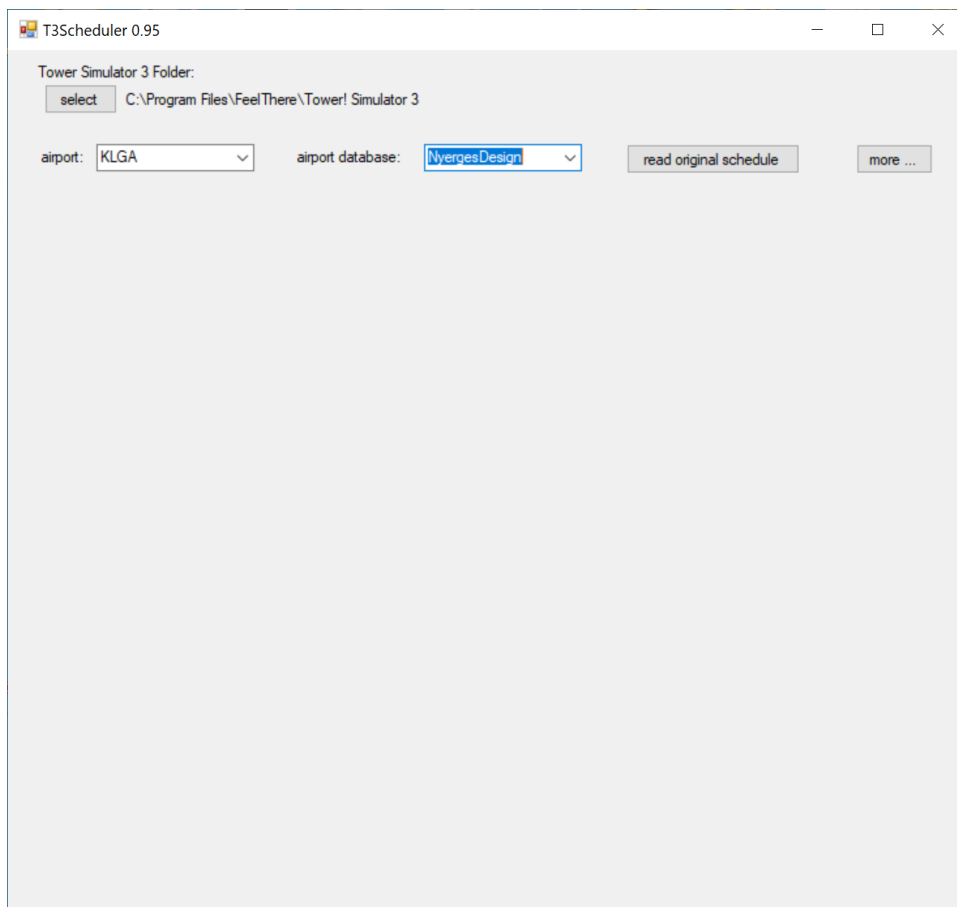


T3Scheduler

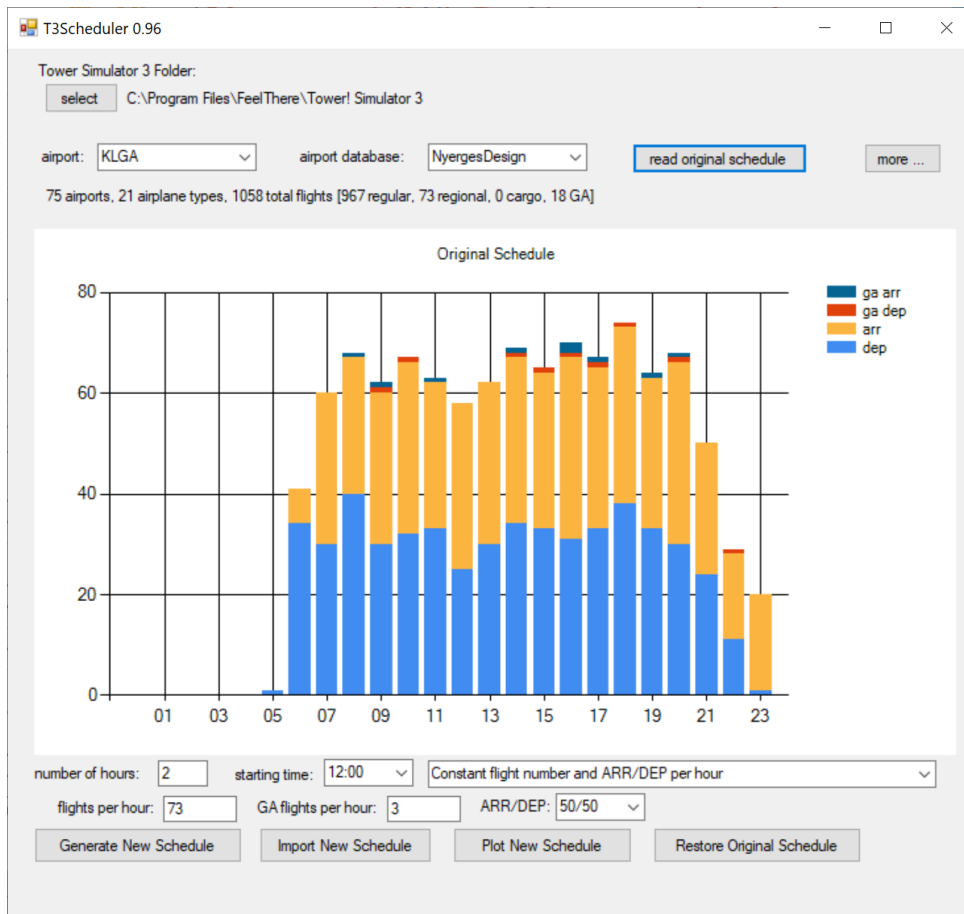
This program creates random schedules for Tower Simulator 3 based on existing schedules already included, it can also import real world schedules from FlightAware website. The program manages schedule files for you, on first run for an airport it creates a backup of original schedules present for this airport for selected database (e.g. default or Nyerges Design), this backup is the base for future random schedule generation. You have several options to choose to control your random schedules (see screenshots below), but the program will always use proper airplanes, destination/departure airport, and such, based on the info from original schedules.

When started for the first time accept disclaimer and select location of Tower Simulator 3 on your disk. T3Scheduler will remember both choices.



IMPORTANT: If your Tower Simulator 3 is installed in a system folder (for example “C:\Program Files\”) you will have to run T3Scheduler as an administrator, otherwise it cannot write to Tower Simulator 3 directories. It will ask you to do so if needed. There are two options here: (1) right click T3Scheduler.exe and select “Run as administrator”, (2) right click T3Scheduler.exe and select “Properties”, then “Compatibility”, then check “Run this program as an administrator” checkbox. Program ships with “Run this program as an administrator” bit switched on.

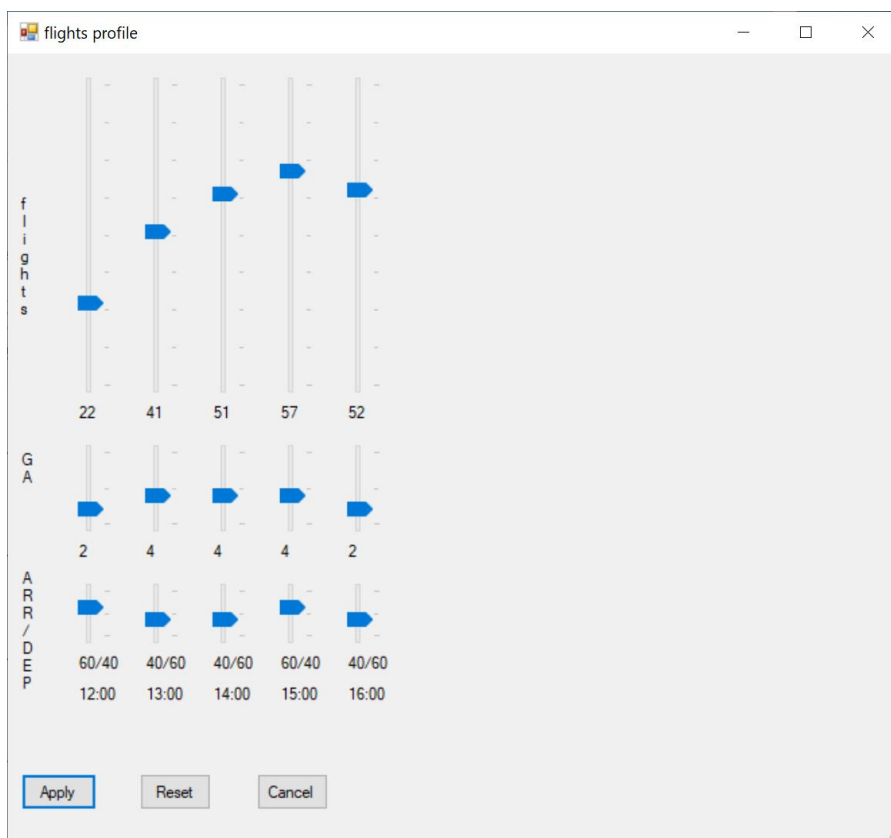
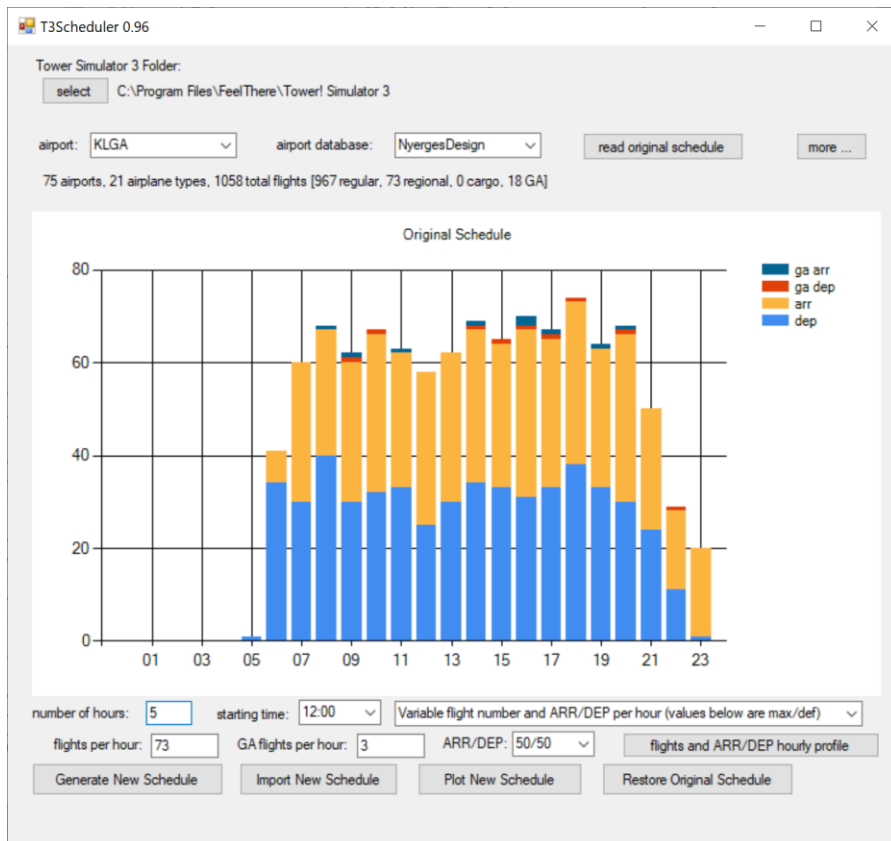
Select airport and database and click “read original schedule”, the statistics for the schedule will be displayed as a plot and in the text line below.



You have two options now: generate new randomized schedule or import new schedule from files generated from FlightAware website.

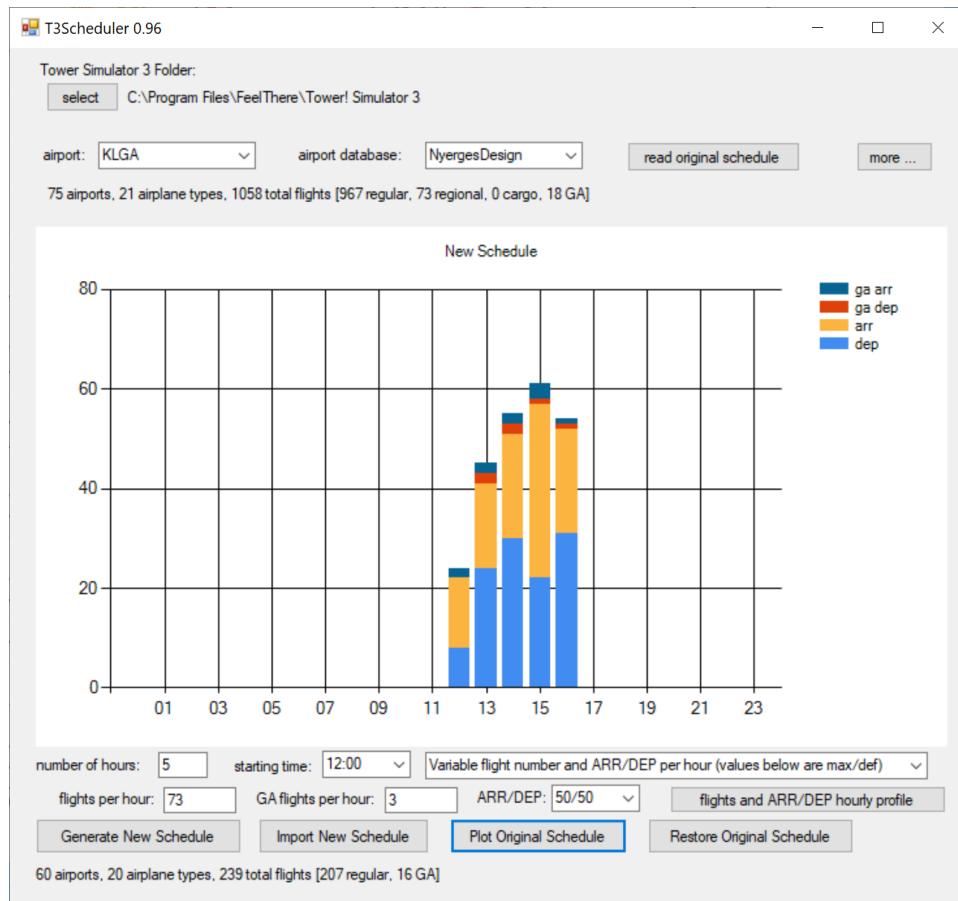
In order to generate randomized schedule you need choose profile option. The default is to have the same amount of flights and GA flights every hour with the same arrivals/departures ratio. If you are OK with that select options you want and click “Generate New Schedule”, new schedule info will be displayed below, but the plot will not change. To plot new schedule, click “Plot New Schedule”.

If you want to have different number of flights/GA flights and/or different ration of arrivals/departures each hour choose “Variable flight number [...]” instead of “Constant flight number [...]”. Now “flights per hour” and “GA flights per hour” define maximum number of flights of each type (rounded up to the next number dividable by 10), ARR/DEP is the default ARR/DEP. Choose number of hours for schedule and starting hour, then click on “flights and ARR/DEP hourly profile”.



Now you can adjust hourly values. Once done click Apply. As long as you don't change number of hours for schedule and/or starting hour the profile will be remembered until the program is closed, you can plot it and tweak. When ready click "Generate New Schedule", new schedule info will be displayed below, but the plot will not change. To plot new schedule, click "Plot New Schedule".

You are now ready to use the new schedule in Tower Simulator 3. If you want to go back to the original schedule, click "Restore Original Schedule".



To import new schedule, you need to prepare input files first. This example shows how to import schedule for KLGA, related files are in "import_example" folder included in the zip. First go to the folder where you want your input files to be and create two empty text files, in this example KLGA_arr_20220122.txt and KLGA_dep_20220122.txt. Open arrivals file in a text editor like Notepad (NOT Word or anything like it). Then open <https://flightaware.com/> in your browser (I use Firefox) and search for airport, here KLGA. On the resulting page scroll down and click "Arrivals (MORE)". This page shows top 40 arrivals on and before current time. Select the arrivals in the table with mouse as shown below on screenshots, make sure ONLY flights are selected, nothing else. Copy them and paste them to the file KLGA_arr_20220122.txt, press enter so you are in a new line, go back to website, click "Next 40" and repeat until you collect flights for all day. Copy and paste each 40 to the file. Once done make sure your flights in the file end on or before the first arrival time at the beginning of the file, delete any extra flights as needed. You can create a schedule from files from two days, say starting 3pm day 1 and ending 3pm day 2. Or you can make sure only one day is used. Just make sure there is no overlap. Repeat with


the departures: click “Departures (MORE)” etc. The files I have generated preparing this example are in “import_example” folder, compare them to what you are getting if in doubt. The whole procedure shouldn’t take more than 10 minutes.

File Edit View History Bookmarks Tools Help

LGA LaGuardia Airport (LGA/KLGA) X

https://flightaware.com/live/airport/KLGA

LAGUARDIA AIRPORT (NEW YORK, NY) LGA



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View KLGA Airport Stats

ARRIVALS (MORE)				
Ident	Type	From	Depart	Arrive
AAL1743	A319	Chicago O'Hare Intl (ORD)	01:10p CST	03:46p EST
AAL1599	B738	Dallas-Fort Worth Intl (DFW)	11:58a CST	03:45p EST
ASH6099	E75L	Washington Dulles Intl (IAD)	02:52p EST	03:44p EST
NKS172	A320	Detroit Metro Wayne Co (DTW)	02:30p EST	03:43p EST
EDV4647	CBJ9	Charlotte/Douglas Intl (CLT)	02:19p EST	03:43p EST
RPA5601	E75L	Reagan National (DCA)	02:54a EST	03:42a EST

DEPARTURES (MORE)				
Ident	Type	To	Depart	Arrive
RPA5647	E75L	Reagan National (DCA)	03:47p EST	04:25p EST
RPA5831	E75L	Boston Logan Intl (BOS)	03:44p EST	04:17p EST
JBU2331	E190	Sarasota/Bradenton Intl (SRQ)	03:41p EST	06:37p EST
DAL333	B737	Dallas-Fort Worth Intl (DFW)	03:40p EST	06:13p CST
RPA5825	E75L	Milwaukee Mitchell Intl Airport (MKE)	03:38p EST	04:36p CST
NKS1352	A319	Charlotte/Douglas Intl (CLT)	03:37a EST	05:23a EST

File Edit View History Bookmarks Tools Help

Airport Activity - LaGuardia X

https://flightaware.com/live/airport/arrivals

[KLGA Airport Information and Procedures](#)
[KLGA Airport Photos](#)
[KLGA Weather](#)
[Buy KLGA Excel flight history](#)

Filters: (Airline) (General Aviation) (All)

(Next 40)

Arrivals: LaGuardia Airport (New York, NY) [KLGA]

Ident	Type	Origin	Departure	Arrival
DAL1734	B737	Houston Bush Intl (IAH)	Sun 12:15PM CST	Sun 03:50PM EST
AAL1743	A319	Chicago O'Hare Intl (ORD)	Sun 01:10PM CST	Sun 03:46PM EST
ASH6099	E75L	Washington Dulles Intl (IAD)	Sun 02:52PM EST	Sun 03:44PM EST
NKS172	A320	Detroit Metro Wayne Co (DTW)	Sun 02:30PM EST	Sun 03:43PM EST
RPA5601	E75L	Reagan National (DCA)	Sun 02:54PM EST	Sun 03:42PM EST
AAL1599	B738	Dallas-Fort Worth Intl (DFW)	Sun 11:58AM CST	Sun 03:40PM EST
RPA5647	E75L	Indianapolis Intl (IND)	Sun 02:07PM EST	Sun 03:38PM EST
EDV5360	CBJ9	Charleston Intl/AFB (KCHS)	Sun 02:13PM EST	Sun 03:37PM EST
EDV4647	CBJ9	Charlotte/Douglas Intl (CLT)	Sun 02:19PM EST	Sun 03:36PM EST
RPA5842	E75L	Frederick Douglass/Greater Rochester Intl (KROC)	Sun 02:46PM EST	Sun 03:34PM EST
DAL784	B738	Denver Intl (KDEN)	Sun 10:22AM MST	Sun 03:33PM EST
EDV5022	CBJ9	Jacksonville Intl (KJAX)	Sun 01:46PM EST	Sun 03:32PM EST
EDV5184	CBJ9	Cincinnati/Northern Kentucky International Airport (KCVG)	Sun 02:09PM EST	Sun 03:30PM EST
RPA4337	E75L	Nashville Intl (KATL)	Sun 02:06PM EST	Sun 03:29PM EST
DAL1981	B737	Denver Intl (KDEN)	Sun 10:13AM MST	Sun 03:27PM EST
DAL1192	B737	Boston Logan Intl (KBOS)	Sun 02:35PM EST	Sun 03:26PM EST
RPA4303	E75L	Nashville Intl (KATL)	Sun 12:46PM CST	Sun 03:24PM EST
EDV4938	CBJ9	Bangor Intl (KBGR)	Sun 02:01PM EST	Sun 03:22PM EST
DAL440	A321	Hartsfield-Jackson Intl (KATL)	Sun 01:51PM EST	Sun 03:20PM EST
JBU831	E190	Boston Logan Intl (KBOS)	Sun 02:28PM EST	Sun 03:19PM EST
JBU2085	E190	Nashville Intl (KATL)	Sun 12:42PM CST	Sun 03:16PM EST
EDV4908	CBJ9	Toronto Pearson Intl (CYYZ)	Sun 02:11PM EST	Sun 03:14PM EST
NKS1665	A321	Fort Lauderdale Intl (KFLA)	Sun 12:09PM EST	Sun 03:13PM EST
RPA5802	B737	Norfolk Intl (KORF)	Sun 02:12PM EST	Sun 03:11PM EST
JZAB636	CBJ9	Montreal-Trudeau (CYUL)	Sun 02:11PM EST	Sun 03:09PM EST
FDX4399	B737	Myrtle Beach Intl (MYR)	Sun 01:48PM EST	Sun 03:07PM EST

File Edit View History Bookmarks Tools Help

Airport Activity - LaGuardia A... X

https://flightaware.com/live/airport/KLGA/arrivals

Flight	Origin	Arrival	Departure
B6430	Nashville Intl (KBN)	Sun 12:48PM CST	Sun 03:24PM EST
EDV496	Bangor Intl (KBGR)	Sun 02:01PM EST	Sun 03:22PM EST
DAL448	Hartfield-Jackson Intl (KATL)	Sun 01:51PM EST	Sun 03:20PM EST
JBU831	Boston Logan Intl (KBOS)	Sun 02:28PM EST	Sun 03:19PM EST
JBU208	Nashville Intl (KBN)	Sun 12:42PM CST	Sun 03:16PM EST
EDV490	Toronto Pearson Intl (CYYZ)	Sun 02:11PM EST	Sun 03:14PM EST
NKS168	Fort Lauderdale Intl (KFLL)	Sun 12:59PM EST	Sun 03:13PM EST
RPA580	Norfolk Intl (KORF)	Sun 02:12PM EST	Sun 03:11PM EST
JZA868	Montreal-Trudeau (YUL)	Sun 02:11PM EST	Sun 03:09PM EST
EDV490	Myrtle Beach Intl (KMYR)	Sun 01:48PM EST	Sun 03:07PM EST
SWA1945	Dallas Love Fld (KDAL)	Sun 11:29AM CST	Sun 03:06PM EST
RPA452	Minneapolis/St Paul Intl (KMSP)	Sun 11:43AM CST	Sun 03:04PM EST
RPA468	Roanoke Rgnl (KROA)	Sun 02:01PM EST	Sun 03:03PM EST
JBU147	Charleston Intl (KCHS)	Sun 01:38PM EST	Sun 03:01PM EST
AAL1354	Miami Intl (KMLA)	Sun 12:38PM EST	Sun 03:00PM EST
RPA583	Kansas City Intl (KMCI)	Sun 11:44AM CST	Sun 02:57PM EST
AAL2501	Charlotte/Douglas Intl (KCLT)	Sun 01:44PM EST	Sun 02:56PM EST
EDV4821	Albany Intl (KALB)	Sun 02:26PM EST	Sun 02:50PM EST
EDV485	Gerald R. Ford Intl (KGRD)	Sun 01:27PM EST	Sun 02:51PM EST
JZA838	Toronto Pearson Intl (CYYZ)	Sun 01:44PM EST	Sun 02:50PM EST
AAL2003	Reagan National (KOA)	Sun 02:09PM EST	Sun 02:48PM EST
EDV4997	Cleveland-Hopkins Intl (KCLE)	Sun 01:40PM EST	Sun 02:45PM EST
RPA576	Buffalo Niagara Intl (KBUF)	Sun 01:49PM EST	Sun 02:44PM EST
RPA441	Indianapolis Intl (KIND)	Sun 01:10PM EST	Sun 02:41PM EST

(Next 80)

Need more KLGA historical data in Excel format?

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In principle it is possible to harvest this data automatically, but FlightAware doesn't like it and protects the website, trying to harvest too much will result in IP/user blocking and/or blacklisting so I didn't go that way. If you have spare \$750 you can buy 1 month of data from FlightAware in csv format, let me know and I will add an option to read it 😊.

T3Scheduler Import

Select Arrivals File

Select Departures File

Select Mappings File (optional)

airplanes database: NyrgerDesign Ignore missing liveries (results in white airplanes) ☐ update airport list

Analyze files Generate mappings file template Generate Schedule Close

Now you can click on “Import New Schedule”, new form pops up. You need to select arrivals and departures files first. Let’s leave “Mapping File” for now, it is a file where you can specify what should be used to replace missing airplanes, airlines and liveries. Missing liveries can be also ignored, you will get a warning while loading the game, but the only result will be some white planes with no paint. On the other hand, missing airlines or airplanes result in dropped flights. Click on “Analyze files” to analyze your data.

The screenshot shows the 'T3Scheduler Import' window. It has three buttons at the top: 'Select Arrivals File', 'Select Departures File', and 'Select Mappings File'. The first two are filled with file paths. Below these are two dropdown menus for 'airplanes database' and 'Ignore missing liveries (results in white airplanes)', and a checkbox for 'update airport list'. At the bottom are four buttons: 'Analyze files' (highlighted with a blue border), 'Generate mappings file template', 'Generate Schedule', and 'Close'. Below the buttons, the text reads: '16 airlines 14 airplanes 693 flights (683 regular and 8 GA)'. The analysis results are listed below: 'Unknown airport KSUT', 'airport KUZA will be replaced by Tower Simulator 3 airport KCLT', 'Missing airlines/GA: 2 affecting 2 flights', 'Missing airplanes: 7 affecting 268 flights', 'Missing liveries: 4 affecting 7 flights', 'Valid remaining flights: 424', 'Unknown airline or GA 'GPD'', 'Unknown airline or GA 'VNT'', 'Unknown airplane B737', 'Unknown airplane B738', 'Unknown airplane C310', 'Unknown airplane E75L', 'Unknown airplane E75S', 'Unknown airplane GLEX', 'Unknown airplane LJ55', 'No livery for airline 'ACA' and airplane 'BCS3'', 'No livery for airline 'GPD' and airplane 'PC12'', 'No livery for airline 'N' and airplane 'A320'', 'No livery for airline 'N' and airplane 'PC12''.

We got a few problems, and we should address them top-down. First is unknown airport KSUT. It is not in TS3 database and neither in mine. The easiest solution is to Google it (good place for US is <https://www.airnav.com/airport/KSUT>) and add it to the file airports-iata-icao.csv that comes with the T3Scheduler.exe (same directory). The format is

"country_code","region_name","iata","icao","airport","latitude","longitude"

and for KSUT it is

"US","North Carolina","SUT","KSUT","Cape Fear Regional Jetport","33.9308156","-78.0733636"

Please note that I have already added the missing airports to the file, so in order to generate same problems on the example files you will need to remove them first 😊 (last three lines).

Save the file and re-run “Analyze files”. Now the airports are fine, but we have missing planes and airlines. Missing liveries are not that important, they just result in white airplanes, however they can be also addressed. The place to address all these issues is mappings file.

T3Scheduler Import

Select Arrivals File: U:\Users\jarek\OneDrive\planes\Tower Simulator 3\import_example\KLGA_arr_20220122.txt

Select Departures File: U:\Users\jarek\OneDrive\planes\Tower Simulator 3\import_example\KLGA_dep_20220122.txt

Select Mappings File: (optional)

airplanes database: NyergesDesign Ignore missing liveries (results in white airplanes) ☐ update airport list

Analyze files Generate mappings file template Generate Schedule Close

16 airlines 14 airplanes 693 flights (683 regular and 8 GA)

airport KSUT will be replaced by Tower Simulator 3 airport KILM
airport KUZA will be replaced by Tower Simulator 3 airport KCLT

Missing airlines/GA: 2 affecting 2 flights
Missing airplanes: 7 affecting 268 flights
Missing liveries: 4 affecting 7 flights

Valid remaining flights: 424

Unknown airline or GA 'GPD'
Unknown airline or GA 'VNT'

Unknown airplane B737
Unknown airplane B738
Unknown airplane C310
Unknown airplane E75L
Unknown airplane E75S
Unknown airplane GLEX
Unknown airplane LJ55

No livery for airline 'ACA' and airplane 'BCS3'
No livery for airline 'GPD' and airplane 'PC12'
No livery for airline 'N' and airplane 'A320'
No livery for airline 'N' and airplane 'PC12'

Click on “Generate mappings file template” and select place where you want it, default name is mappings.txt. I have saved original mappings template for you to look into as mappings-template-original.txt, while I worked on mappings.txt. There are some suggestions in the file, and it is quite self-explanatory.

Mappings file is additive, i.e. if you have one already and work on a new airport the template generated will include all existing entries, plus new ones needed for new missing things, provided that you selected it first. This way you can grow one over time (along with airports file).


```
mappings.txt - Notepad
File Edit Format View Help
# Any line starting with '#' is a comment and ignored
# lines starting with == are section headers and must stay in order
# If you don't want to map, just remove relevant lines (not section headers)
==airlines==
# All new airlines will be used in GA flights file
# There will be no liveries for new airlines resulting in white planes
GPD,CALLSIGN
VNT,CALLSIGN
==airplanes==
B737,newPlaneICAO
#possible match: B733,B734,B735,B736,B739,B73F,B73H,B73K,B73P,B73R,B73W
B738,newPlaneICAO
#possible match: B733,B734,B735,B736,B739,B73F,B73H,B73K,B73P,B73R,B73W
C310,newPlaneICAO
#no suggestions
E75L,newPlaneICAO
#no suggestions
E75S,newPlaneICAO
#no suggestions
GLEX,newPlaneICAO
#possible match: GLF4
LJ55,newPlaneICAO
#possible match: LJ35,LJ45,LJ60
==liveries==
ACA-BCS3,ACA-newPLANE
#ACA liveries: A319,A320,A321,A333,B38M,B39M,B762,B763,B772,B77W,B788,B789,E190,L101
GPD-PC12,GPD-newPLANE
#GPD liveries:
N-A320,N-newPLANE
#N liveries:
N-PC12,N-newPLANE
#N liveries:
```

Replace placeholders with appropriate codes as suggested or found online, what I got is

```
mappings.txt - Notepad
File Edit Format View Help
# Any line starting with '#' is a comment and ignored
# lines starting with == are section headers and must stay in order
# If you don't want to map, just remove relevant lines (not section headers)
==airlines==
# All new airlines will be used in GA flights file
# There will be no liveries for new airlines resulting in white planes
GPD,GOODSPEED
VNT,AVIENT
==airplanes==
B737,B73W
B738,B73H
C310,C208
E75S,E175
GLEX,GLF4
LJ55,LJ60
E75L,E175
==liveries==
ACA-BCS3,ACA-A319
```

I have skipped some liveries that are missing, they will show up as white airplanes. Now is time to select mappings file and re-run “Analyze files”.

T3Scheduler Import

Select Arrivals File: U:\Users\jarek\OneDrive\planes\Tower Simulator 3\import_example\KLGA_arr_20220122.txt

Select Departures File: U:\Users\jarek\OneDrive\planes\Tower Simulator 3\import_example\KLGA_dep_20220122.txt

Select Mappings File: U:\Users\jarek\OneDrive\planes\Tower Simulator 3\import_example\mappings.txt

airplanes database: NyergesDesign Ignore missing liveries (results in white airplanes) ☐ update airport list

Analyze files Generate mappings file template Generate Schedule Close

16 airlines 20 airplanes 693 flights (683 regular and 10 GA)

Unknown airport N12
airport KSUT will be replaced by Tower Simulator 3 airport KILM
airport KUZA will be replaced by Tower Simulator 3 airport KCLT

Missing airlines/GA: 0 affecting 0 flights
Missing airplanes: 0 affecting 0 flights
Missing liveries: 6 affecting 9 flights

Valid remaining flights: 693

No livery for airline 'EJA' and airplane 'GLF4'
No livery for airline 'GPD' and airplane 'PC12'
No livery for airline 'N' and airplane 'A320'
No livery for airline 'N' and airplane 'C208'
No livery for airline 'N' and airplane 'PC12'
No livery for airline 'VNT' and airplane 'LJ60'

Looks better, but now we have unknown airport N12, previously it was ignored due to the missing airline. Just follow the same procedure and add it to airports-iata-icao.csv file, this time it is

"US","New Jersey","N12","N12","Lakewood Airport","40.0668889","-74.1775556"

Note I used N12 for both ICAO and IATA. Re-run the form.

T3Scheduler Import

Select Arrivals File U:\Users\jarek\OneDrive\planes\Tower Simulator 3\import_example\KLGA_arr_20220122.txt

Select Departures File U:\Users\jarek\OneDrive\planes\Tower Simulator 3\import_example\KLGA_dep_20220122.txt

Select Mappings File U:\Users\jarek\OneDrive\planes\Tower Simulator 3\import_example\mappings.txt

airplanes database: NyergesDesign Ignore missing liveries (results in white airplanes) ☐ update airport list

Analyze files Generate mappings file template Generate Schedule Close

16 airlines 20 airplanes 693 flights (683 regular and 10 GA)

airport N12 will be replaced by Tower Simulator 3 airport KEWR
airport KSUT will be replaced by Tower Simulator 3 airport KILM
airport KUZA will be replaced by Tower Simulator 3 airport KCLT

Missing airlines/GA: 0 affecting 0 flights
Missing airplanes: 0 affecting 0 flights
Missing liveries: 6 affecting 9 flights

Valid remaining flights: 693

No livery for airline 'EJA' and airplane 'GLF4'
No livery for airline 'GPD' and airplane 'PC12'
No livery for airline 'N' and airplane 'A320'
No livery for airline 'N' and airplane 'C208'
No livery for airline 'N' and airplane 'PC12'
No livery for airline 'VNT' and airplane 'LJ60'

All looks good now! We can now generate schedule, but first let's decide on "update airport list". If it is unchecked the missing airports will be replaced by geographically closest airports present in TS3. If you check it, the missing airports will be permanently added to TS3 airport list, and they will be used in the schedule directly.

T3Scheduler Import

Select Arrivals File U:\Users\jarek\OneDrive\planes\Tower Simulator 3\import_example\KLGA_arr_20220122.txt

Select Departures File U:\Users\jarek\OneDrive\planes\Tower Simulator 3\import_example\KLGA_dep_20220122.txt

Select Mappings File U:\Users\jarek\OneDrive\planes\Tower Simulator 3\import_example\mappings.txt

airplanes database: NyergesDesign ignore missing liveries (results in white airplanes) ☒ update airport list

Analyze files Generate mappings file template Generate Schedule Close

16 airlines 20 airplanes 693 flights (683 regular and 10 GA)

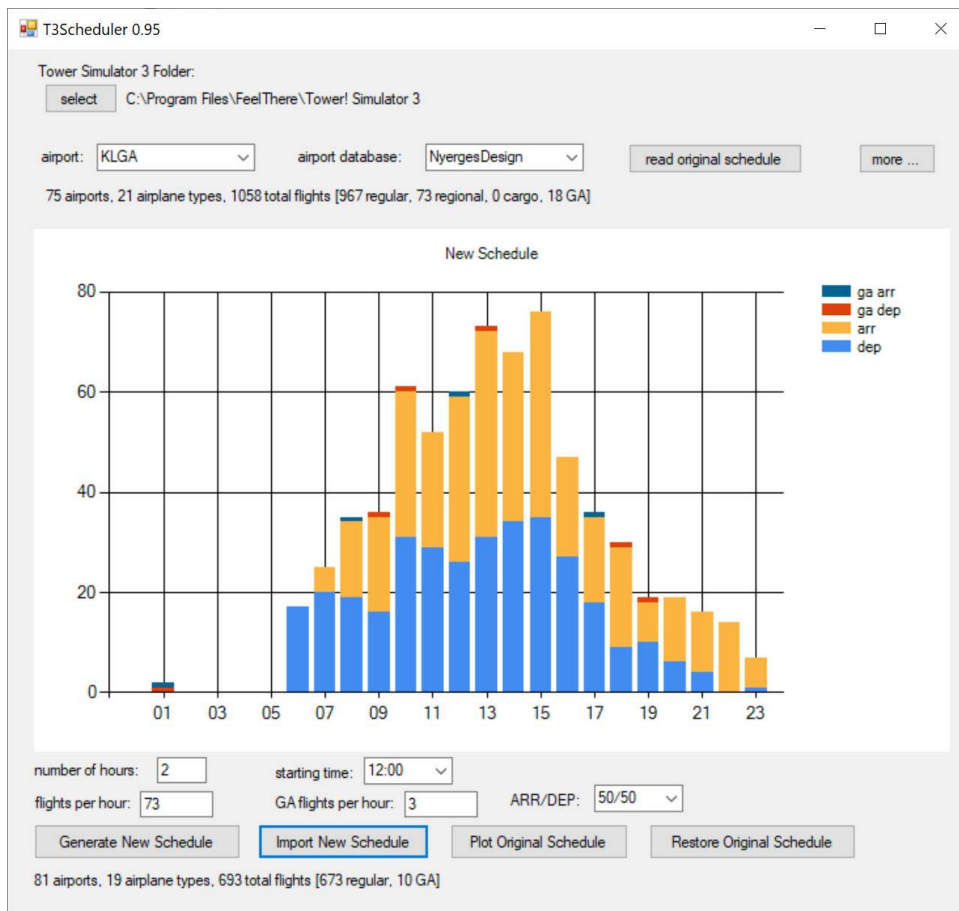
airport N12 will be added to Tower Simulator 3 list
airport KSUT will be added to Tower Simulator 3 list
airport KUZA will be added to Tower Simulator 3 list

Missing airlines/GA: 0 affecting 0 flights
Missing airplanes: 0 affecting 0 flights
Missing liveries: 6 affecting 9 flights

Valid remaining flights: 693

No livery for airline 'EJA' and airplane 'GLF4'
No livery for airline 'GPD' and airplane 'PC12'
No livery for airline 'N' and airplane 'A320'
No livery for airline 'N' and airplane 'C208'
No livery for airline 'N' and airplane 'PC12'
No livery for airline 'VNT' and airplane 'LJ60'

You can go either way. Generate schedule now and close the form. You will see the plot of the new schedule just imported. You are ready to use it now.



Important note: If you need to upgrade airport information and schedules from Feel There or Nyerges, you should first restore original schedules in each airport/database as described above. After the upgrade you need to click "more ..." and then click "recreate backup files ...", do it in each airport.

Installation: extract all files in T3Scheduler.zip into a folder somewhere you want it and double click T3Scheduler.exe to start.

Enjoy!

NOTE: This program is released 'as-is' without any warranty, responsibility, or liability. Use at your own risk!