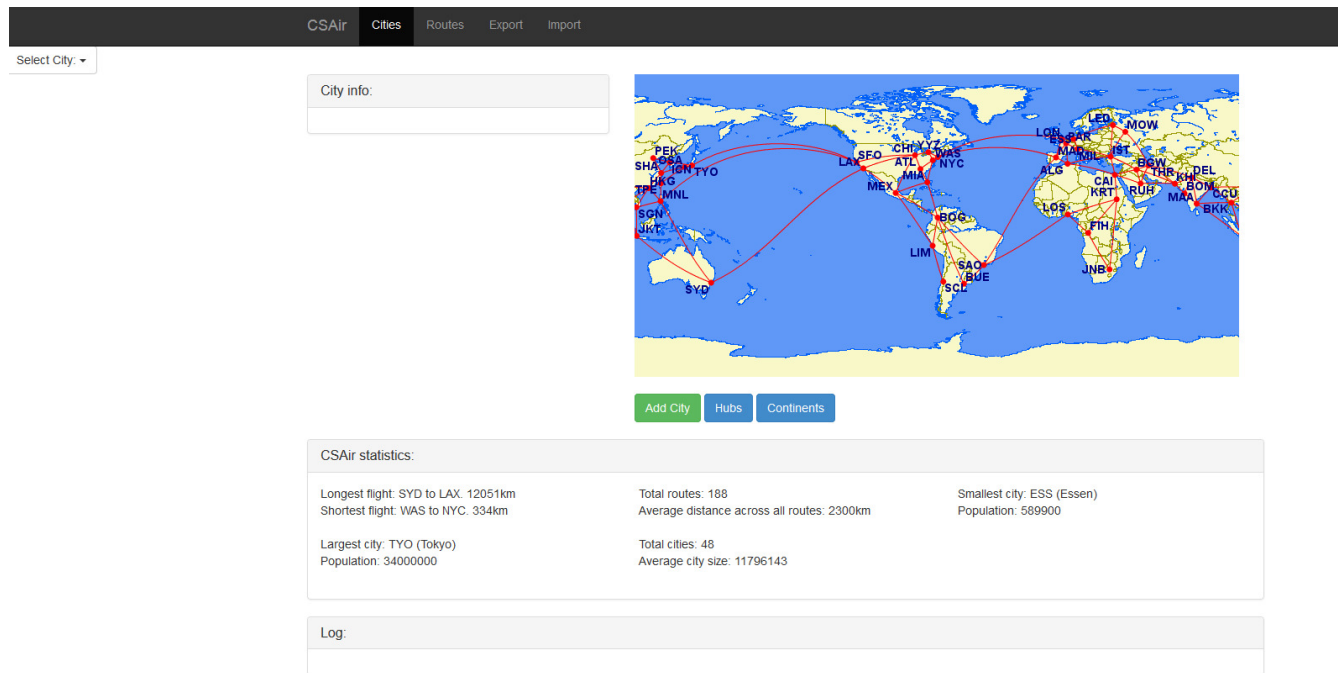


When first connecting to the server, the following page should be displayed.
 You should verify that the displayed statistics and map are correct.

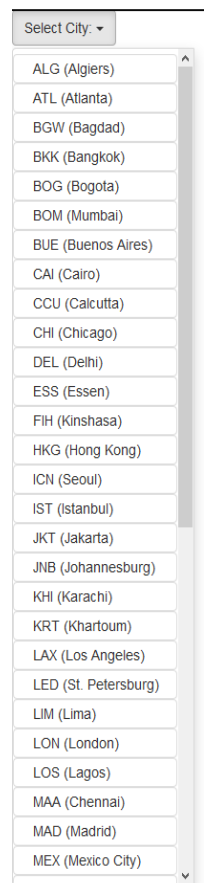
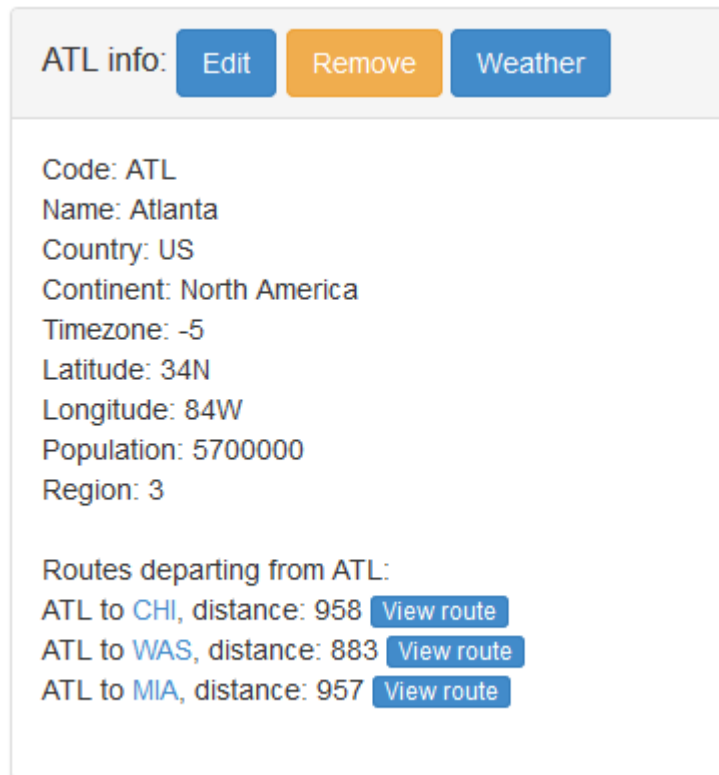


Clicking the Select City dropdown menu will show the list of cities in alphabetical order:

Choosing a city will show the city's info in the info box:

If the city is in the United States a weather button will be displayed.

Clicking the View route button will display the route shown on the routes page.



Clicking the Add City button will display the following form:

Typing in a City Code and clicking Add from API will add the city from the Wunderground API

If a city is successfully added you will see a message in the log

FPR successfully added from Wunderground API.

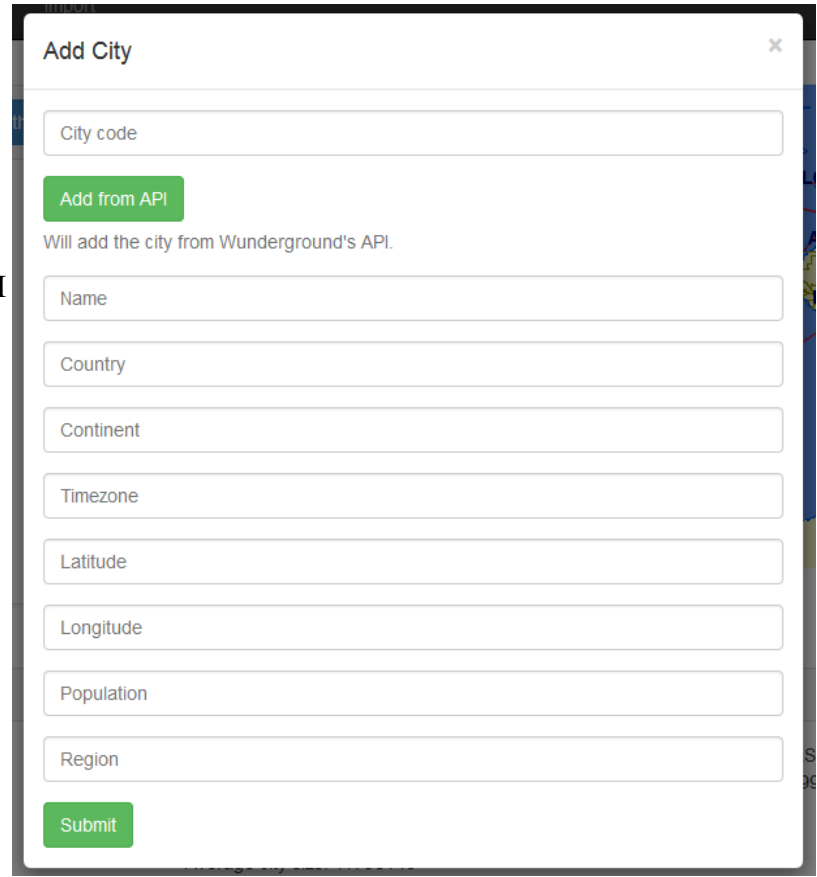
New city added successfully: DEC

If you enter a city with invalid parameters, you will see an error message displaying why the city could not be added.

Error: Unable to add city, population must be a number.

If you click the Remove button, the city will be removed and you will see the following message:

FIH successfully removed.

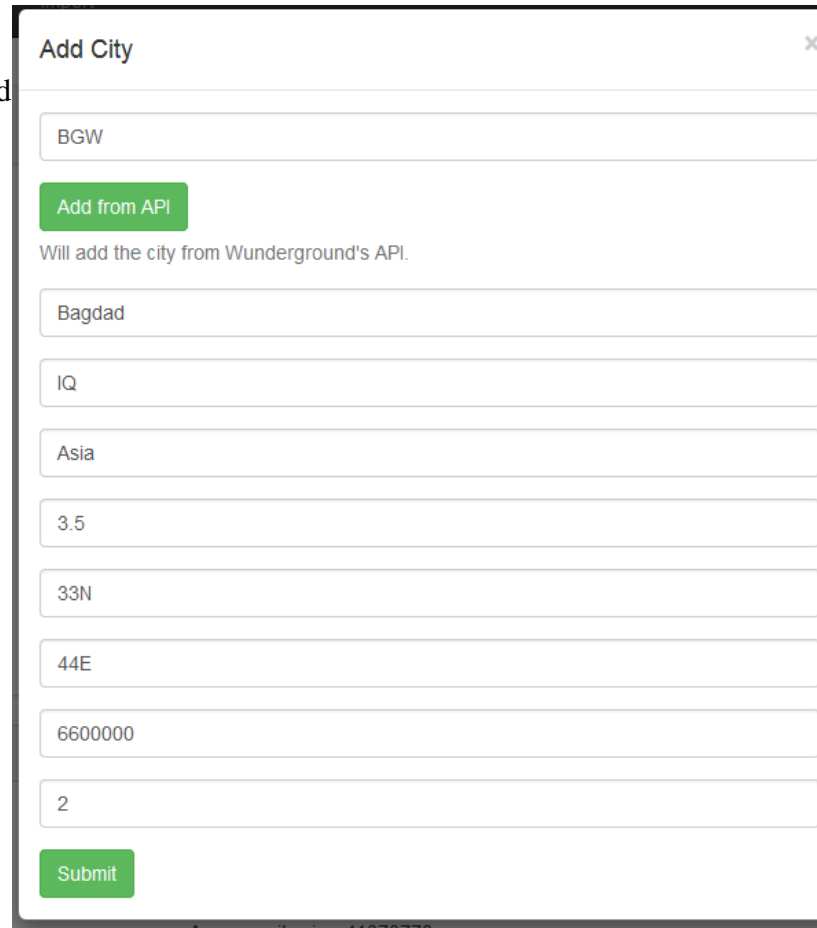


The screenshot shows a modal window titled "Add City" with a close button (X) in the top right corner. The form contains the following elements from top to bottom: a text input field for "City code"; a green button labeled "Add from API"; a line of text stating "Will add the city from Wunderground's API."; seven text input fields for "Name", "Country", "Continent", "Timezone", "Latitude", "Longitude", and "Population"; a text input field for "Region"; and a green button labeled "Submit".

If you click the Edit button the add city menu will be displayed with the fields pre-populated:

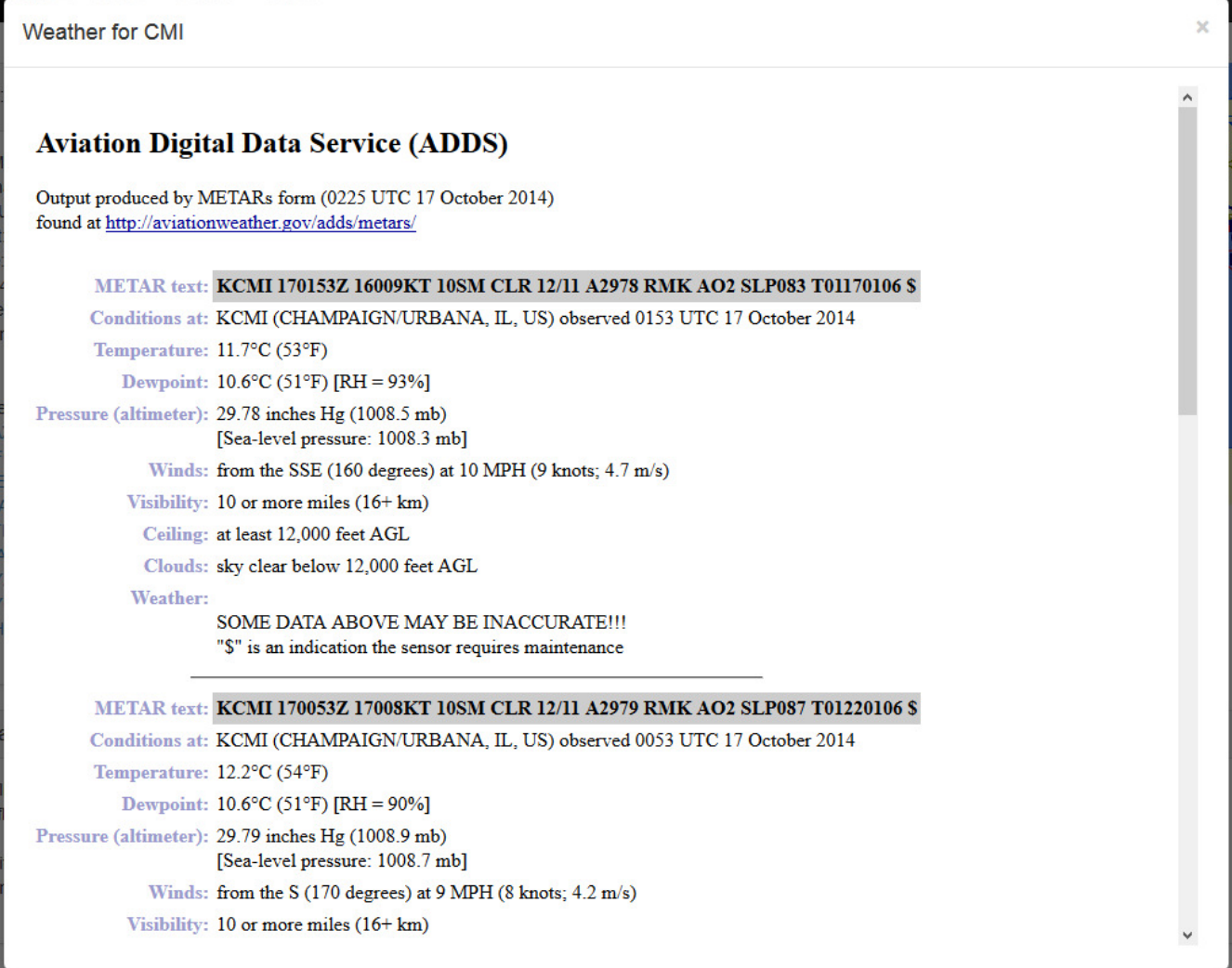
After submitting the form, you will see the following message in the log if the city was edited successfully:

Editing BGW succeeded:



The screenshot shows the "Add City" modal window with the same layout as the previous one, but with the input fields pre-populated. The values are: "BGW" in the "City code" field; "Bagdad" in the "Name" field; "IQ" in the "Country" field; "Asia" in the "Continent" field; "3.5" in the "Timezone" field; "33N" in the "Latitude" field; "44E" in the "Longitude" field; "6600000" in the "Population" field; and "2" in the "Region" field. The "Add from API" and "Submit" buttons remain visible.

Clicking the Weather button for a city in the US will display the following window, containing the latest weather information for that airport (METARs/TAFs) from the FAA's AviationWeather.gov



Weather for CMI

Aviation Digital Data Service (ADDS)

Output produced by METARs form (0225 UTC 17 October 2014)
found at <http://aviationweather.gov/adds/metars/>

METAR text: **KCMI 170153Z 16009KT 10SM CLR 12/11 A2978 RMK AO2 SLP083 T01170106 \$**

Conditions at: KCMI (CHAMPAIGN/URBANA, IL, US) observed 0153 UTC 17 October 2014

Temperature: 11.7°C (53°F)

Dewpoint: 10.6°C (51°F) [RH = 93%]

Pressure (altimeter): 29.78 inches Hg (1008.5 mb)
[Sea-level pressure: 1008.3 mb]

Winds: from the SSE (160 degrees) at 10 MPH (9 knots; 4.7 m/s)

Visibility: 10 or more miles (16+ km)

Ceiling: at least 12,000 feet AGL

Clouds: sky clear below 12,000 feet AGL

Weather:
SOME DATA ABOVE MAY BE INACCURATE!!!
"\$" is an indication the sensor requires maintenance

METAR text: **KCMI 170053Z 17008KT 10SM CLR 12/11 A2979 RMK AO2 SLP087 T01220106 \$**

Conditions at: KCMI (CHAMPAIGN/URBANA, IL, US) observed 0053 UTC 17 October 2014

Temperature: 12.2°C (54°F)

Dewpoint: 10.6°C (51°F) [RH = 90%]

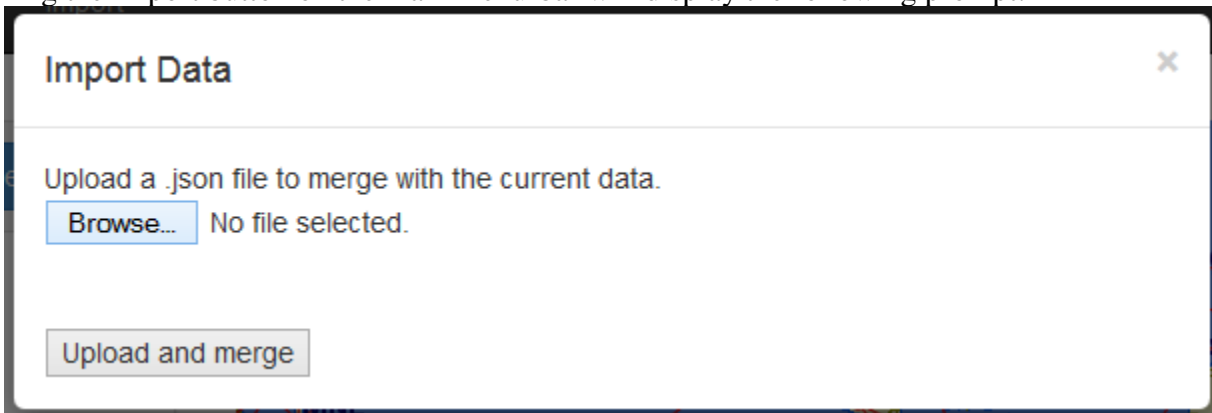
Pressure (altimeter): 29.79 inches Hg (1008.9 mb)
[Sea-level pressure: 1008.7 mb]

Winds: from the S (170 degrees) at 9 MPH (8 knots; 4.2 m/s)

Visibility: 10 or more miles (16+ km)

Clicking the Export button will download the data-set as a JSON file named "save.json"

Clicking the Import button on the main menu-bar will display the following prompt:



Import Data

Upload a .json file to merge with the current data.

No file selected.

You can upload an additional data-set to merge with the current one.

If the file was uploaded and successfully merged you will see the following items in the log, and the new cities and routes will be added to the data and map.

Successfully merged data.

Successfully uploaded cmi_hub.json

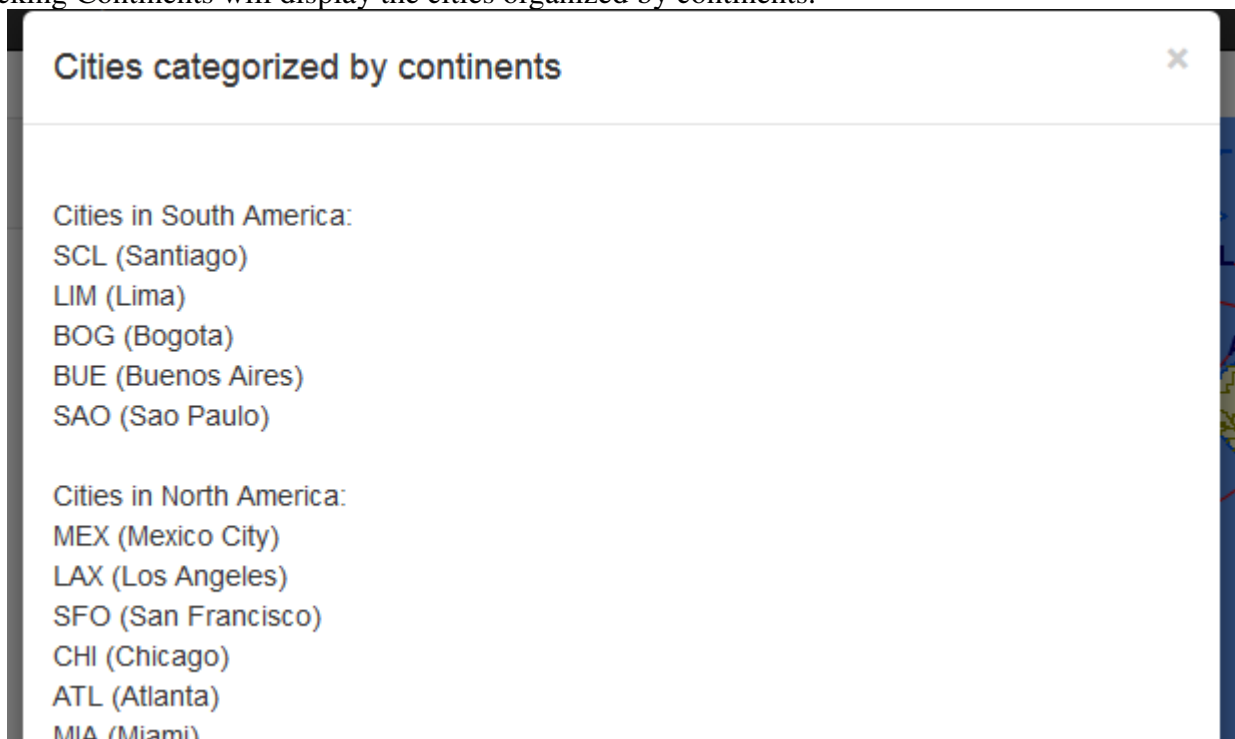
Clicking on the Hubs button will display the cities sorted by most outbound connections:



The screenshot shows a window titled "Hub cities" with a close button (X) in the top right corner. The window contains a list of cities and their respective number of outbound connections:

- 9 connections from: CMI (Champaign)
- 6 connections from: MEX (Mexico City)
- 6 connections from: IST (Istanbul)
- 6 connections from: HKG (Hong Kong)
- 6 connections from: CHI (Chicago)
- 5 connections from: WAS (Washington)
- 5 connections from: THR (Tehrah)
- 5 connections from: SHA (Shanghai)
- 5 connections from: SFO (San Francisco)
- 5 connections from: PAR (Paris)

Clicking Continents will display the cities organized by continents:



The screenshot shows a window titled "Cities categorized by continents" with a close button (X) in the top right corner. The window displays cities grouped by continent:

Cities in South America:

- SCL (Santiago)
- LIM (Lima)
- BOG (Bogota)
- BUE (Buenos Aires)
- SAO (Sao Paulo)


Cities in North America:

- MEX (Mexico City)
- LAX (Los Angeles)
- SFO (San Francisco)
- CHI (Chicago)
- ATL (Atlanta)
- MIA (Miami)

Clicking on the routes button will display the following page:

Select City: ▾

Routes queried:



Source: Destination:

Specify Route:

If you enter codes in Source and Destination, and click Find Shortest Route. The shortest route will be displayed along with route statistics:

You may also specify a route manually and choose lookup specified route.

Routes queried:

YYZ-CMI-MIA-BOG-LIM-SCL



If a route was unable to be found the following error message will display:

Did not find shortest route between AAA and VVV

Did not find route: NYC-LAX

Route: YYZ-CMI-MIA-BOG-LIM-SCL
Total distance: 8354km
Total cost: \$1854.70
Total time: 18:48

Clicking the Clear button on the routes queried panel will clear the panel.

Log:

Found shortest route between YYZ and SCL

If you choose Add route, or remove route, you may add or remove a route in one or both directions.

Add route ✕

Source

Destination

Distance (km)

Add the route in both directions. Add Route

Remove route ✕

Source

Destination

Remove the route in both directions. Remove Route

If you add or remove a route successfully the following messages will be displayed:

Successfully added route: NYC to MOW

Successfully removed route: CMI to MEX

If you attempt to add/remove an invalid route the following messages will be displayed:

Route statistics:

Error: no flight from: BBB to CCC

Log:

Did not find route: BBB-CCC

Unable to add route: BBB to CCC

Unable to remove route: AAA to AAA