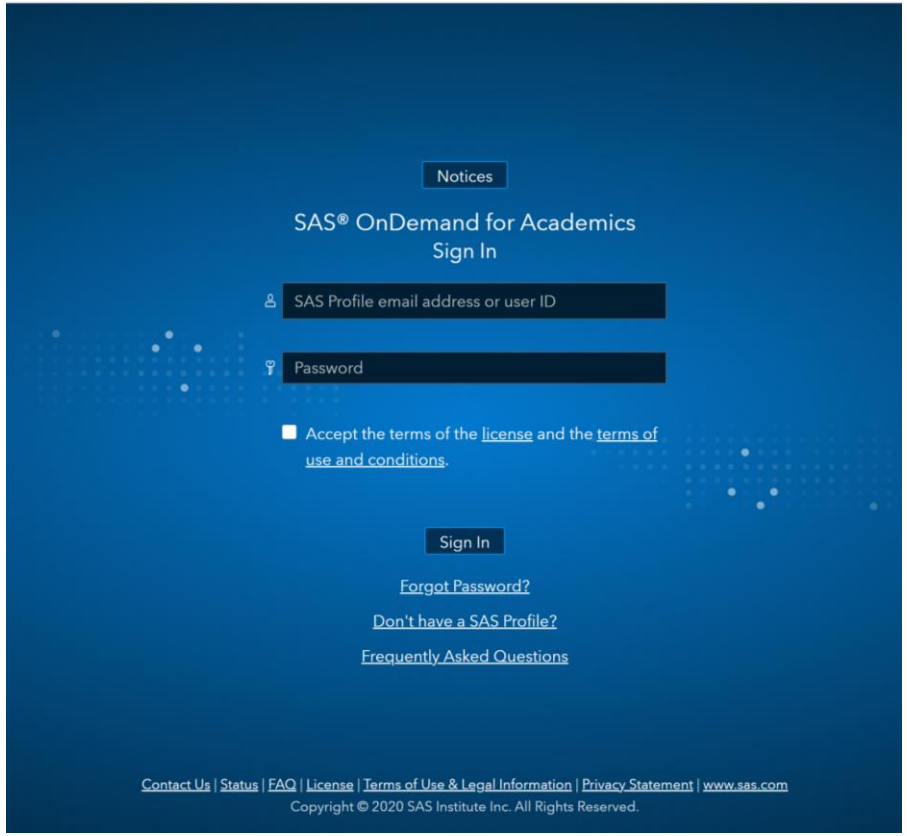
ANLT5050

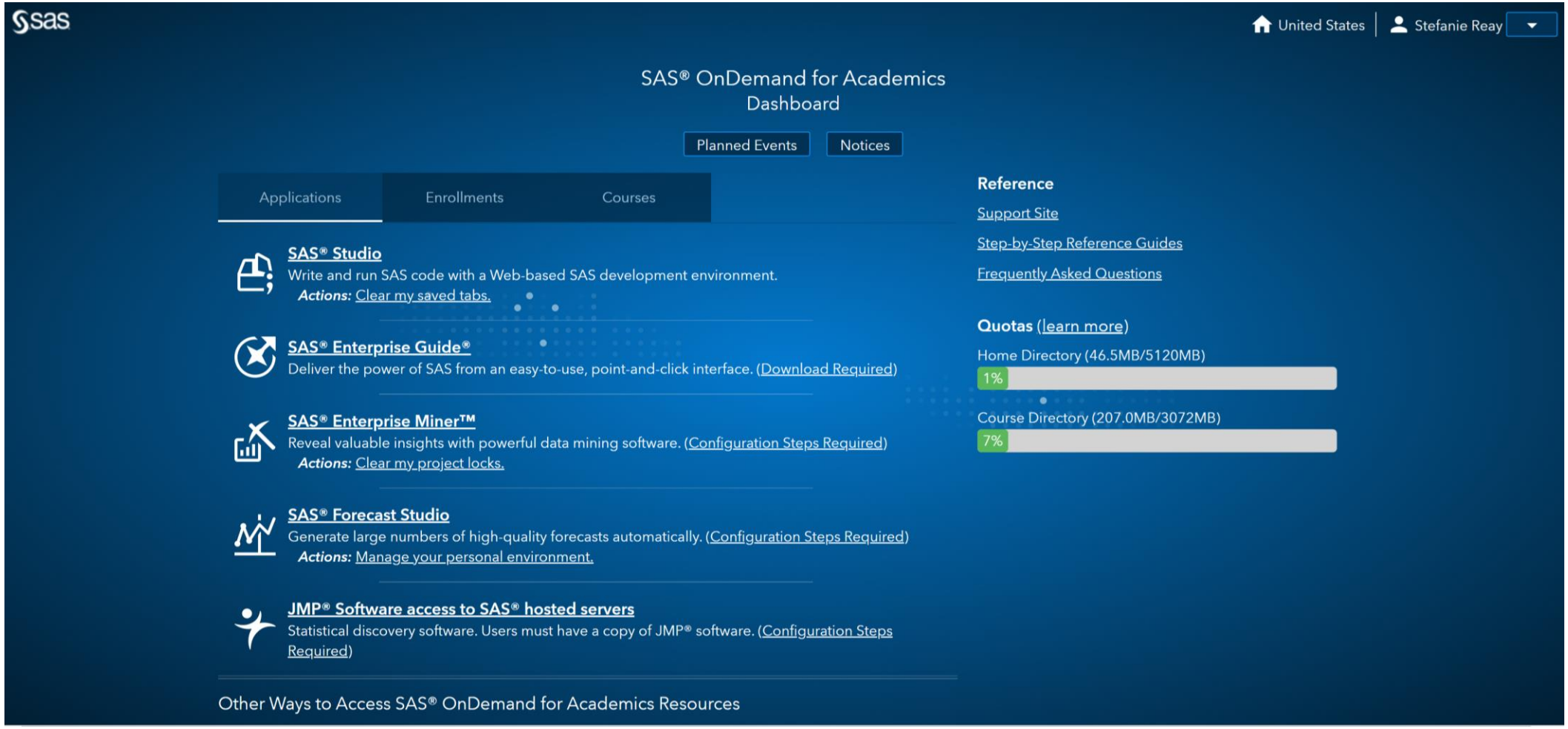
Unit 4 Assignment 1 Tutorial

Access the SAS OnDemand for Academics Control Center

https://odamid.oda.sas.com/SASODAControlCenter



SAS OnDemand for Academics (SODA) Control Center

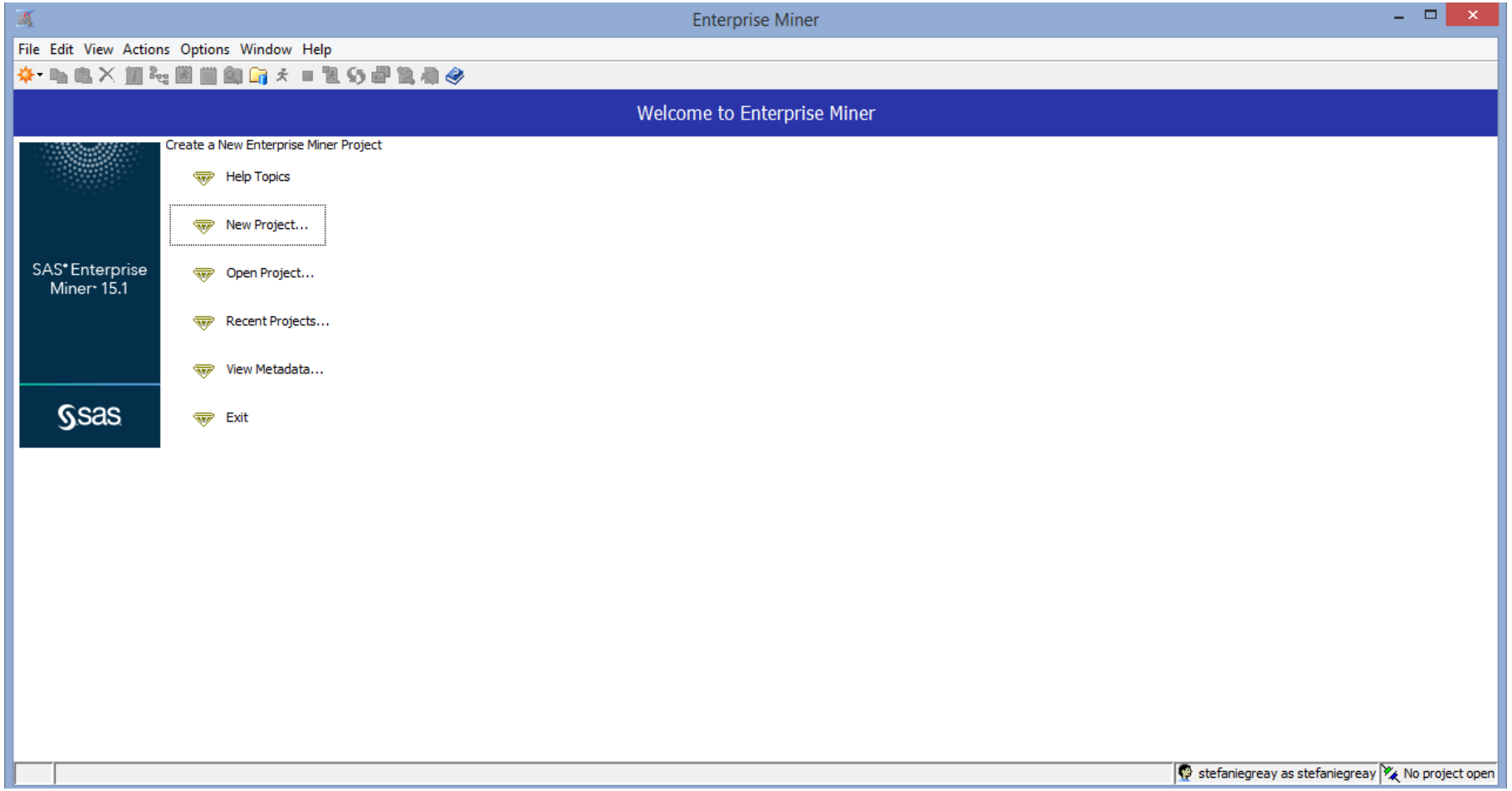


SAS Enterprise Miner Instructions

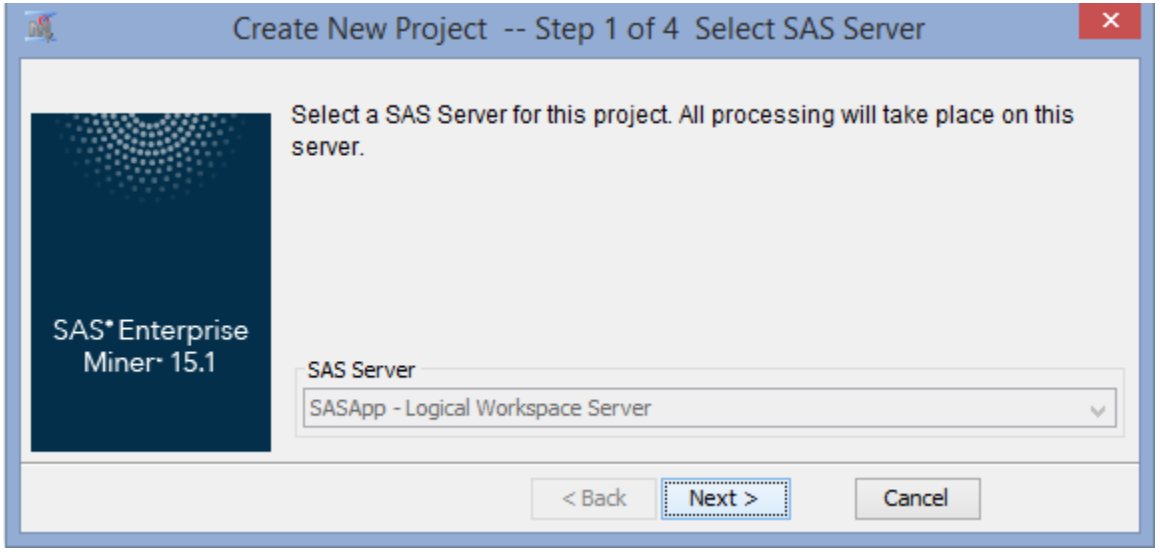
The following slides provide instructions on how to complete this task in SAS Enterprise Miner.

It is easier to work with the data as a csv file in SAS Enterprise Miner, so first, save the .xls file as a csv file, then proceed.

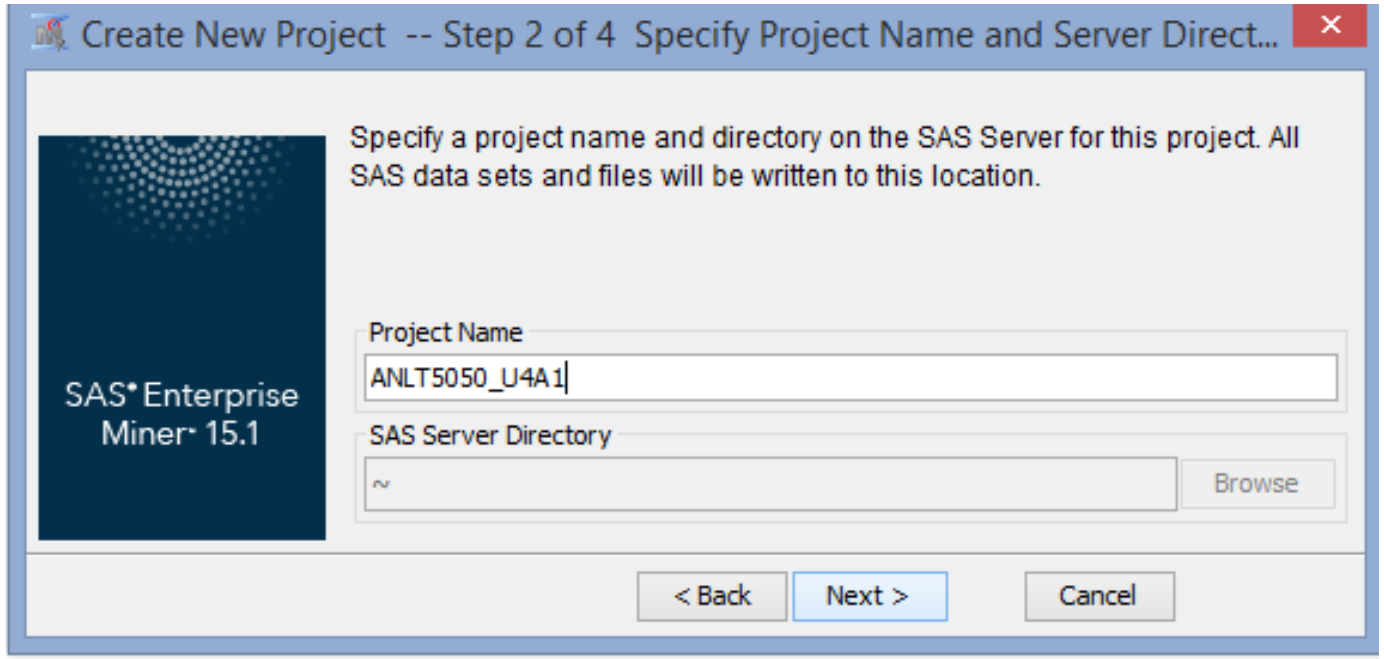
Once you download and start SAS Enterprise Miner, open a new project by clicking on “New Project.”



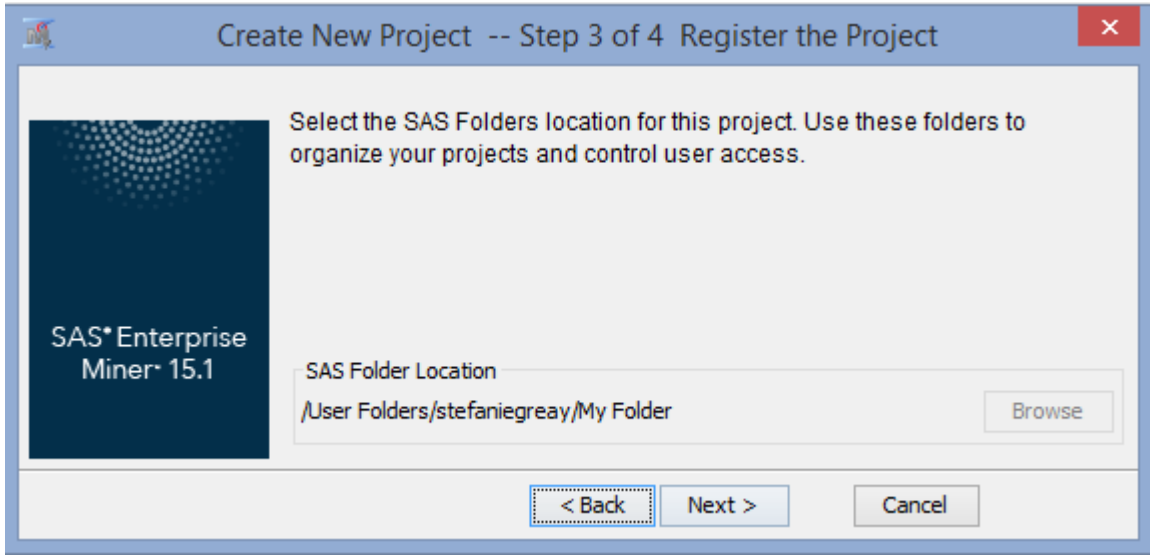
Click “Next>” to use the default SAS Server



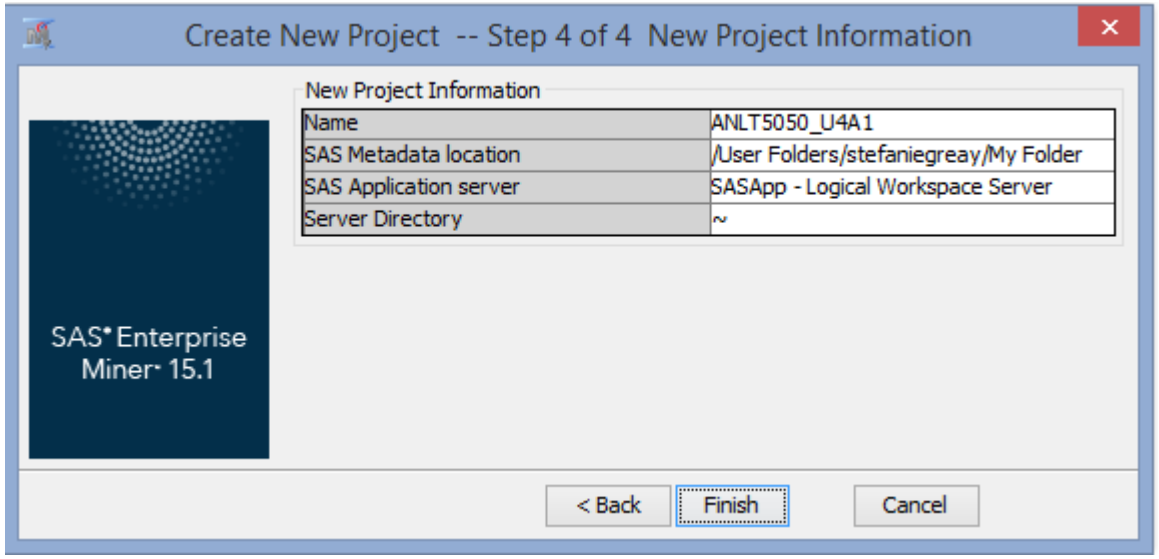
Enter a project name and click “Next>”



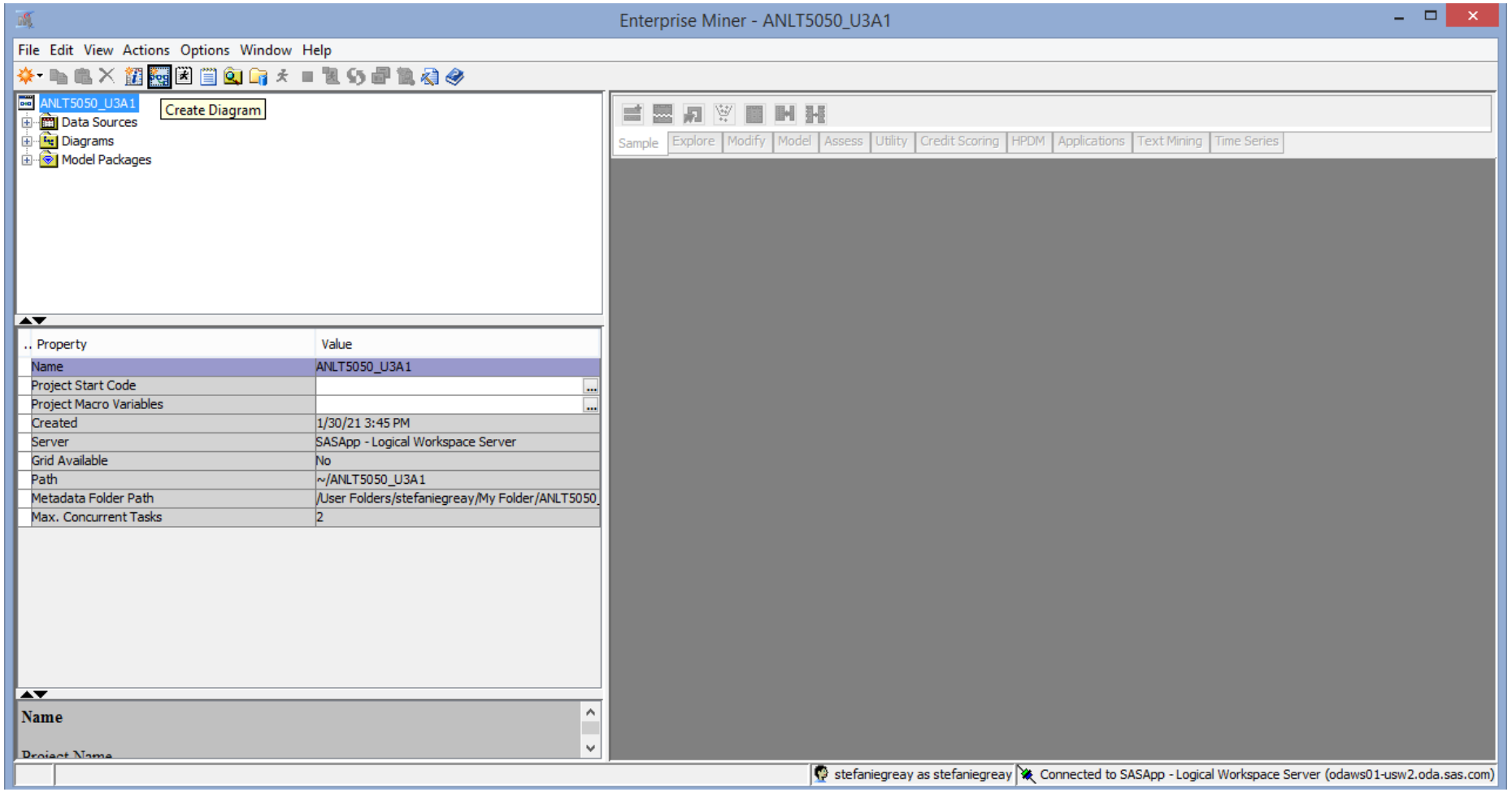
Click “Next>”



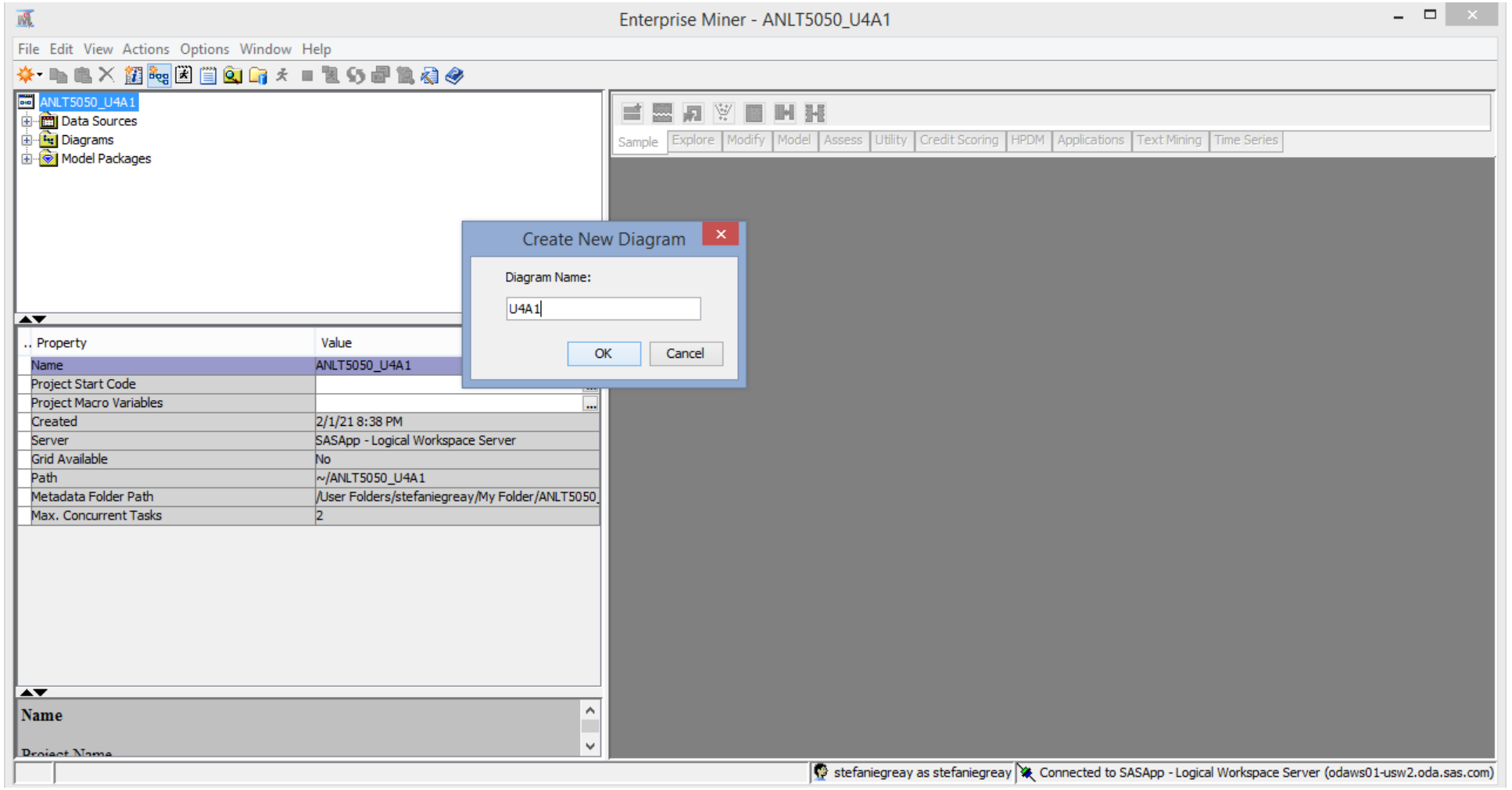
Verify your entries and click “Finish”



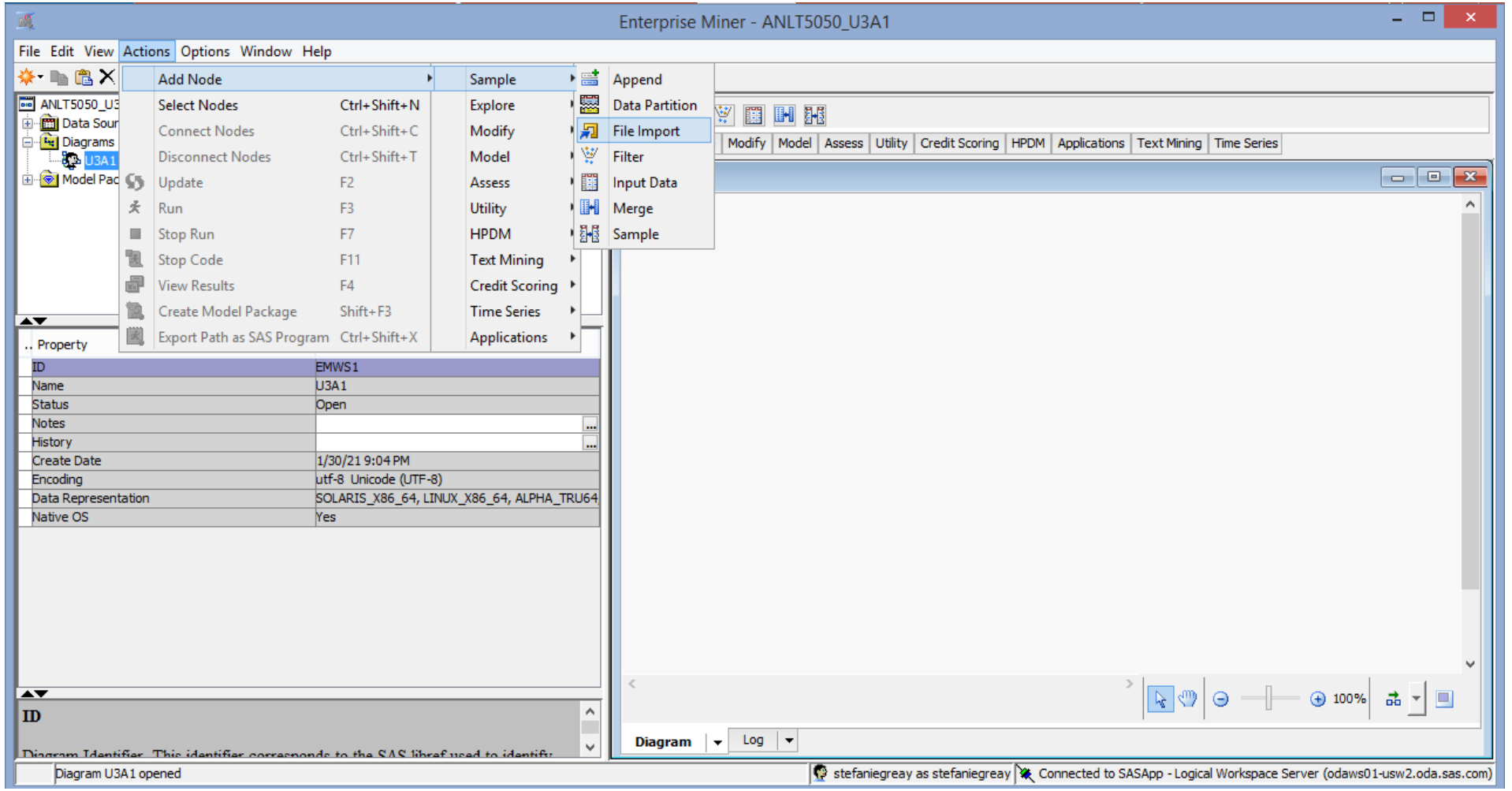
Click on the “Create Diagram” icon.



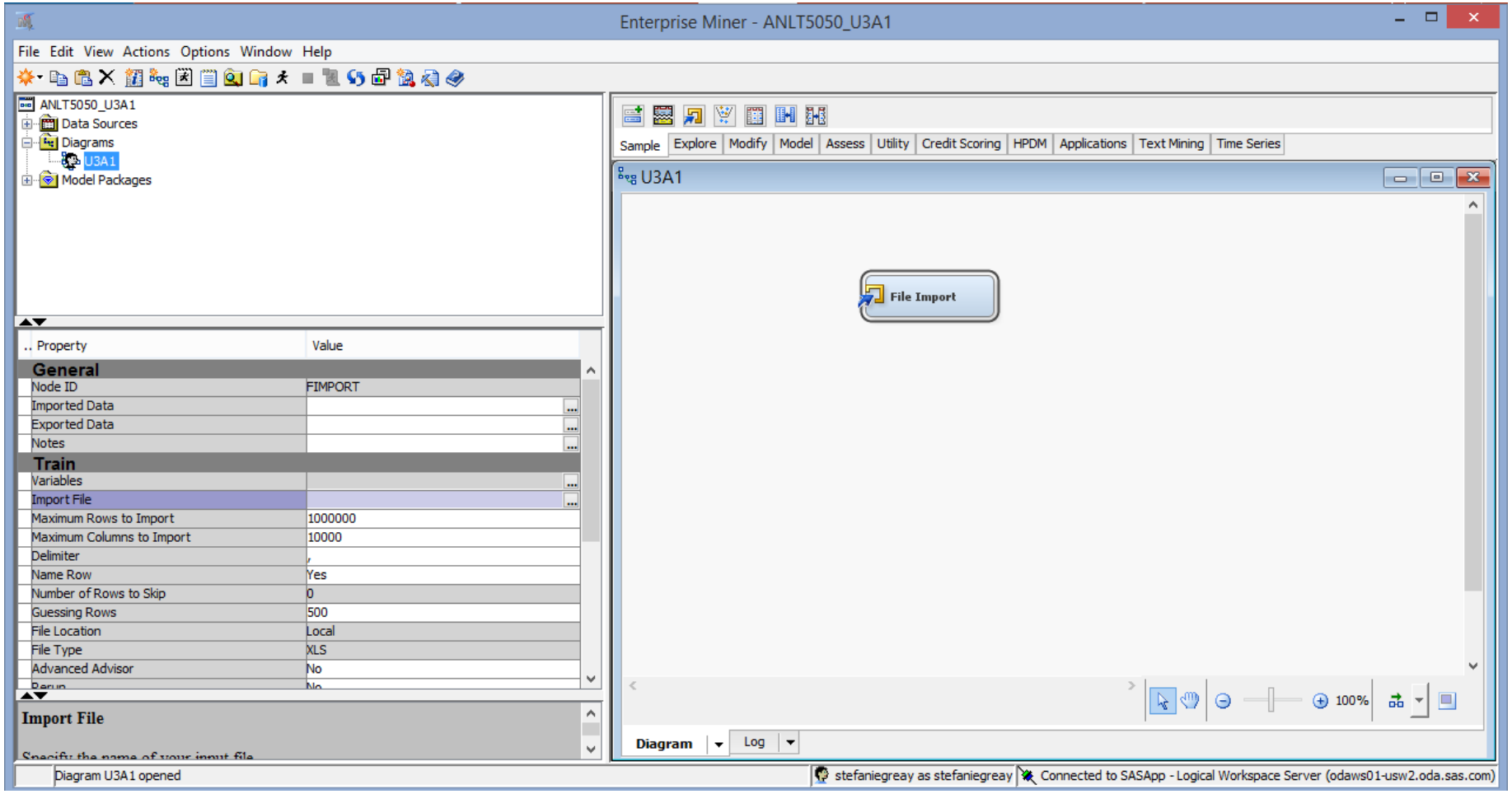
Name your diagram and click “OK.”



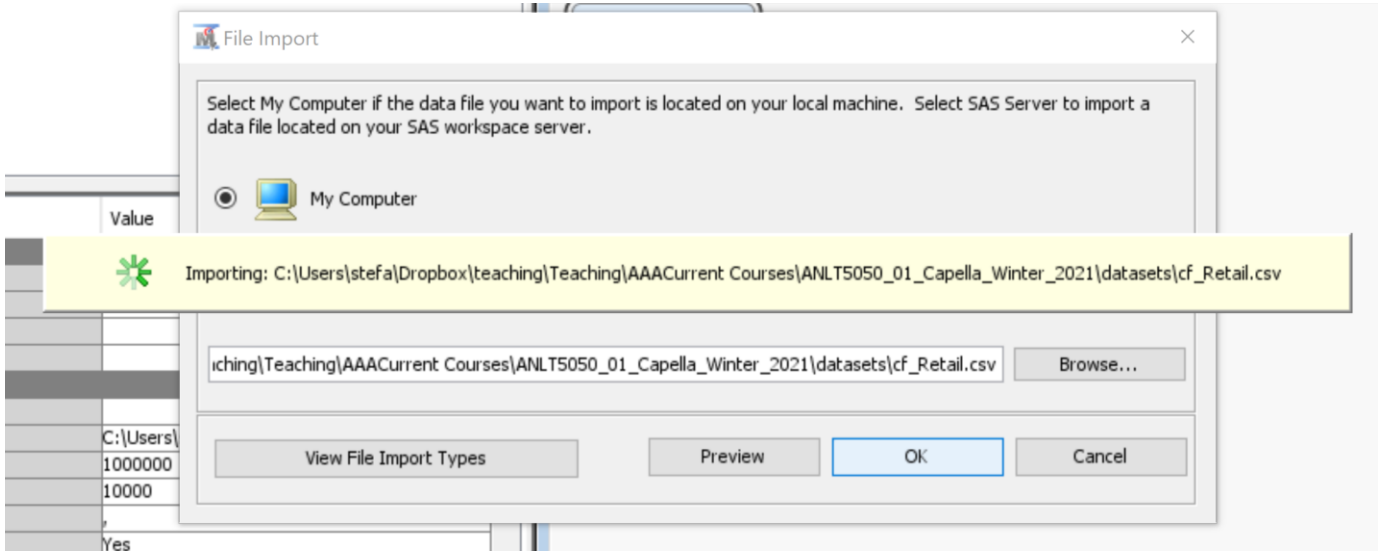
Click on Actions>Add Node>Sample>File Import



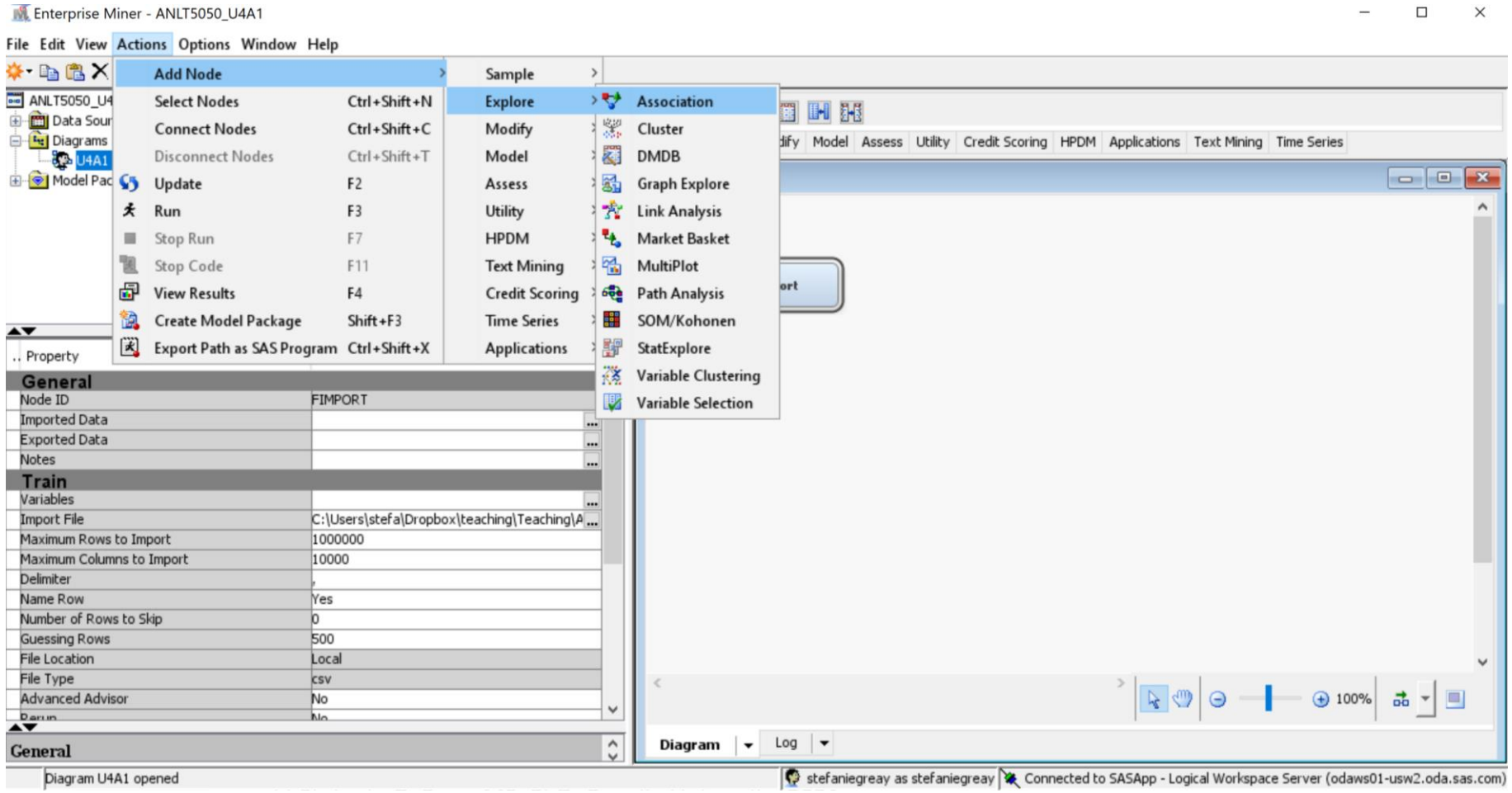
Click the elipses (3 dots) next to “Import File.”



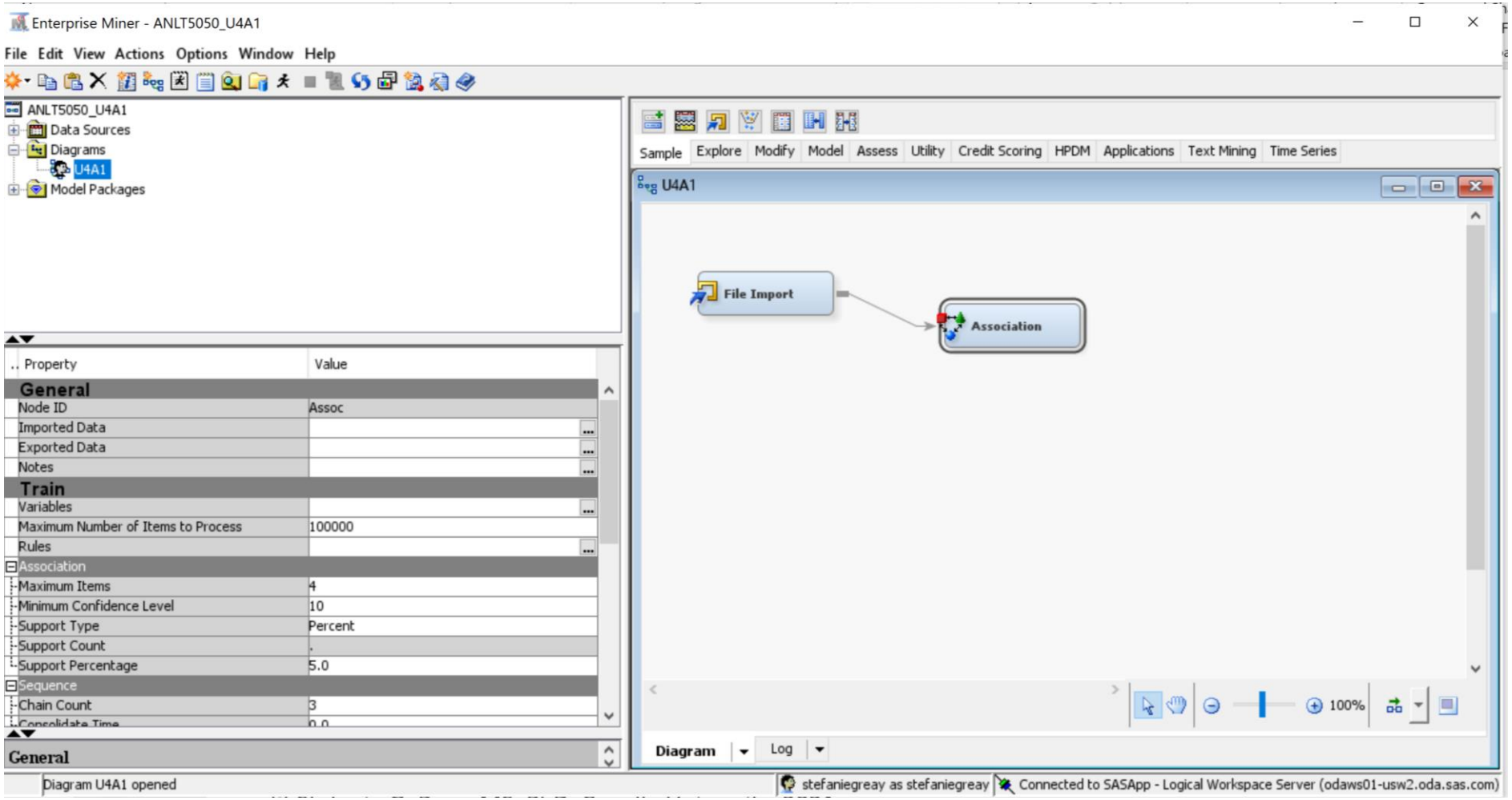
Navigate to your file and click “OK.”



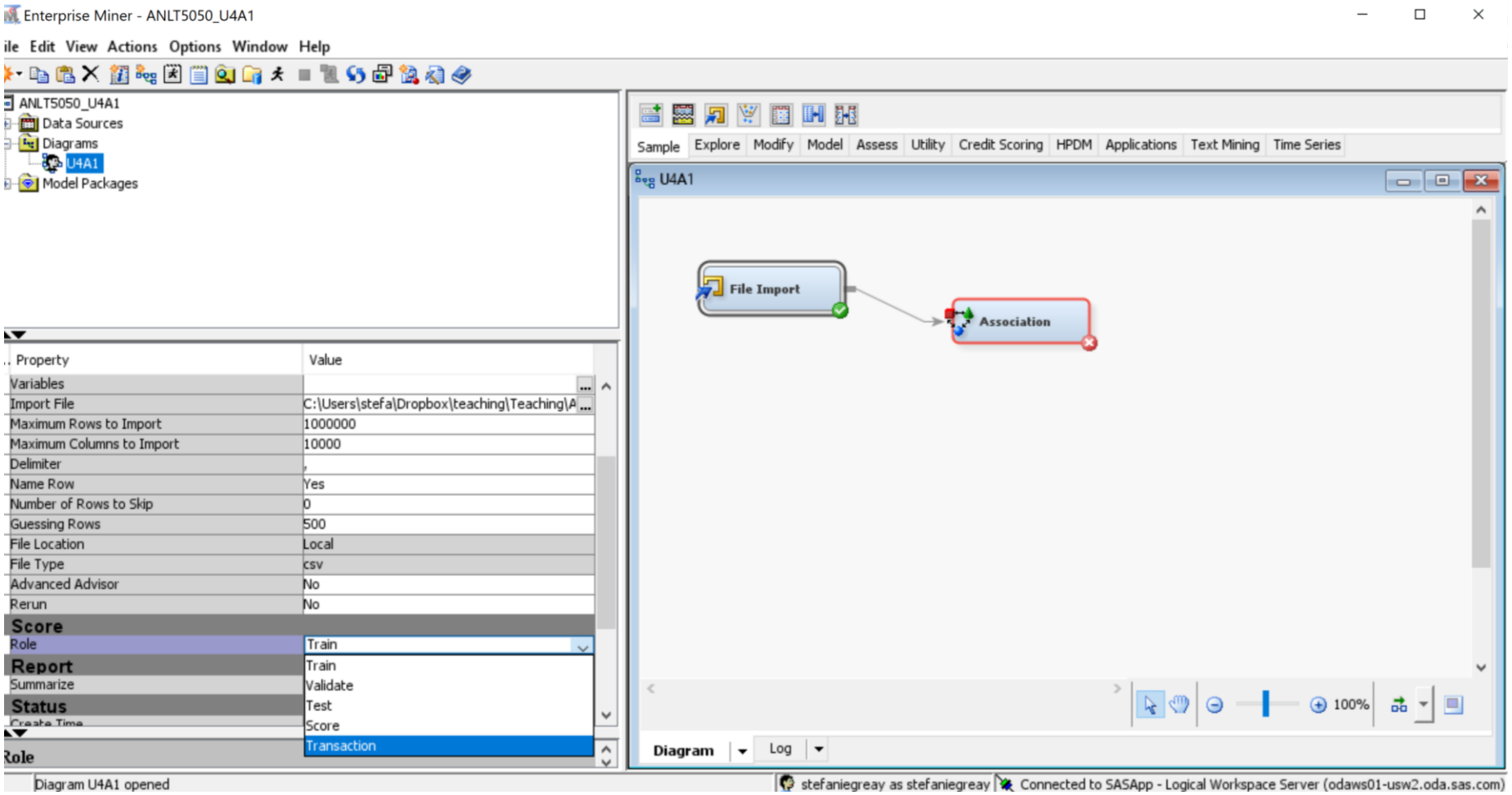
Click on Actions>Add Node>Explore>Association



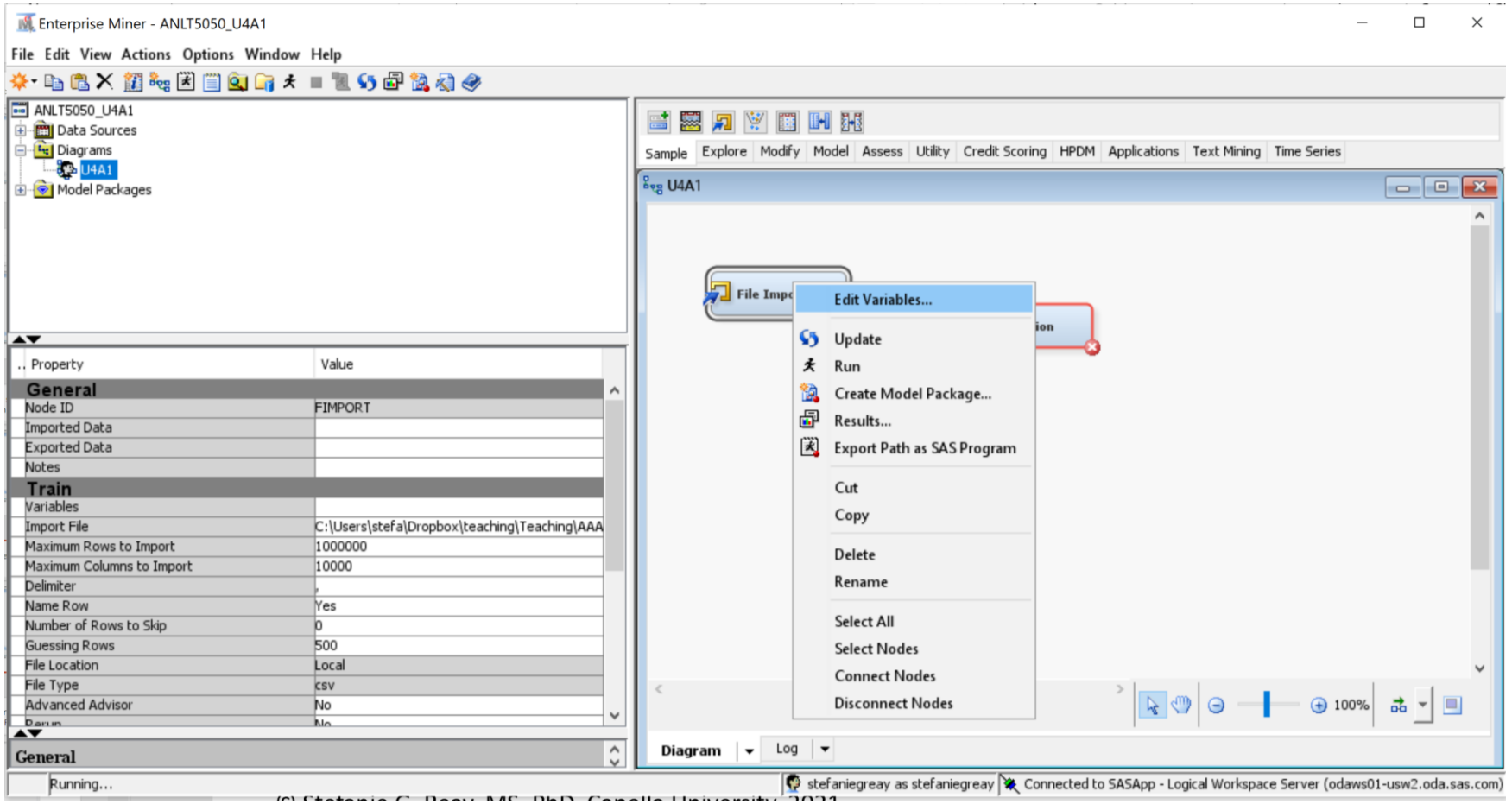
Connect the nodes.



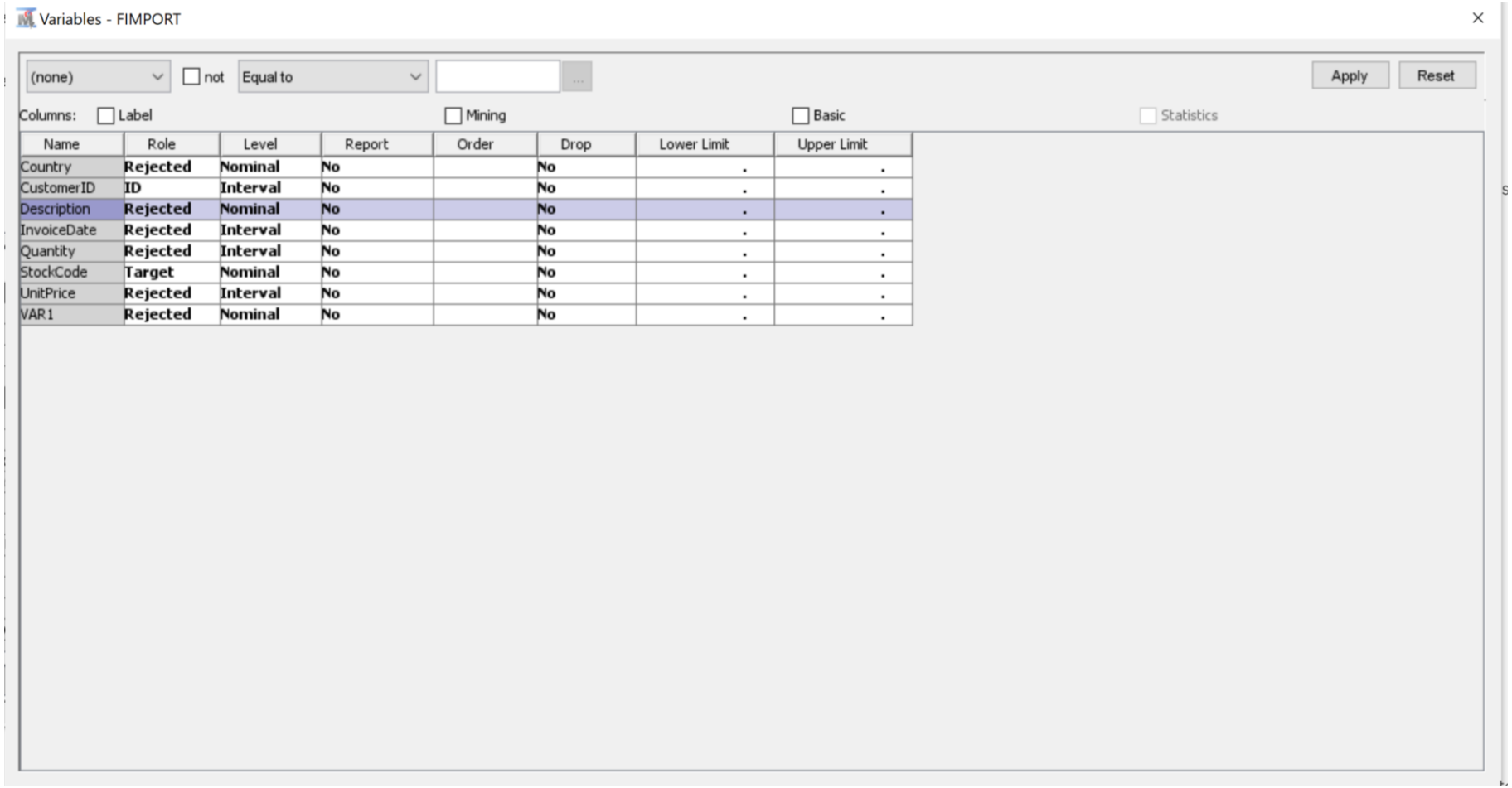
Click on the “File Import” node and scroll down to “data role” and choose “Transaction.”



Right click on the “File Import” node and choose “edit variables.”

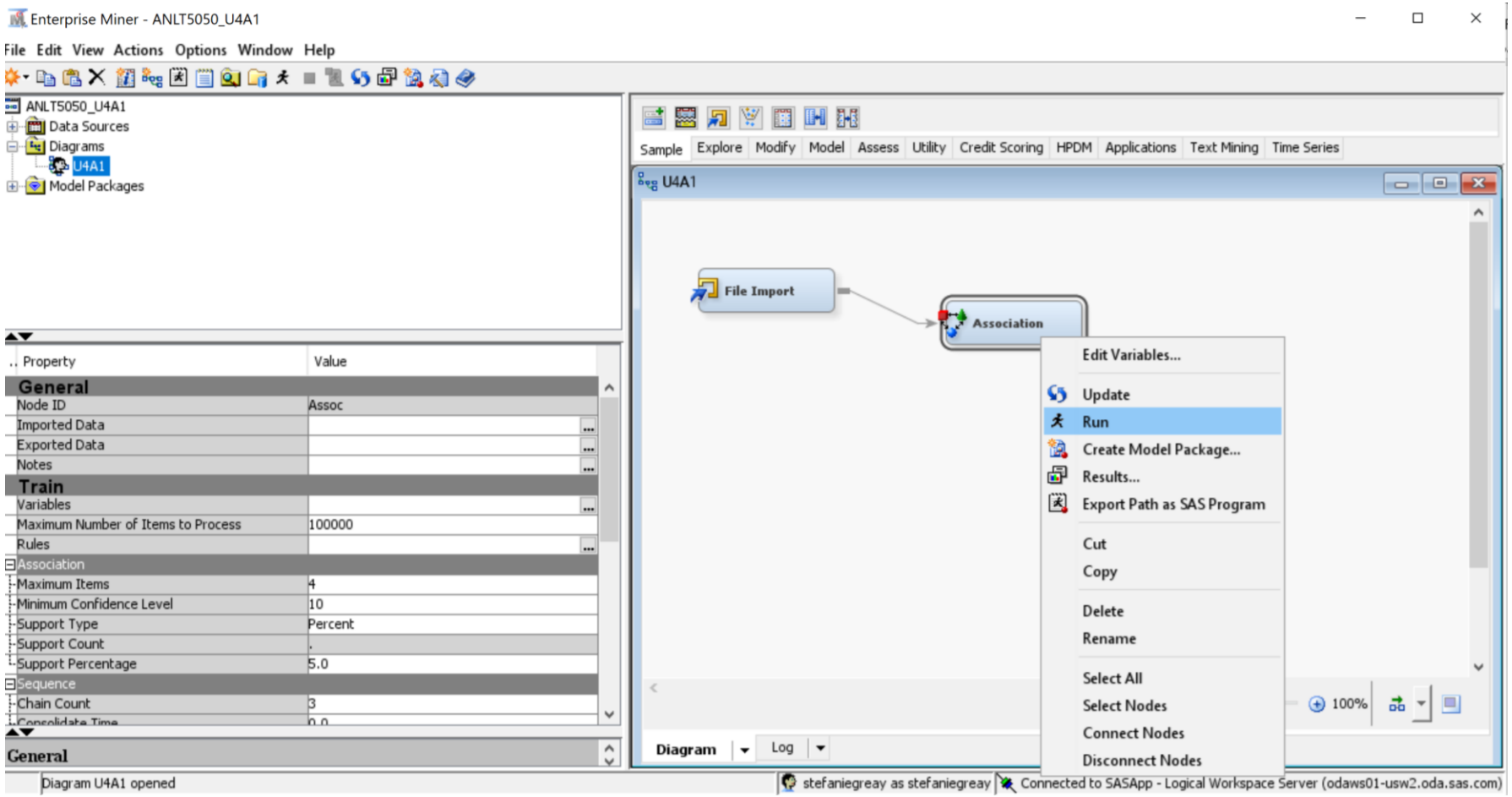


Set the role of CustomerID to “ID,”and StockCode to “Target” and everything else as “Rejected.”

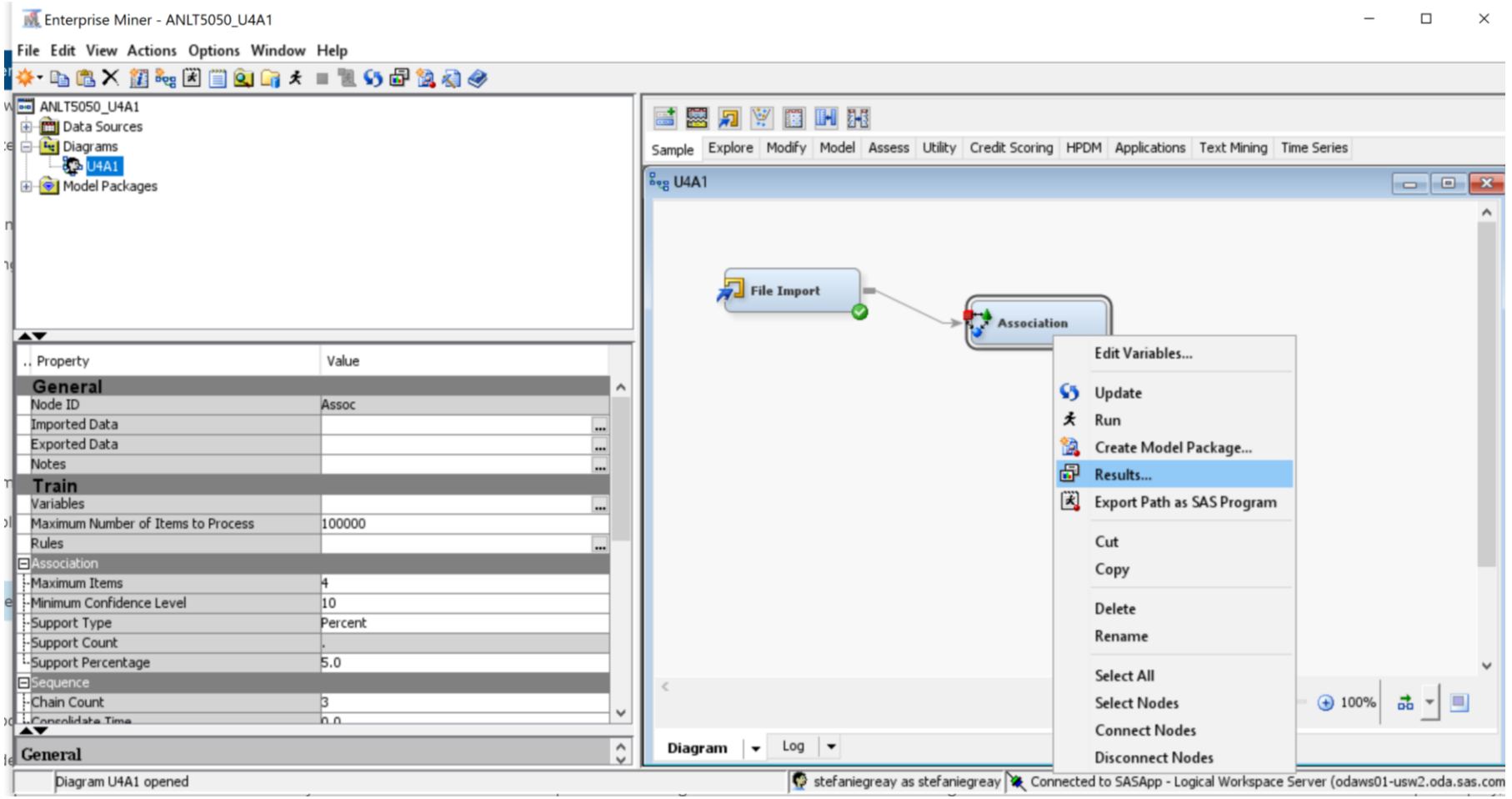


Name	Role	Level	Report	Order	Drop	Lower Limit	Upper Limit
Country	Rejected	Nominal	No		No	.	.
CustomerID	ID	Interval	No		No	.	.
Description	Rejected	Nominal	No		No	.	.
InvoiceDate	Rejected	Interval	No		No	.	.
Quantity	Rejected	Interval	No		No	.	.
StockCode	Target	Nominal	No		No	.	.
UnitPrice	Rejected	Interval	No		No	.	.
VAR1	Rejected	Nominal	No		No	.	.

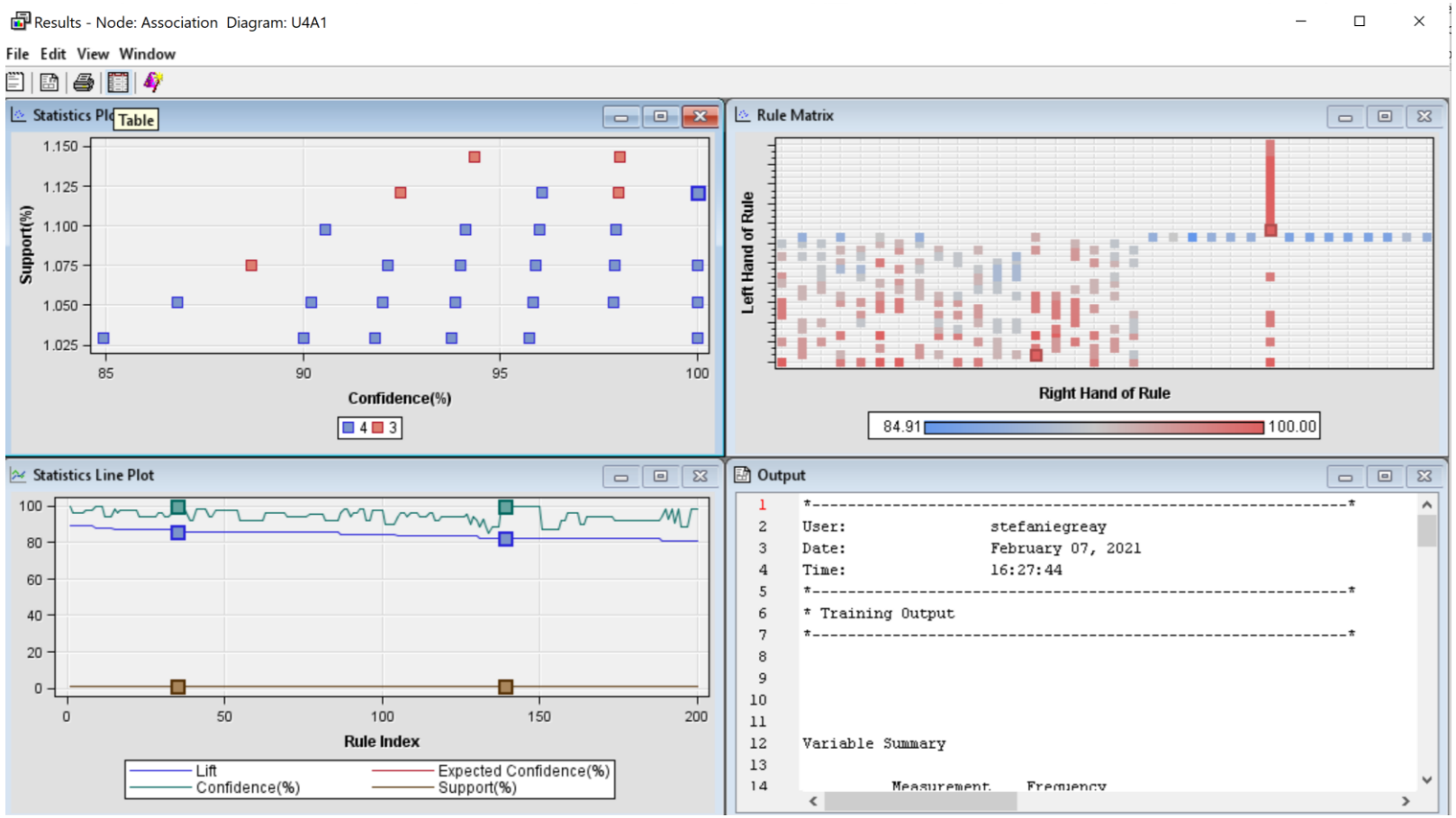
Right click the “Association Rules” node and click “Run.”



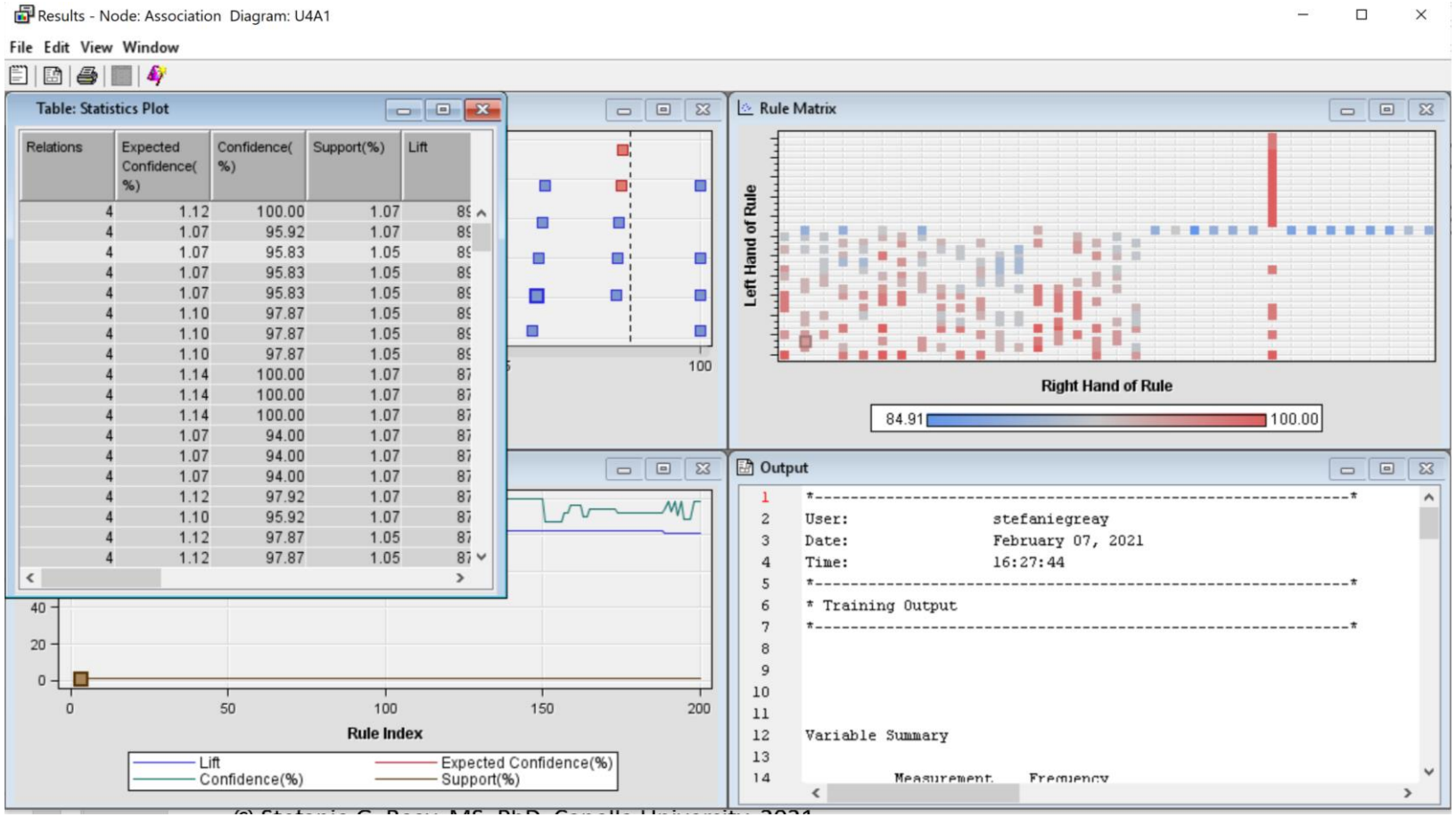
Right click the “Association Rules” node and click “Results.”



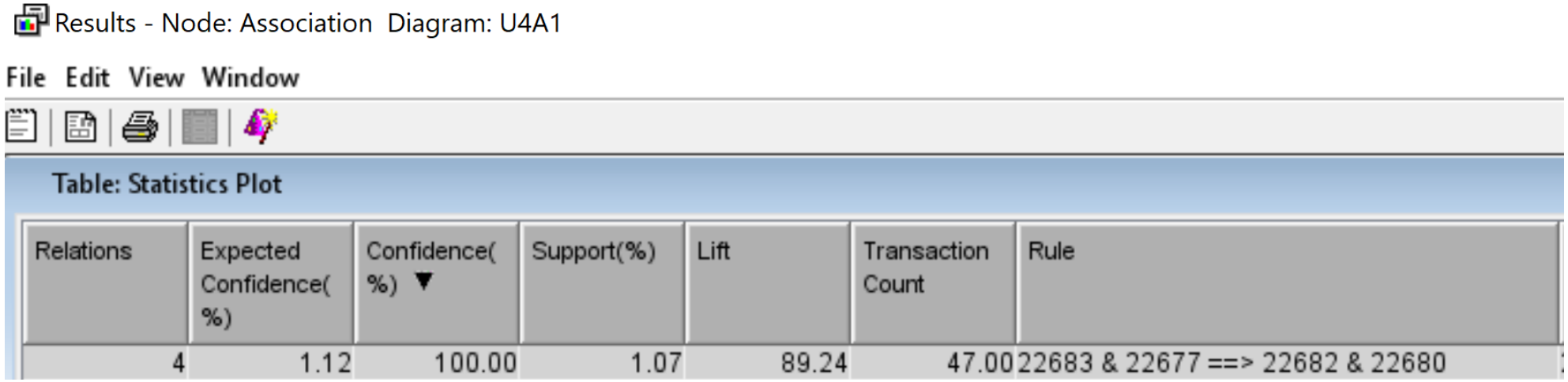
Explore the association rules in the graphs, or click on “Table” to display the table format of the rules.



Expand the table by dragging the corner, and explore the relationships by sorting by any of the variables (like confidence %).



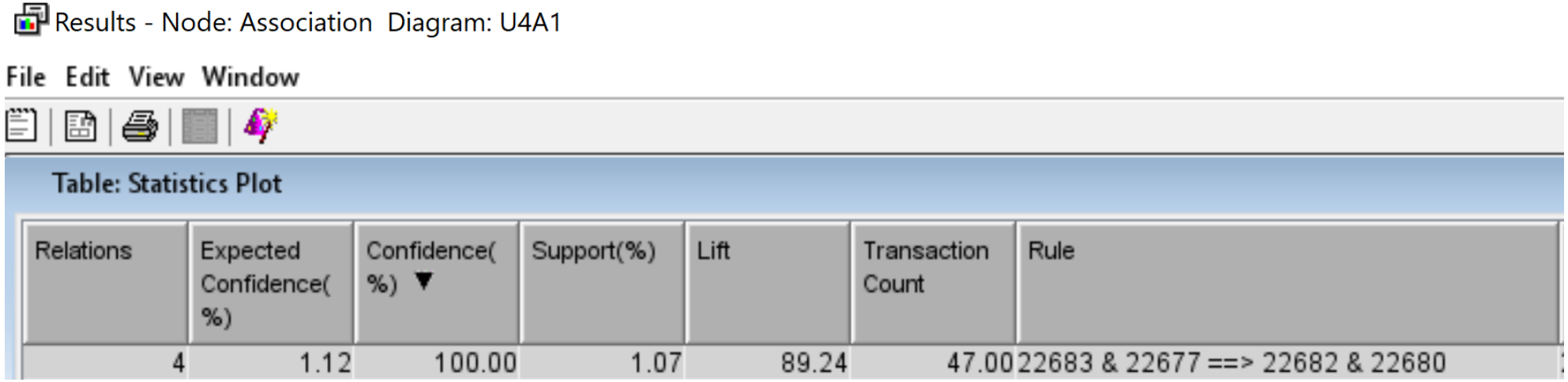
The “Rule” variable shows the rule itself.



Relations	Expected Confidence(%)	Confidence(%) ▼	Support(%)	Lift	Transaction Count	Rule
4	1.12	100.00	1.07	89.24	47.00	22683 & 22677 ==> 22682 & 22680

This rule, for example, shows that when a customer purchases items numbered 22683 and 22677 together, they also purchase items numbered 22682 and 22680. (We do not have the details to know what products these item numbers are associated with, so we can only reference them by their item numbers.)

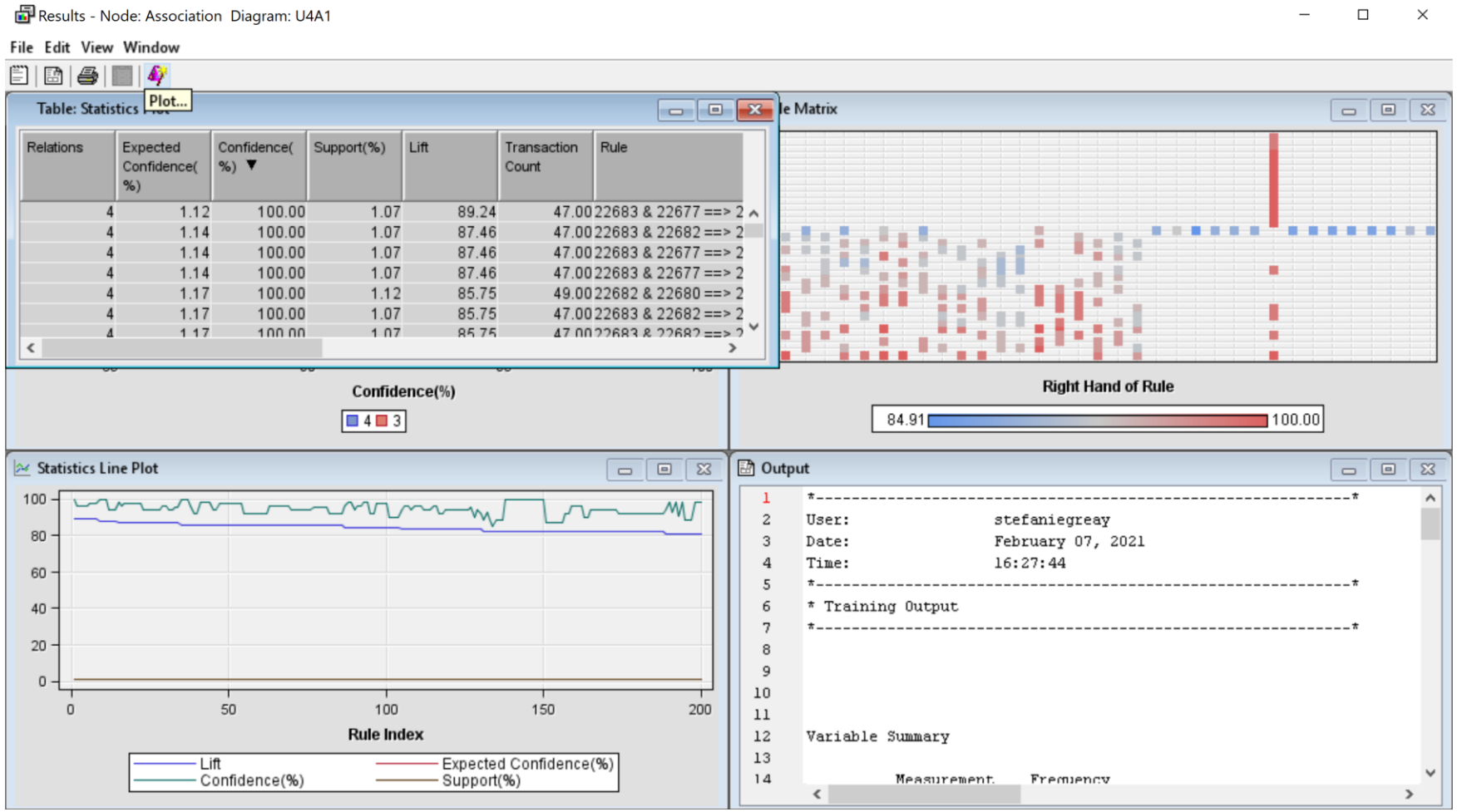
Use the print icon to print this matrix of rules to save it outside of SAS.



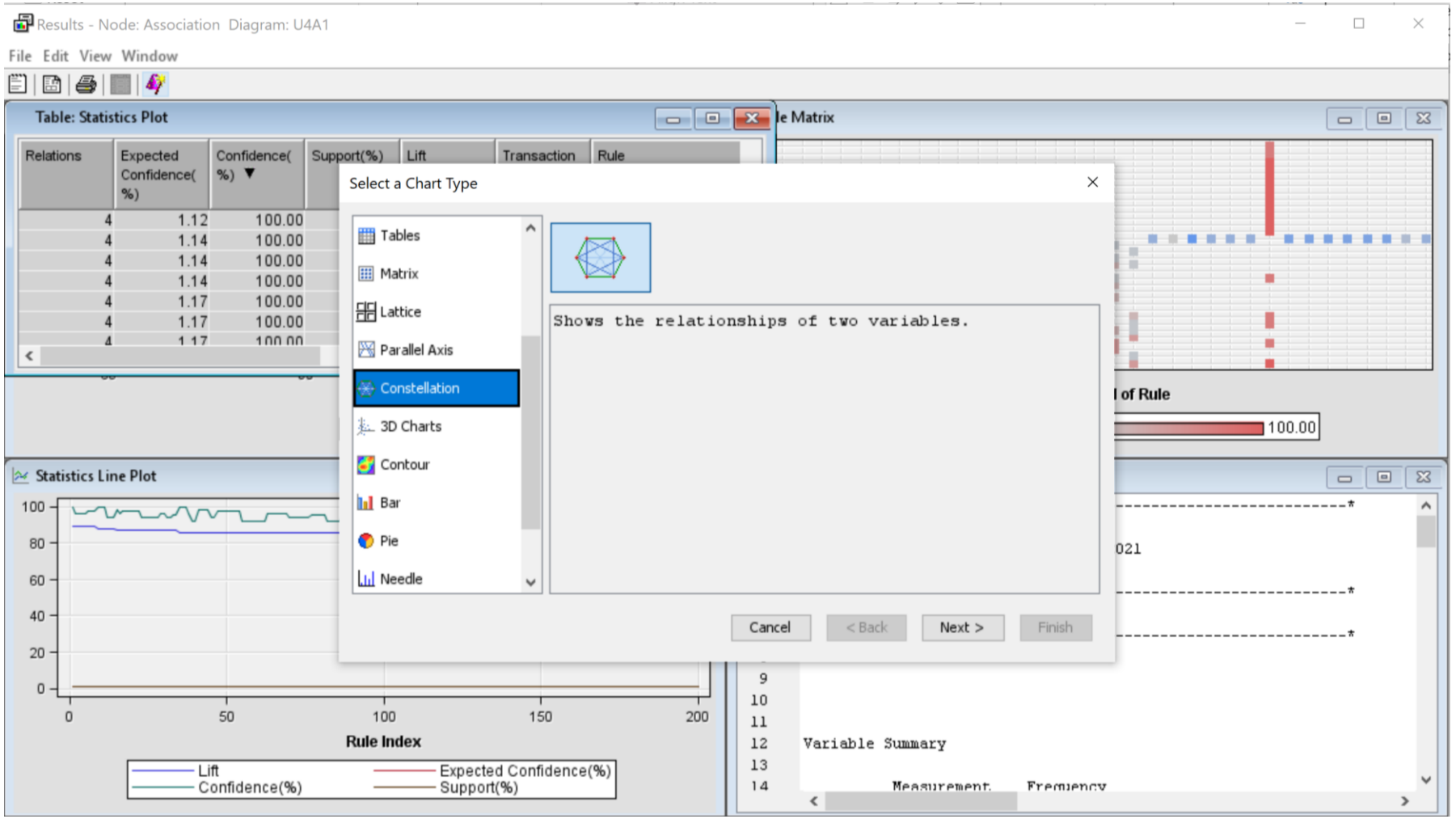
Relations	Expected Confidence(%)	Confidence(%) ▼	Support(%)	Lift	Transaction Count	Rule
4	1.12	100.00	1.07	89.24	47.00	22683 & 22677 ==> 22682 & 22680

In this matrix, all rules with a maximum of 4 relations (i.e. 4 item numbers purchased together) which have at least an 85% confidence are displayed. You can edit these settings (if you want to allow more items or include rules with higher or lower confidence levels) in the main menu of the Association Rules node.

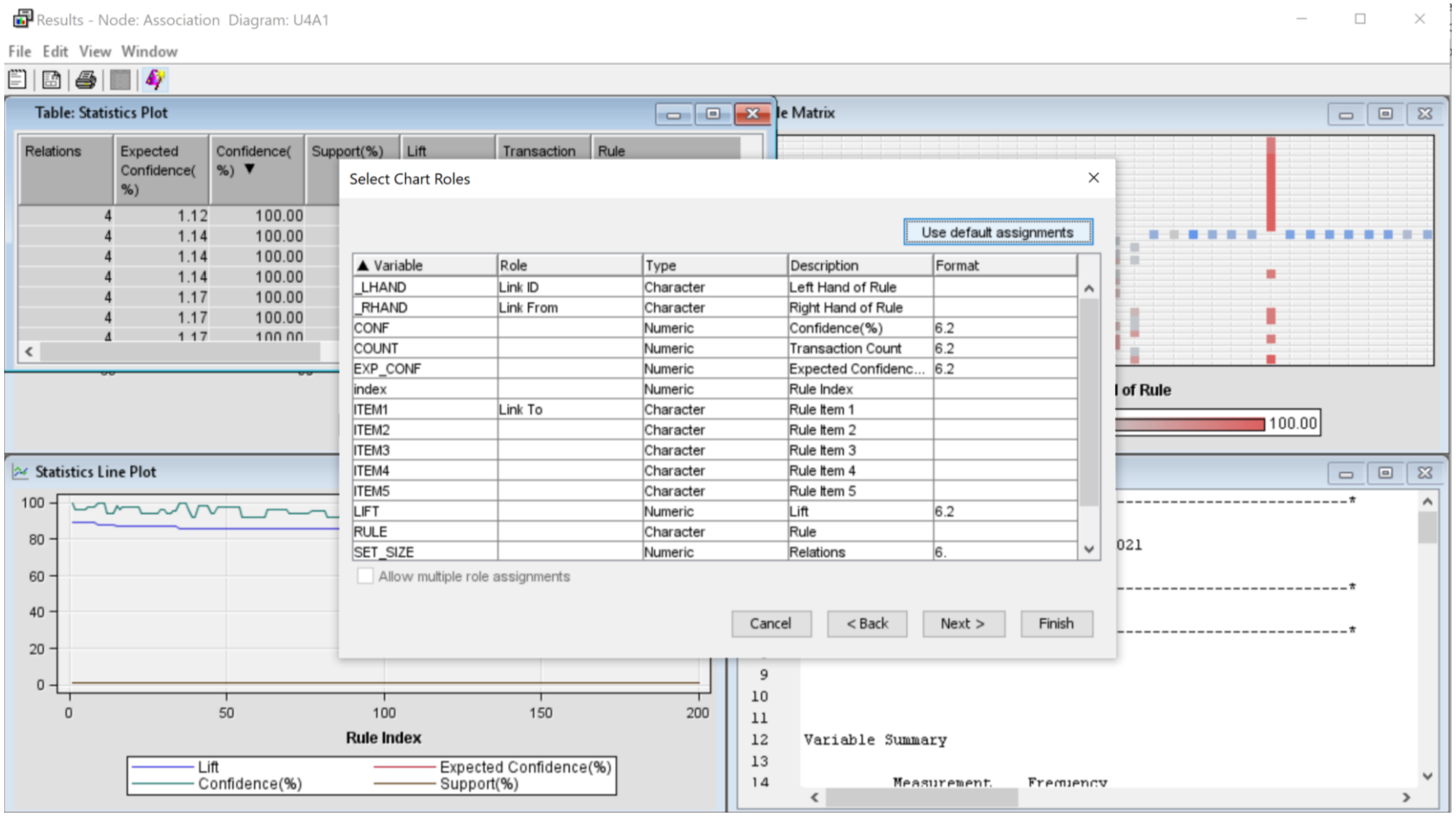
You can get to the link plot by clicking on “Plot.”



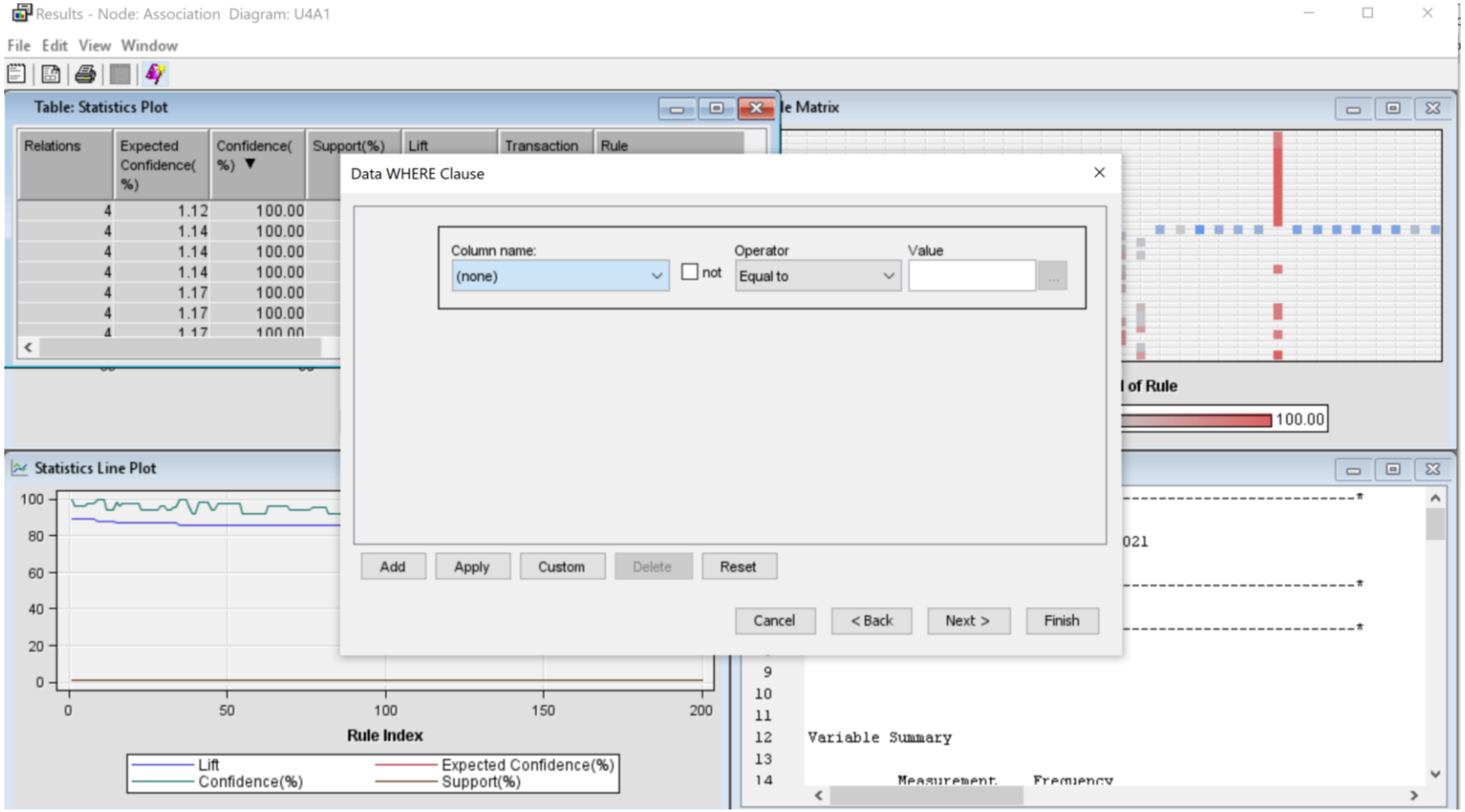
Choose “Constellation” and click “Next>.”



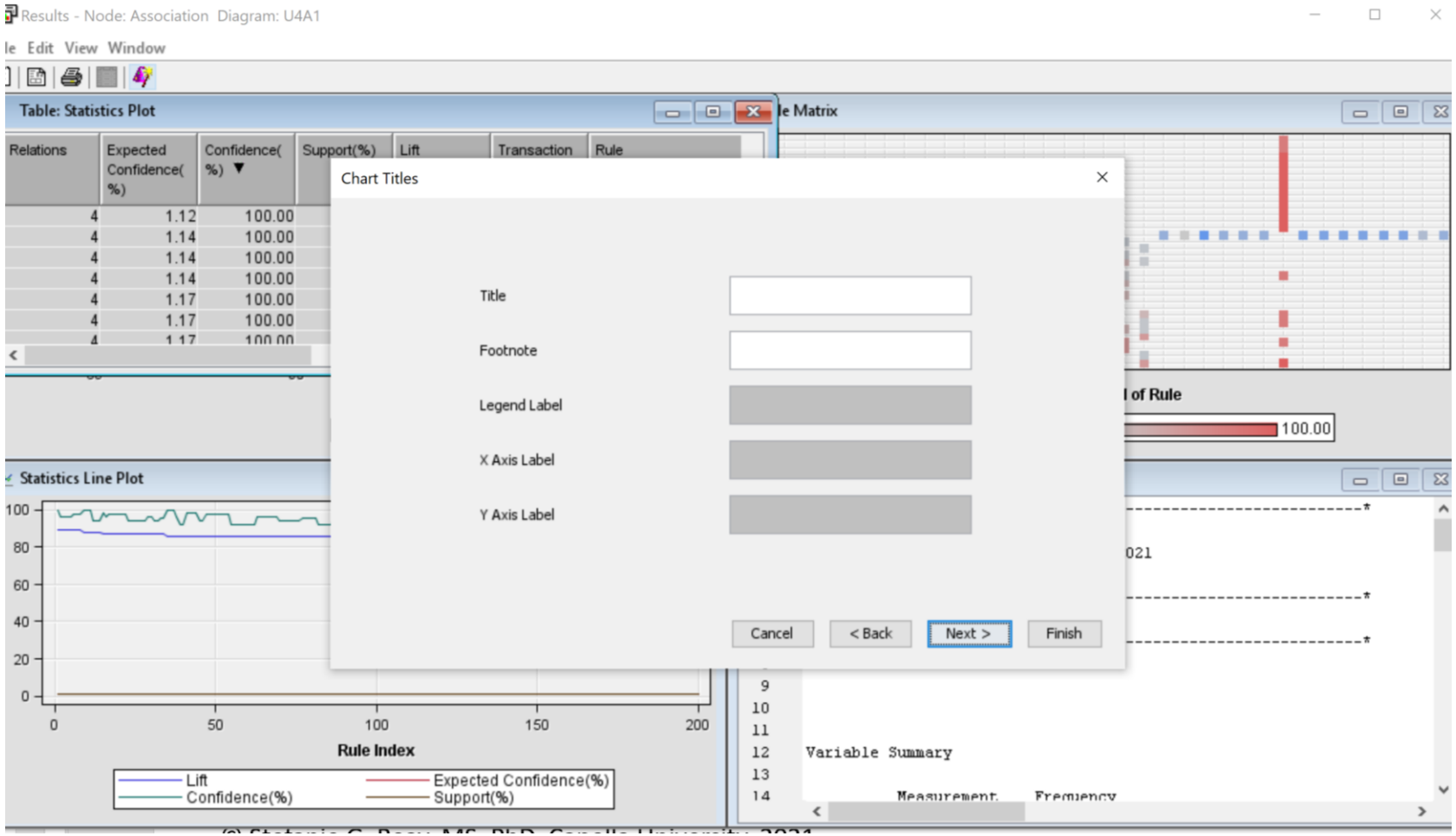
Choose “Use Default Assignments” and click “Next>.”



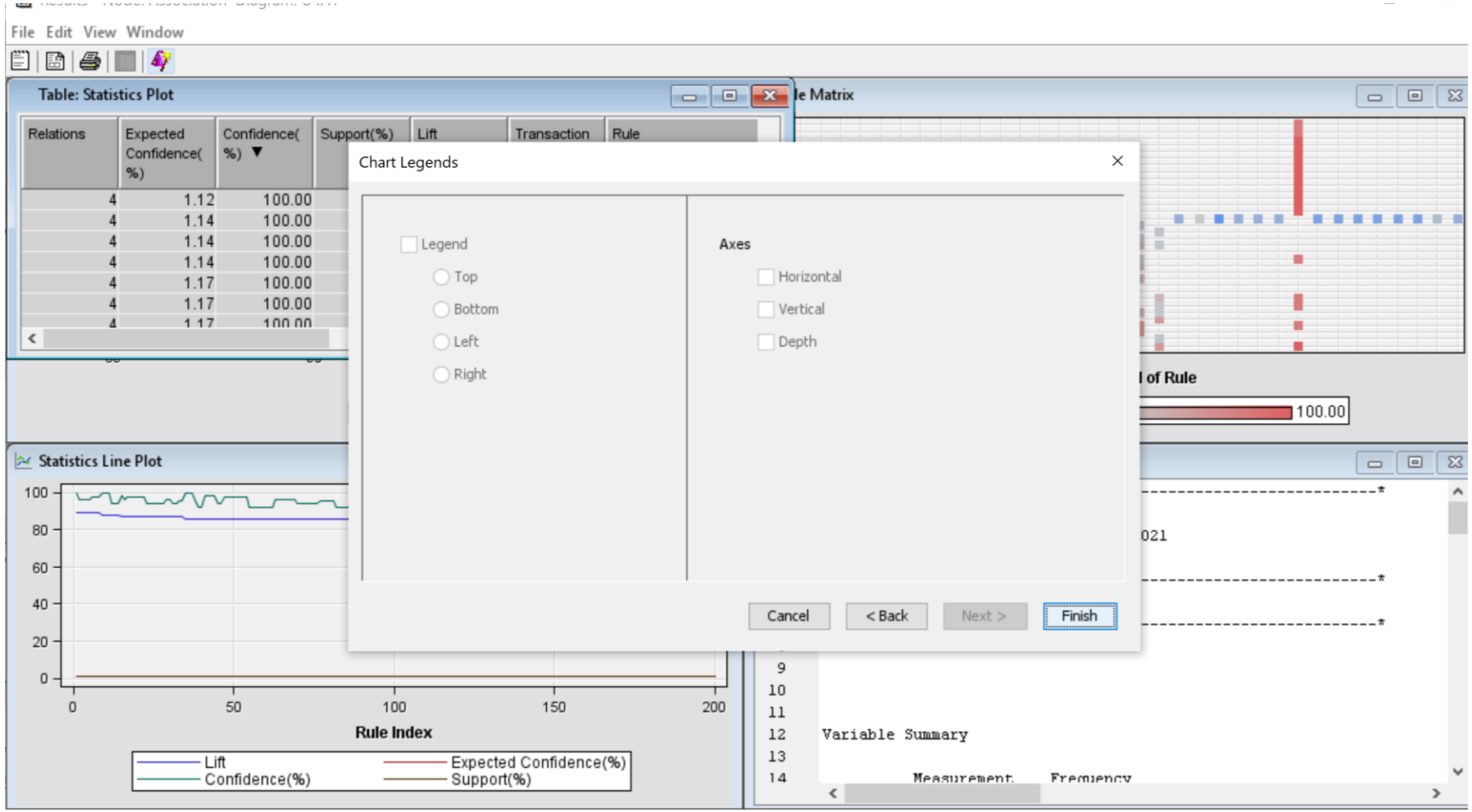
You can add any filters you like in this menu, then click “Next >.”



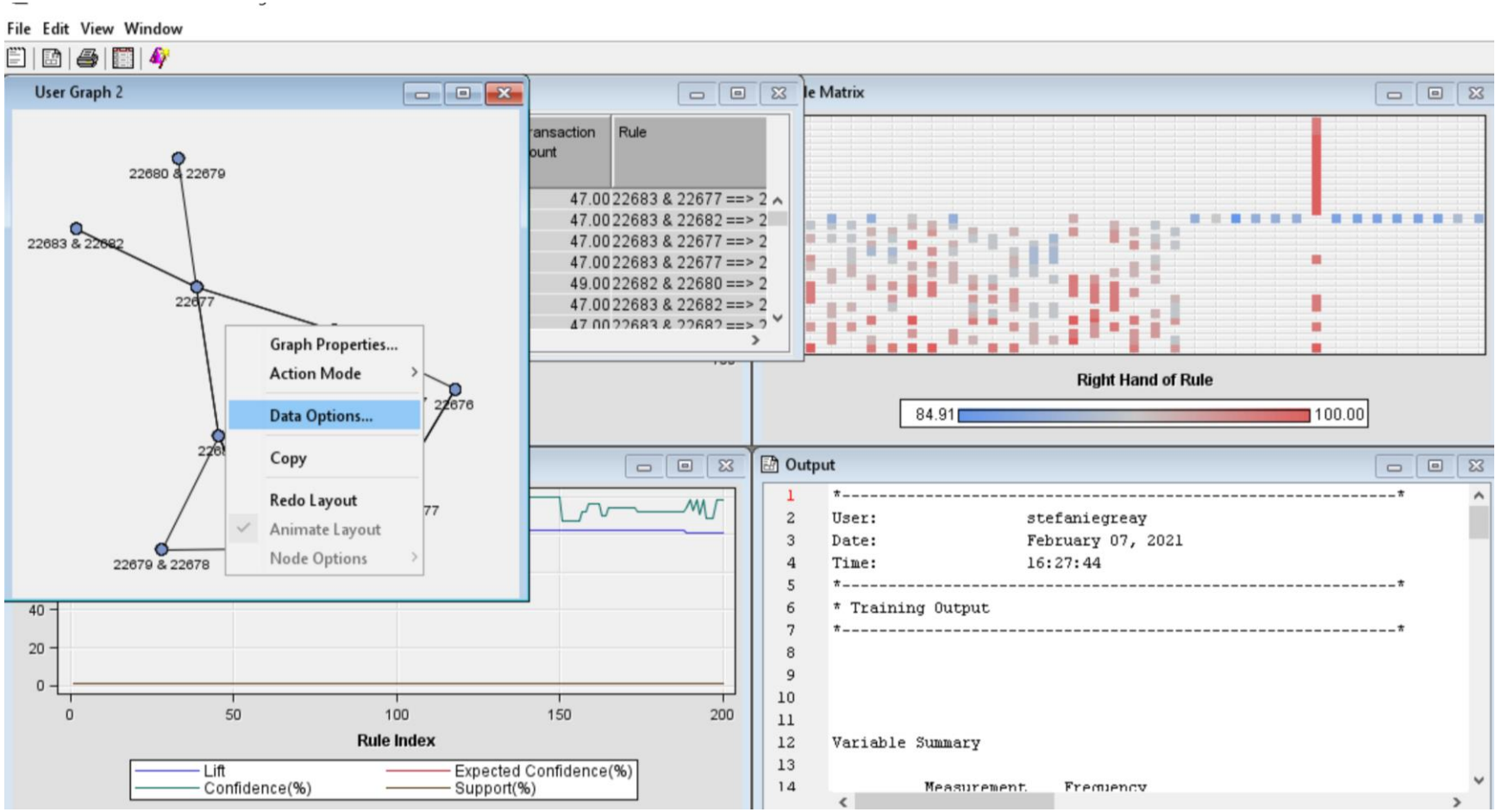
Edit the Title, Footnote, etc., then click “Next >.”



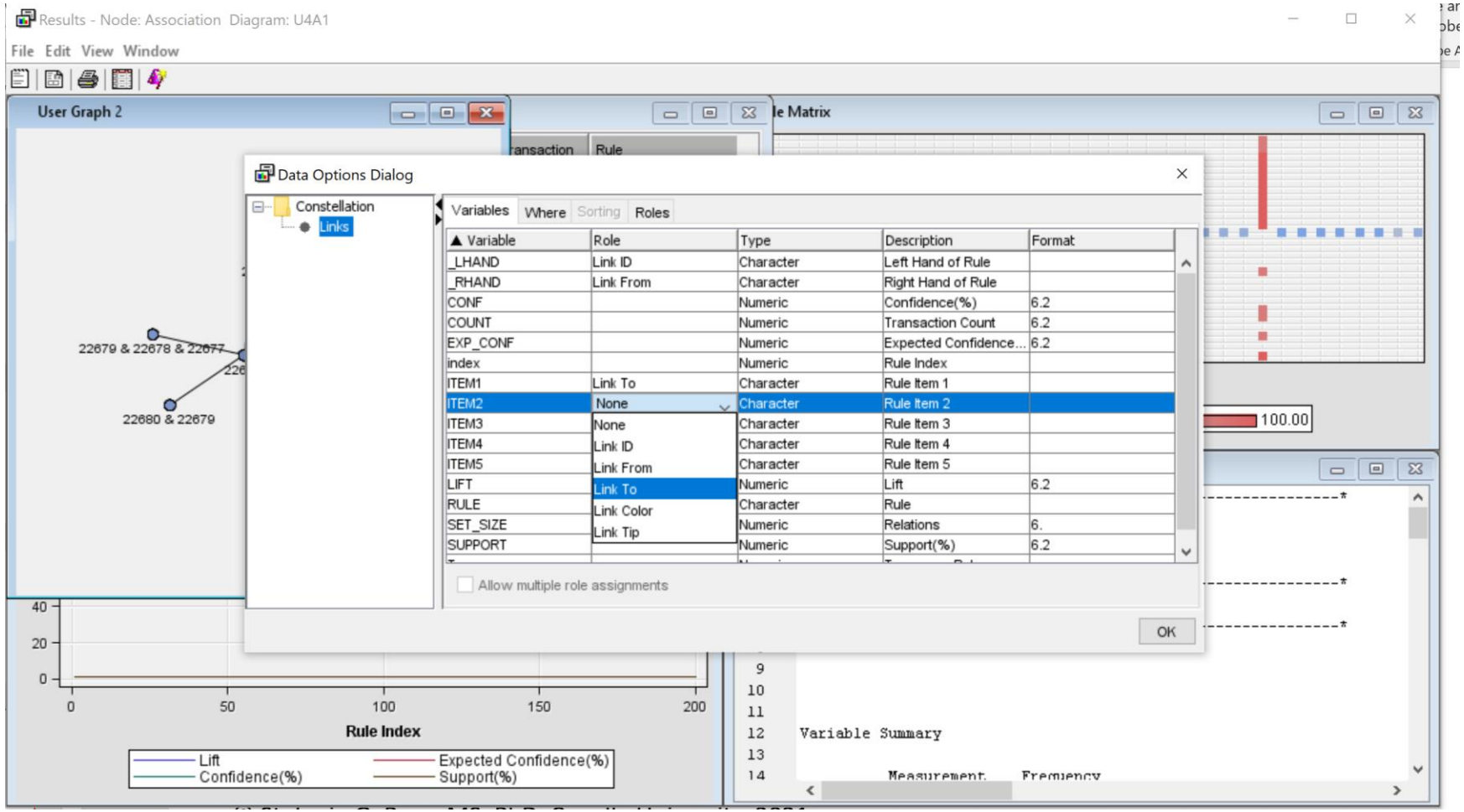
Click “Finish.”



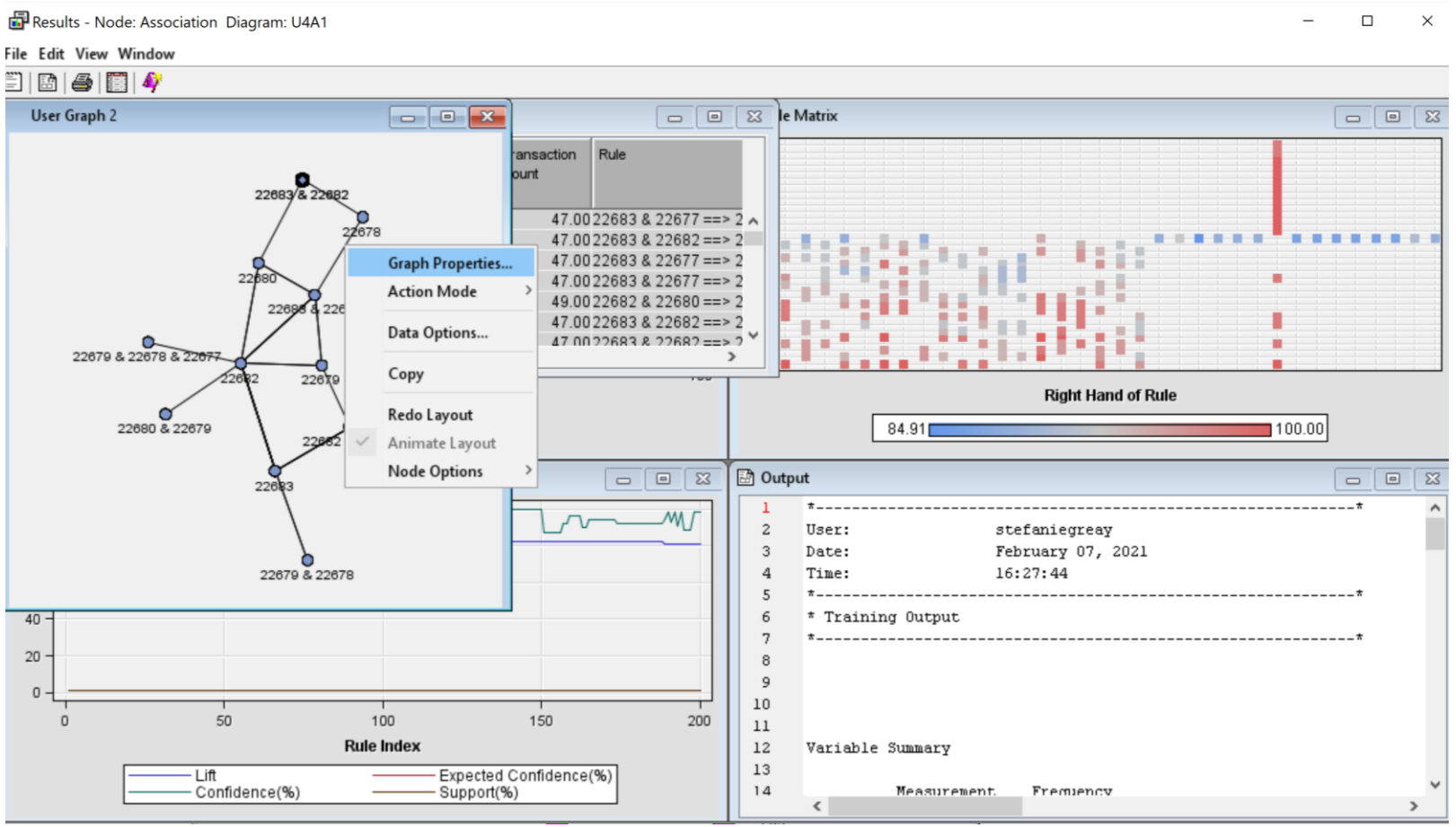
To Edit the graph, right click and choose “Data Options.”



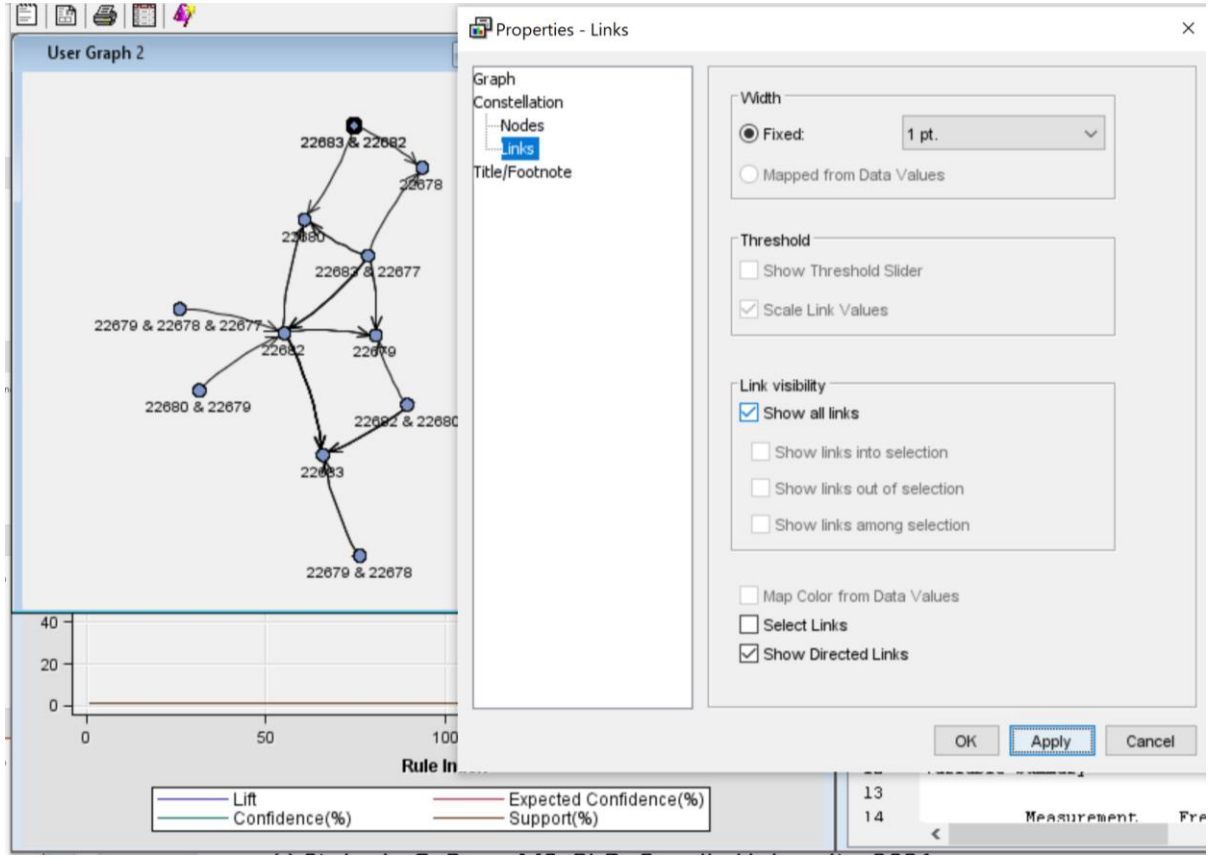
Toggle between showing the links to Item1, Item2, and so on by changing the role for those to “Link To.”



To navigate around by selecting and deselecting different types of links, right click and choose “Graph Properties.”



For example, you can uncheck “Show all links” and choose only selected types of links, or you can check “Show Directed Links” to show the direction of each link using an arrow.



SAS Documentation Reference

The link below brings you to the SAS Documentation on the Association Node, which has an example, including interpretation of the output.

https://documentation.sas.com/?docsetId=emref&docsetTarget=n16x97j506upgin1l90wrfc1rg0l.htm&docsetVersion=14.3&locale=en#p090p55f53gwian1q8f3pnjarkh1