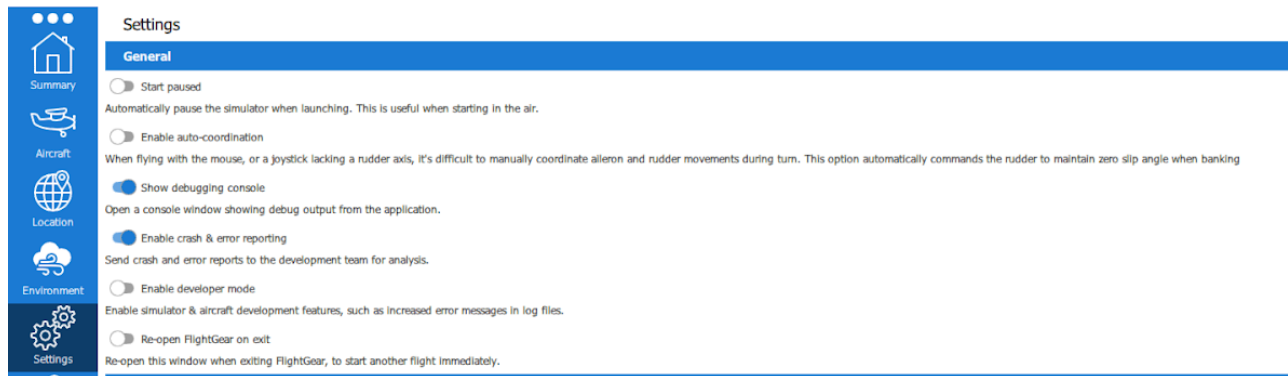
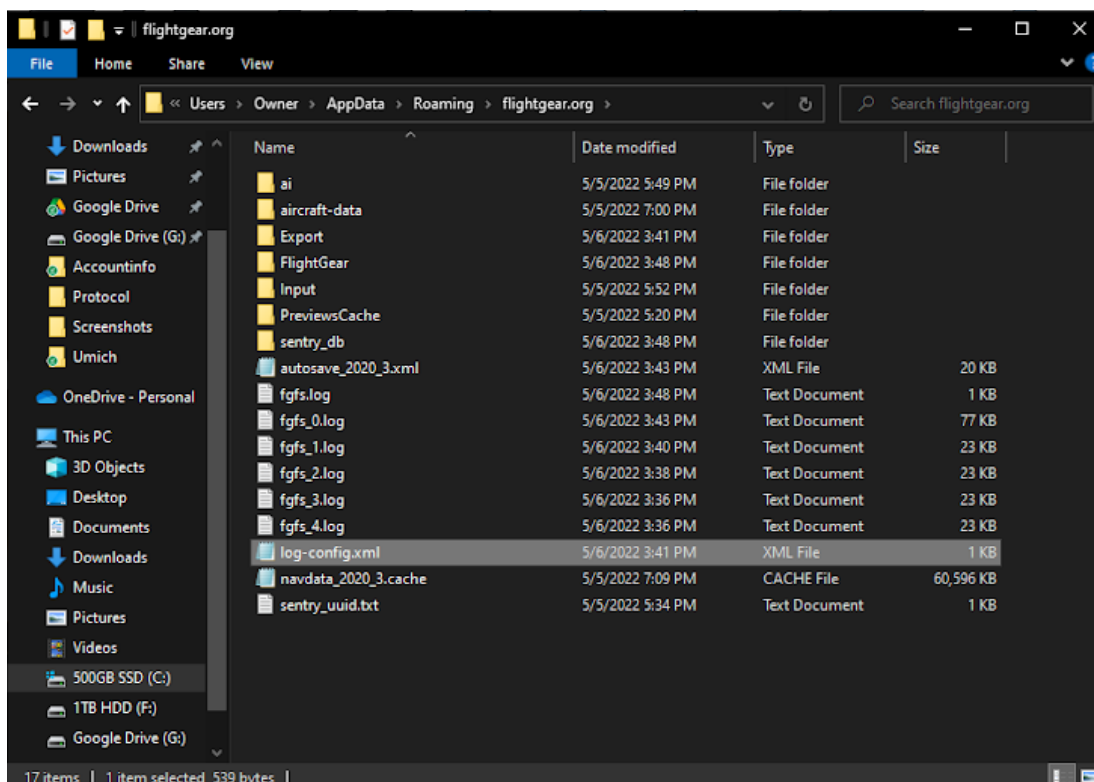


1. Before beginning, ensure that “Show debugging console” and “Enable Crash and Error Reporting” are enabled. The General Settings tab must be expanded to view both of these. These will produce more verbose output in crash reports, etc. to help if you experience issues further down the procedure.



2. Create an XML file in ../Roaming/flightgear.org named log-config.xml. It is important that this truly be an XML file, and not a “Text Document” file. Clicking view>File Name Extensions in the windows file explorer will allow you to verify or correct the file extension.



3. Within log-config.xml, paste the following code. See steps 4 and 5 for customizing this xml file to different planes and sensors. The following code was made for the default Cessna.

```
<?xml version="1.0" encoding="UTF-8"?>
<PropertyList>
  <logging>
    <log>

<filename>C:/Users/Owner/AppData/Roaming/flightgear.org/Export/fg_log.csv</filename>
    <enabled>true</enabled>
    <interval-ms>1000</interval-ms>
    <delimiter>,</delimiter>
    <entry>
      <enabled>true</enabled>
      <title>Rudder</title>
      <property>/controls/flight/rudder</property>
    </entry>
    <entry>
      <enabled>true</enabled><ref></ref>
      <title>Ailerons</title>
      <property>/controls/flight/aileron</property>
    </entry>
  </log>
</logging>
</PropertyList>
```

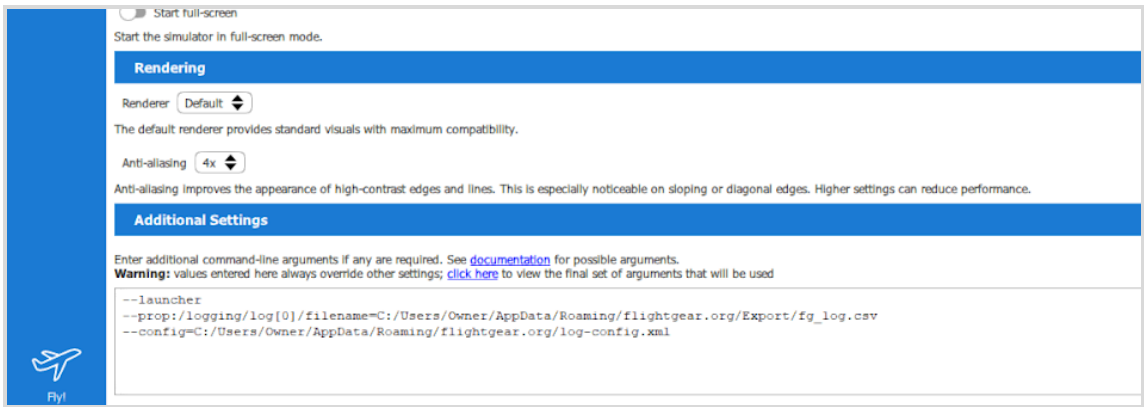
4. Additional columns may be added to the output .csv by adding more of the following modules to log-config.xml.

```
<entry>
  <enabled>true</enabled>
  <title>Name of Sensor</title>
  <property>/property/browser/path/to/sensor</property>
</entry>
```

5. The property browser must be used to find the "path to sensor." Different airplanes may have different paths to similar sensors. Read more about the property browser here: [https://wiki.flightgear.org/Property\\_browser#:~:text=6.1%20Source%20code-,Opening%20the%20property%20browser,File%20%3E%20Browse%20Internal%20Properties\).](https://wiki.flightgear.org/Property_browser#:~:text=6.1%20Source%20code-,Opening%20the%20property%20browser,File%20%3E%20Browse%20Internal%20Properties).)

6. Within the FlightGear launcher, paste the following into the additional settings field:

```
--launcher
--prop:/logging/log[0]/filename=C:/Users/Owner/AppData/Roaming/flightgear.org/Export/fg_log.csv
--config=C:/Users/Owner/AppData/Roaming/flightgear.org/log-config.xml
```



- It is important that the file path on the `--prop` command be customized to the specific installation of flightgear. The "Owner" name may be different for different users. It is also important that the `fg_log.csv` be named the exact same, in absolute format, in both the FlightGear launcher and the `log-config.xml` file. A mismatch in these names will produce something like the following near the end of a crash log:

[ALRT]:general C:\Jenkins\workspace\Windows-release\flightgear\src\Main\logger.cxx:69: The FGLogger logging system, via the '/logging/log/filename' property, was asked to write to 'fg\_log.csv', however this path is not authorized for writing anymore for security reasons. Please choose another location, for instance in the \$FG\_HOME/Export folder (C:/Users/Owner/AppData/Roaming/flightgear.org/Export).

- Launch the flightgear simulator. Logging will begin as soon as the simulator loads, and will continue until exit. The plane does not even need to be started or moved for logging to occur. The simulator may be exited by hitting the escape key and choosing to exit. The `fg_log.csv` file will be created once the program exits.

