



## **Zementis Predictive Extensions**

Adapa scoring engine integrated with IBM SPSS



Product: IBM® SPSS® Modeler

Extension type: Model



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## Description

These set of extensions are used as connectors to Zementis Adapa services:

- Zementis Model: Score your data with a PMML model previously uploaded.
- Upload PMML: Create a predictive model on IBM SPSS Modeler and upload it to Zementis.
- Get Model Info: Get all the input/output variables of your model and its type.



## Requirements

- SPSS Modeler v16.0 or later
- SPSS Modeler 'R Essentials' plugin

## Installation

Close SPSS Modeler. Save the `.cfe` file in the CDB folder of the IBM SPSS Modeler installation directory for Windows and Linux. The copy should reside in that same folder and not in a sub-folder.

For example, for Windows 7 the default location is "`C:\ProgramData\IBM\SPSS\Modeler\16\CDB`".

Restart SPSS Modeler: the Zementis Model node will now appear in the Field Ops palette. The Upload PMML and Get Model Info nodes will appear in the Export palette.

## R Packages used

The R packages will be installed the first time the node is used as long as an Internet connection is available.

- 'httr' author : Hadley Wickham <https://cran.r-project.org/web/packages/httr/index.html>
- 'plyr' author : Hadley Wickham <https://cran.r-project.org/web/packages/plyr/>
- 'XML' author : Duncan Temple Lang <https://cran.r-project.org/web/packages/XML/index.html>



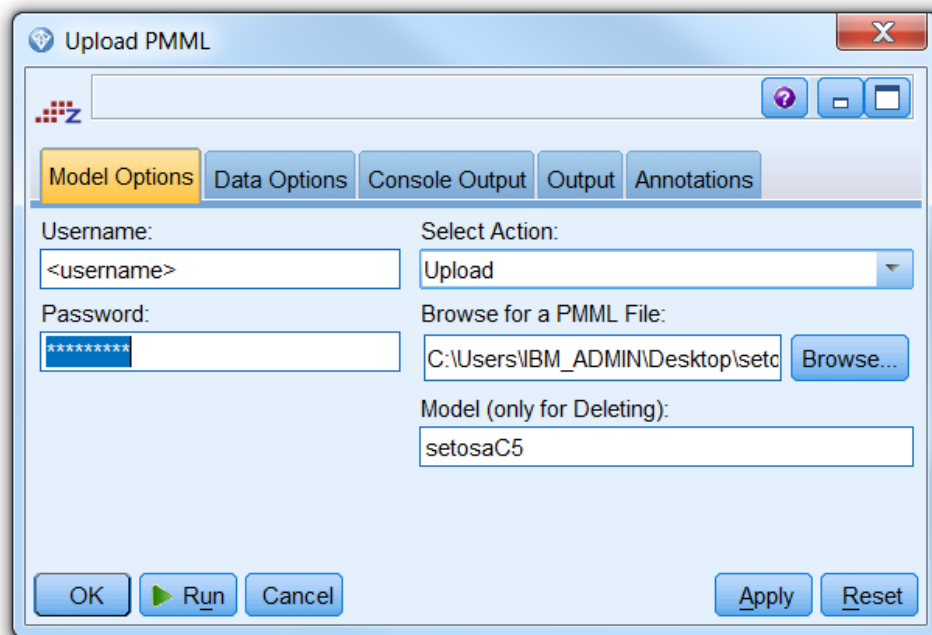
## 1. Upload PMML

Create a predictive model on IBM SPSS Modeler and upload it to Zementis. This extension can also be used to delete models in the Zementis cloud.

### User Interface

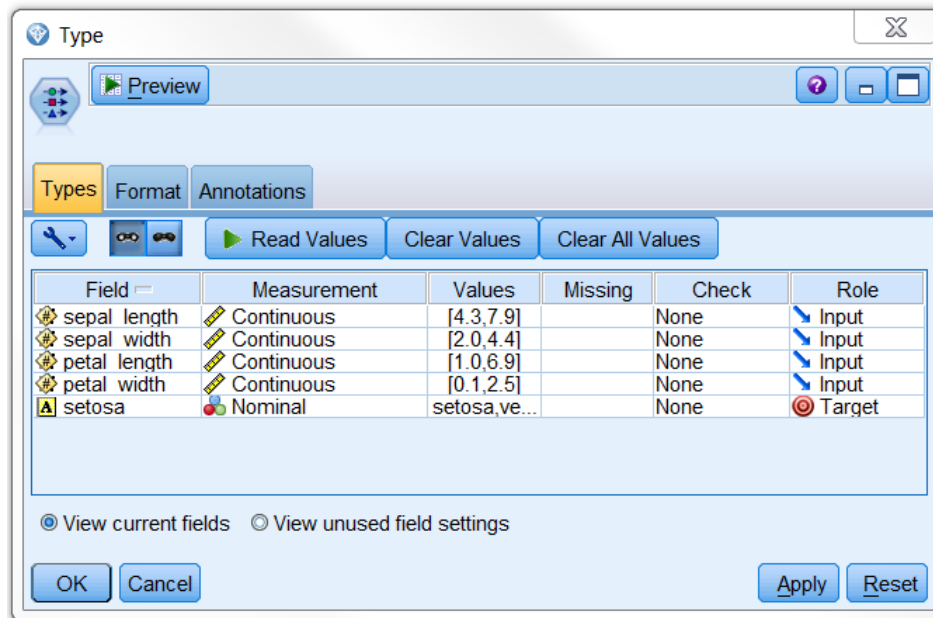
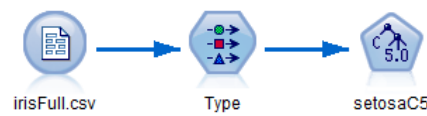
- Double click on the node to get the options. There are the following fields:
  - Username
  - Password
  - Select Action: There are two options, '*Upload*' or '*Delete*'.
  - Browse for a PMML File: Select the PMML file to upload
  - Model (only for Deleting): In case '*Delete*' option is selected, specify here the name of the model to be removed.

When uploading a new model, the name will come from the PMML file. In SPSS this is the name of the model.

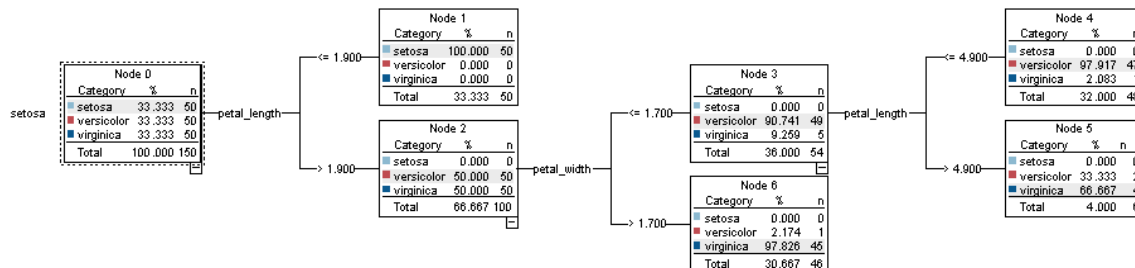


### Example

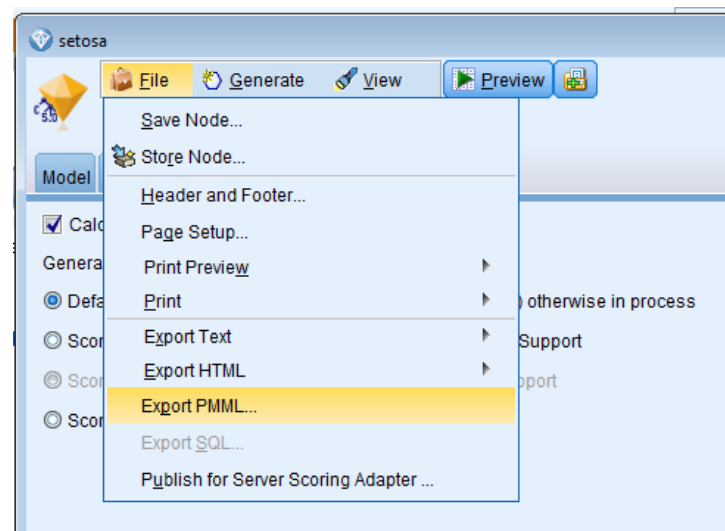
- Import data from *IrisFull.csv* using the '*Var. File*' source node.
- Connect a '*Type*' node and select '*setosa*' as Target.



- Connect a model 'C5.0' from the Models palette. This model will create a decision tree.

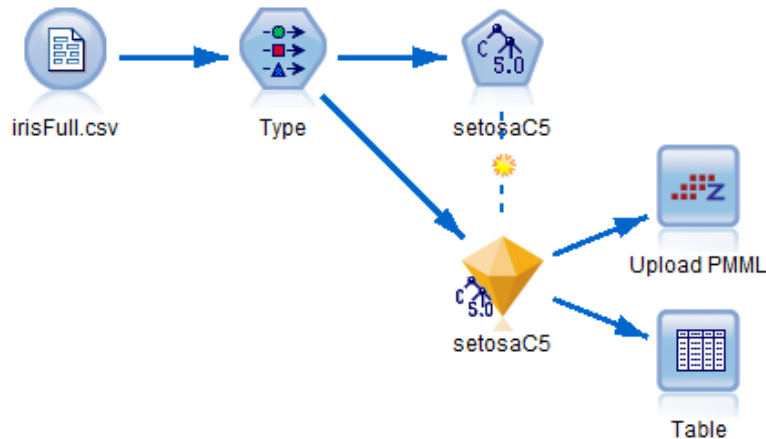


- Double click on the model node that was generated and click File export PMML.





- Connect the 'Upload PMML' node to upload the node to Zementis cloud.



- Double click this node and enter your username and password
- Browse for the PMML file saved in the previous steps and click Run

## 2. Get Model Info

Get all the input/output variables of your model and its type. This node is important to know exactly the input parameters to be able to score using 'Zementis Model'.

### User Interface

- Double click on the node to get the options of the node. There are two fields, 'username' and 'password'.



## Example

- Connect the 'Get Zementis Models' to any node in IBM SPSS Modeler.
- Run the stream. The result will be all the Models available and all their parameters and types.

Model 1

Model 2

name	type	usage
AuditSVMModel	AuditSVMModel	AuditSVMModel
Support Vector Machine for binary classification using the Audit dataset	Support Vector Machine for binary classification using the Audit dataset	Support Vector Machine for binary classification using the Audit dataset
Age	DOUBLE	ACTIVE
Employment	STRING	ACTIVE
Education	STRING	ACTIVE
Marital	STRING	ACTIVE
Occupation	STRING	ACTIVE
Income	DOUBLE	ACTIVE
Sex	STRING	ACTIVE
Deductions	DOUBLE	ACTIVE
Hours	DOUBLE	ACTIVE
predictedValue Adjusted	DOUBLE	OUTPUT
IrisMLRModel	IrisMLRModel	IrisMLRModel
Multinomial Logistic Regression using the Iris dataset	Multinomial Logistic Regression using the Iris dataset	Multinomial Logistic Regression using the Iris dataset
sepal length	DOUBLE	ACTIVE
sepal width	DOUBLE	ACTIVE
petal length	DOUBLE	ACTIVE
petal width	DOUBLE	ACTIVE
predictedValue class	STRING	OUTPUT
probability setosa	DOUBLE	OUTPUT
probability versicolor	DOUBLE	OUTPUT
probability virginica	DOUBLE	OUTPUT
LoanNNModel	LoanNNModel	LoanNNModel
Neural Network for evaluating the risk of default for mortgage loans with...	Neural Network for evaluating the risk of default for mortgage loans with...	Neural Network for evaluating the risk of default for mortgage loans with...
loanPurpose	STRING	ACTIVE
propertyType	STRING	ACTIVE
occupancyStatus	STRING	ACTIVE

## 3. Zementis Model

Score your data with a PMML model previously uploaded.

### User Interface

- Double click on the node to get to the options. There are 3 fields to be filled: *username*, *password*, and *Model Name*.

**Zementis Model**

Preview

Model Options | Data Options | Console Output | Annotations

Username:  
<username>

Password:  
\*\*\*\*\*

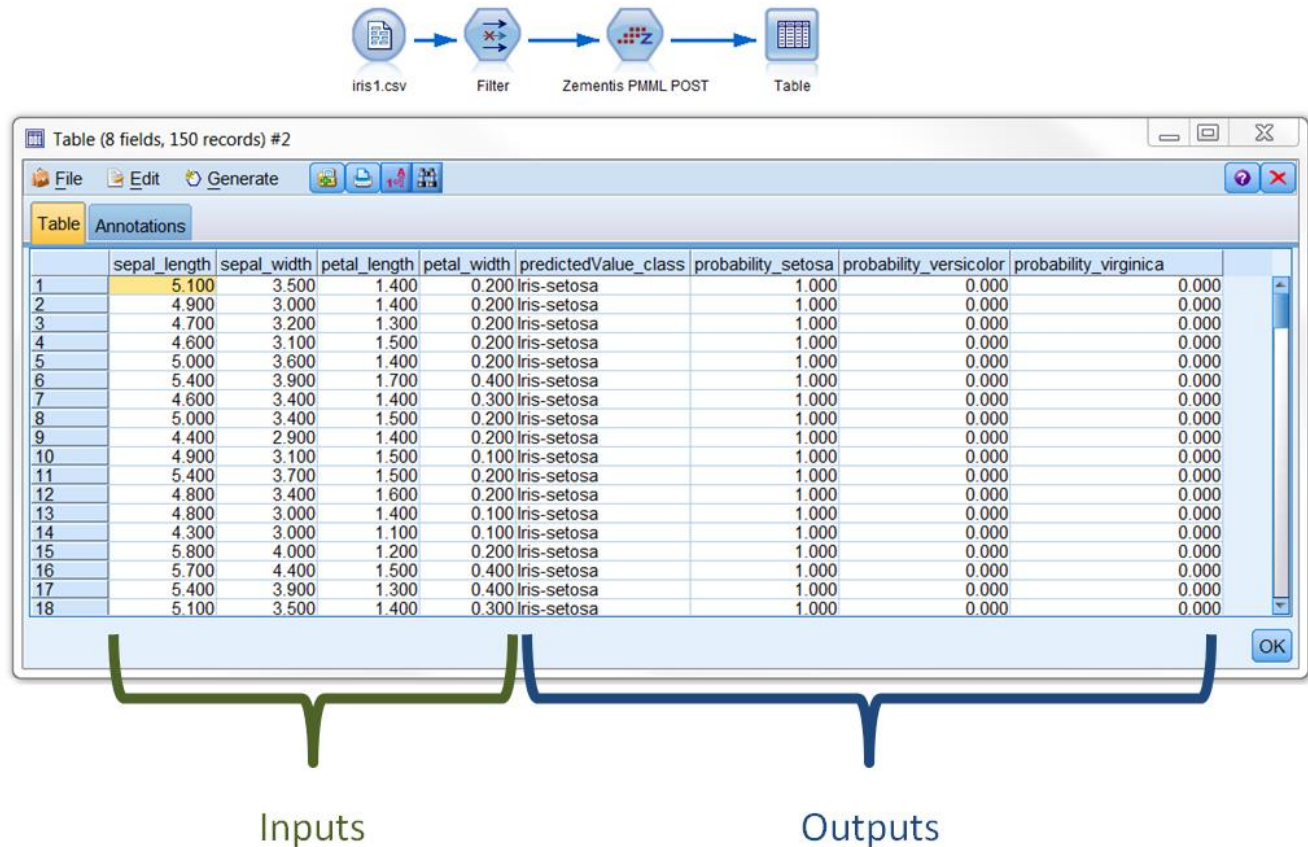
Model Name:  
IrisMLRModel

OK Cancel Apply Reset



## Example

- Import data from *Iris1.csv* using the 'Var. File' source node.
- Connect the 'Zementis Model' node and put the correct username, password and Model Name. The inputs for the model have to be the same as the inputs of the dataset.
- The result is going to be the input dataset and some new fields with the prediction and the probability of each of the inputs.



## Important links

### Learn

- Learn more about [SPSS software](#).
- Learn more about [Zementis](#)

### Get products and technologies

- Download the [R plug-in for SPSS](#) plugin.



**Discuss**

- Visit the <https://developer.ibm.com/predictiveanalytics/> to share tips and experiences with other IBM SPSS developers.