

OTP Exercises:

Import the CSV data from the file **otp\_time\_series\_web.csv** into Constellation using the delimited file importer. Set a default value for Source.Type, Destination.Type, and Transaction.Type.

1. What format could you use for the DateTime transaction attribute? Hint (A guide on Simple Date Formats can be found here: [SimpleDateFormat Java Docs](#))

Answer: MMM-yy

2. What type of attribute should you use for the transaction statistics?

Answer: Integer

Find the capital cities in the graph. Add a comment labelling them as a capital city and display that as a label below the nodes.

3. Where in Constellation can you go to add Attributes?

Answer: The Attribute Editor (The little + icon in the header rows)

4. Which Attribute controls what labels are displayed?

Answer: node\_labels\_top or node\_labels\_bottom

Study the graph and answer the following questions:

5. Which city do you think is better to transit through between Launceston and Townsville?

Answer: Sydney (Launceston to Melbourne has the most Cancellations and the highest delayed flights)

6. If you were flying into Australia, which city would you want to arrive in to connect to?

Answer: Sydney (Has the most connections to other cities)

Next, open **eurovision.star** and answer the following questions:

- a. This denotes the answer to the question
  - b. This highlights the process on how to get there.
7. Who has Australia not voted for?
    - c. The Netherlands, Bosnia & Herzegovina (Australia has also not voted for Andorra, Serbia & Montenegro, Turkey, Monaco, Luxembourg, Yugoslavia, Morocco, Slovakia – but these countries did not participate during the years Australia was involved)
    - d. Find Australia, hop out one. Invert the selection and deselect nodes to delete all the transactions that occurred before Australia participated. Remove singletons, then, find Australia again and hop out one on outgoing transactions only. Invert selection and deselect transactions, to identify the nodes Australia has not voted for.
  8. In what year(s) did Serbia & Montenegro give or receive votes in?

- a. 2004, 2005, 2006.
  - b. Find Serbia & Montenegro, Hop Out One, Filter on Selection in the Histogram View looking at the Transaction Attribute: Year.
9. How many times has the United Kingdom received 12 points (Including both Jury and Televoting)?
  - a. 64 times
  - b. Find United Kingdom, Hop Out One on Incoming Transactions Only, Filter on Selection in the Histogram View looking at the Transaction Attribute: Points, and then look at the count for bin 12.
10. How many instances of voting occurred in 2007?
  - a. 2184
  - b. In Histogram View, look at Transaction Attribute: Year, and find the count for bin 2007.
11. In what year(s) did Albania give 1 point to Sweden?
  - a. 2008, 2009
  - b. Find Albania, Hop Out One on Outgoing Transactions Only, Copy to New Graph. Find Sweden, Control Click on Albania to add to selection, then Select Half Hop Induced Subgraph. Copy to New Graph. In Histogram View, looking at the Transaction Attribute: Points, and select bin 1, filter on selection, and then look at the Transaction Attribute: Years.
12. How many times have countries voted for Sweden?
  - a. 1633
  - b. Delete loops, select Sweden, Hop Out One on Incoming Transactions Only, look at the Transaction Selected Count in the bottom right hand corner.
13. Who has received the most 12-point votes, and how many times?
  - a. Sweden
  - b. Go to Histogram View, Look at Transaction Attribute: Points. Select bin 12. Invert Selection, and, Deselect Nodes. Delete non-12-point transactions from the graph. Back to Histogram, Select Node Graph Property: Incoming Transaction Count. Sort from Highest to Lowest.
14. In 2018, which countries reciprocated 12 points?
  - a. Albania and Italy, Moldova and Romania, Israel and Australia, Israel and Czech Republic, Ireland and Lithuania, Lithuania and Estonia, Estonia and Finland, Australia and Denmark, Denmark and Norway, Norway and Sweden, Sweden and Cyprus, Cyprus and Greece, Cyprus and Bulgaria.
  - b. Continuing from the previous question, go to the Histogram View and looking at the Transaction Attribute: Year, select bin 2018. Hop out Half and copy to new graph. Go to Data Access View and run plugin Clean > Merge Transactions, merging on DateTime attribute. Then, go back to the Histogram View, and looking at Link Graph Property: Transaction Count, select bin 2, Hop Out Half and Copy to New Graph.
15. Who has France given their 12 points to the most?
  - a. Portugal and Turkey
  - b. From Question 7 graph, find France, Hop Out One on Outgoing Transactions Only, copy to new graph. In Histogram View, looking at Link Graph Property: Transaction Count, sort by Count and select highest value. Hop Out Half and Copy to New Graph.