

Steps 

Use a code template to add a step




Data

Profile

Visualizations

	age Integer	job String	marital String	education String	default String	balance Integer	housing String
1	59	admin.	married	secondary	no	2343	yes
2	56	admin.	married	secondary	no	45	no
3	41	technician	married	secondary	no	1270	yes
4	55	services	married	secondary	no	2476	yes
5	54	admin.	married	tertiary	no	184	no
6	42	management	single	tertiary	no	0	yes
7	56	management	married	tertiary	no	830	yes
8	60	retired	divorced	secondary	no	545	yes
9	37	technician	married	secondary	no	1	yes
10	28	services	single	secondary	no	5090	yes
11	38	admin.	single	secondary	no	100	yes
12	30	blue-collar	married	secondary	no	309	yes
13	29	management	married	tertiary	no	199	yes
14	46	blue-collar	single	tertiary	no	460	yes

SOURCE FILE: bank.csv  SAMPLE SIZE: First 10000 rowsInformation ✕

Details

Help

Edit



LOCATION

Clustering Analysis for Banking

DATA REFINERY FLOW NAME

bank.csv_flow

Enter a description of the Data Refinery flow

STEPS

1

DATA REFINERY FLOW OUTPUT

Location

Banking Analysis Clustering model

[Promote to deployment space](#)

Overview

Activities

Input

Column	↑	Type
age		"integer"
balance		"integer"
campaign		"integer"
contact		"string"
day		"integer"
default		"string"
deposit		"string"
duration		"integer"
education		"string"

Output

Column	↑	Type
\$XF-deposit		"string"
\$XFC-deposit		"double"
Partition		"string"
age		"integer"
balance		"integer"
campaign		"integer"
contact		"string"
day		"integer"
default		"string"



Banking Analysis Clustering model



Last modified at Dec 28, 2021 3:37 PM

Description



No description provided.

Created

Dec 21, 2021 9:31 PM

Type

spss-modeler_18.2

Model ID

4b20a9d2-5004-4509-a0c6-61...

Software specification

[spss-modeler_18.2](#)

Hybrid pipeline software specifications

Tags



Add tags to make assets easier to find.

Banking Analysis Clustering model

Promote to deployment space

OverviewActivities

Input	
duration	"integer"
education	"string"
housing	"string"
job	"string"
loan	"string"
marital	"string"
month	"string"
pdays	"integer"
poutcome	"string"
previous	"integer"

Output	
duration	"integer"
education	"string"
housing	"string"
job	"string"
loan	"string"
marital	"string"
month	"string"
pdays	"integer"
poutcome	"string"
previous	"integer"



Banking Analysis Clustering model

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Software specification
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Hybrid pipeline software specifications

Tags
Add tags to make assets easier to find.

Find palette nodes

Run ▶



- Import
- Record Operations
- Field Operations
- Modeling
- Text Analytics
- Graphs
- Outputs
- Export



bank.csv



17 Fields



Type



Partition



deposit



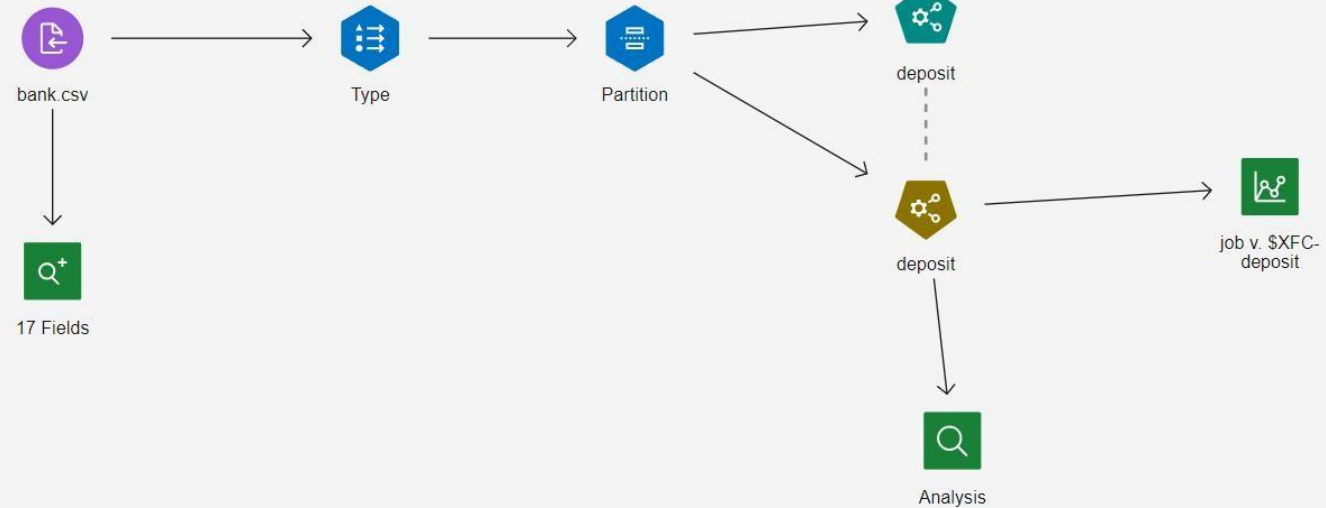
deposit











Analysis



job v. \$XFC-deposit



[Read Values](#)[Clear All Values](#)

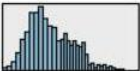
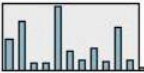
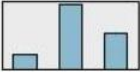




<input type="checkbox"/>	Field	Measure		Role		Value mode	Values	Check
<input type="checkbox"/>	# age	Continuous	▼	Input	▼	Instantiated ▼	18, 95	None ▼ 
<input type="checkbox"/>	abc job	Nominal	▼	Input	▼	Instantiated ▼	admin., blue-collar,...	None ▼ 
<input type="checkbox"/>	abc marital	Nominal	▼	Input	▼	Instantiated ▼	divorced, married, ...	None ▼ 
<input type="checkbox"/>	abc education	Nominal	▼	Input	▼	Instantiated ▼	primary, secondary...	None ▼ 
<input type="checkbox"/>	abc default	Flag	▼	None	▼	Instantiated ▼	no, yes	None ▼ 
<input type="checkbox"/>	# balance	Continuous	▼	Input	▼	Instantiated ▼	-6847, 81204	None ▼ 
<input type="checkbox"/>	abc housing	Flag	▼	Input	▼	Instantiated ▼	no, yes	None ▼ 
<input type="checkbox"/>	abc loan	Flag	▼	Input	▼	Instantiated ▼	no, yes	None ▼ 

[Format](#)

Find in column Field

<input type="checkbox"/>	Field	Measure		Role		Value mode	Values	Check	
<input type="checkbox"/>	# day	Continuous	▼	Input	▼	Instantiated ▼	1, 31	None ▼	
<input type="checkbox"/>	abc month	Nominal	▼	Input	▼	Instantiated ▼	apr, aug, dec, feb, ...	None ▼	
<input type="checkbox"/>	# duration	Continuous	▼	Input	▼	Instantiated ▼	2, 3881	None ▼	
<input type="checkbox"/>	# campaign	Continuous	▼	Input	▼	Instantiated ▼	1, 63	None ▼	
<input type="checkbox"/>	# pdays	Continuous	▼	Input	▼	Instantiated ▼	-1, 854	None ▼	
<input type="checkbox"/>	# previous	Continuous	▼	Input	▼	Instantiated ▼	0, 58	None ▼	
<input type="checkbox"/>	abc poutcome	Nominal	▼	None	▼	Instantiated ▼	failure, other, succ...	None ▼	
<input type="checkbox"/>	abc deposit	Flag	▼	Target	▼	Instantiated ▼	no, yes	None ▼	

View Output: 17 Fields

	Field	Sample Graph	Measurement	Min	Max	Mean	Std. Dev	Skewness	Unique	Valid
1	age		Continuous	18	95	41.232	11.913	0.863	--	11162
2	job		Categorical	--	--	--	--	--	12	11162
3	marital		Categorical	--	--	--	--	--	3	11162
4	education		Categorical	--	--	--	--	--	4	11162
5	default		Categorical	--	--	--	--	--	2	11162
6	balance		Continuous	-6847	81204	1528.539	3225.413	8.225	--	11162
7	housing		Categorical	--	--	--	--	--	2	11162

View Output: 17 Fields



7	housing		Categorical	--	--	--	--	--	2	11162	▲
8	loan		Categorical	--	--	--	--	--	2	11162	
9	contact		Categorical	--	--	--	--	--	3	11162	
10	day		Continuous	1	31	15.658	8.421	0.111	--	11162	
11	month		Categorical	--	--	--	--	--	12	11162	
12	duration		Continuous	2	3881	371.994	347.128	2.144	--	11162	
13	campaign		Continuous	1	63	2.508	2.722	5.546	--	11162	
14	pdays		Continuous	-1	854	51.330	108.758	2.450	--	11162	▼

View Output: 17 Fields

16	poutcome		Categorical	--	--	--	--	--	4	11162
17	deposit		Categorical	--	--	--	--	--	2	11162

	Field	Measurement	Outliers	Extremes	Action	Impute Missing	Method	% Complete	Valid Records	Null Value	Empty String
1	age	Continuous	132	0	None	Never	Fixed	100.000	11162	0	0
2	job	Categorical	--	--	--	Never	Fixed	100.000	11162	0	0
3	marital	Categorical	--	--	--	Never	Fixed	100.000	11162	0	0
4	education	Categorical	--	--	--	Never	Fixed	100.000	11162	0	0
5	default	Categorical	--	--	--	Never	Fixed	100.000	11162	0	0
6	balance	Continuous	99	74	None	Never	Fixed	100.000	11162	0	0

View Output: 17 Fields

7	housing	Categorical	--	--	--	Never	Fixed	100.000	11162	0	0
8	loan	Categorical	--	--	--	Never	Fixed	100.000	11162	0	0
9	contact	Categorical	--	--	--	Never	Fixed	100.000	11162	0	0
10	day	Continuous	0	0	None	Never	Fixed	100.000	11162	0	0
11	month	Categorical	--	--	--	Never	Fixed	100.000	11162	0	0
12	duration	Continuous	179	22	None	Never	Fixed	100.000	11162	0	0
13	campaign	Continuous	136	74	None	Never	Fixed	100.000	11162	0	0
14	pdays	Continuous	149	27	None	Never	Fixed	100.000	11162	0	0
15	previous	Continuous	163	57	None	Never	Fixed	100.000	11162	0	0
16	poutcome	Categorical	--	--	--	Never	Fixed	100.000	11162	0	0
17	deposit	Categorical	--	--	--	Never	Fixed	100.000	11162	0	0

View Output: Analysis of [deposit]

⊖ Results for output field deposit

⊖ Comparing \$XF-deposit with deposit

'Partition'	1_Training		2_Testing	
Correct	6,918	88.81%	2,857	84.73%
Wrong	872	11.19%	515	15.27%
Total	7,790		3,372	





View Model: deposit

Auto Classifier ⓘ

Models

Auto Classifier - Models ⓘ

TARGET : DEPOSIT

USE	MODEL NAME	ESTIMATOR ▼	BUILD TIME (MINS)	NO. FIELDS USED	ACCURACY	ACCUMULATED ACCURACY	AREA UNDER CURVE	ACCUMULATED AUC	RECALL	PRECISION	ACTI
<input checked="" type="checkbox"/>	Random Trees 1	Random Trees	1	14	83.096	83.096	0.893	0.893	0.860	0.800	
<input checked="" type="checkbox"/>	Logistic regression 1	Nominal Regression	< 1	14	80.042	80.042	0.885	0.885	0.765	0.805	
<input checked="" type="checkbox"/>	C5 1	C5.0	< 1	13	85.024	85.024	0.897	0.897	0.878	0.819	
<input checked="" type="checkbox"/>	Bayesian Network 1	BayesNet	< 1	14	78.529	78.529	0.835	0.835	0.708	0.819	

View Model: deposit



Auto Classifier ⓘ

Models

Auto Classifier - Models ⓘ

TARGET : DEPOSIT

USE	MODEL NAME	ESTIMATOR ▼	BUILD TIME (MINS)	NO. FIELDS USED	ACCURACY	ACCUMULATED ACCURACY	AREA UNDER CURVE	ACCUMULATED AUC	RECALL	PRECISION
✓	XGBoost Tree 1	XGBoost Binary Classification Model	1	14	83.482	83.482	0.906	0.906	0.846	0.813
✓	Random Trees 1	Random Trees	1	14	83.096	83.096	0.893	0.893	0.860	0.800
✓	Logistic regression 1	Nominal Regression	< 1	14	80.042	80.042	0.885	0.885	0.765	0.805
✓	C5 1	C5.0	< 1	13	85.024	85.024	0.897	0.897	0.878	0.819

