

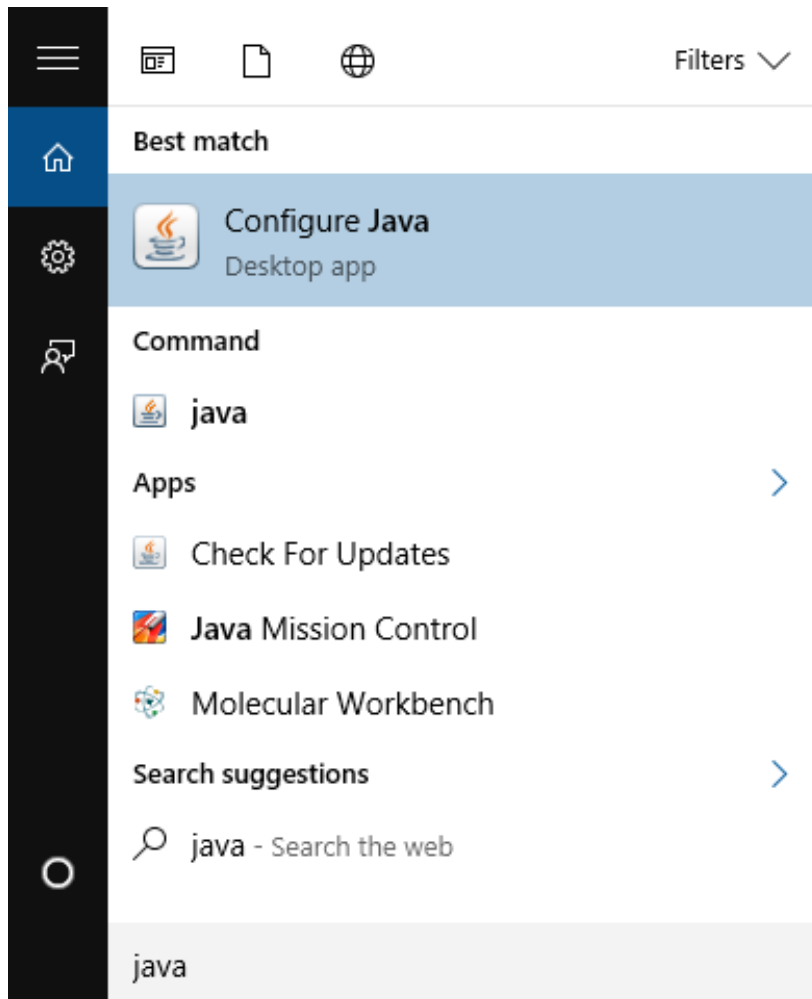
## Installation Guide for EngineSim

**\*Note: EngineSim will only run in Internet Explorer\***

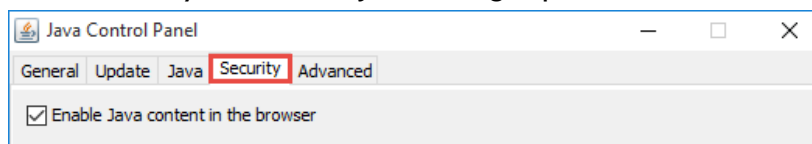
Updated: 4/26/2017

### Procedure

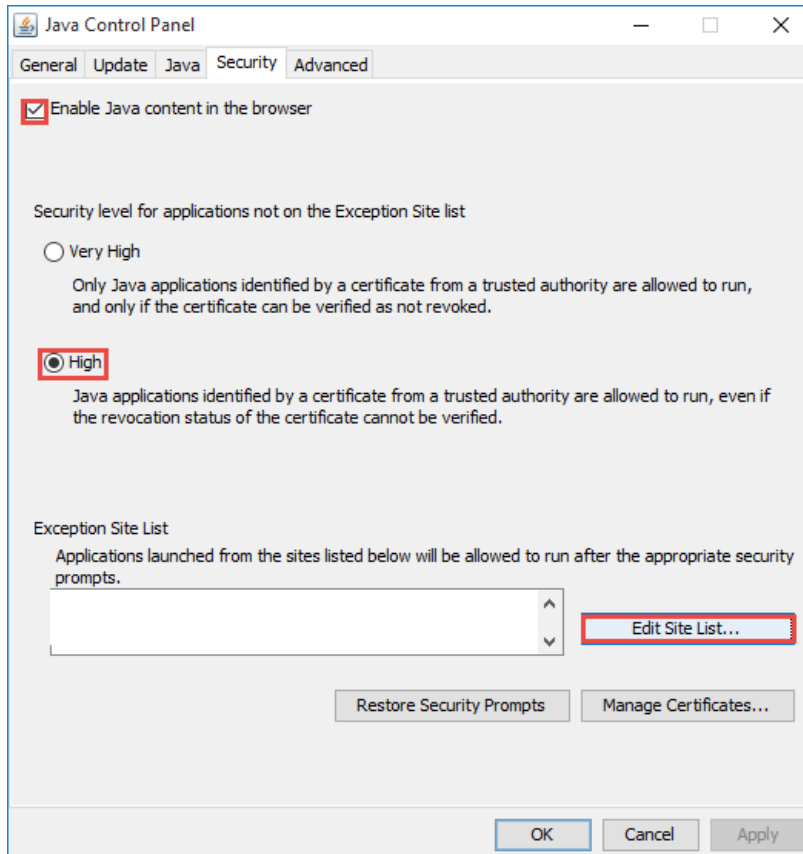
- I. Before running the simulator, you will need to modify the Java settings on your machine.
  - a. On your computer, locate and open the Java settings.



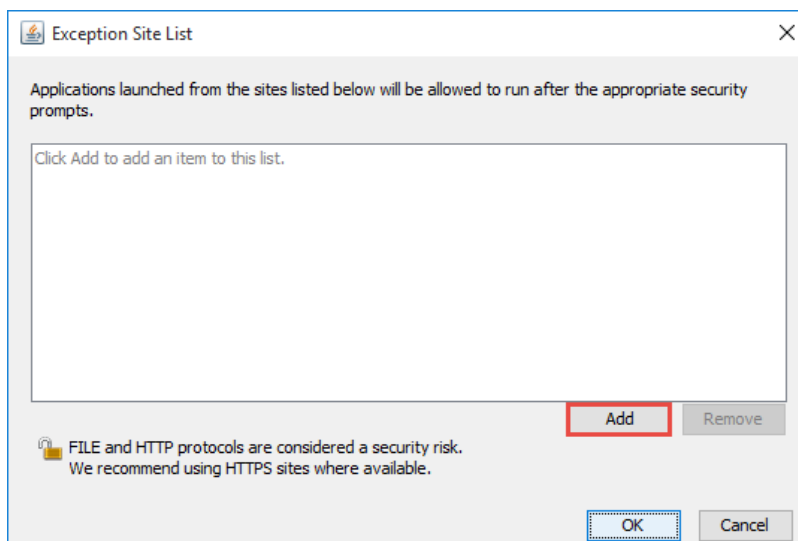
- b. Once you have the Java settings open, select the **security** tab on the top.



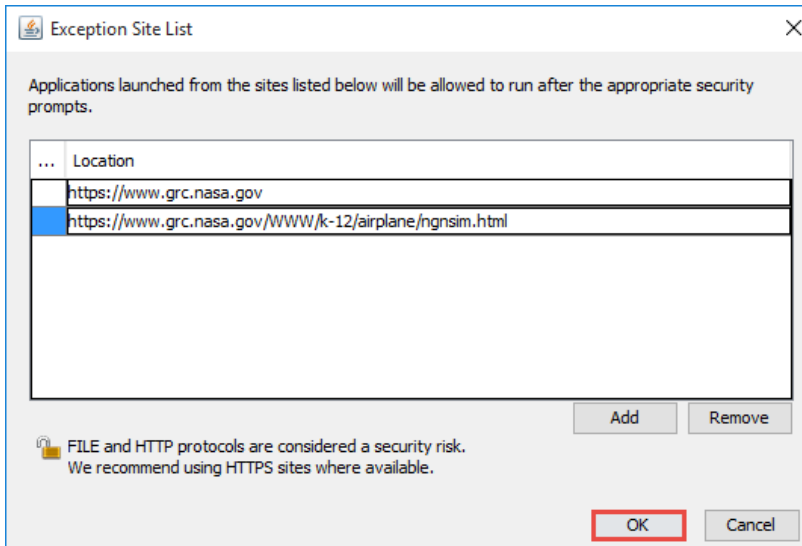
- c. On the Java **security** tab, you will then need to check the **Enable Java Content in the browser** checkbox, select **High** for the security level and select the **Edit Site List** button under Exception Site List.



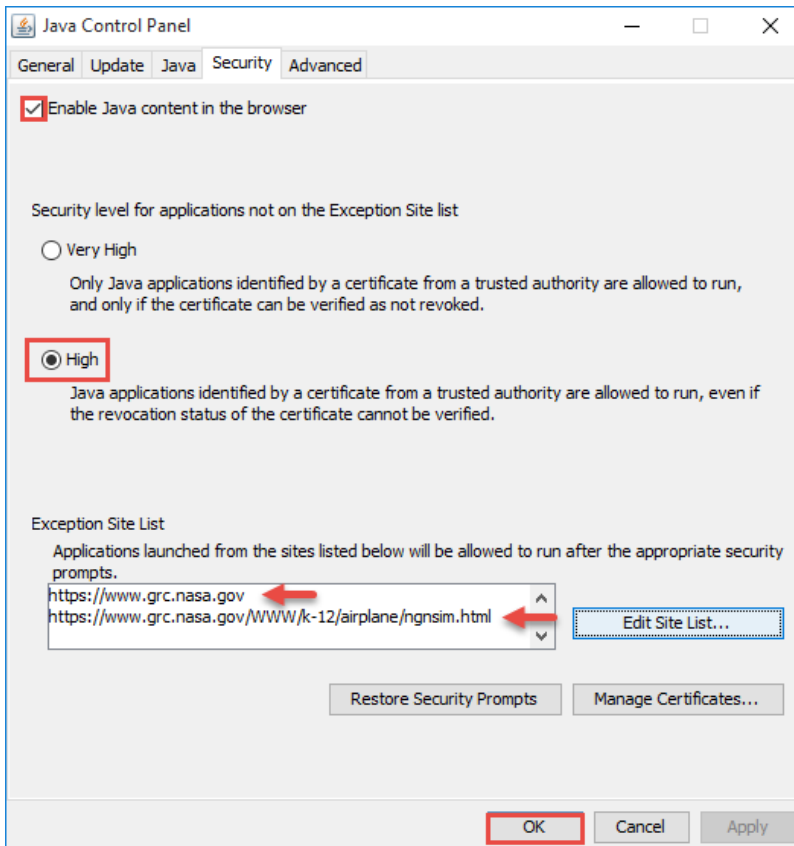
- d. On the Exception Site List box that opens, Select **Add** twice.



- e. Next, type the following URLs into each line:  
“https://www.grc.nasa.gov/WWW/k-12/airplane/ngnsim.html” and  
“https://www.grc.nasa.gov” then select **OK**.



- f. Verify your selections were input correctly, and select **OK** to save your changes.



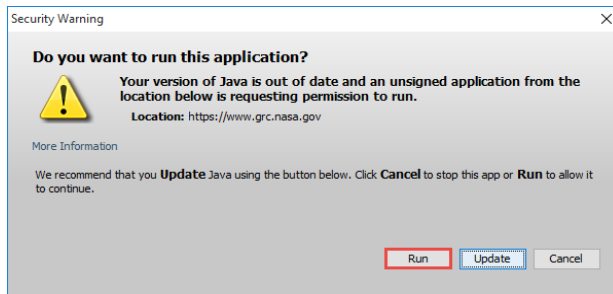
2. Now that your Java settings have been updated, you will be able to run the simulator.

a. Open the simulator by going to the following URL:

<https://www.grc.nasa.gov/WWW/k-12/airplane/ngnsim.html>


**Note: This website will not work while using Google Chrome. (Mozilla Firefox and Internet Explorer had the most consistent compatibility during testing)**

b. If prompted to allow Java, select **Run**



c. EngineSim will now run in the browser, we recommend bookmarking this page for easier future access.

<https://www.grc.nasa.gov/WWW/k-12/airplane/ngnsim.html>




**NATIONAL AERONAUTICS  
AND SPACE ADMINISTRATION**

+ Text Only Site  
+ Non-Flash Version  
+ Contact Glenn

FIND IT @ NASA :

+ ABOUT NASA   + NEWS & EVENTS   + MULTIMEDIA   + MISSIONS   + MY NASA   + WORK FOR NASA

**Glenn  
Research  
Center**



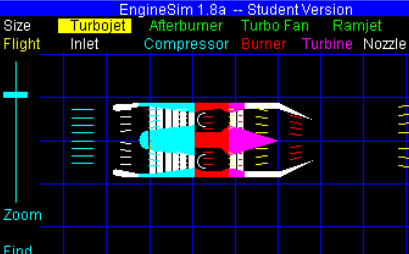
## EngineSim Version 1.8a

This is a beta 1.8a version of the EngineSim program, and you are invited to participate in the beta testing. If you find errors in the program or would like to suggest improvements, please send an e-mail to [nancy.r.hall@nasa.gov](mailto:nancy.r.hall@nasa.gov).

The older [Version 1.7c](#) is still available, if you prefer. The older version encountered some loading problems with the most recent Java security patches.

EngineSim 1.8a -- Student Version

Size Turbojet Afterburner Turbo Fan Ramjet  
Flight Inlet Compressor Burner Turbine Nozzle



Zoom  
Find

Mach  Input Speed + Altitude ▾

Press  lb/sq in

Temp  F

Speed-mph  <  >

Altitude-ft  <  >

Throttle  <  >

Gam(T) ▾  Afterburner OFF ▾

Design Mode ▾

Load My Design ▾ Imperial Units ▾

Output: Engine Performance ▾

Net Thrust	<input type="text" value="6824 lbs"/>	Fuel Flow	<input type="text" value="5688 lb/hr"/>
Gross Thrust	<input type="text" value="6824 lbs"/>	TSFC	<input type="text" value="0.833"/>
Ram Drag	<input type="text" value="0 lbs"/>	Core Airflow	<input type="text" value="72.709 lb/s"/>
Fnet / W	<input type="text" value="13.818"/>	Weight	<input type="text" value="493.905 lbs"/>
Fn/air	<input type="text" value="93.8"/>	fuel/air	<input type="text" value="0.021"/>
EPR	<input type="text" value="4.242"/>	ETR	<input type="text" value="4.14"/>
M2	<input type="text" value="0.49"/>	q0	<input type="text" value="0 psf"/>
NPR	<input type="text" value="4.242"/>	V-exit	<input type="text" value="2996 fps"/>
Pexit	<input type="text" value="32.937 psi"/>	T8	<input type="text" value="1506 R"/>
P Fan exit	<input type="text" value="-"/>	CPR	<input type="text" value="8.0"/>
ISP	<input type="text" value="4318 sec"/>	Efficiency	<input type="text" value="0.452"/>

EngineSim