Adult

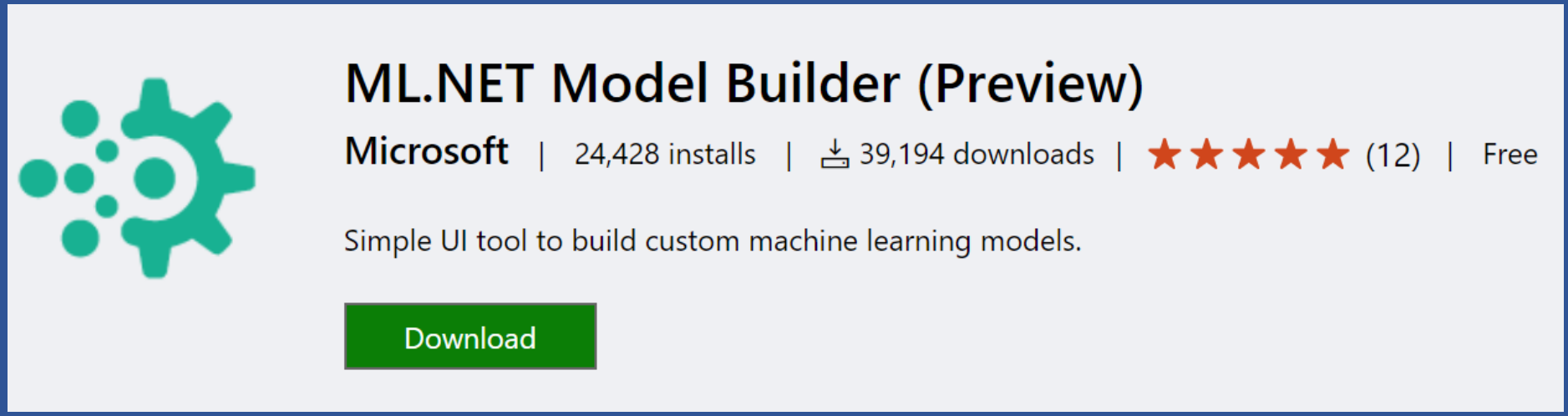
AutoML

What's in this session?

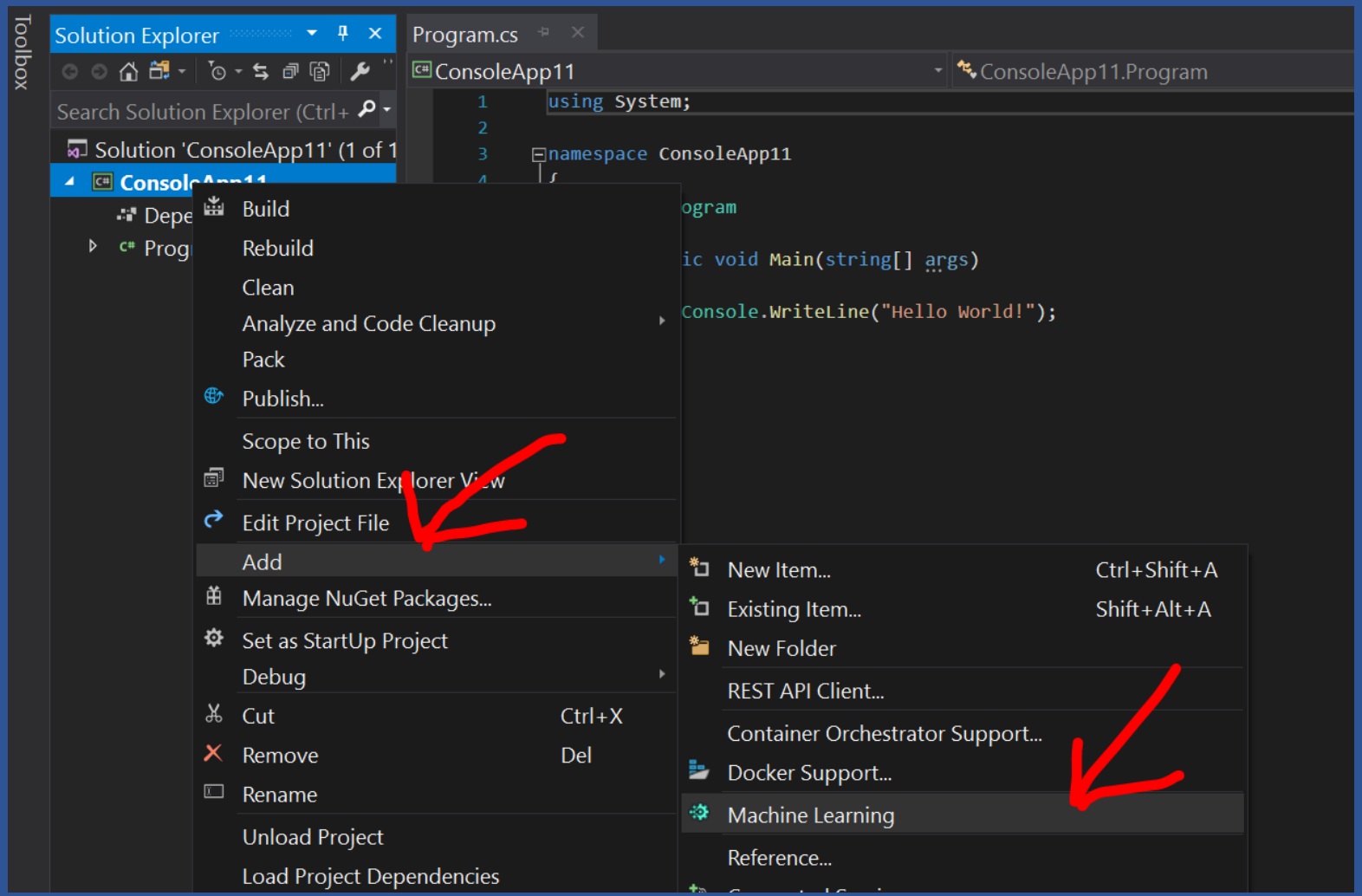
1. Install ML.NET Model Builder
2. Create new .NET CORE console project and add Machine Learning job
3. Pick a Scenario / Price Prediction
4. Set Data File
5. Set train time
6. Understand Train result
7. Understand evaluation result
8. Generate Code
9. Examine Code

Install ML.NET Model Builder

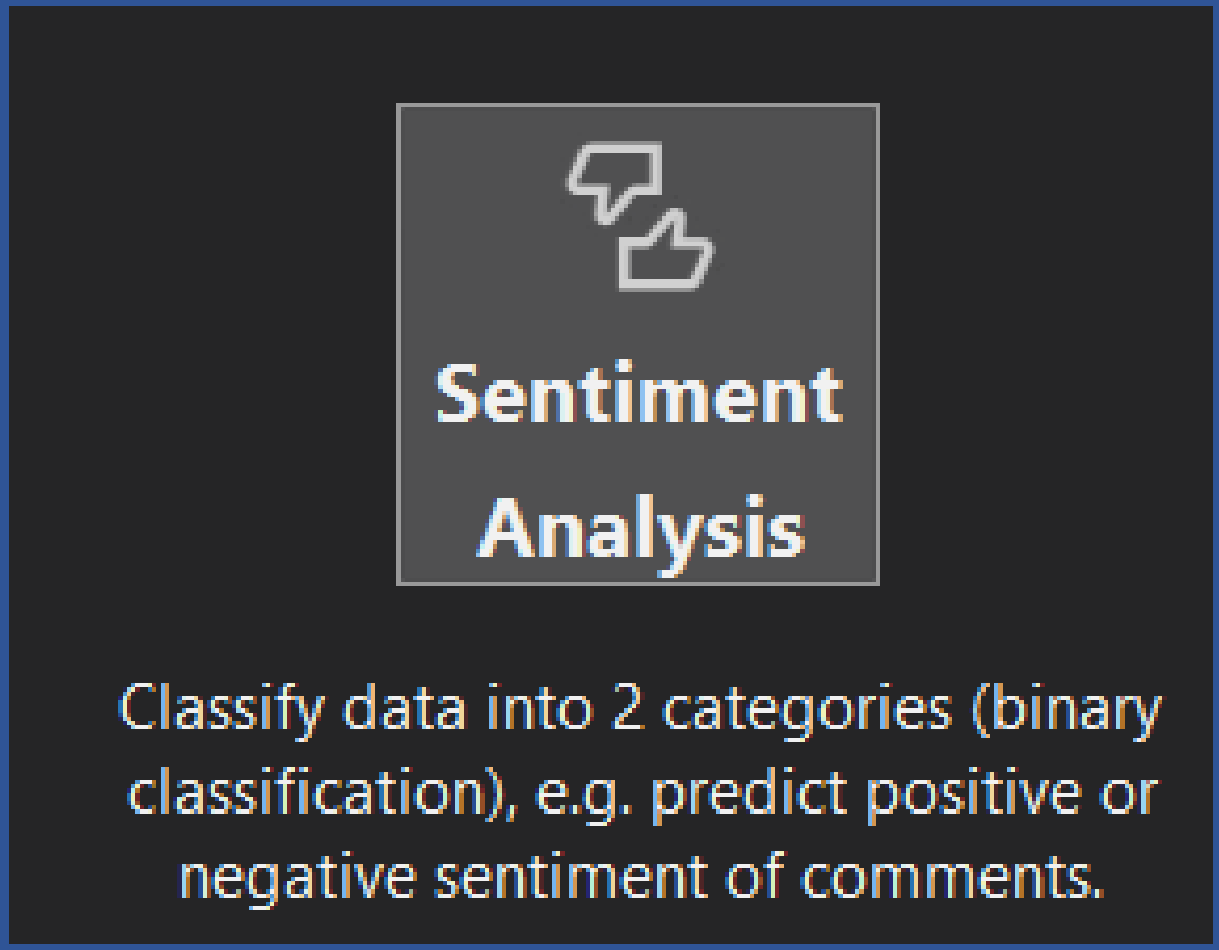
https://marketplace.visualstudio.com/items?itemName=MLNET.07



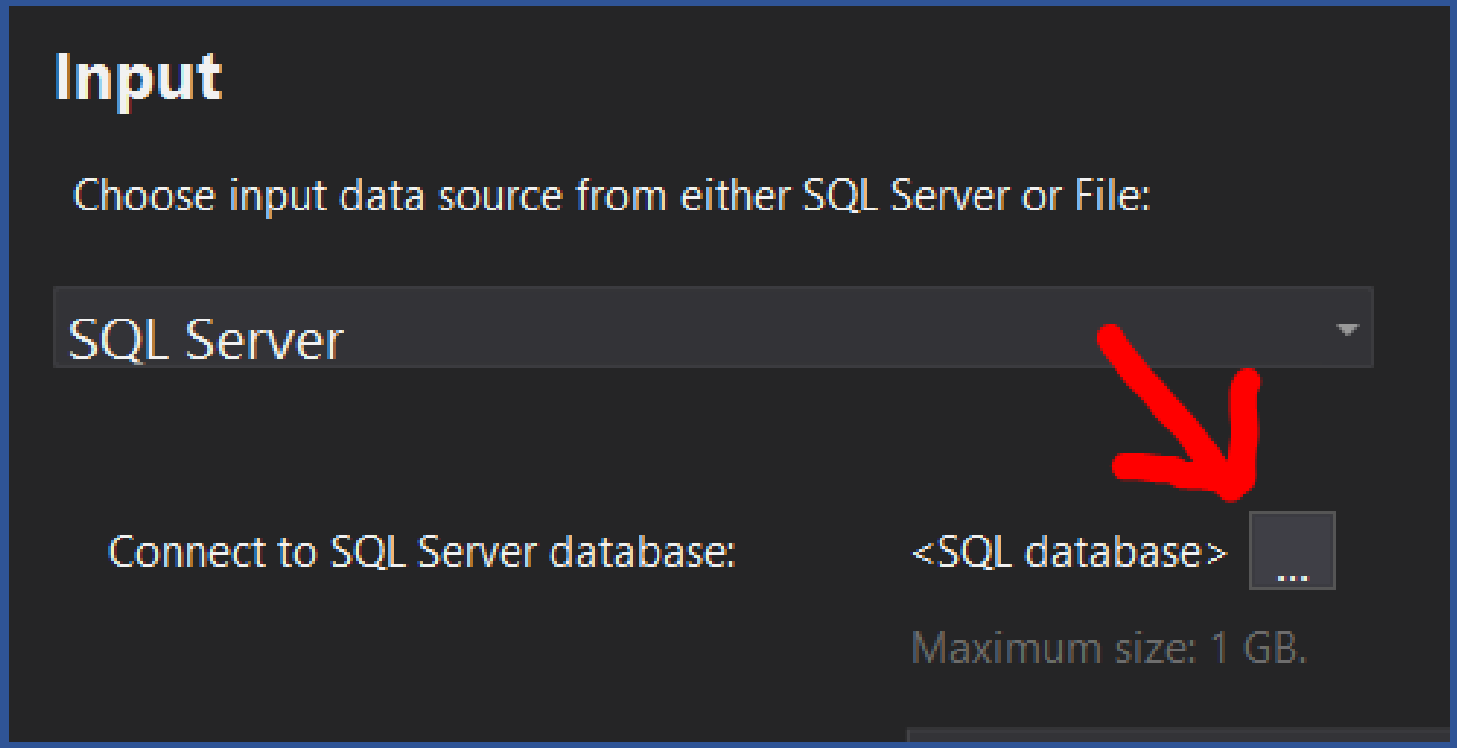
Create new .NET CORE console project and add Machine Learning



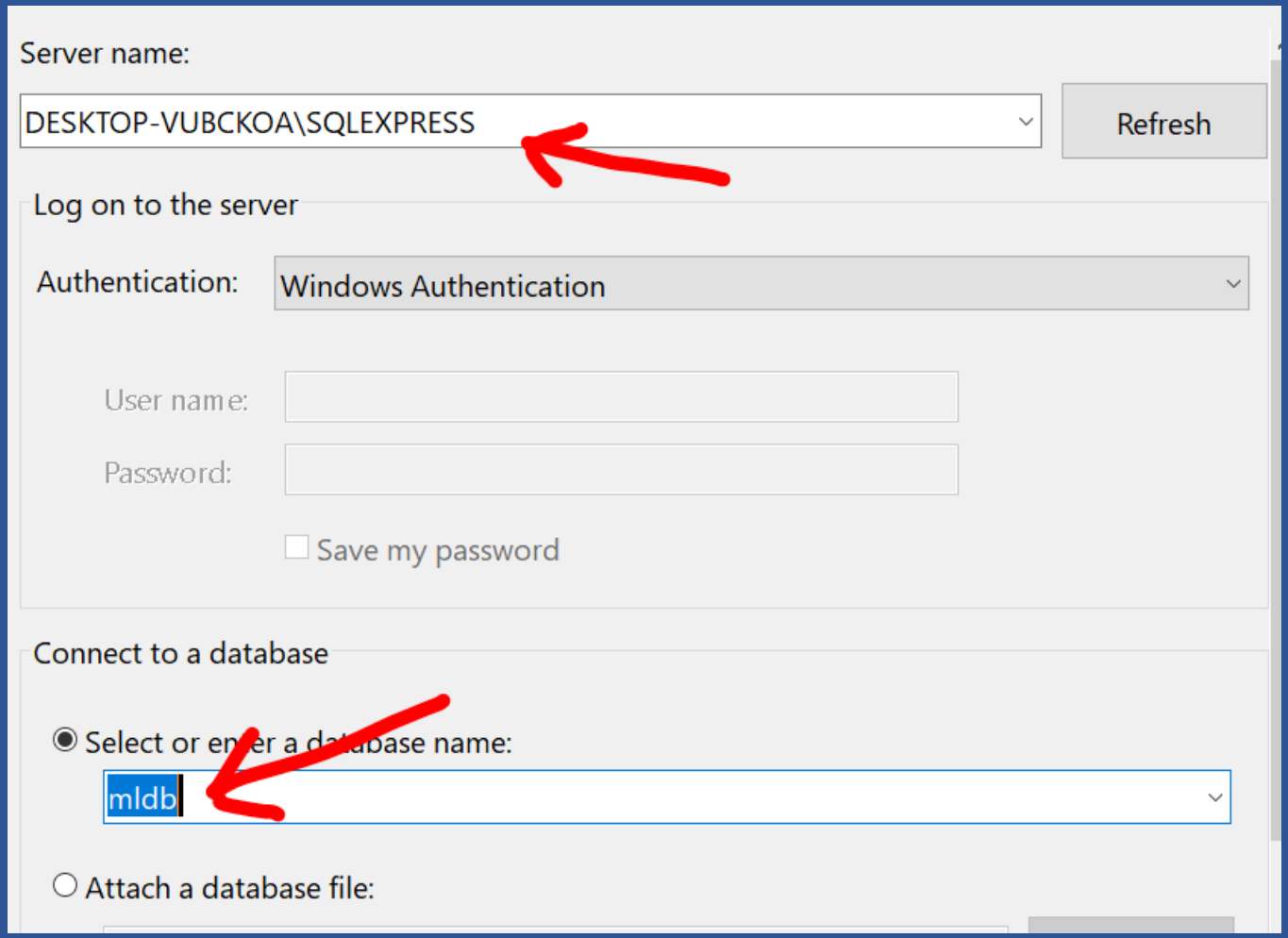
Pick a Scenario / Custom Scenario



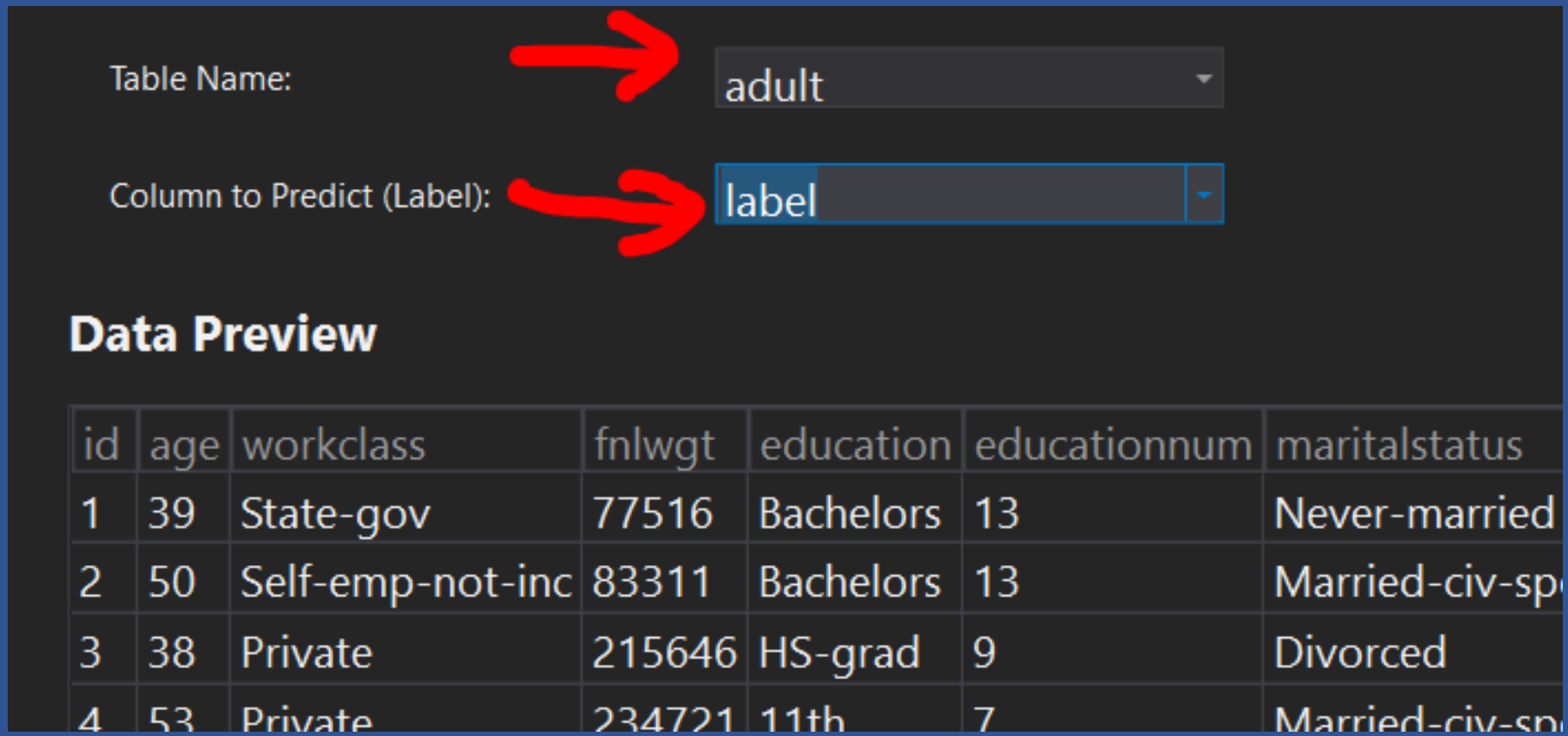
Connect to SQL Server



Set server name & database name



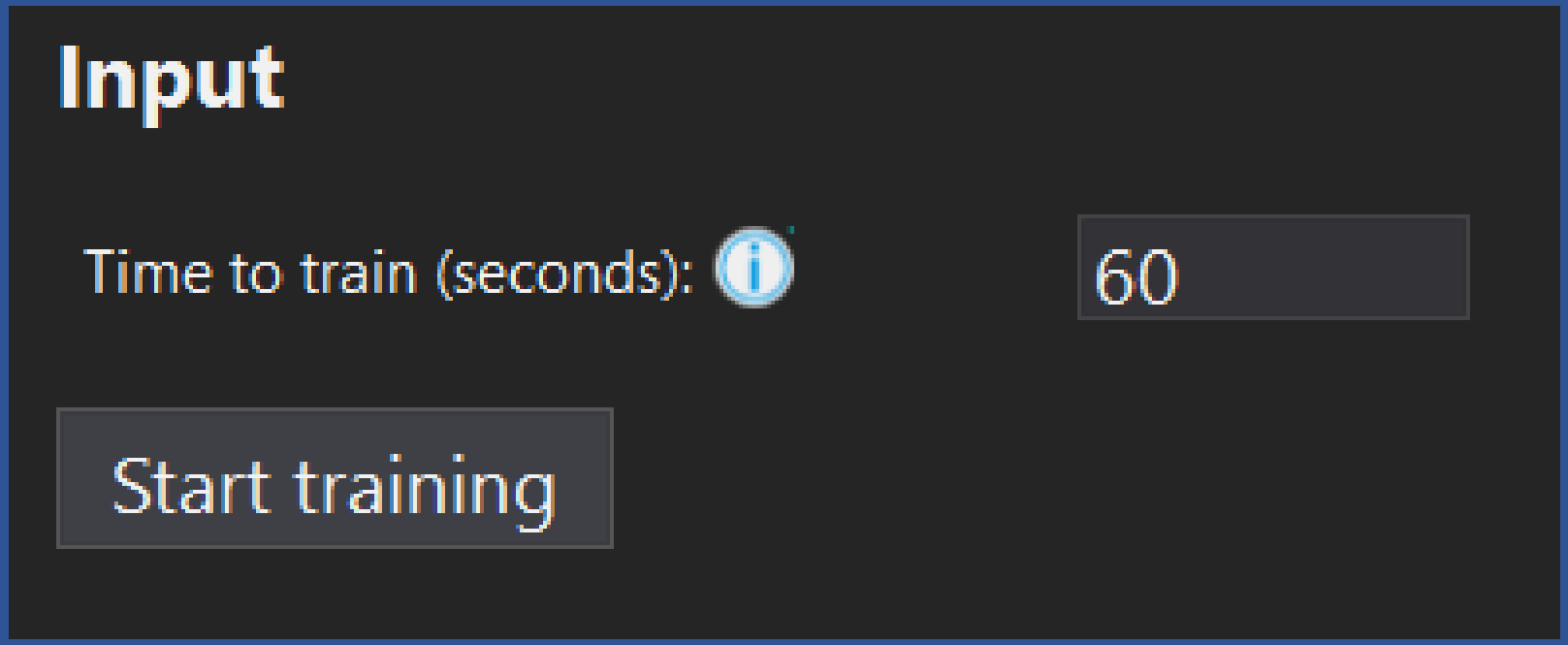
Set table name & Label column



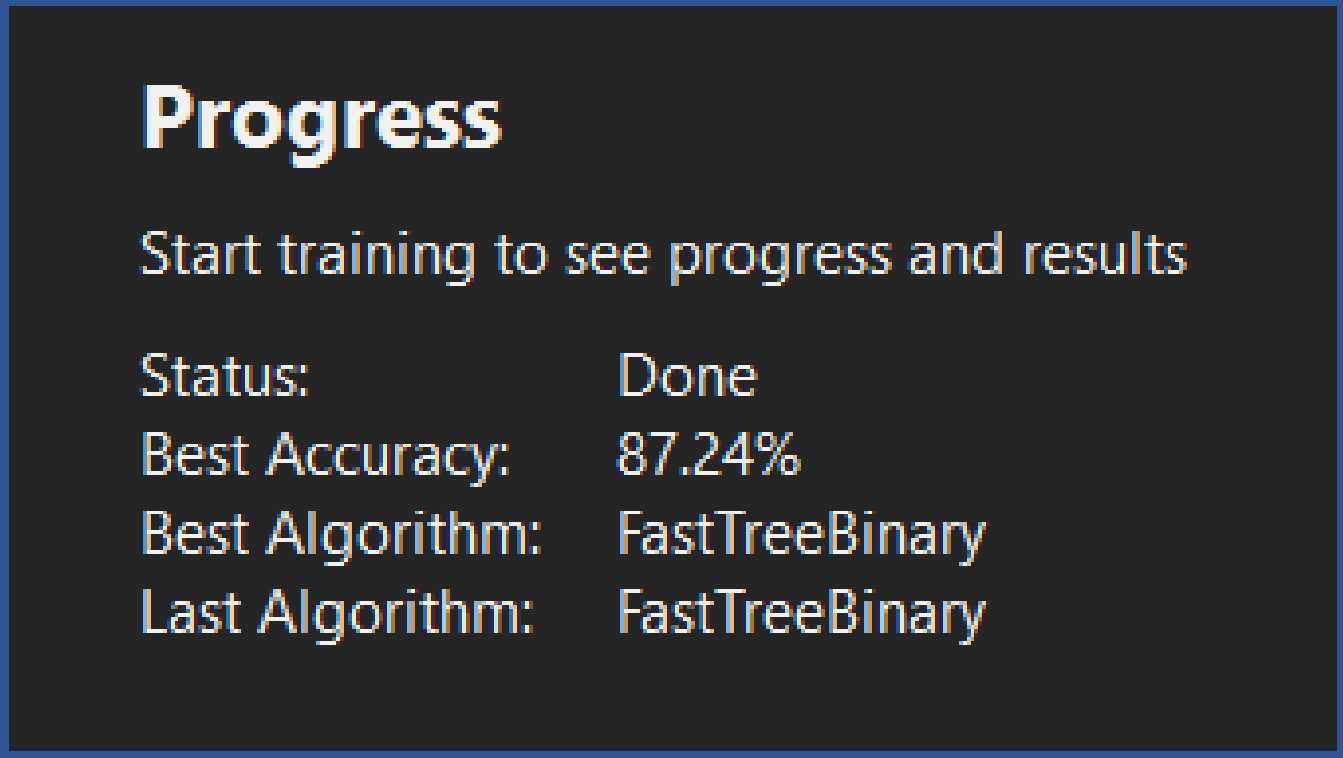
id	age	workclass	fnlwgt	education	educationnum	maritalstatus
1	39	State-gov	77516	Bachelors	13	Never-married
2	50	Self-emp-not-inc	83311	Bachelors	13	Married-civ-sp
3	38	Private	215646	HS-grad	9	Divorced
4	53	Private	234721	11th	7	Married-civ-sp

Task = multiclass-classification

Time = 60 seconds



Understand the Train result



Understand evaluation result

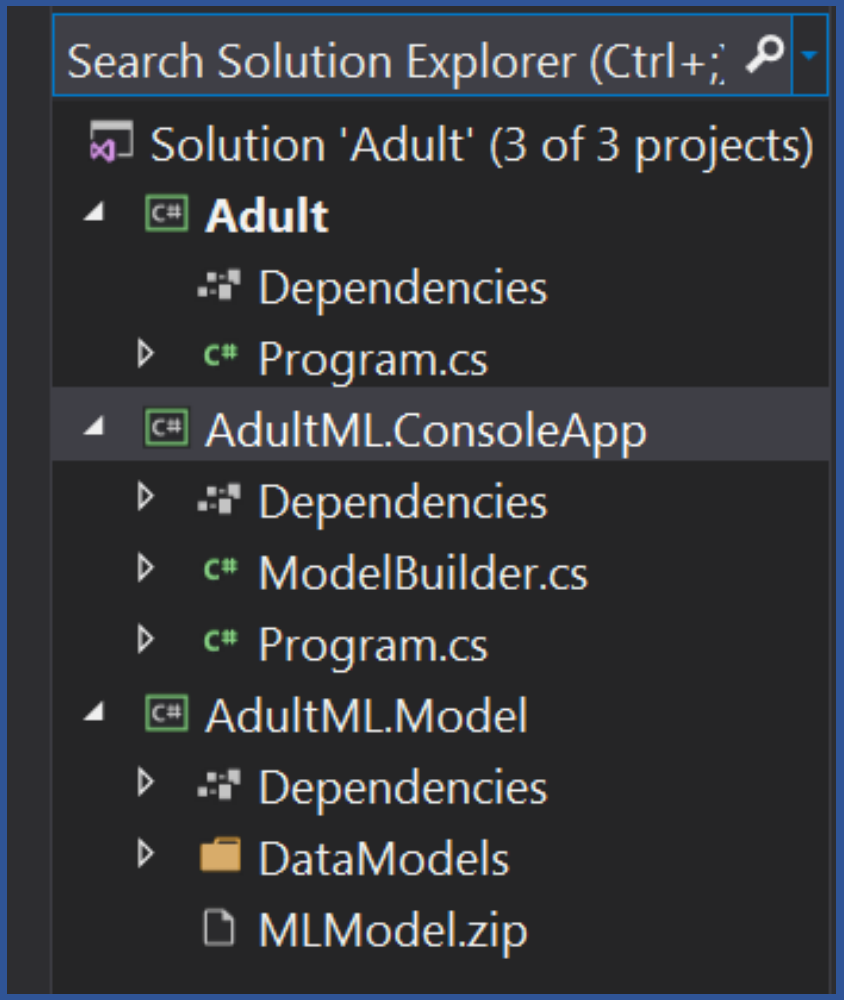
Output

ML Task:	binary-classification
Dataset:	mldb adult
Column to Predict (Label):	label
Best Model:	FastTreeBinary
Best Model Accuracy:	87.24%
Training Time:	10.63 seconds
Models Explored (Total):	11

Top 5 models explored

Rank	Trainer	Accuracy	AUC	AUPRC	F1-score	Duration
1	FastTreeBinary	0.8724	0.9287	0.8175	0.7048	0.8
2	FastTreeBinary	0.8724	0.9241	0.8118	0.6876	1.3
3	LightGbmBinary	0.8697	0.9292	0.8184	0.6963	0.6
4	FastForestBinary	0.8661	0.9132	0.7902	0.6606	0.7
5	LbfgsLogisticRegressionBinary	0.8583	0.9056	0.7485	0.6580	0.5

Examine Code



Next Step

Write Code to build, train, evaluate, and use ML model