BizViz How-to-Guide

Creating Custom R-Script and Connecting to a Data Source

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1. Document Purpose

The purpose of this document is to guide users on to create a custom R script using the BizViz Predictive Analysis tool. It is recommended that users follow the step-by-step process given below.

2. Prerequisites

2.1. Software

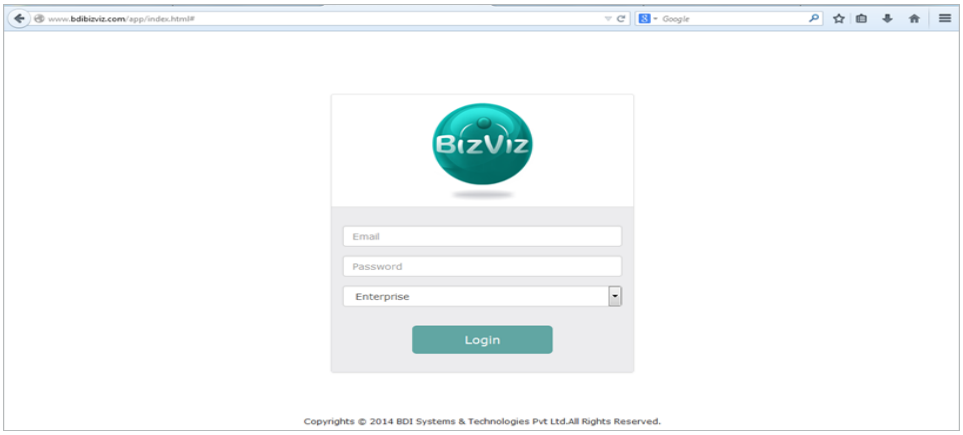
- Browser that supports HTML5
- Permission to access Predictive Analysis
- R-Server settings needs to be configured in Administration module

3. Step-by-Step Process

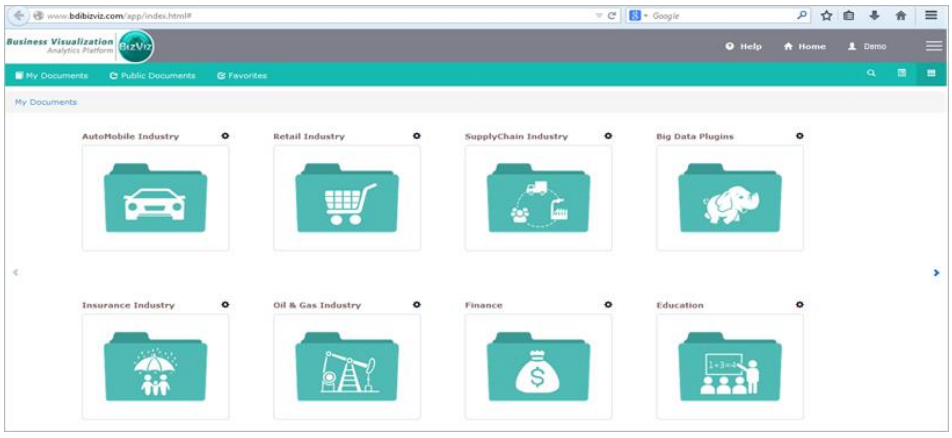
3.1. Login to the Portal

i) Enter in the URL bar http://www.bdibizviz.com/app/

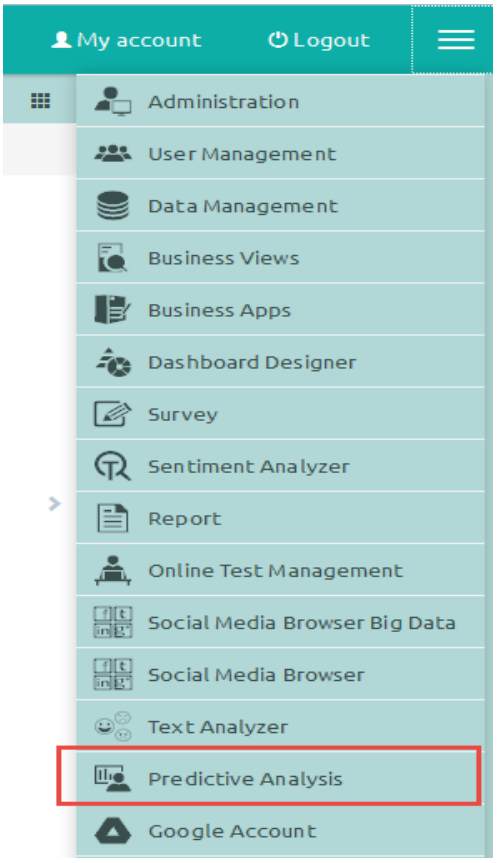
ii) Enter your credentials to Login.



iii) Click on '**Login**' to view the Portal Home Screen.

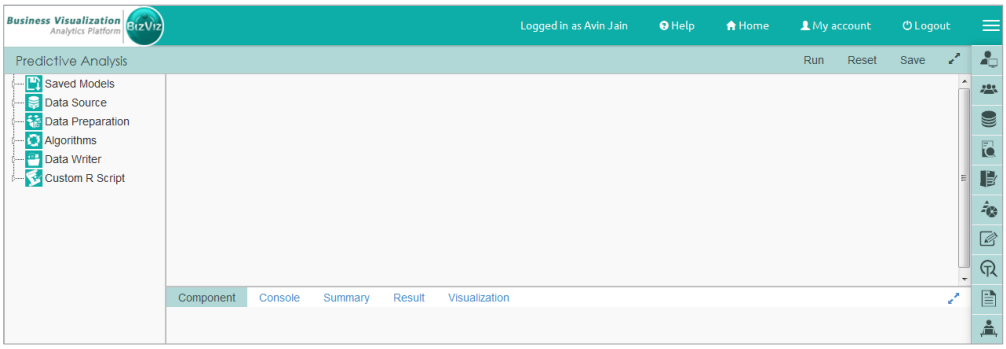


iv) Click on the '**Menu**' button to display a list of the installed applications.



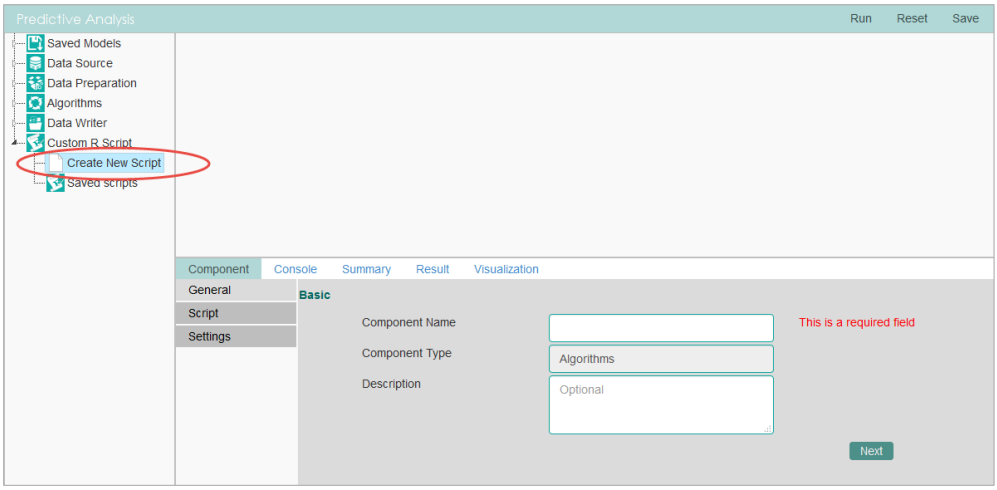
v) Select the '**Predictive Analysis**' plug-in, as shown above.

vi) Clicking on '**Predictive Analysis**' will redirect user to predictive analysis home screen



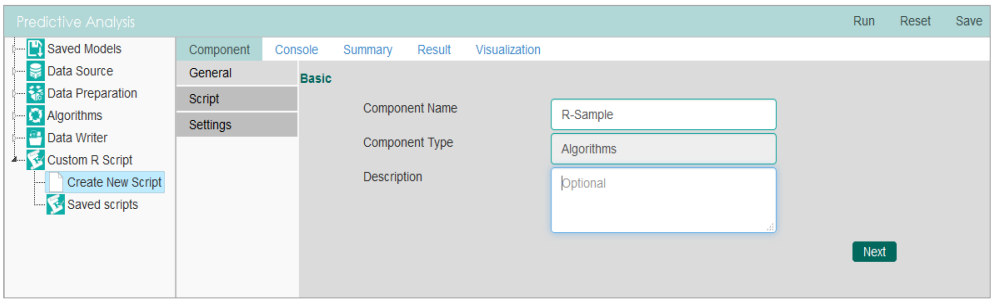
3.2. Creating Custom R Script

i) Click on the '**Create New Script**' component which is located under '**Custom R Script**' (as shown below).



ii) The screen consists of three sections.
   a. **General:** Name and description of the algorithm
   b. **Script:** Your R Syntax should be entered here
   c. **Settings:** configuration of the output parameters can be done here.

iii) In the '**General**' window, Name the component



iv) Click on the '**Next**' button.

v) In the '**Script**' window, paste your R Script and click on the '**Validate**' button to validate the script.

Example Script:

```
kmeansfunction<-
function(dataFrame,independent,Clustersize,Iterations,algotype,numberofinitia
ldsets)
{
set.seed(4321);
```

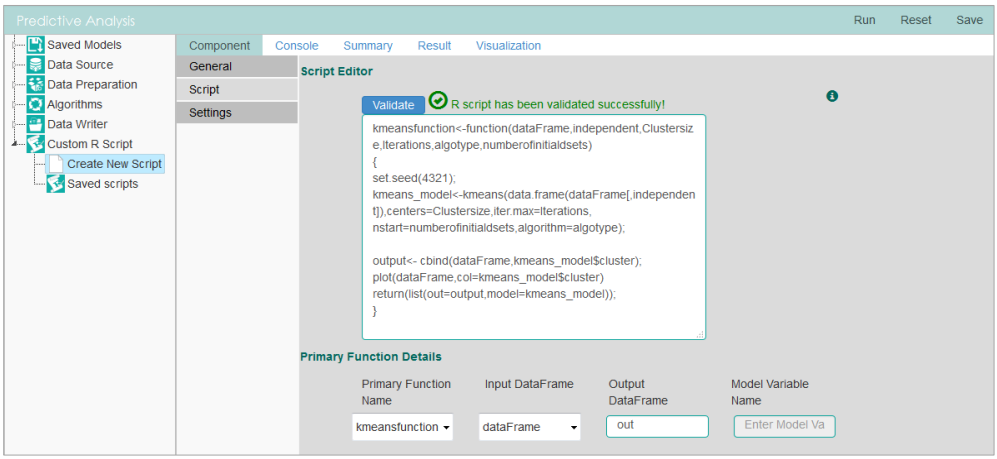
```
kmeans_model<-
kmeans(data.frame(dataFrame[,independent]),centers=Clustersize,iter.max=Ite
rations, nstart=numberofinitialdsets,algorithm=algotype);

output<- cbind(dataFrame,kmeans_model$cluster);

plot(dataFrame,col=kmeans_model$cluster)

return(list(out=output,model=kmeans_model));

}
```



vi) The R Script has to be embedded into functions. For now, we have used only a single function. On execution, BizViz Predictive Analysis will call this function and pass the current dataset of the workflow to the function.

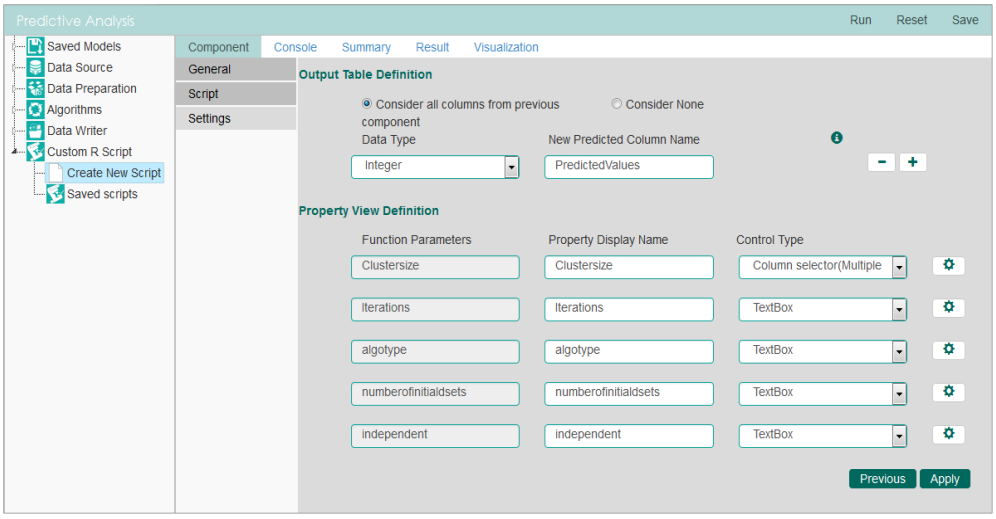
To pass the dataset, the function needs an input parameter to accept the dataset. This dataset is called a '**Data Frame**' in R terminology. Also, the function should return a dataset of type '**list**', so that subsequent components can pick up the data.

vii) Set the function details as shown below:

a. **Primary Function Name:** Name of the function we created – Select '**Kmeansfunction**' from the drop-down list
b. **Input Data Frame:** This is the dataset from where we will retrieve our data – Select '**dataFrame**' from the drop-down list.
c. **Output Data Frame:** Where data should be passed – Enter '**Out**', as we have given in our script.
d. **Model Variable Name:** Enabled only when the '**Show Summary**' option is ticked.

viii) Clicking on the '**Next**' button will take you to the '**Settings**' window

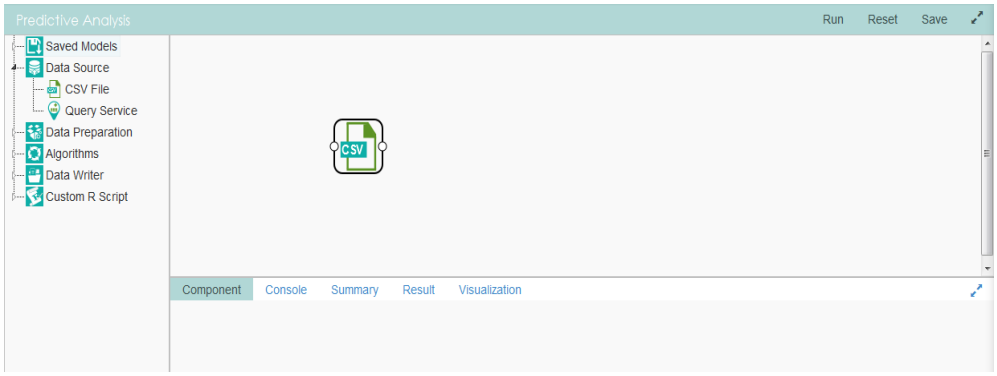
ix) Configure '**Output Table Definition**' and '**Property View Definition**' as shown below.



x) Click on '**Apply**' to save the configuration settings.

3.3. Connecting Custom-R Script with a Data Source

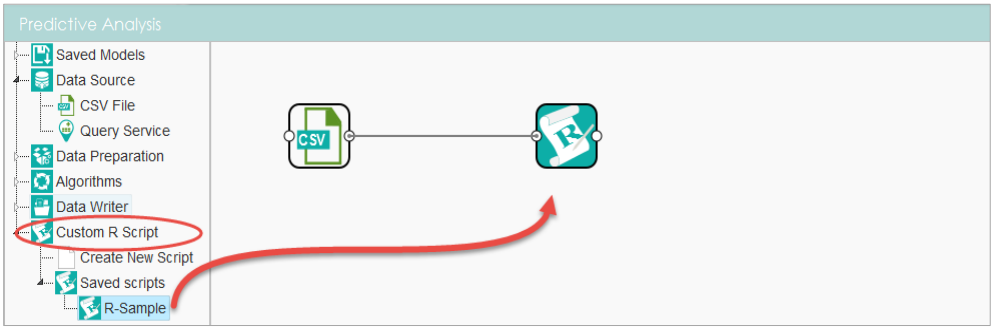
i) Click on the '**Data Source**' icon and drag the CSV component on to the workspace.



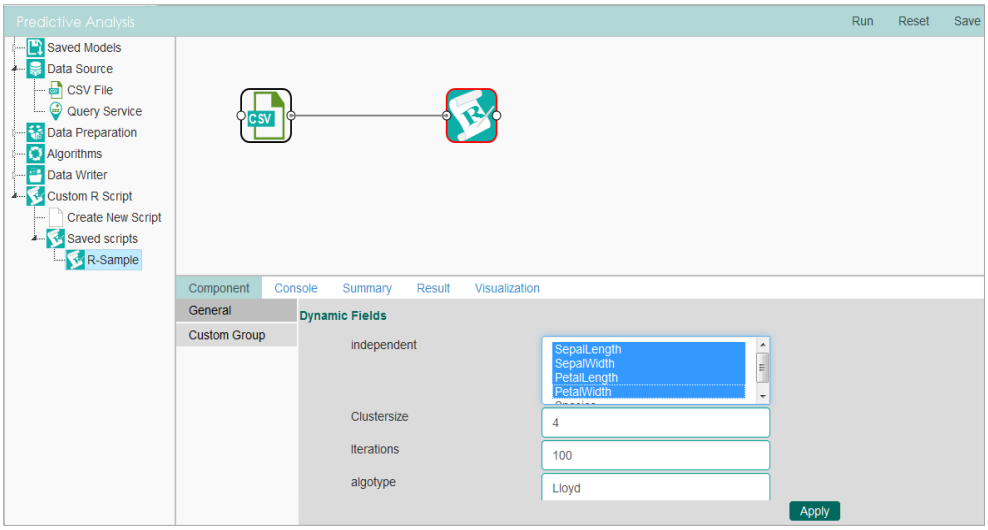
ii) Click on the '**CSV**' component and upload the **.csv** file using the browse option (as shown below). In the Delimiter field, enter a **comma** (,).

iii) Click on the '**Apply**' button.

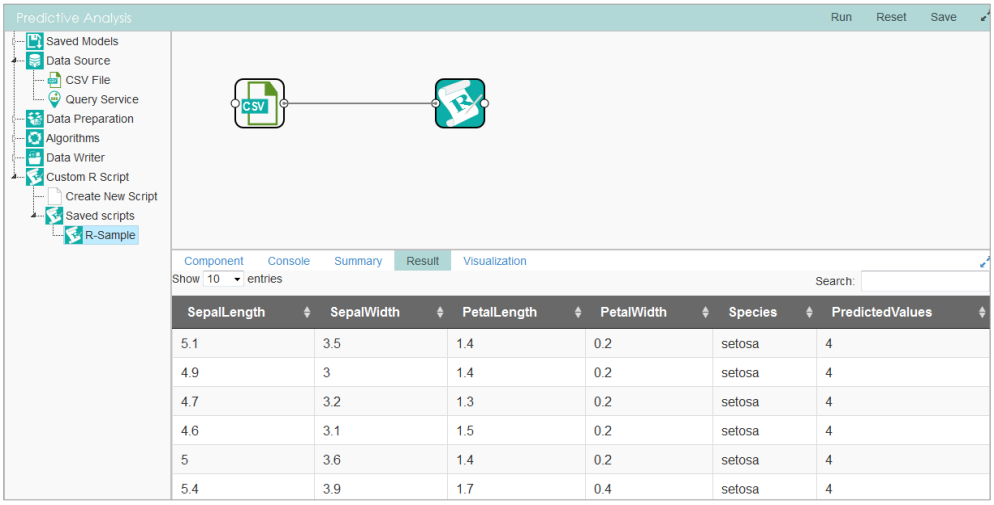
iv) Click on the '**Custom R Script'** and drag and drop the script we have created onto the workspace.



v) Click on the '**R**' component to configure its settings, as shown below



vi) Click on the '**Apply**' button and '**Run**' the model to view the results.



SepalLength	SepalWidth	PetalLength	PetalWidth	Species	PredictedValues
5.1	3.5	1.4	0.2	setosa	4
4.9	3	1.4	0.2	setosa	4
4.7	3.2	1.3	0.2	setosa	4
4.6	3.1	1.5	0.2	setosa	4
5	3.6	1.4	0.2	setosa	4
5.4	3.9	1.7	0.4	setosa	4

vii) Click on the '**Visualization**' tab to view the result in the form of graphs and charts.