

Running AMES V5.X Using Test Case Input Data

Step 1: Running AMES V5.X in basic default form

After the installation instructions 1-6 in the 'INSTALLATION.rst' file have been carried out, AMES V5.X can be run using either of the following two options:

Option 1 (Without FNCS): Users who intend to run AMES V5.X without using FNCS can execute the command below from the command line prompt:

```
java-jar-Djava.library.path=%YourLocationForAmesV5.X%/fncsDependencies"  
%YourLocationForAmesV5.X%/dist/AMES-V5.X.jar"
```

Option 2 (With FNCS): Users who intend to run AMES V5.X using FNCS need to follow the below instructions. The necessary sample files are provided in the 'TESAgents' subdirectory to run AMES V5.X with FNCS. Advanced users can modify these sample files to run AMES V5.X with FNCS in a manner that suits their purposes.

To run AMES V5.X with FNCS, execute the following command from the command line prompt:

1. Change the directory to TESAgents using in user's system

Example usage: Cd %YourLocationForAmesV5.X%/TESAgents/

2. Run AMES V5.X by executing the command below

Command: **runAMES.bat**

Note: If the user wants to run AMES operating within an Integrated Transmission and Distribution (ITD) system, the user needs to execute the following command

Command: **runAMES.bat ITD TxBus**

The above command depends on the following user-specified parameters:

ITD is to be assigned 1 if the model is to be run with ITD else 0 (the default value is 0)

TxBus – The bus to which the distribution system is considered to be connected to

(Note: This input is only needed if this model is used within an ITD system)

Example usage: **runAMES.bat 1 2**

If the user wants to end the simulation run in the middle of the run, the user needs to execute the following command

'kill5570.bat'.

Note:

- i. Users interested in creating their own input '.dat' files, please note that the required input '.json' files for forecasted load must be created following the guidelines below.

If the user creates a test case data input file named 'FileName.dat', then the user needs to create two additional files in '.json' format – one for day-ahead forecast and another for real-time forecast, in the following format.

FileNameDAM.json

FileNameRTM.json

(Default '.json' files are located in %YourLocationForAmesV5.X%/TESAgents/forecast/data)

- ii. Developers who have made modifications in the AMES V5.X code will need to compile AMES V5.X prior to running AMES V5.X. To compile AMES V5.X, execute the following command from the command line prompt:

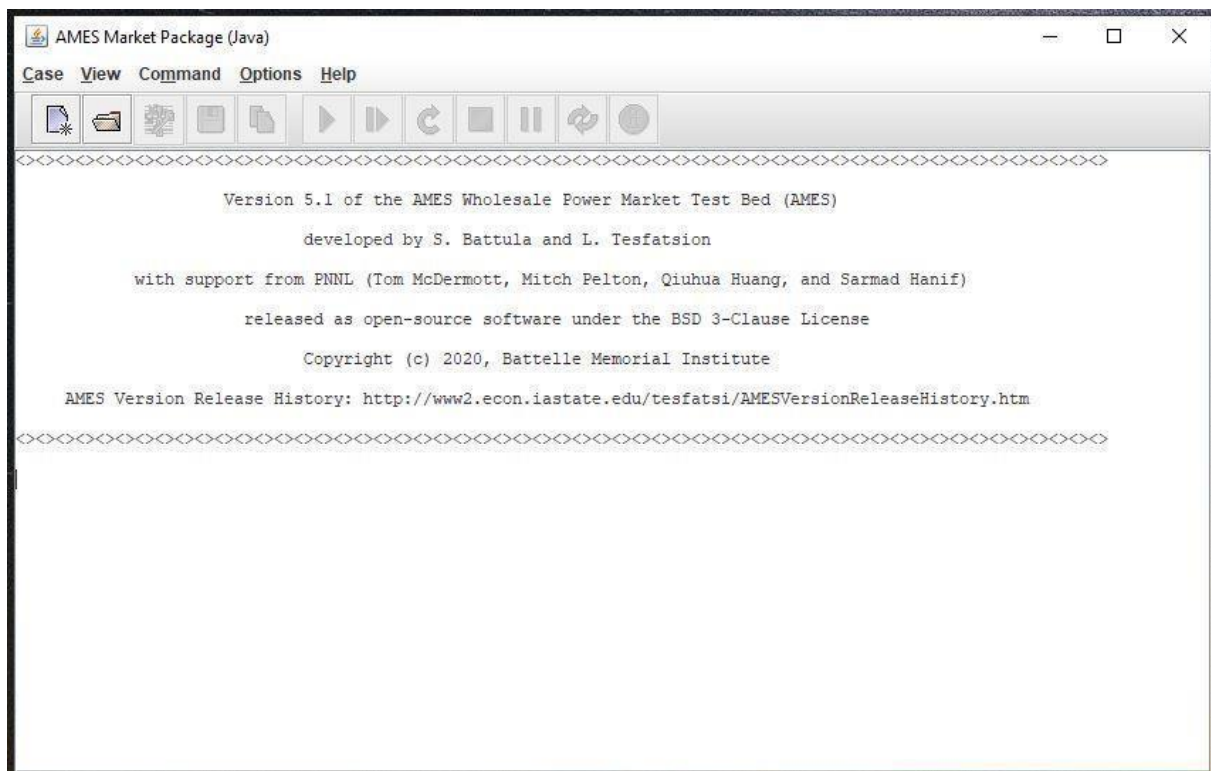
- a. Change the directory to TESAgents using

Example usage: Cd %YourLocationForAmesV5.X%/TESAgents/

- b. Compile by double-clicking on the below batch file **compileAMES.bat**

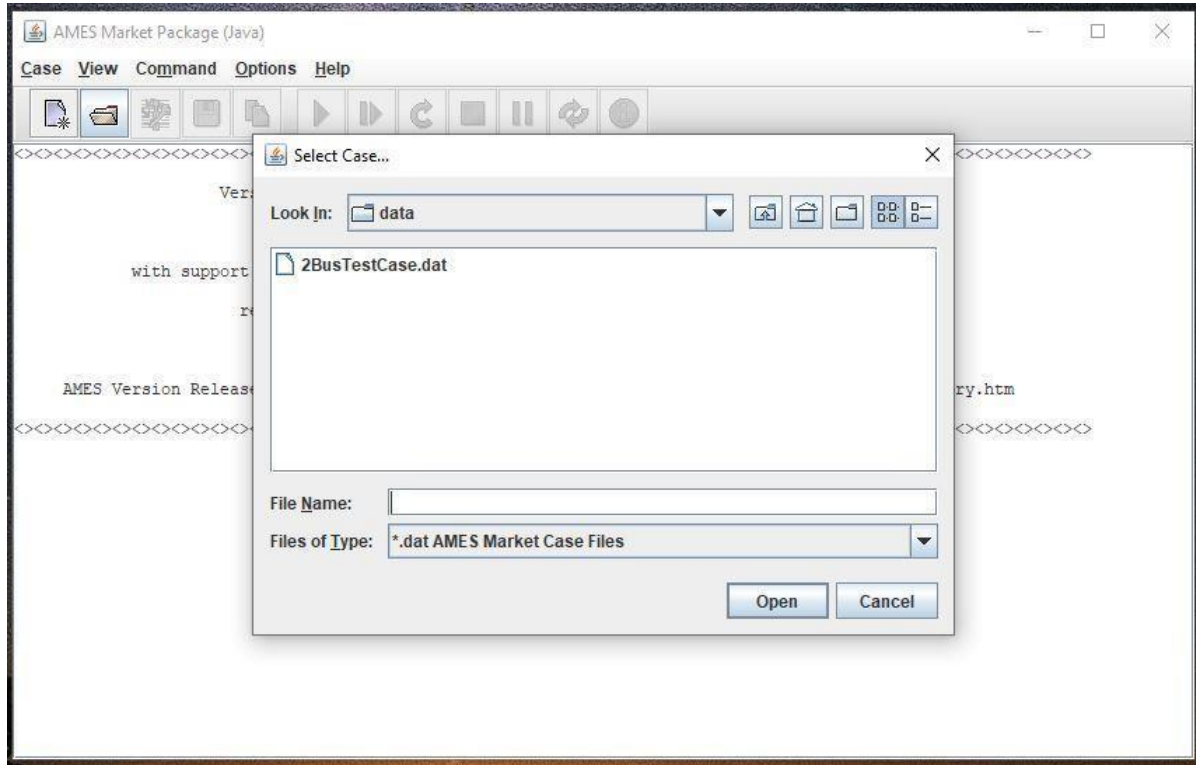
Step 2: Screen display check

After running AMES V5.X using Option 1 or Option 2, the following screen for the AMES Graphical User Interface (GUI) should be displayed.



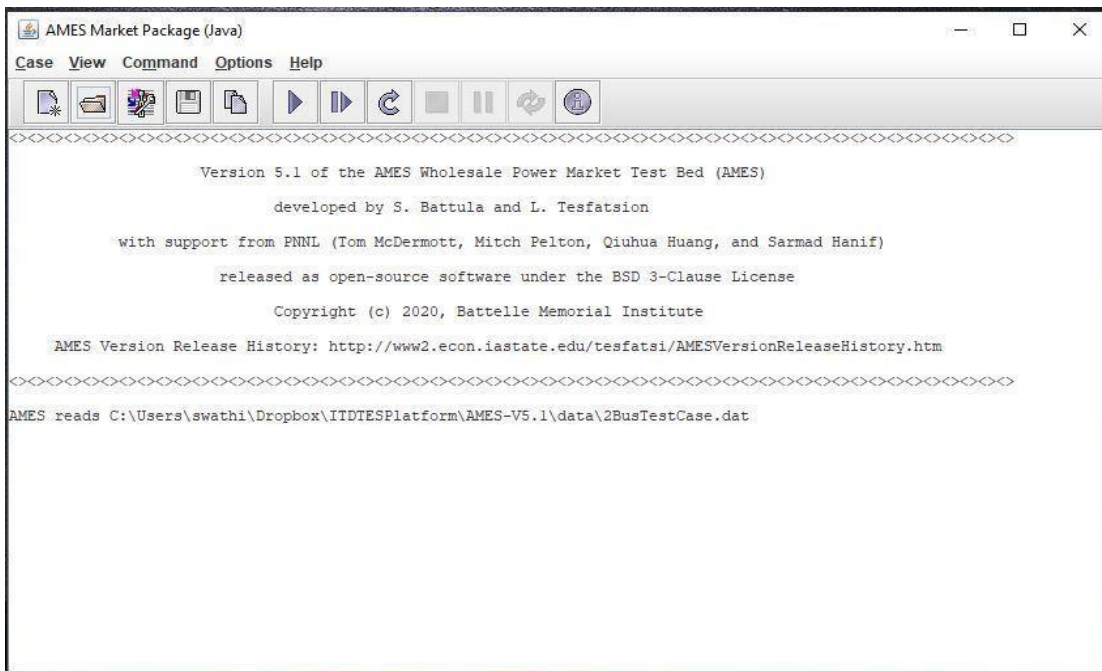
Step 3: Select a test case data input file

To select a test case data input file (e.g. `2BusTestCase.dat`) located in the `data` subdirectory, first select the “Case->Open Case” command from the main AMES GUI menu and then select the required test case data input file.

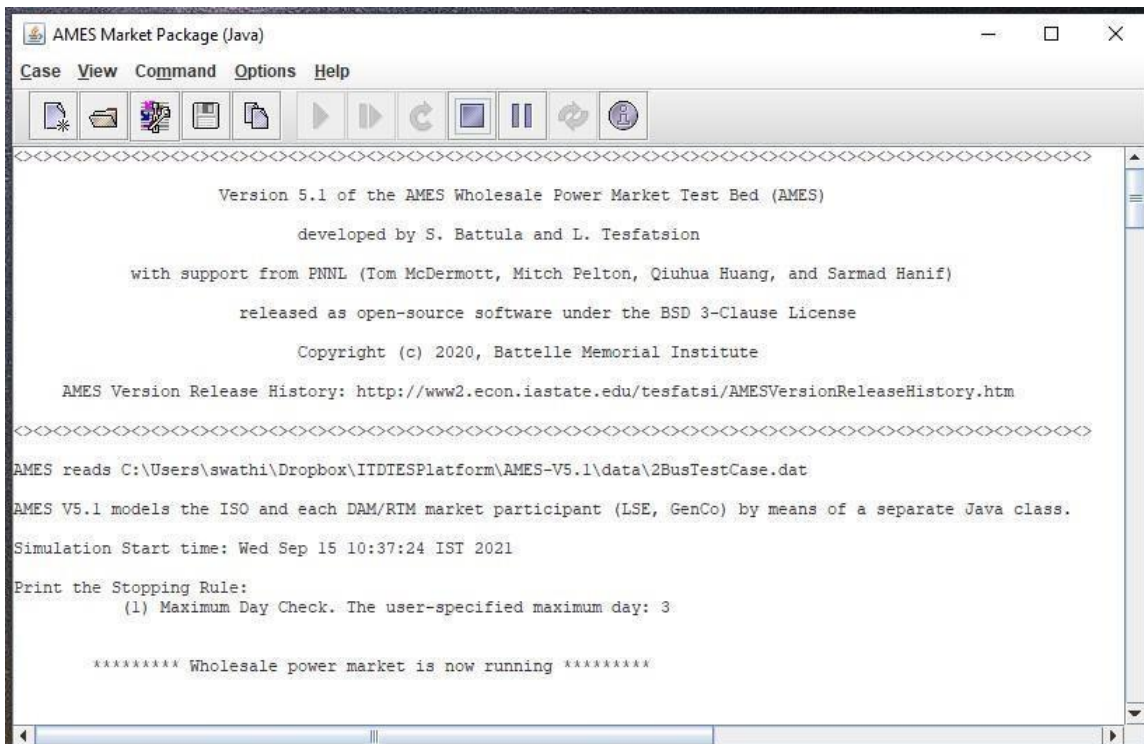
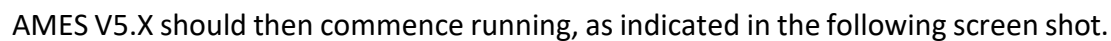


Step 4: Open the selected test case data input file

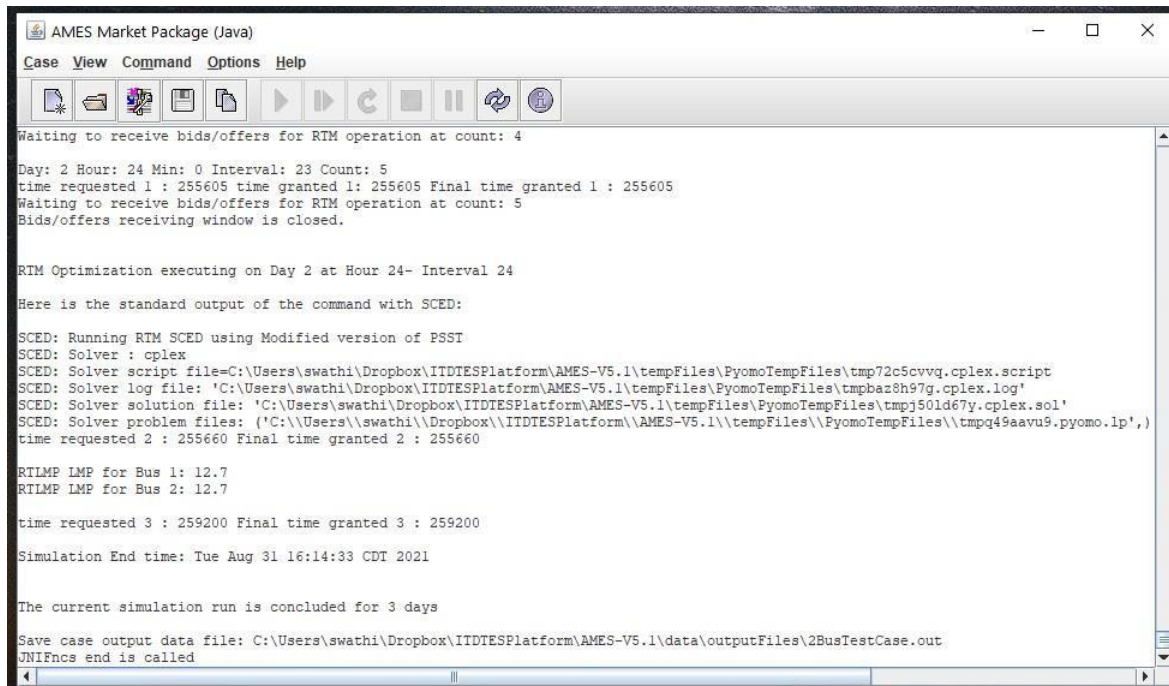
After selecting the desired test case data input file, click the ‘Open’ button along the bottom right of the dialogue box. The following screen should then appear.



To run the selected test case data input file, either click the “Start” icon on the AMES GUI toolbar or (as depicted below) select “Command->Start” from the main AMES GUI menu.



Unless errors are found, AMES V5.X will continue to run for 'MaxDay' simulated days. At the end of this simulation run, a test case data output file will be created in the 'data/outputFiles' directory; see the illustrative screen shot below.



The screenshot shows a Java application window titled "AMES Market Package (Java)". The window has a menu bar with "Case", "View", "Command", "Options", and "Help". Below the menu bar is a toolbar with icons for file operations (new, open, save, print, copy, paste) and simulation controls (play, pause, stop, reset, zoom in, zoom out). The main text area displays the following output:

```
Waiting to receive bids/offers for RIM operation at count: 4  
  
Day: 2 Hour: 24 Min: 0 Interval: 23 Count: 5  
time requested 1 : 255605 time granted 1: 255605 Final time granted 1 : 255605  
Waiting to receive bids/offers for RIM operation at count: 5  
Bids/offers receiving window is closed.  
  
RIM Optimization executing on Day 2 at Hour 24- Interval 24  
  
Here is the standard output of the command with SCED:  
  
SCED: Running RIM SCED using Modified version of PSST  
SCED: Solver : cplex  
SCED: Solver script file=C:\Users\swathi\Dropbox\IIDTESPlatform\AMES-V5.1\tempFiles\PyomoTempFiles\tmp72c5cvvq.cplex.script  
SCED: Solver log file: 'C:\Users\swathi\Dropbox\IIDTESPlatform\AMES-V5.1\tempFiles\PyomoTempFiles\tmpbaz8h97g.cplex.log'  
SCED: Solver solution file: 'C:\Users\swathi\Dropbox\IIDTESPlatform\AMES-V5.1\tempFiles\PyomoTempFiles\tmpj50ld67y.cplex.sol'  
SCED: Solver problem files: ('C:\Users\swathi\Dropbox\IIDTESPlatform\AMES-V5.1\tempFiles\PyomoTempFiles\tmpq49aavu9.pyomo.lp',)  
time requested 2 : 255660 Final time granted 2 : 255660  
  
RTLMP LMP for Bus 1: 12.7  
RTLMP LMP for Bus 2: 12.7  
  
time requested 3 : 259200 Final time granted 3 : 259200  
  
Simulation End time: Tue Aug 31 16:14:33 CDT 2021  
  
The current simulation run is concluded for 3 days  
  
Save case output data file: C:\Users\swathi\Dropbox\IIDTESPlatform\AMES-V5.1\data/outputFiles\2BusTestCase.out  
UNIFncs end is called
```