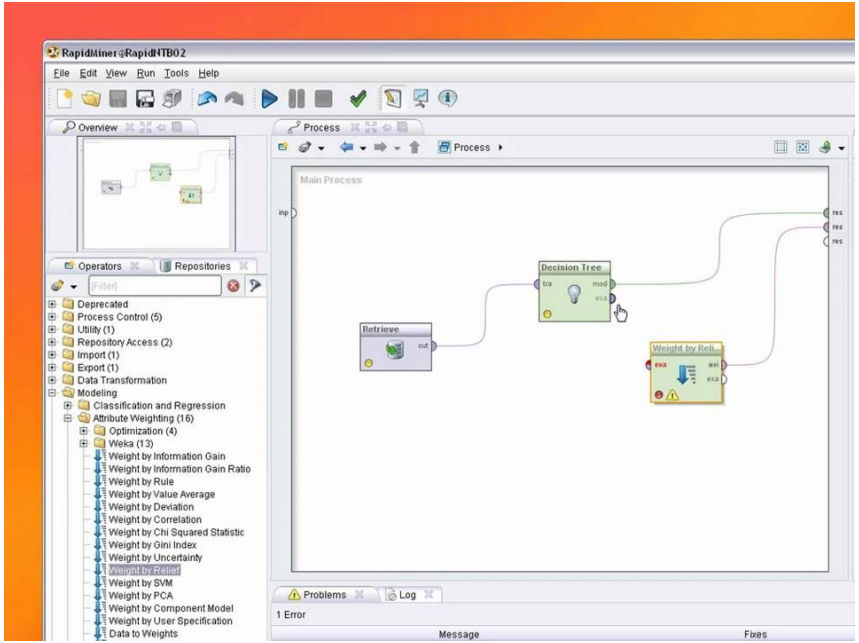
Adatbányászati módszerek

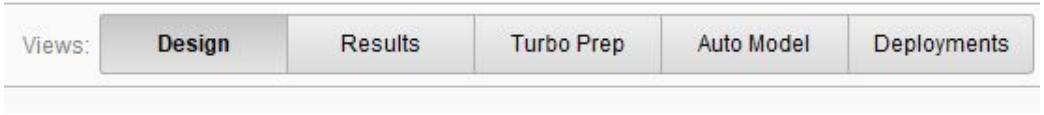
Kovács László, ME

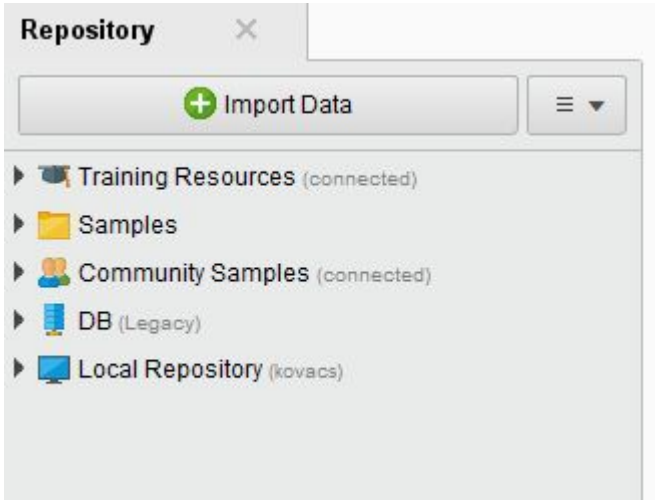
rapidMiner adatelemző rendszer

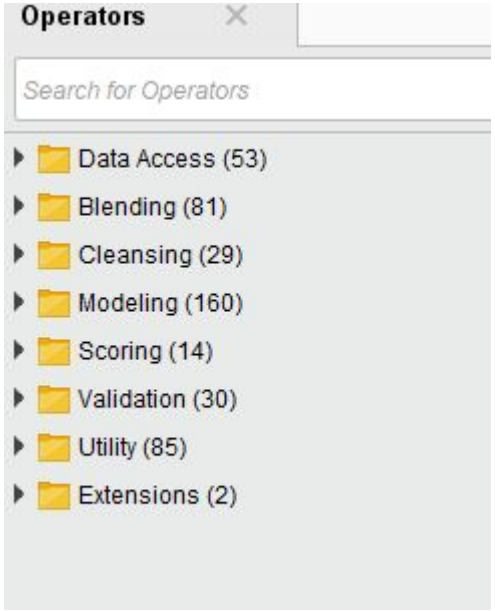
- Ingyenes adatelemző keretrendszer
- Kódírás nélküli programozás
- Drag and drop alapú fejlesztés
- Adatfolyam összeállítás
- Műveletek paraméterezése
- Heterogén adatforrások támogatása
- Adatok transzformációja, szűrése
- Adatelemzések támogatása
- Eredmények vizualizációja
- Adatok export / import

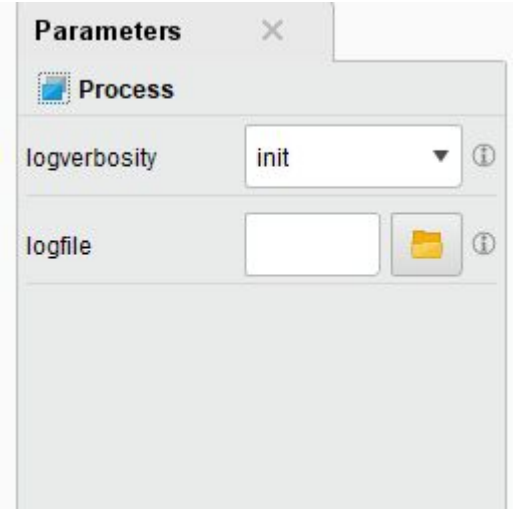


rapidMiner: funkció modulok

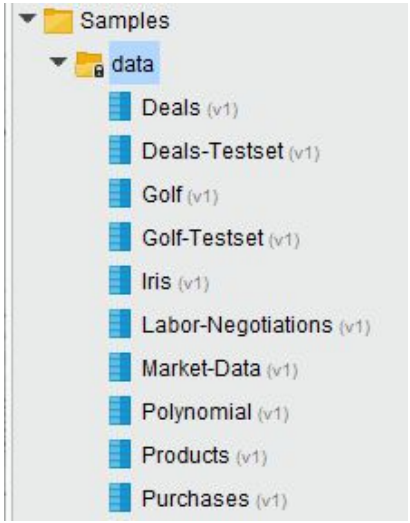


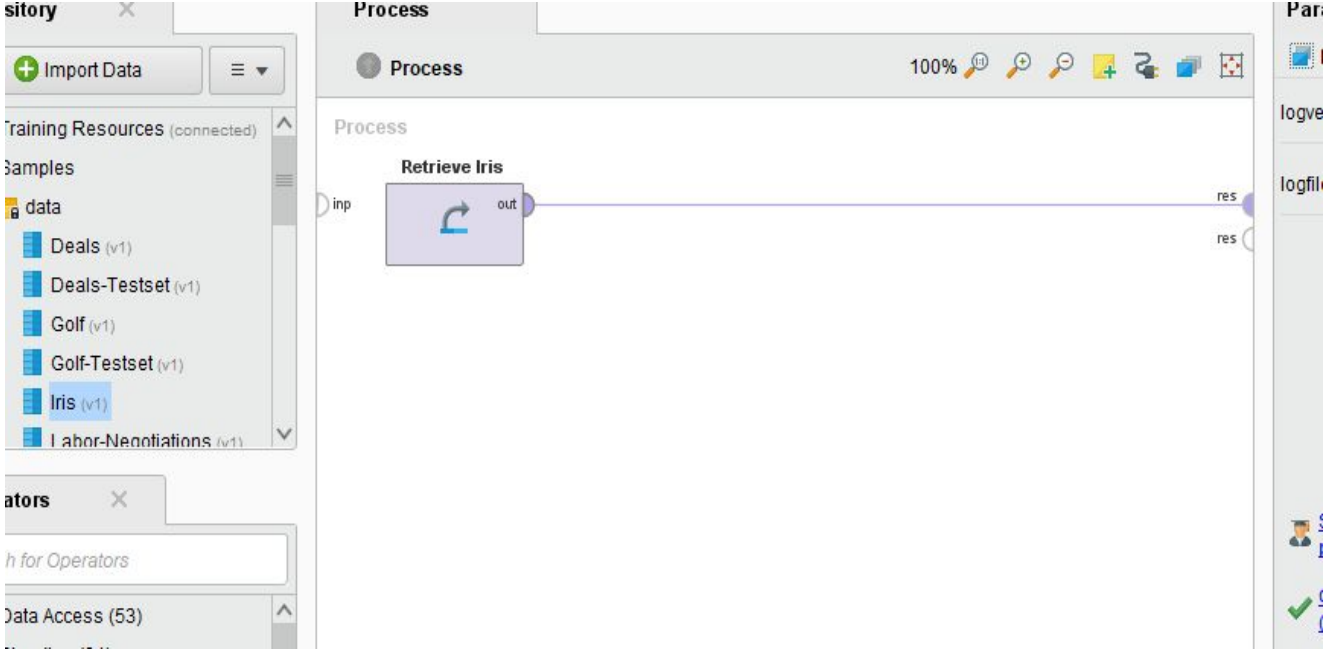




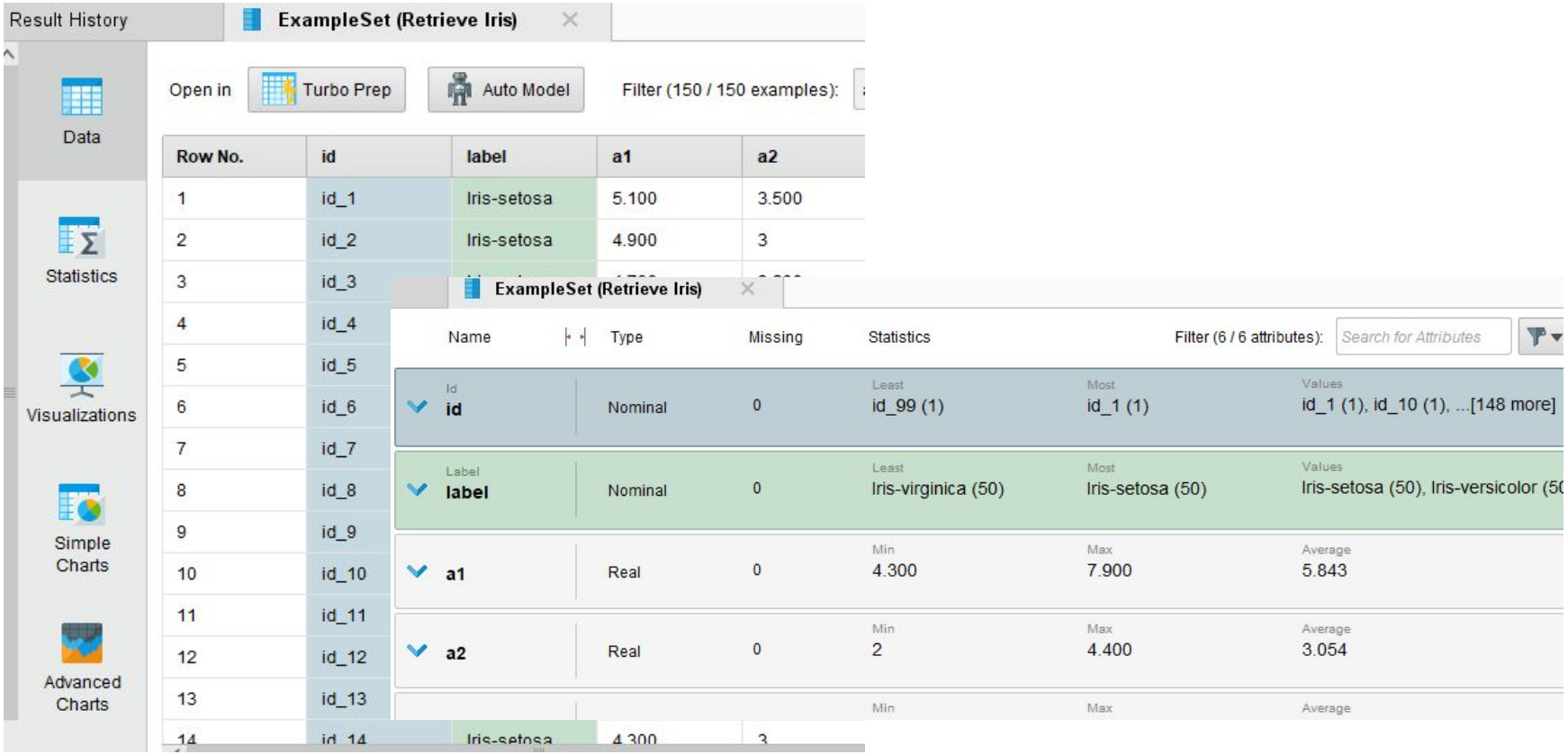


rapidMiner: adatforrások

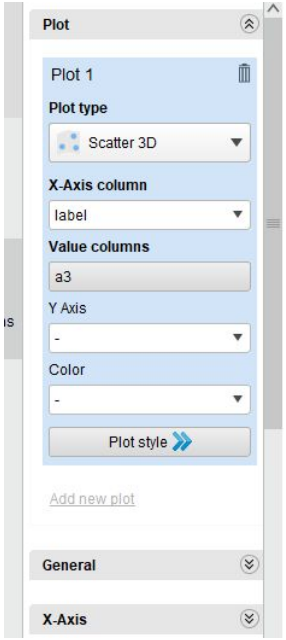


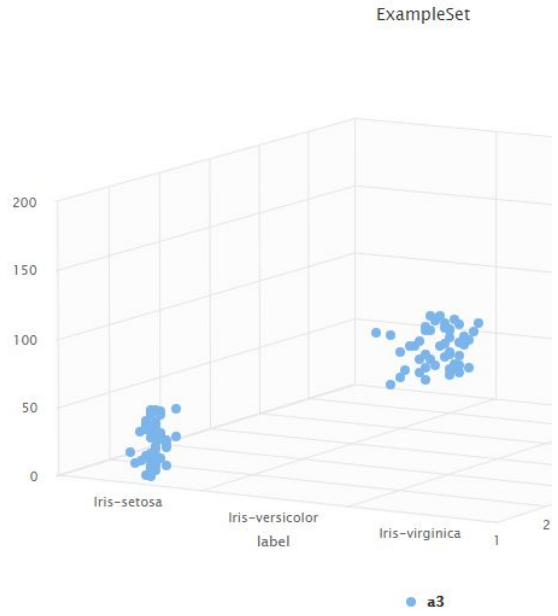


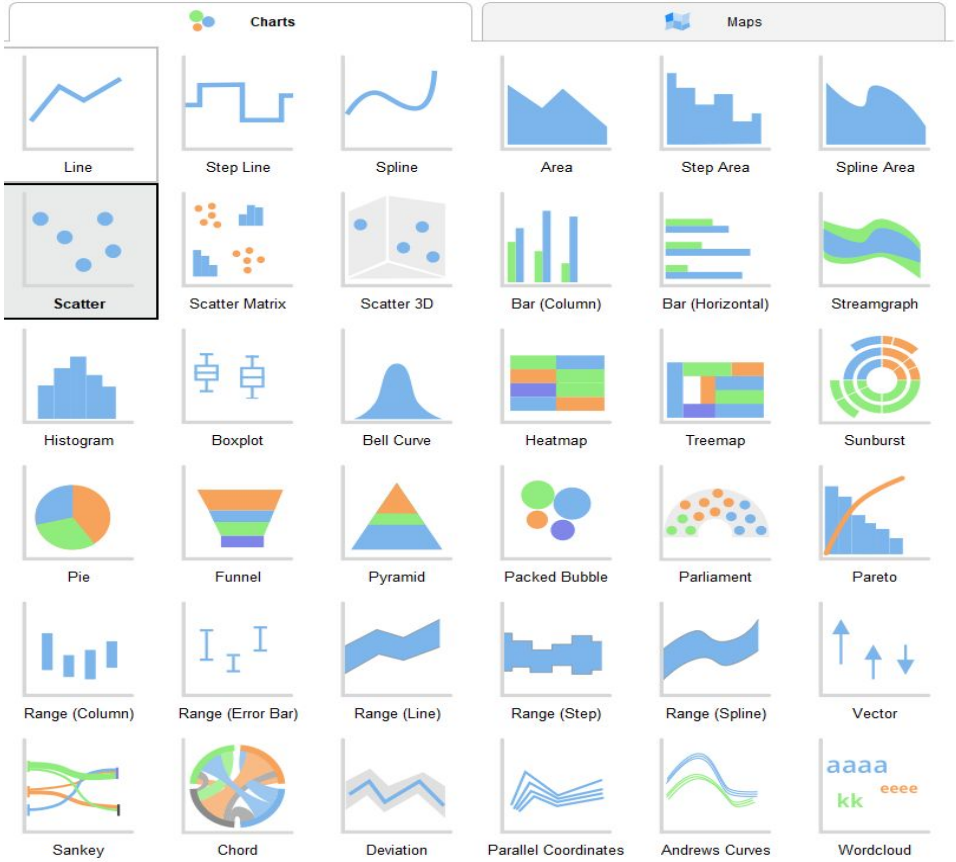
rapidMiner: adatforrások elemzése



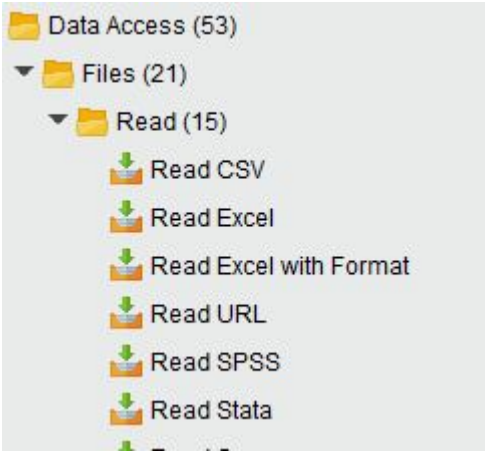
rapidMiner: adatforrások elemzése

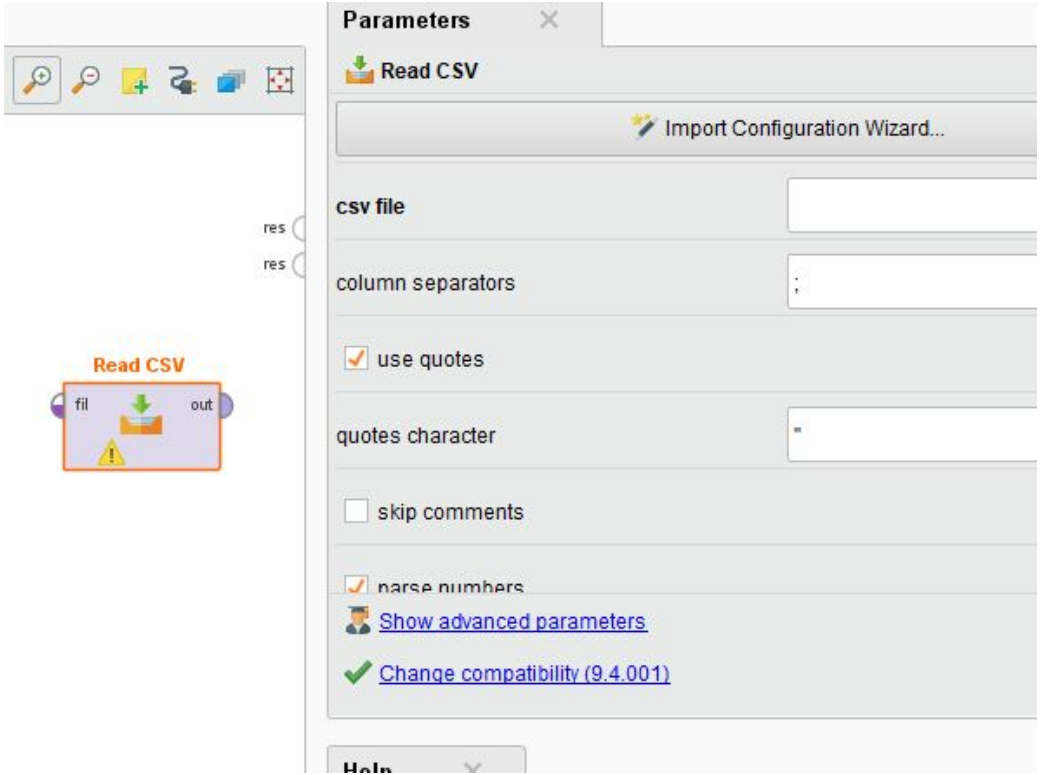




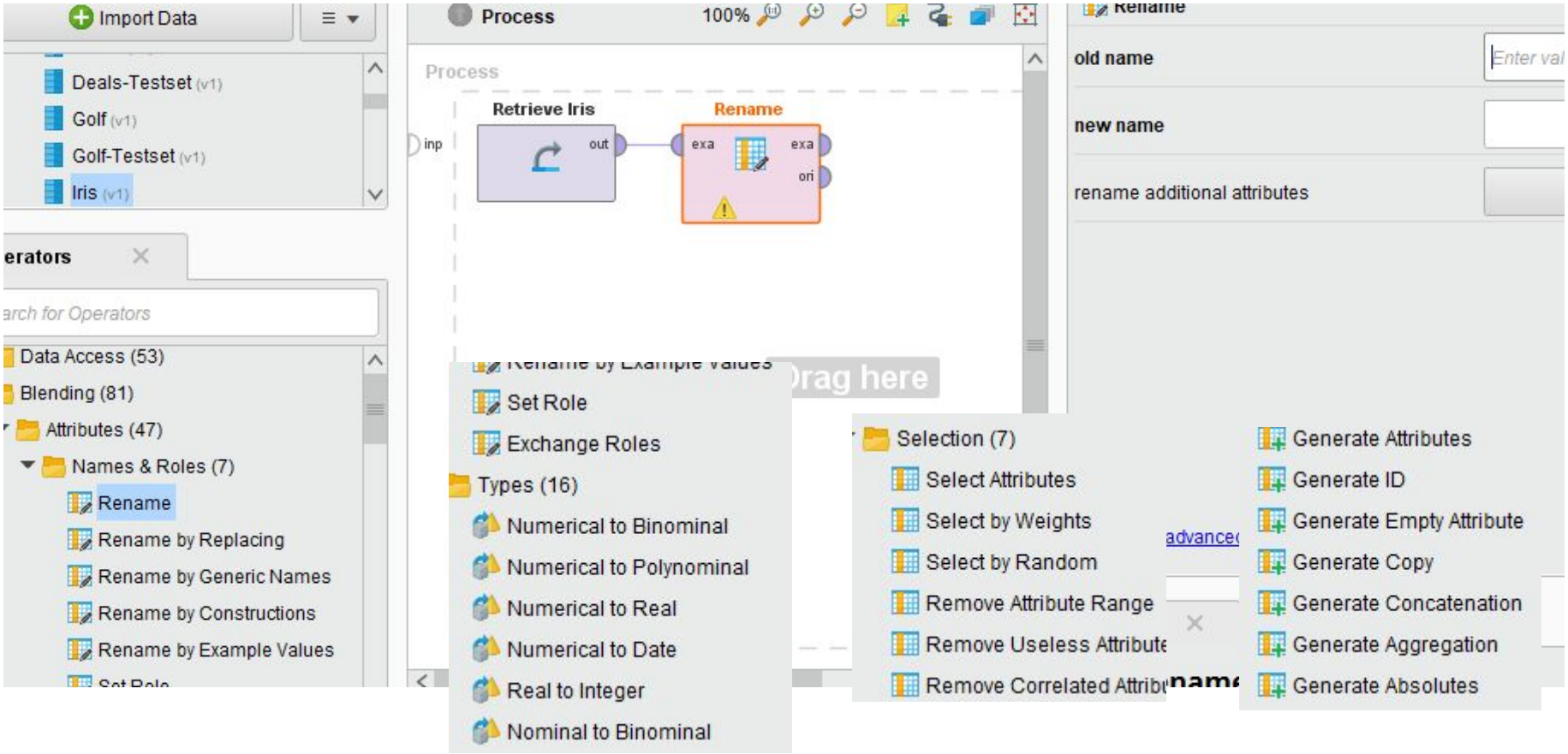


rapidMiner: külső adatforrások olvasása

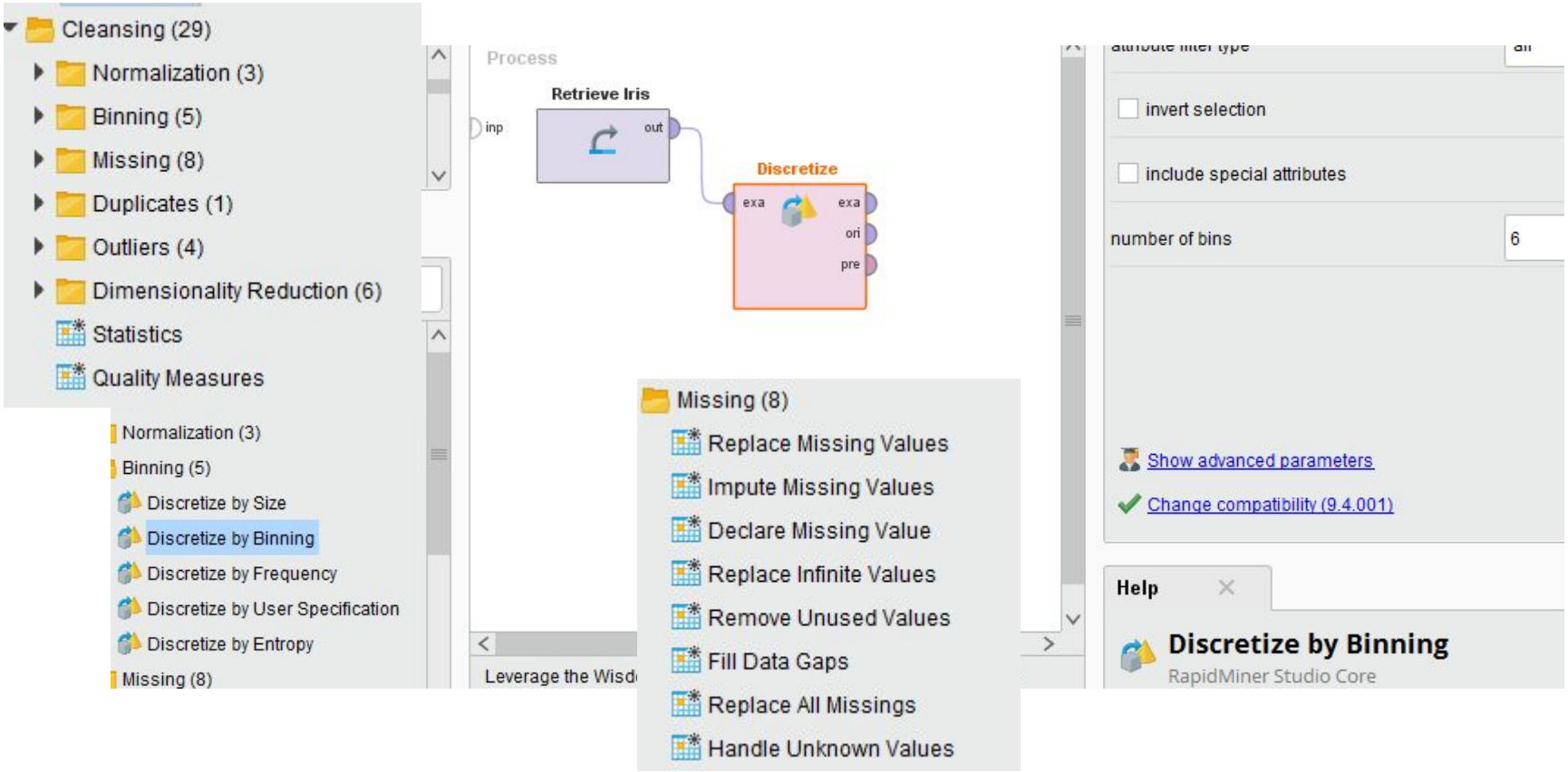




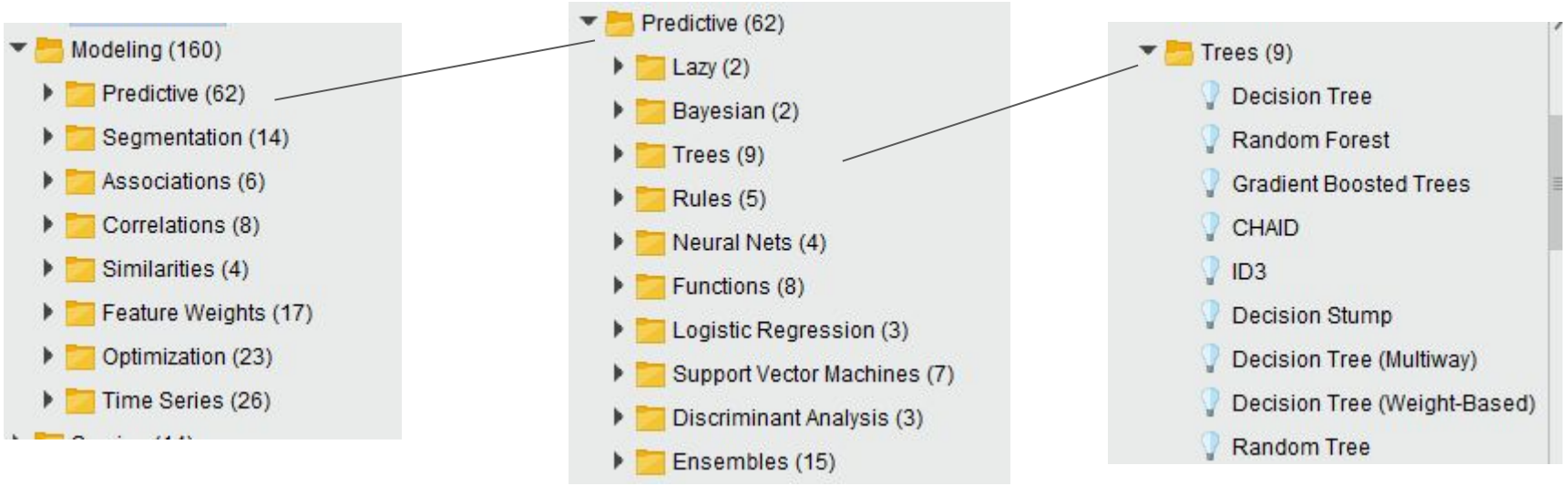
rapidMiner: adatszerkezet előfeldolgozás



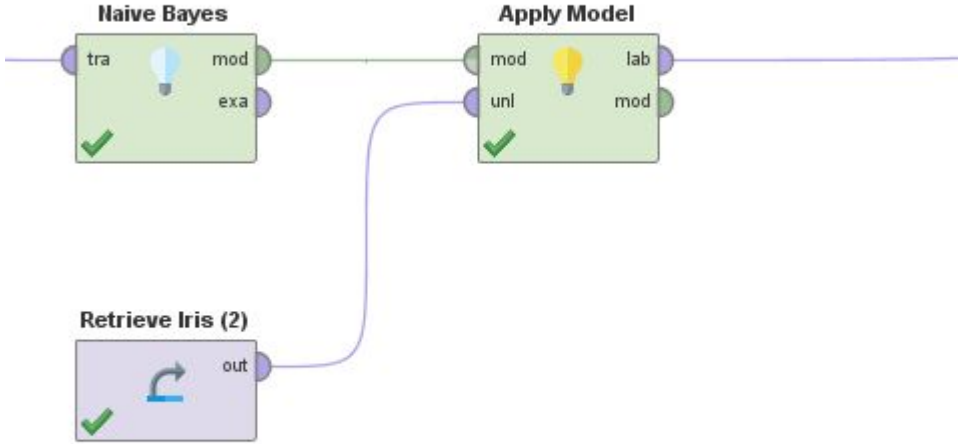
rapidMiner: adattisztítási előfeldolgozás



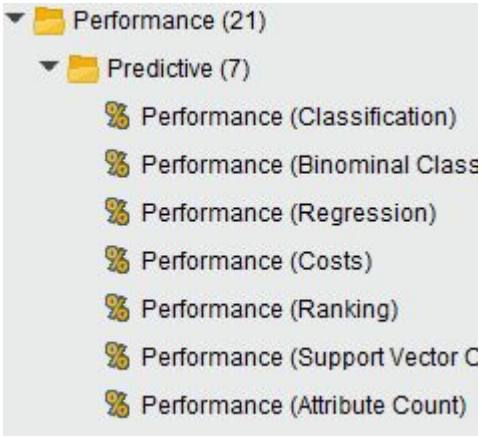
rapidMiner: elemzési módszerek

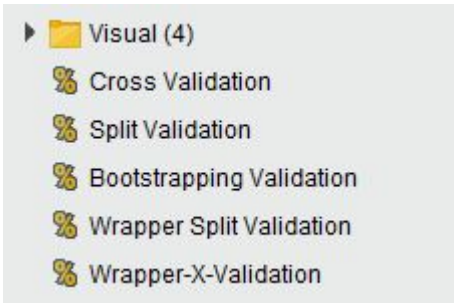


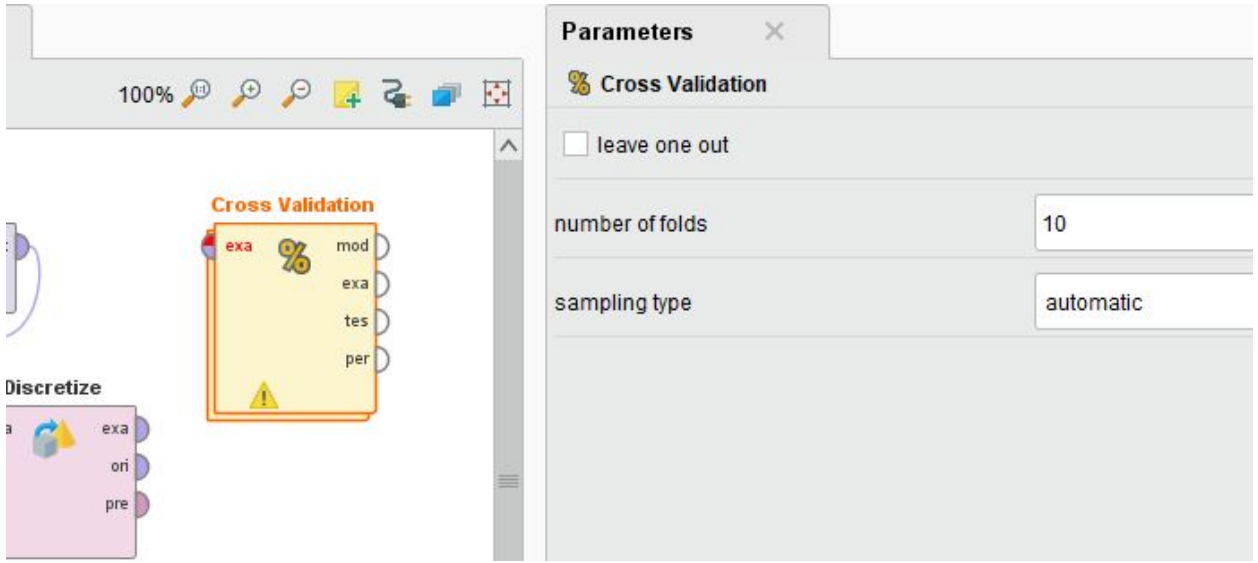
rapidMiner: modell alkalmazása



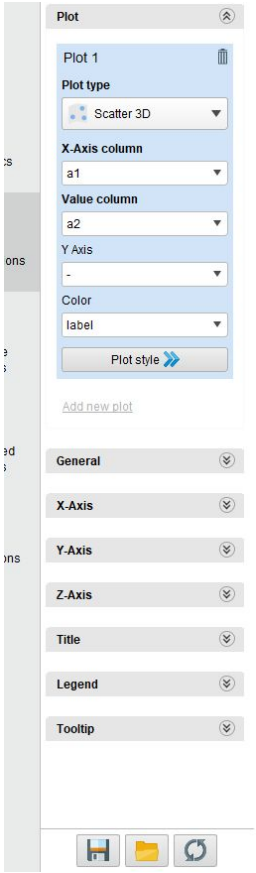
rapidMiner: módszerek értékelése

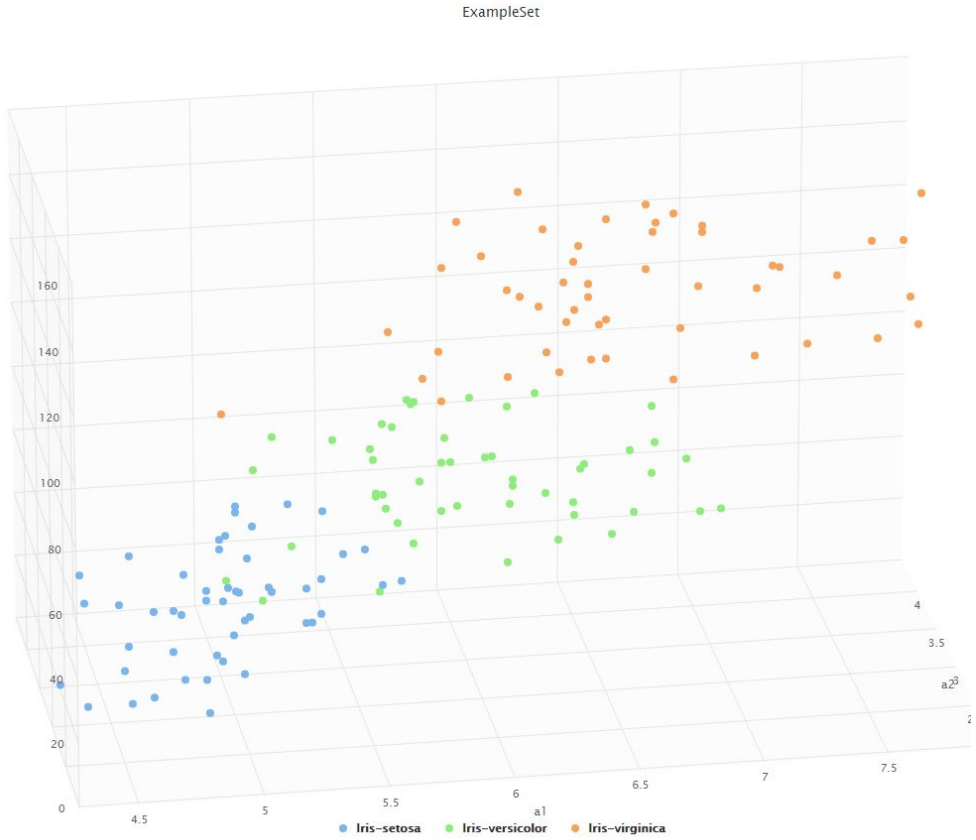




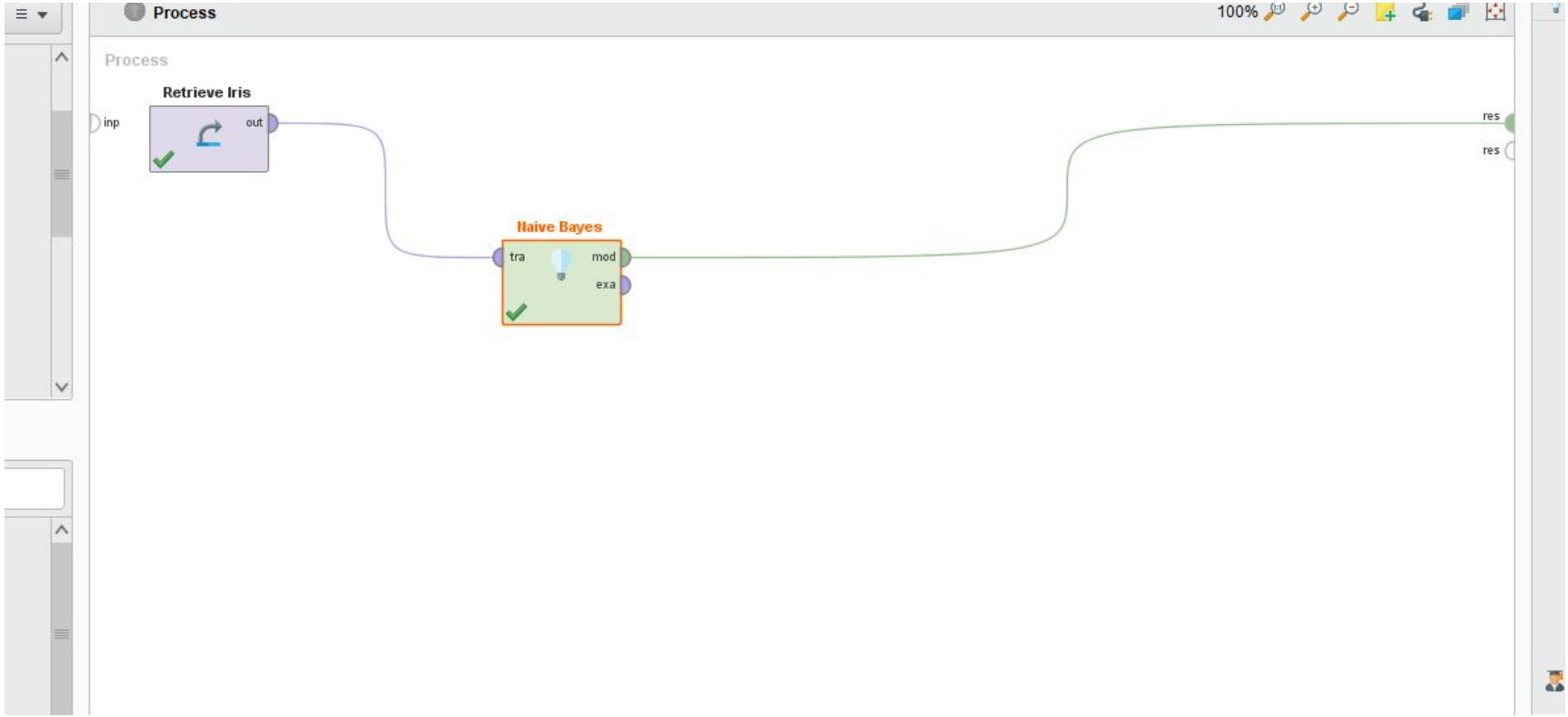


rapidMiner: Iris elemzése NB osztályozóval





rapidMiner: Iris elemzése NB osztályozóval

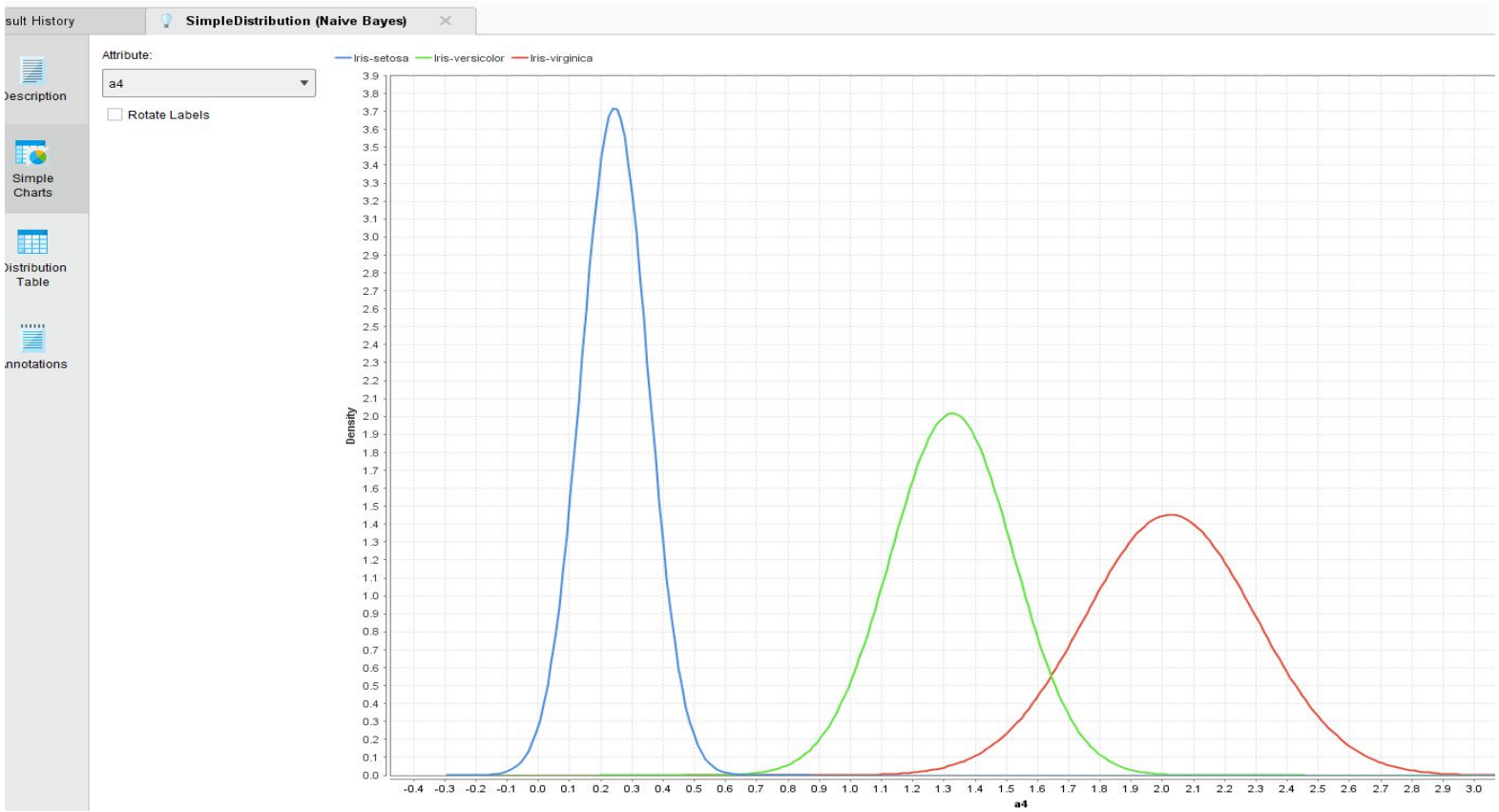


rapidMiner: Iris elemzése NB osztályozóval

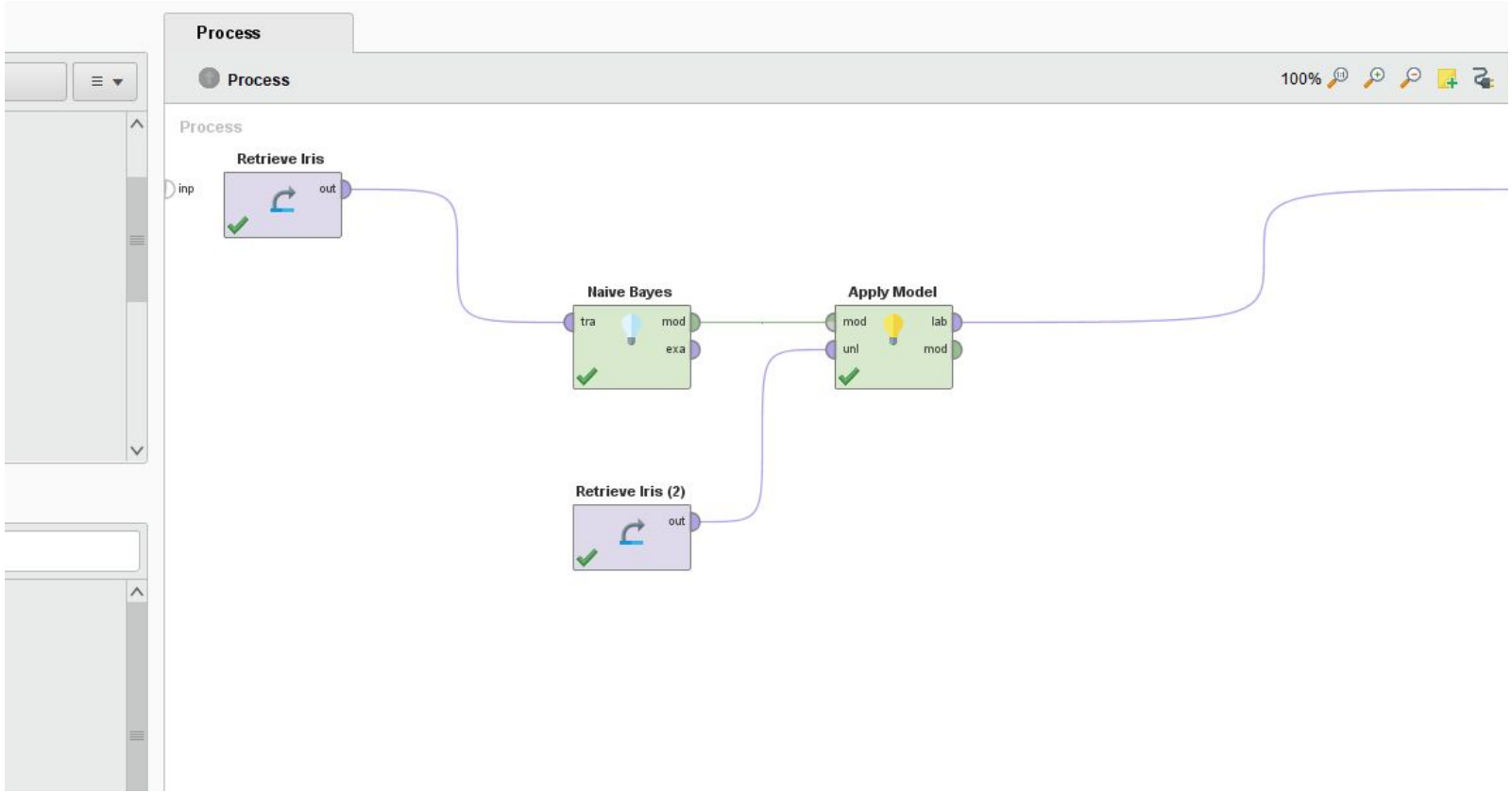
SimpleDistribution (Naive Bayes)

Attribute	Parameter	Iris-setosa	Iris-versicolor	Iris-virginica
a1	mean	5.006	5.936	6.588
a1	standard deviation	0.352	0.516	0.636
a2	mean	3.418	2.770	2.974
a2	standard deviation	0.381	0.314	0.322
a3	mean	1.464	4.260	5.552
a3	standard deviation	0.174	0.470	0.552
a4	mean	0.244	1.326	2.026
a4	standard deviation	0.107	0.198	0.275

rapidMiner: Iris elemzése NB osztályozóval



rapidMiner: Iris elemzése NB osztályozóval

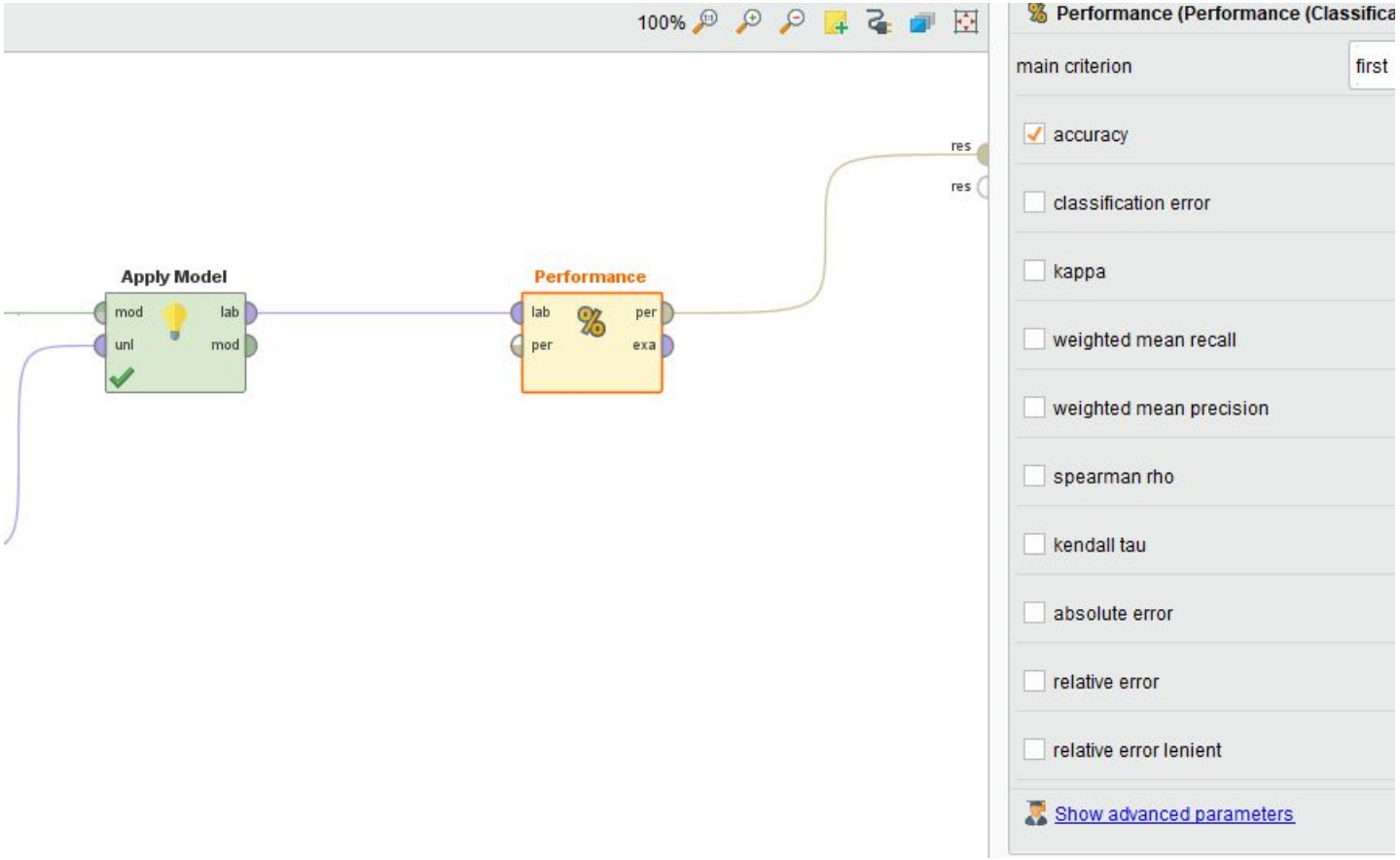


rapidMiner: Iris elemzése NB osztályozóval

Open in Turbo Prep Auto Model

Row No.	id	label	prediction(la...	confidence(I...	confidence(I...	confidence(I...	a1	a2
60	id_60	Iris-versicolor	Iris-versicolor	0	1.000	0.000	5.200	2.700
61	id_61	Iris-versicolor	Iris-versicolor	0	1.000	0.000	5	2
62	id_62	Iris-versicolor	Iris-versicolor	0	0.996	0.004	5.900	3
63	id_63	Iris-versicolor	Iris-versicolor	0	1.000	0.000	6	2.200
64	id_64	Iris-versicolor	Iris-versicolor	0	0.985	0.015	6.100	2.900
65	id_65	Iris-versicolor	Iris-versicolor	0	1.000	0.000	5.600	2.900
66	id_66	Iris-versicolor	Iris-versicolor	0	0.979	0.021	6.700	3.100
67	id_67	Iris-versicolor	Iris-versicolor	0	0.990	0.010	5.600	3
68	id_68	Iris-versicolor	Iris-versicolor	0	1.000	0.000	5.800	2.700
69	id_69	Iris-versicolor	Iris-versicolor	0	0.994	0.006	6.200	2.200
70	id_70	Iris-versicolor	Iris-versicolor	0	1.000	0.000	5.600	2.500
71	id_71	Iris-versicolor	Iris-virginica	0	0.161	0.839	5.900	3.200
72	id_72	Iris-versicolor	Iris-versicolor	0	1.000	0.000	6.100	2.800
73	id_73	Iris-versicolor	Iris-versicolor	0	0.925	0.075	6.300	2.500
74	id_74	Iris-versicolor	Iris-versicolor	0	0.998	0.002	6.100	2.800
75	id_75	Iris-versicolor	Iris-versicolor	0	0.998	0.002	6.400	2.900
76	id_76	Iris-versicolor	Iris-versicolor	0	0.987	0.013	6.600	3
77	id_77	Iris-versicolor	Iris-versicolor	0	0.910	0.090	6.800	2.800
78	id_78	Iris-versicolor	Iris-virginica	0	0.080	0.920	6.700	3

rapidMiner: Iris elemzése NB osztályozóval



rapidMiner: Iris elemzése NB osztályozóval

PerformanceVector (Performance)

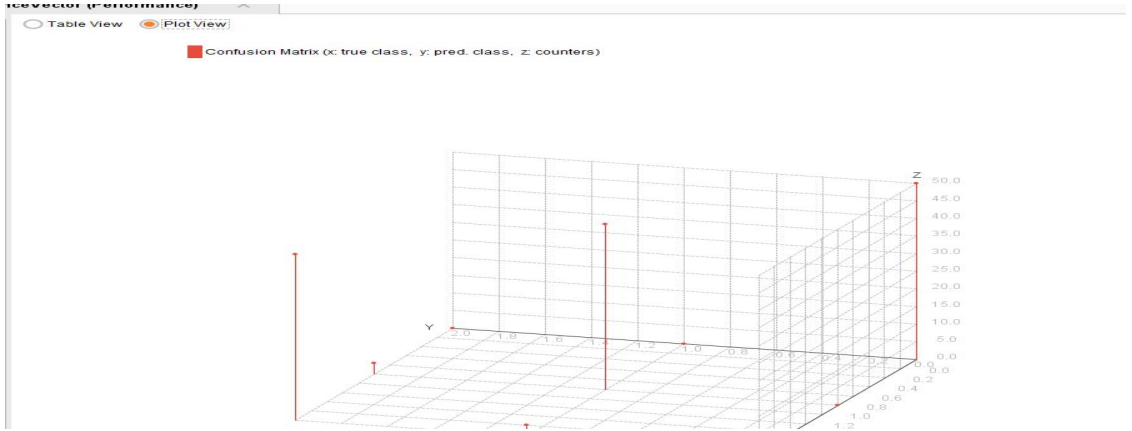
Criterion

accuracy

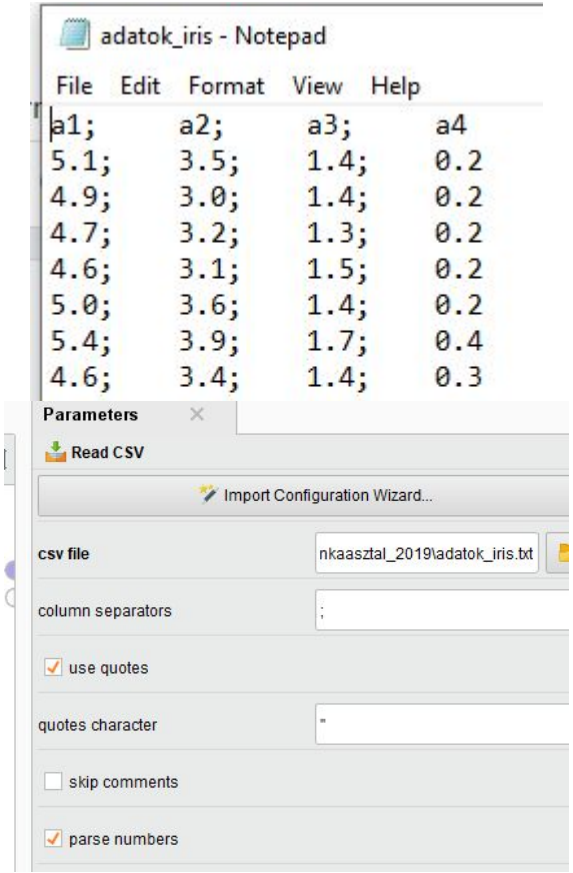
Table View Plot View

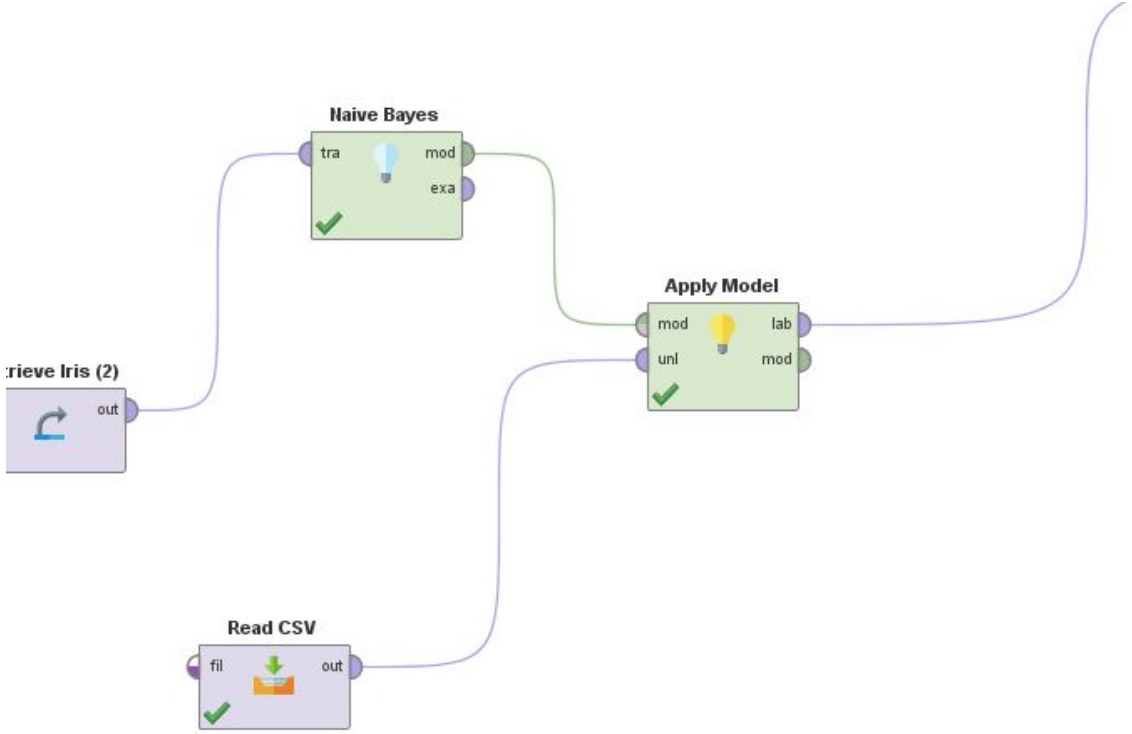
accuracy: 96.00%

	true Iris-setosa	true Iris-versicolor	true Iris-virginica	class precision
pred. Iris-setosa	50	0	0	100.00%
pred. Iris-versicolor	0	47	3	94.00%
pred. Iris-virginica	0	3	47	94.00%
class recall	100.00%	94.00%	94.00%	

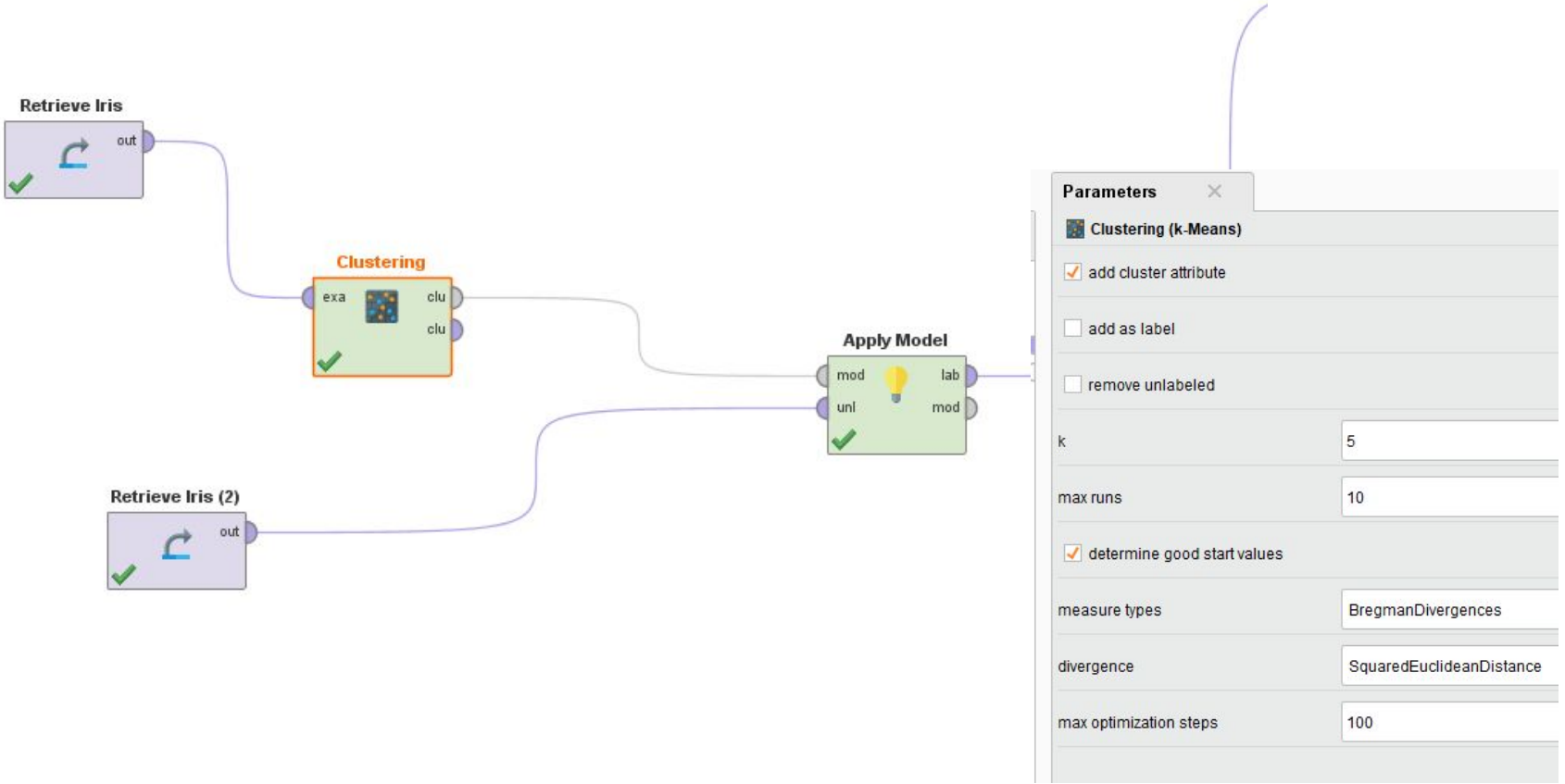


rapidMiner: Iris elemzése NB osztályozóval

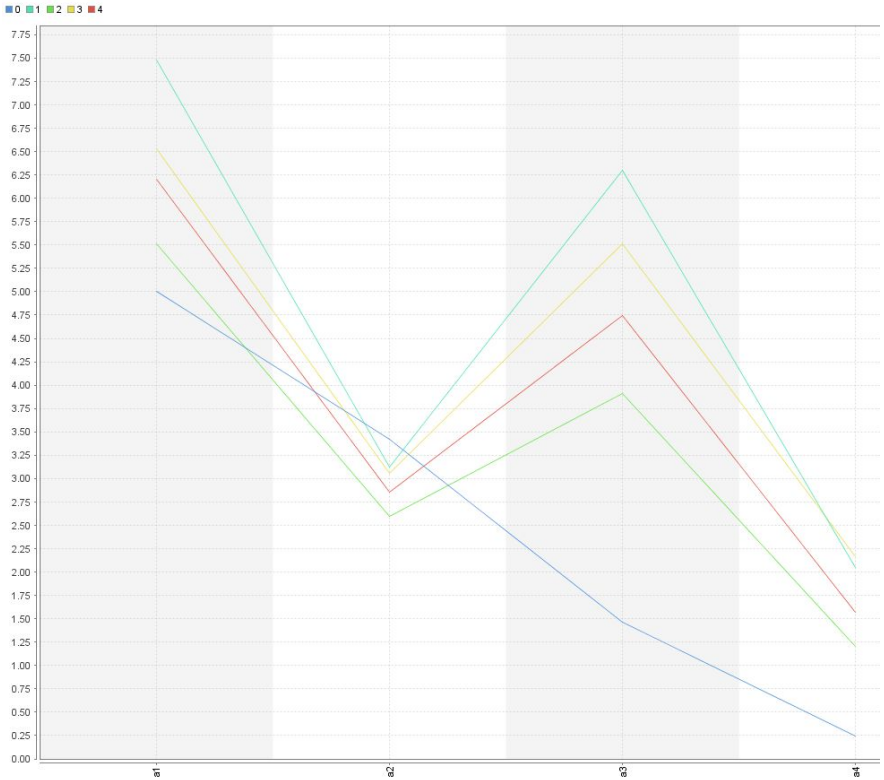




rapidMiner: Iris elemzése k-means klaszterezővel



rapidMiner: Iris elemzése k-means klaszterezővel



ExampleSet (Apply Model)

Open in Turbo Prep Auto Model

Row No.	id	label	cluster	a1	a2	a3
86	id_86	Iris-versicolor	cluster_4	6	3.400	4.500
87	id_87	Iris-versicolor	cluster_4	6.700	3.100	4.700
88	id_88	Iris-versicolor	cluster_4	6.300	2.300	4.400
89	id_89	Iris-versicolor	cluster_2	5.600	3	4.100
90	id_90	Iris-versicolor	cluster_2	5.500	2.500	4
91	id_91	Iris-versicolor	cluster_2	5.500	2.600	4.400
92	id_92	Iris-versicolor	cluster_4	6.100	3	4.600
93	id_93	Iris-versicolor	cluster_2	5.800	2.600	4
94	id_94	Iris-versicolor	cluster_2	5	2.300	3.300
95	id_95	Iris-versicolor	cluster_2	5.600	2.700	4.200
96	id_96	Iris-versicolor	cluster_2	5.700	3	4.200
97	id_97	Iris-versicolor	cluster_2	5.700	2.900	4.200
98	id_98	Iris-versicolor	cluster_4	6.200	2.900	4.300
99	id_99	Iris-versicolor	cluster_2	5.100	2.500	3
100	id_100	Iris-versicolor	cluster_2	5.700	2.800	4.100
101	id_101	Iris-virginica	cluster_3	6.300	3.300	6
102	id_102	Iris-virginica	cluster_4	5.800	2.700	5.100
103	id_103	Iris-virginica	cluster_1	7.100	3	5.900

rapidMiner: Iris elemzése k-means klaszterezővel