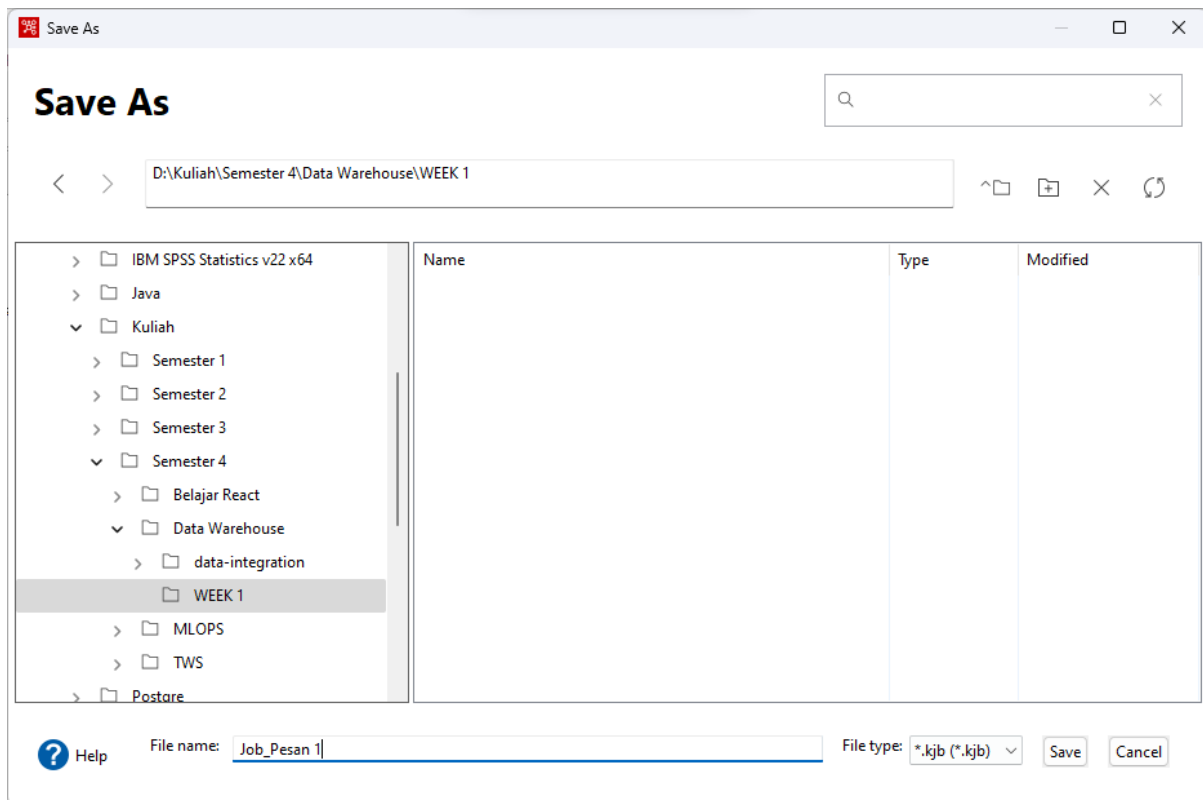
 Preview data

Percobaan Ketiga : Pesan dan membuat Variabel







PERCOBAAN 4 : MENAMBAH VARIABEL