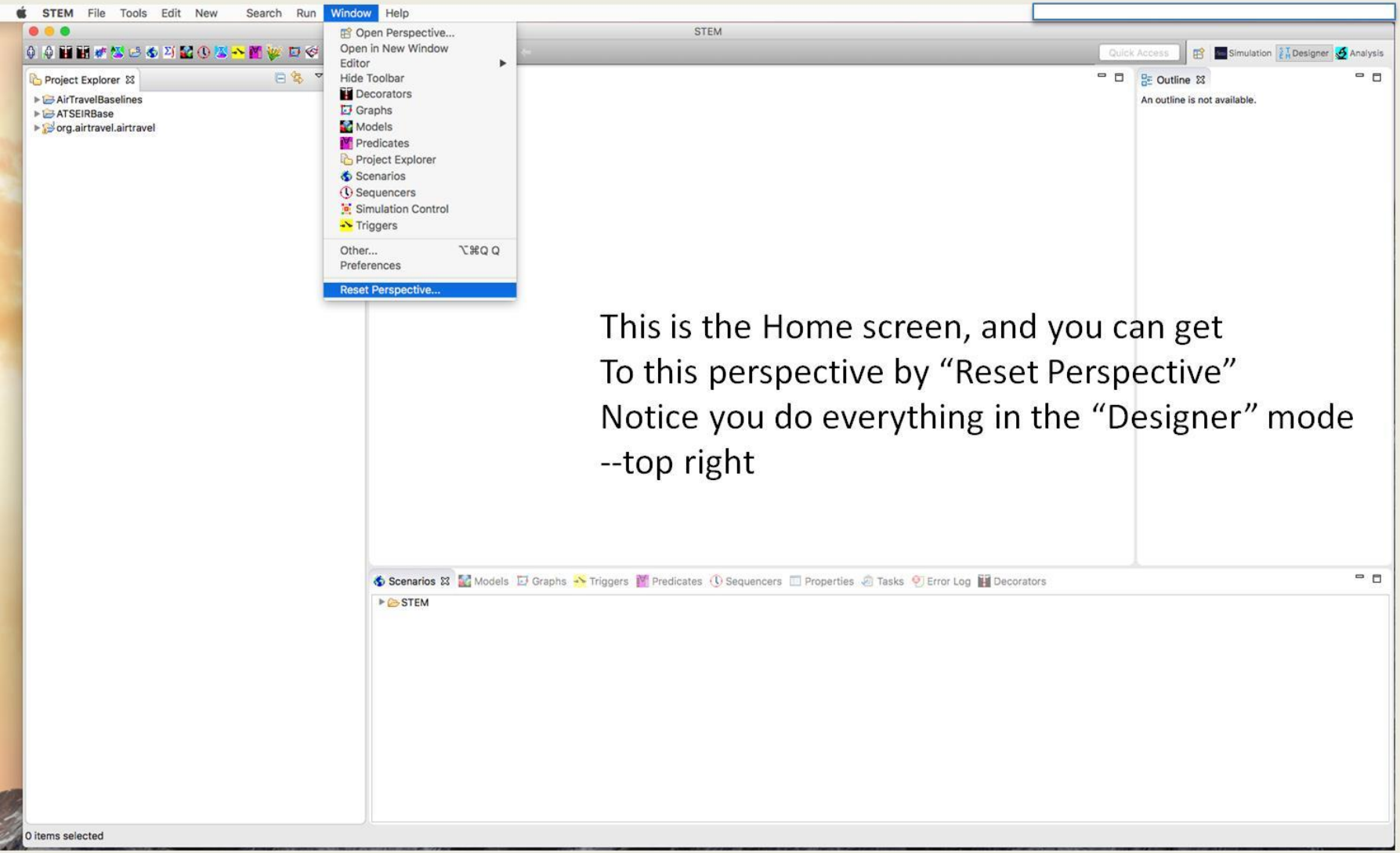
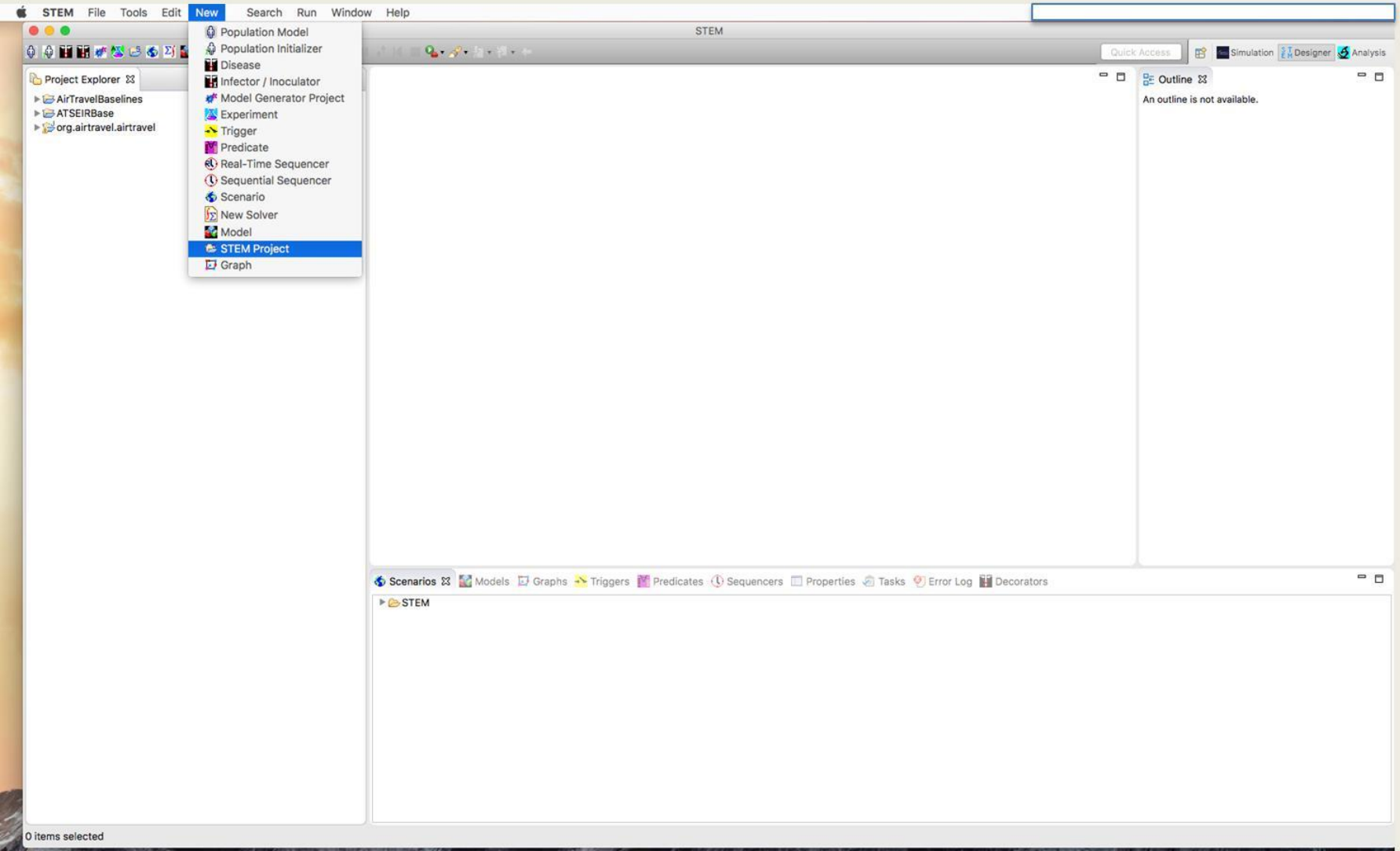
STEM

- Step by step model set up with screen shots
- This is an example of base model disease with air and ground transportation
  - Using a basic Ebola and Flu examples
  - 1 initial case
  - 10 initial cases
  - 6 month time frame
  - Starting from Queens, New York
  - Finite Solver

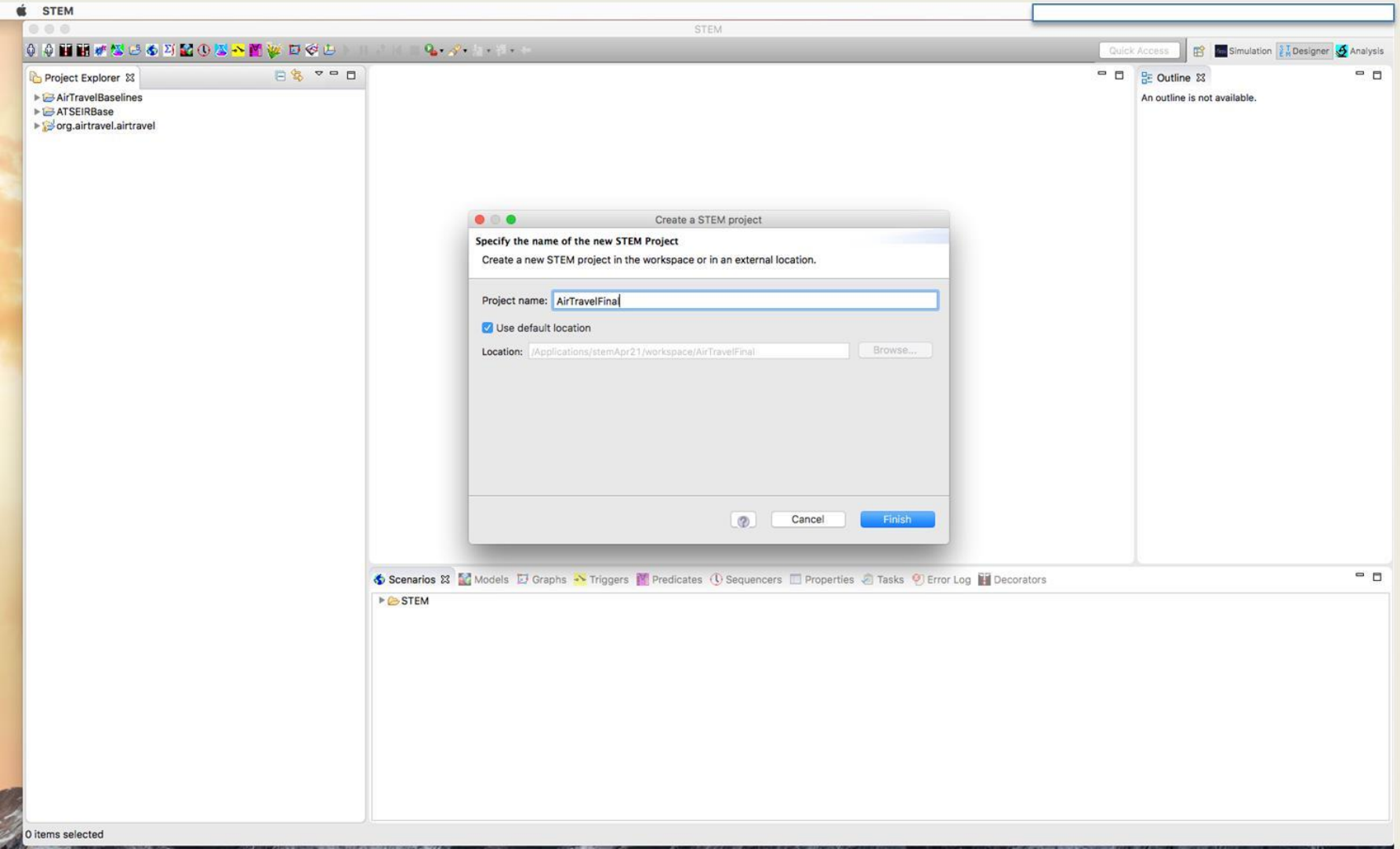


This is the Home screen, and you can get
To this perspective by “Reset Perspective”
Notice you do everything in the “Designer” mode
--top right

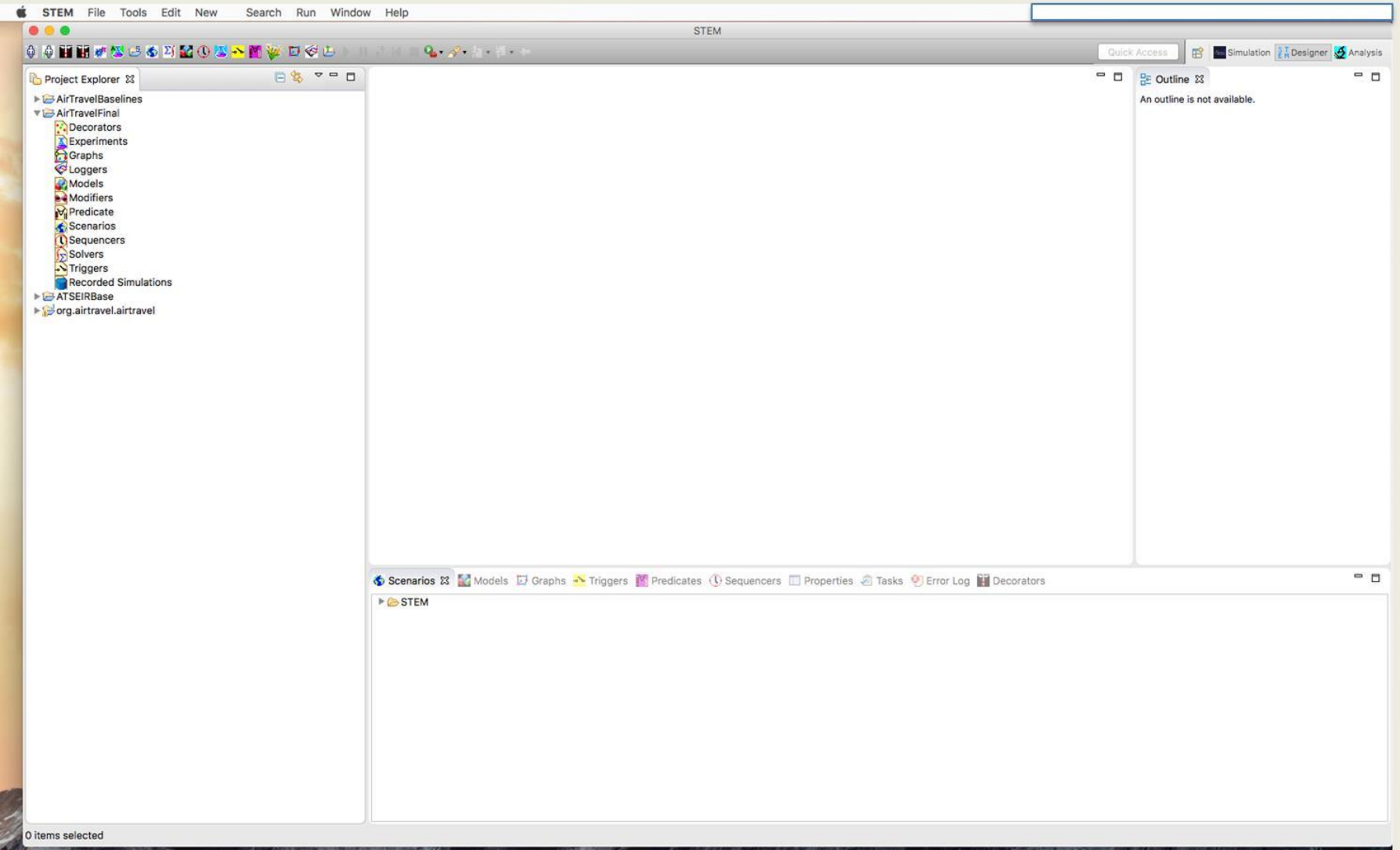
Start the Project with new STEM Project…everything falls in this Folder



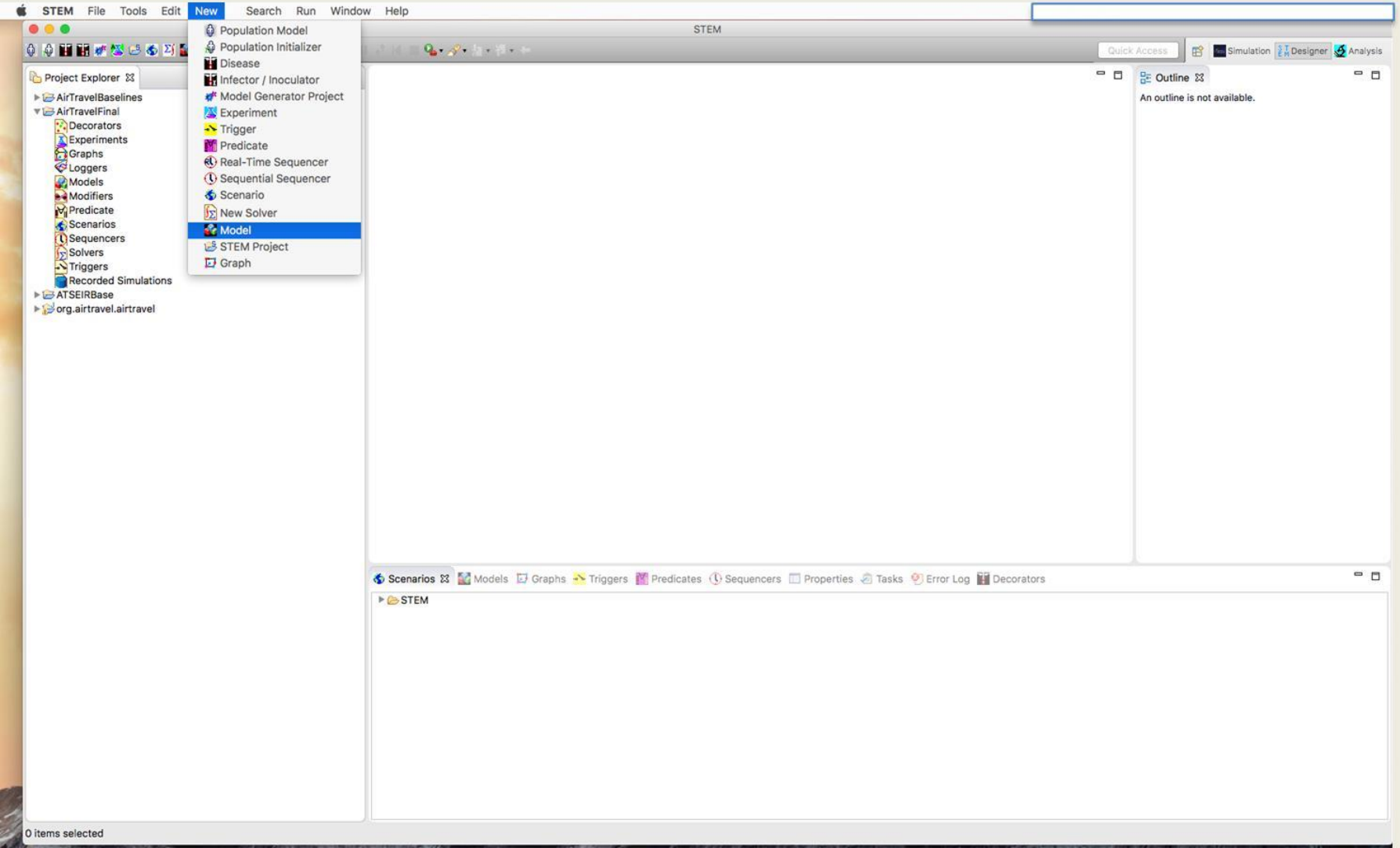
Name it whatever you want



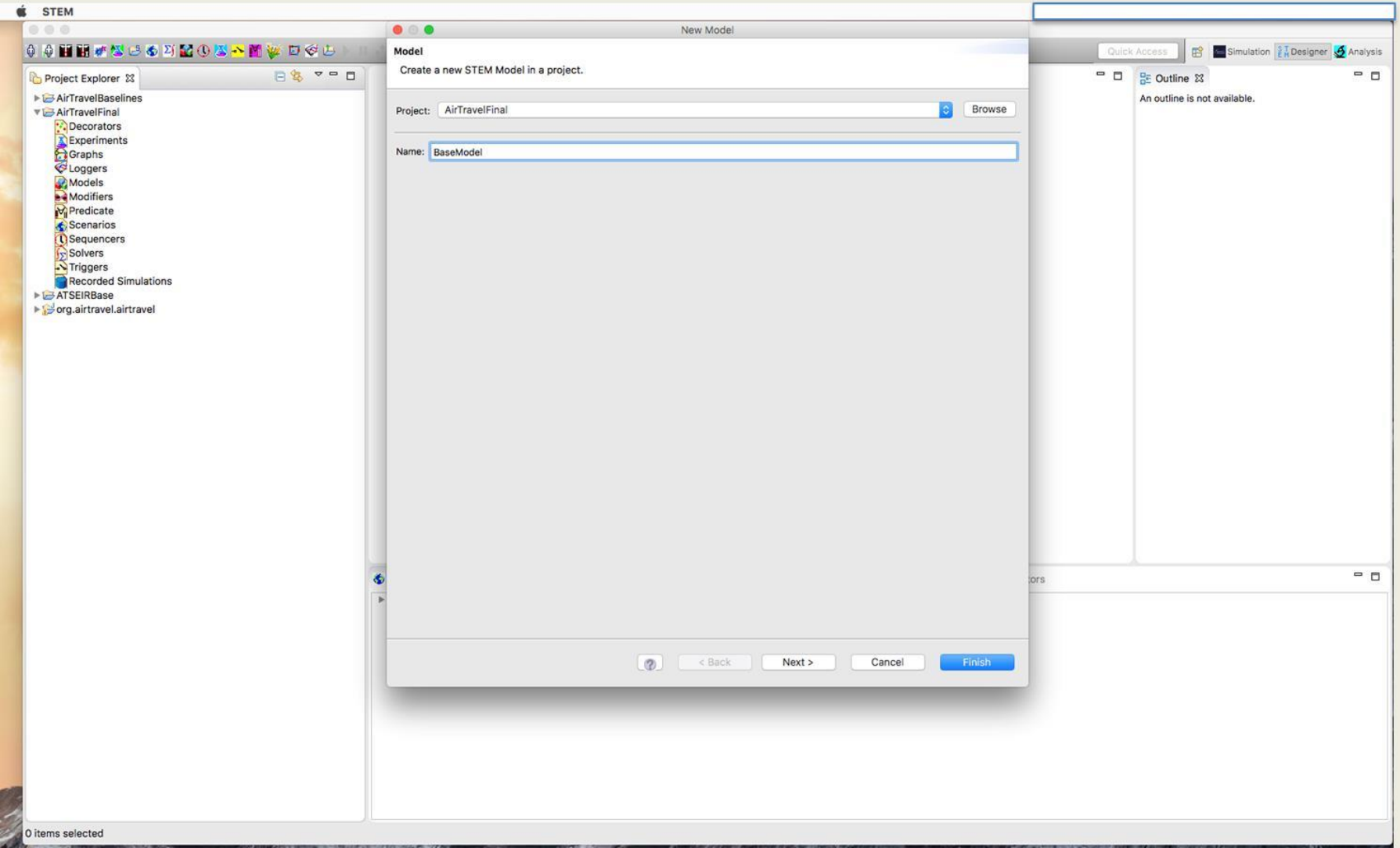
The left side will automatically populate with the necessary folders.

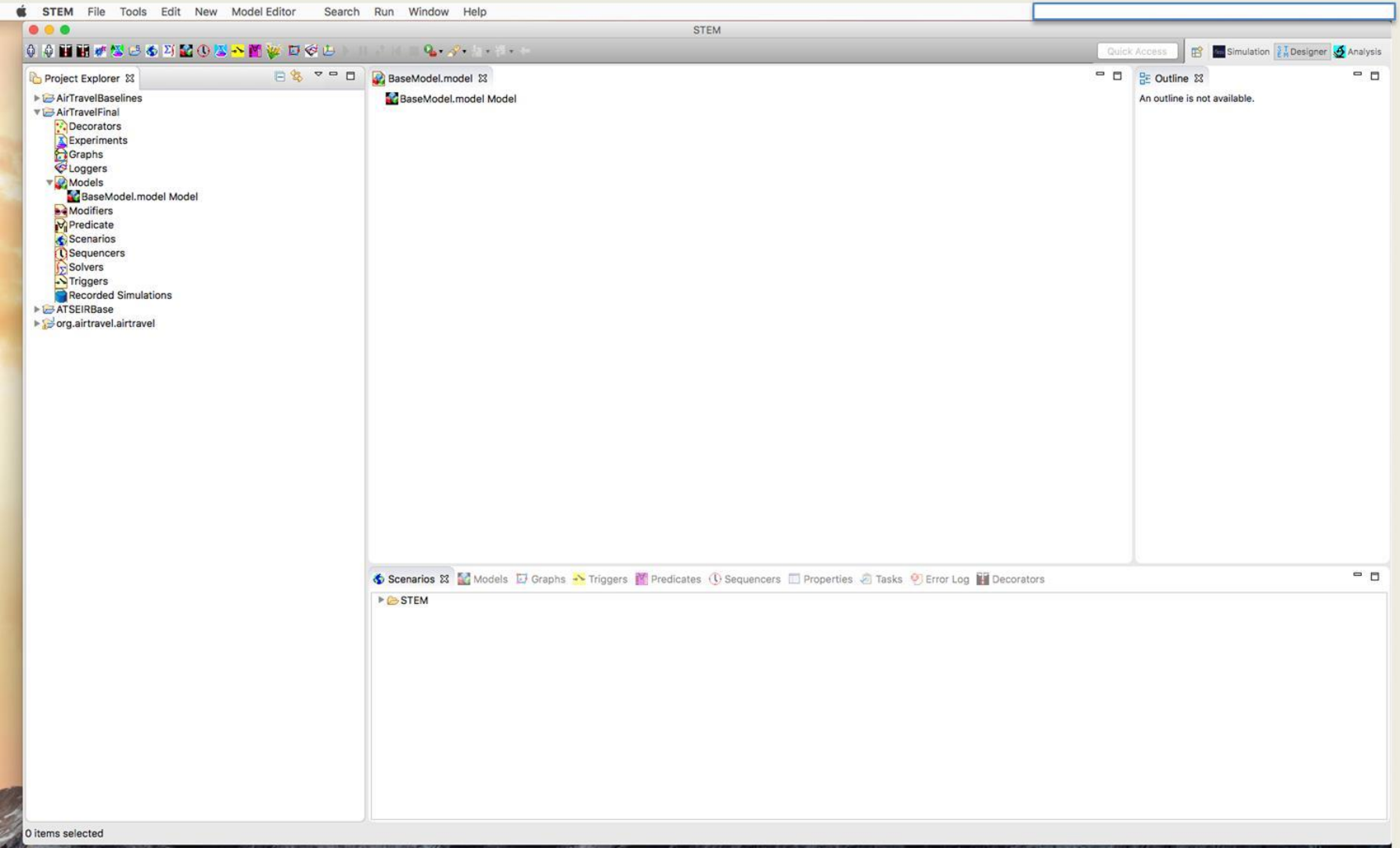


You will start each new Model here…first thing I recommend is creating a baseline Model first that you can add to each of the diseases without having to re-create. So, one time build the airtravel, ground, populations, etc…
So, lets start with baseline model



I just call it BaseModel…

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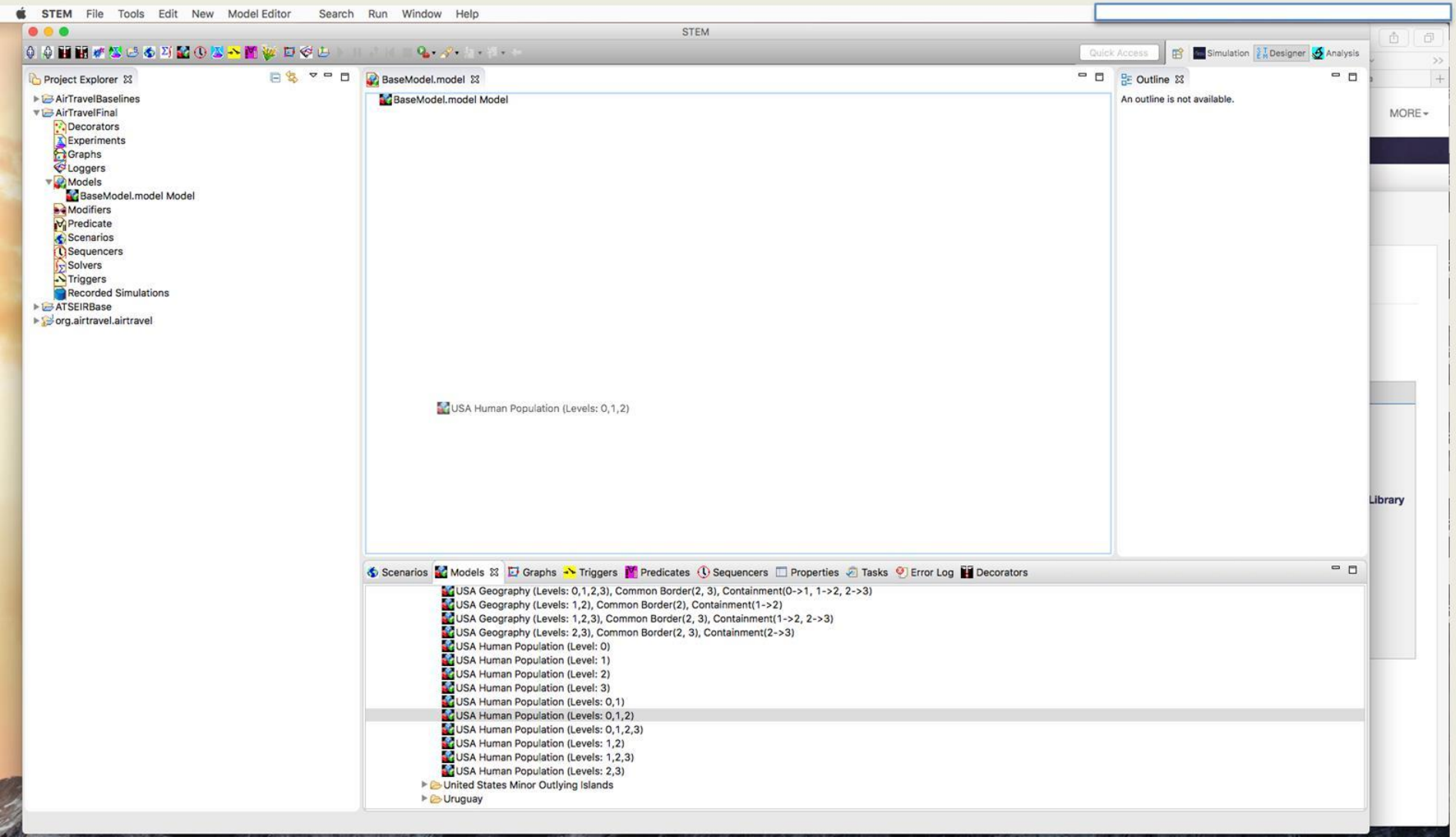
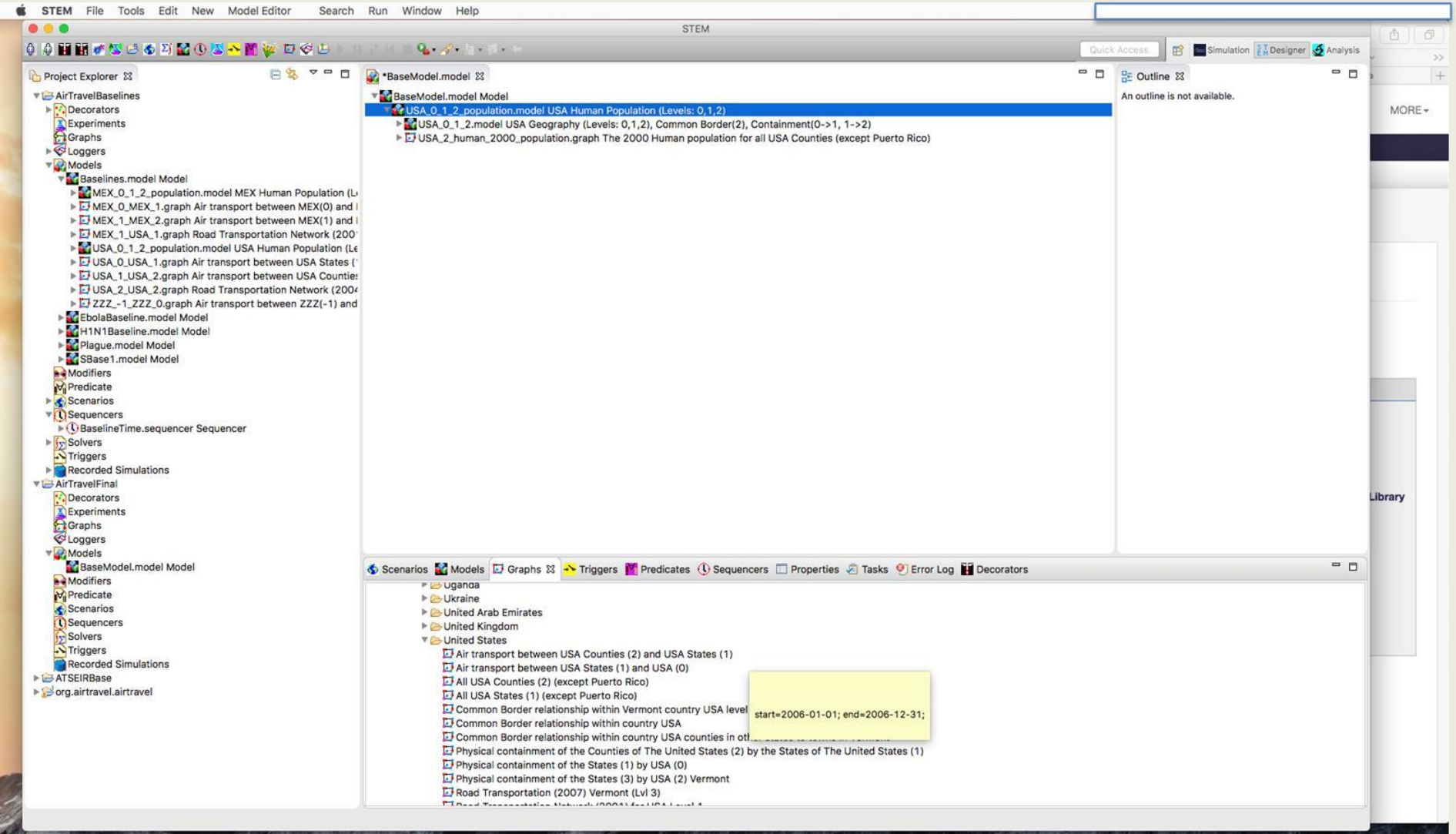
Now to the BaseModel Add,
US Human Population, 0,1,2 (in Models Tab)
This is US Pop in States and Counties

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MEX_0_MEX_1.graph Air transport between MEX(0) and
MEX_1_MEX_2.graph Air transport between MEX(1) and
MEX_1_USA_1.graph Road Transportation Network (200
USA_0_1_2_population.model USA Human Population (Le
USA_0_USA_1.graph Air transport between USA States (
USA_1_USA_2.graph Air transport between USA Counties
USA_2_USA_2.graph Road Transportation Network (200
ZZZ_-1_ZZZ_0.graph Air transport between ZZZ(-1) and
EbolaBaseline.model Model
H1N1Baseline.model Model
Plague.model Model
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BaseModel.model Model
USA_0_1_2_population.model USA Human Population (Levels: 0,1,2)
USA_0_1_2.model USA Geography (Levels: 0,1,2), Common Border(2), Containment(0->1, 1->2)
USA_2_human_2000_population.graph The 2000 Human population for all USA Counties (except Puerto Rico)
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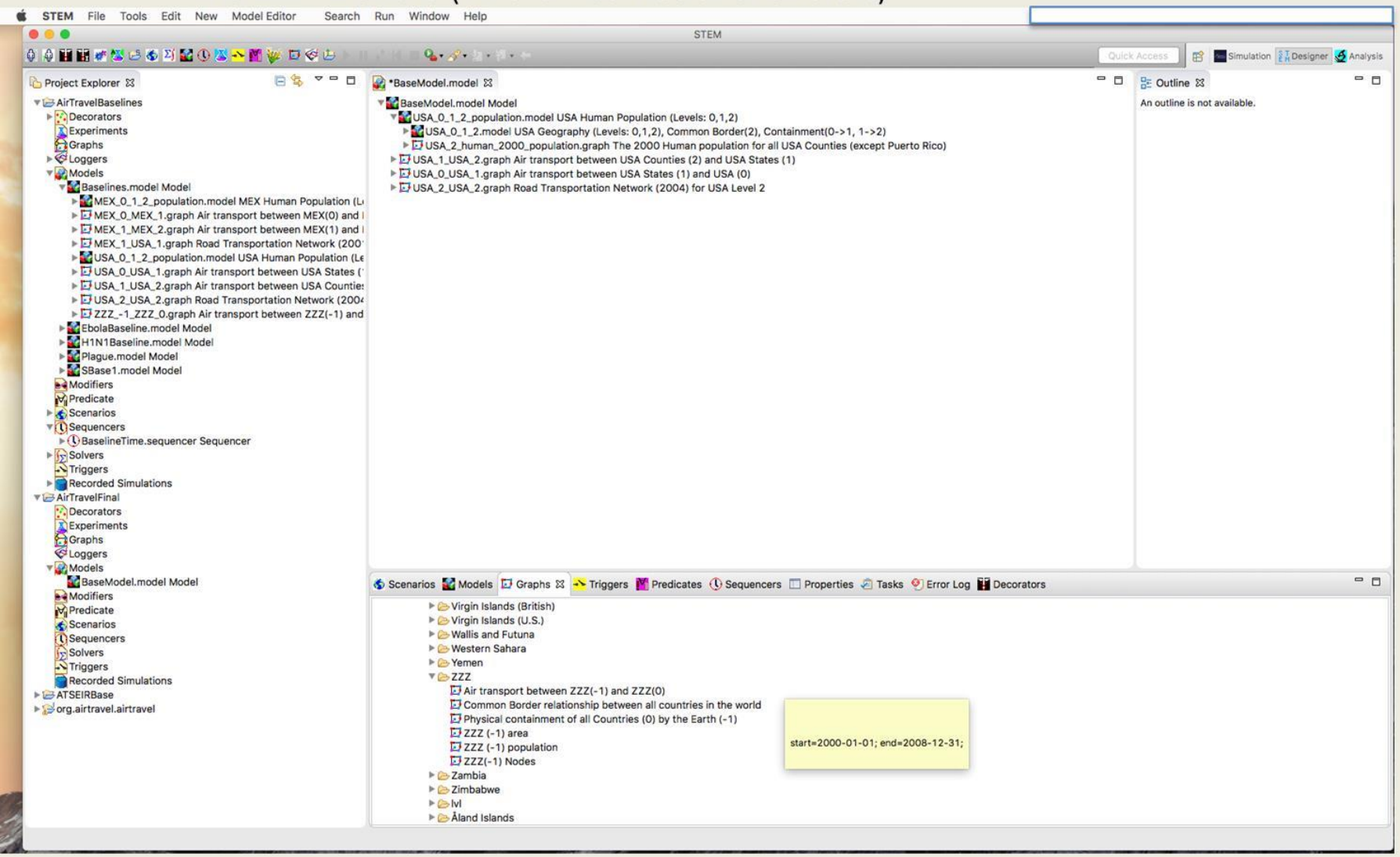
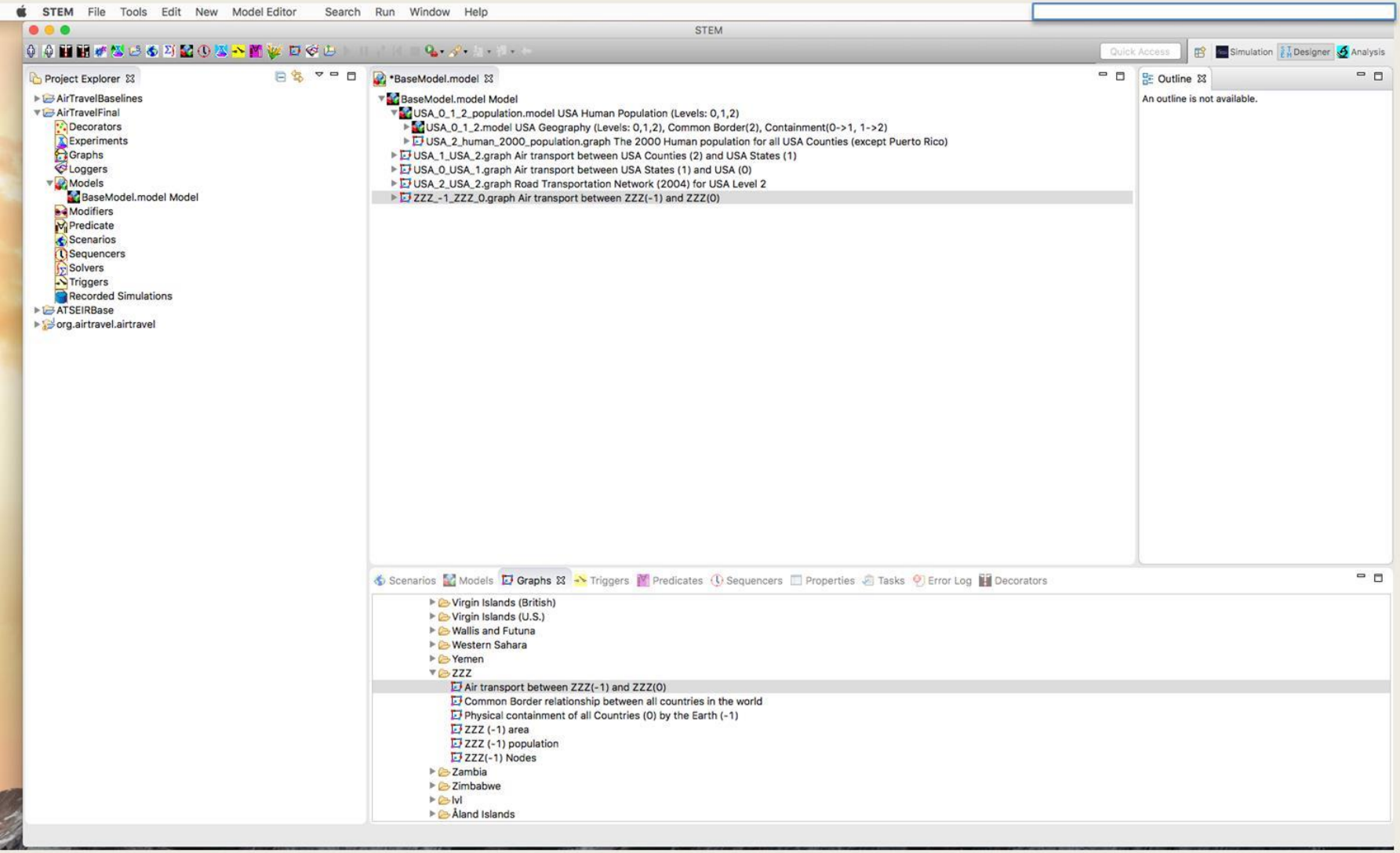
Ukraine
United Arab Emirates
United Kingdom
United States
Air transport between USA Counties (2) and USA States (1)
Air transport between USA States (1) and USA (0)
All USA Counties (2) (except Puerto Rico)
All USA States (1) (except Puerto Rico)
Common Border relationship within Vermont country USA level
start=2006-01-01; end=2006-12-31;
Common Border relationship within country USA
Common Border relationship within country USA counties in oth
Physical containment of the Counties of The United States (2) by the States of The United States (1)
Physical containment of the States (1) by USA (0)
Physical containment of the States (3) by USA (2) Vermont
Road Transportation (2007) Vermont (Lvl 3)
MORE
Library

Add Air Transport 2 and 1,- Within states
Air transport 1 and O – Between States
Add Ground Transport 2004 – Level 2
And ZZZ -1 and 0 (This is international aircraft)

These are all in Graphs Tab

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USA_2_human_2000_population.graph The 2000 Human population for all USA Counties (except Puerto Rico)
USA_1_USA_2.graph Air transport between USA Counties (2) and USA States (1)
USA_0_USA_1.graph Air transport between USA States (1) and USA (0)
USA_2_USA_2.graph Road Transportation Network (2004) for USA Level 2
ZZZ_-1_ZZZ_0.graph Air transport between ZZZ(-1) and ZZZ(0)
Outline
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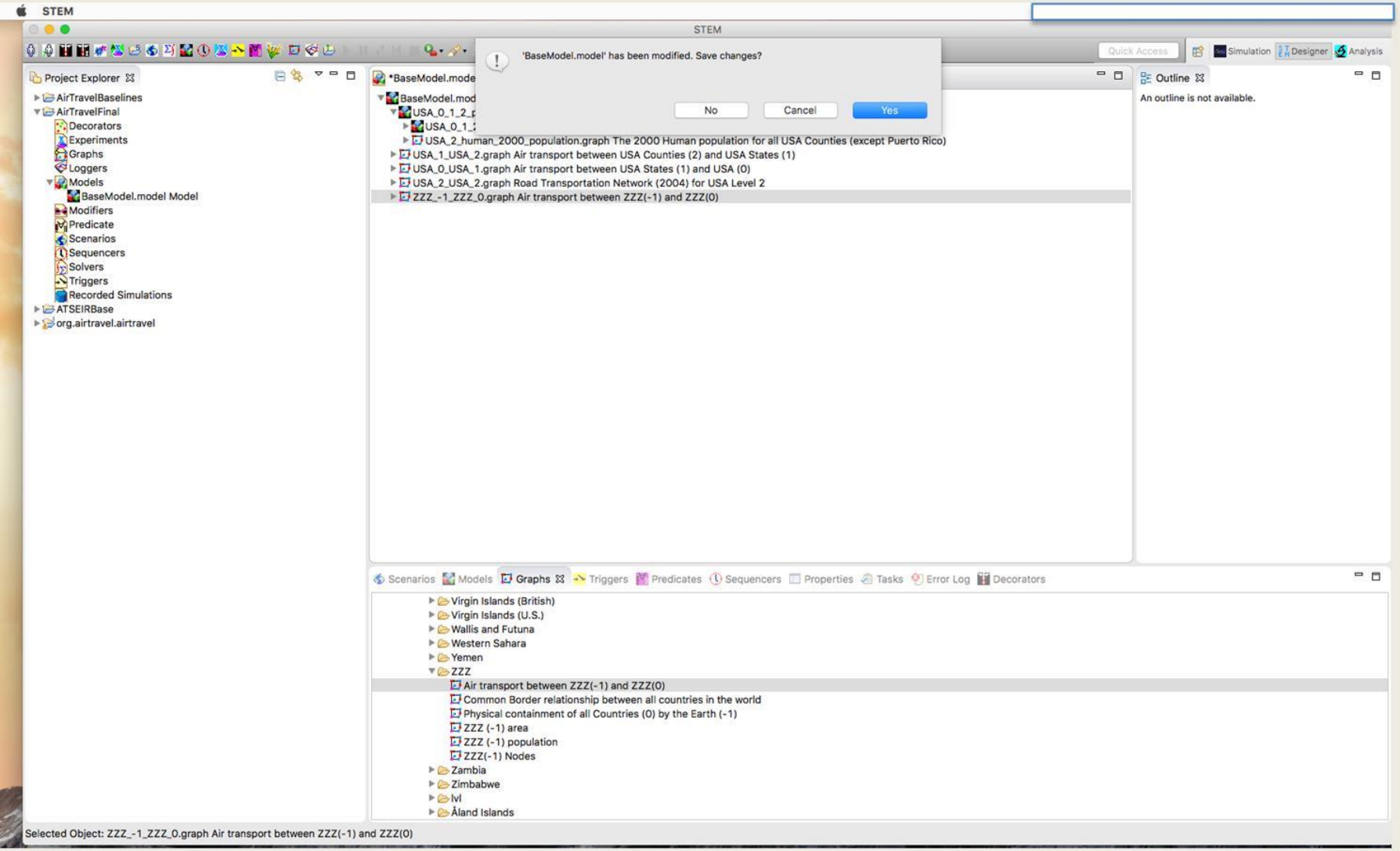
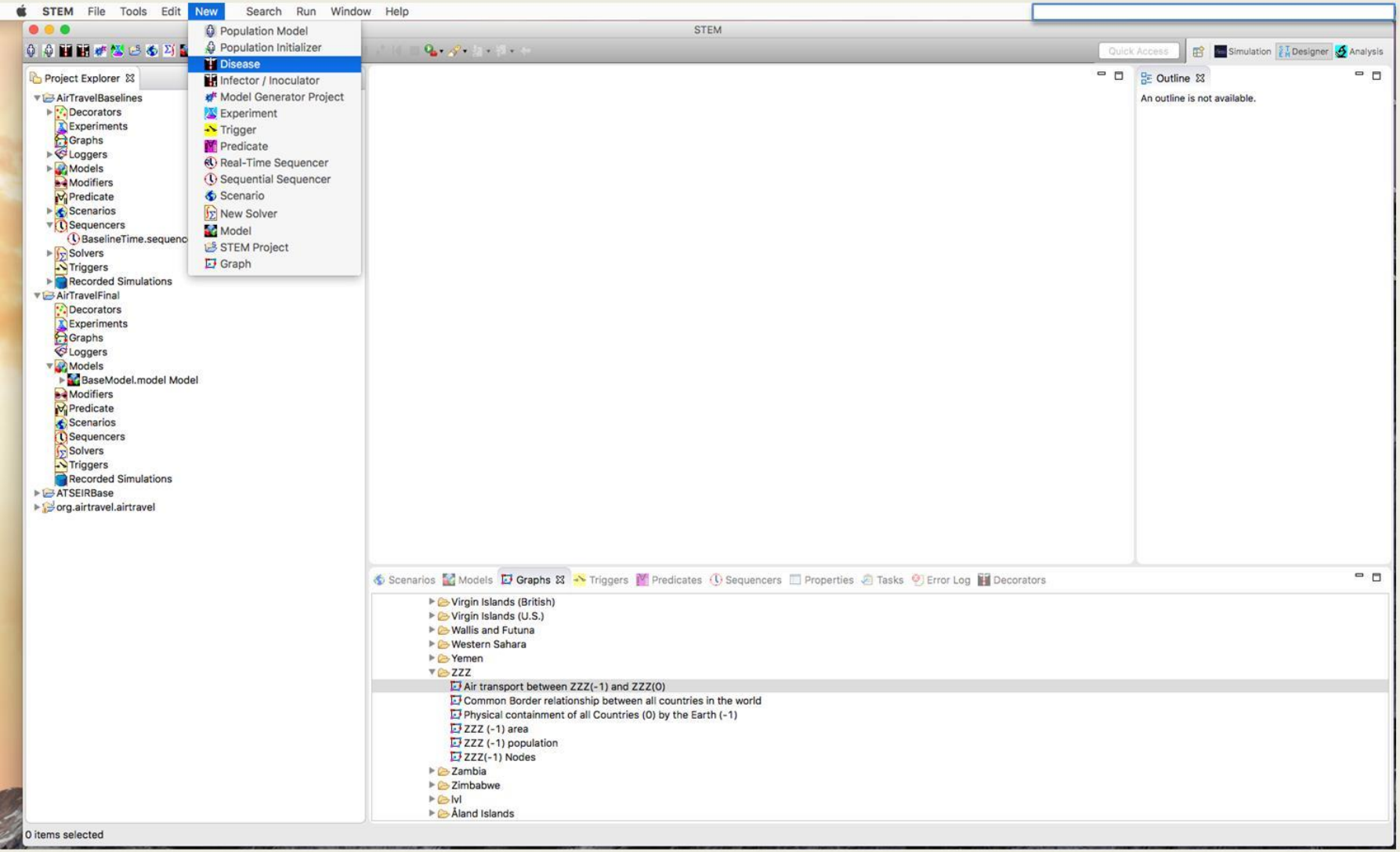
Scenarios Models Graphs Triggers Predicates Sequencers Properties Tasks Error Log Decorators
Virgin Islands (British)
Virgin Islands (U.S.)
Wallis and Futuna
Western Sahara
Yemen
ZZZ
Air transport between ZZZ(-1) and ZZZ(0)
Common Border relationship between all countries in the world
Physical containment of all Countries (0) by the Earth (-1)
ZZZ (-1) area
ZZZ (-1) population
ZZZ(-1) Nodes
Zambia
Zimbabwe
Ivl
Åland Islands

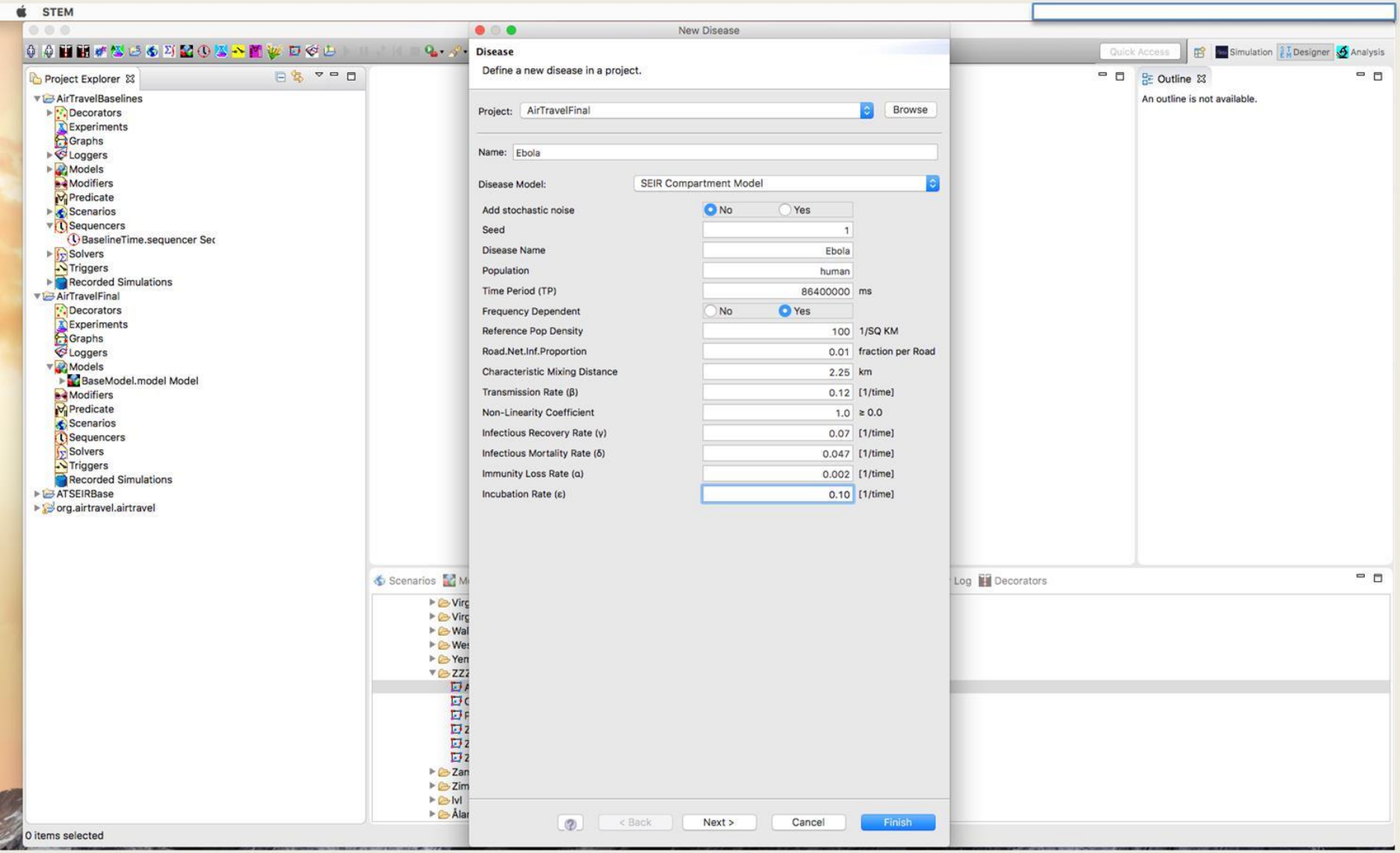
Once you close the tab it will save



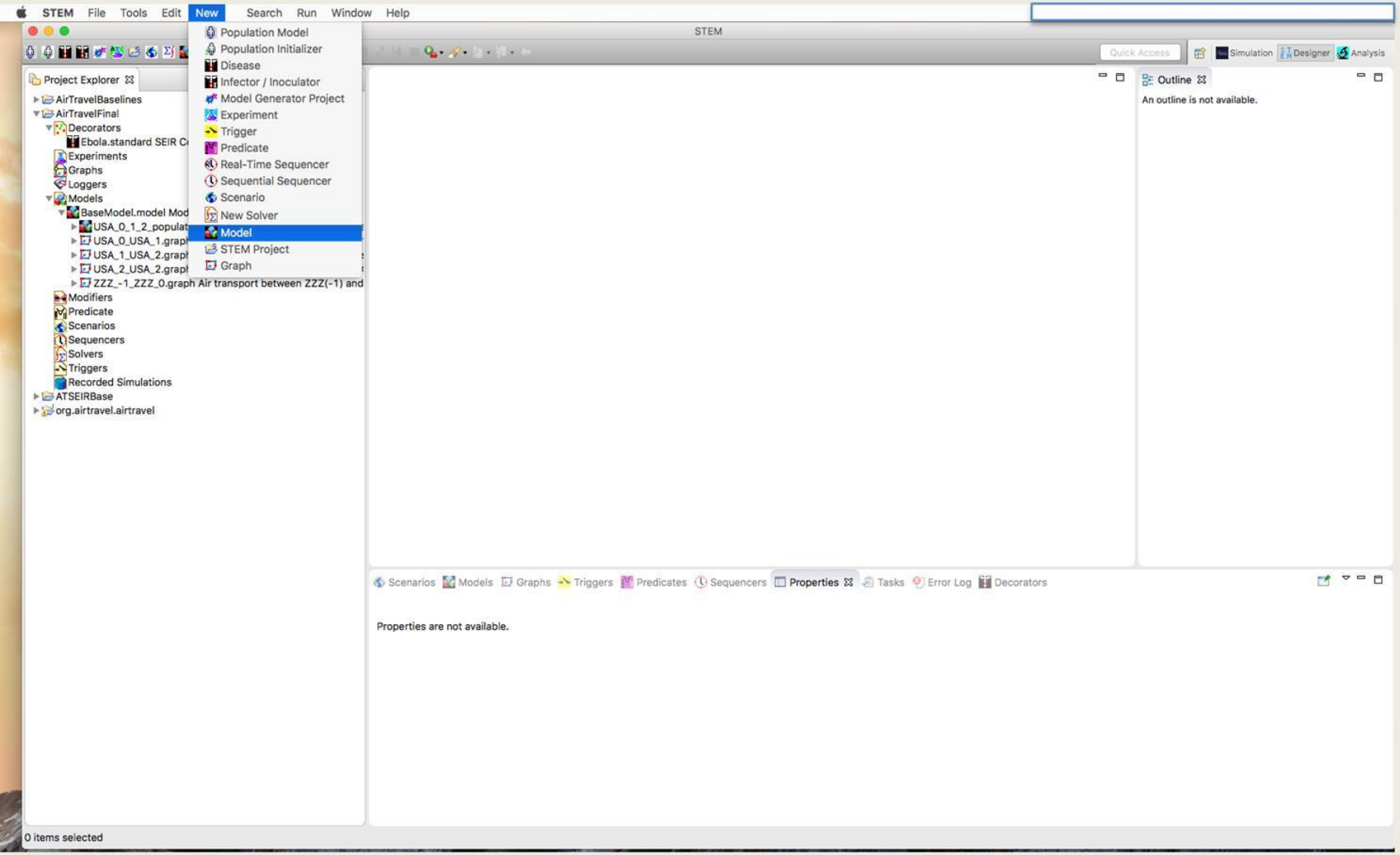
Lets create a new disease

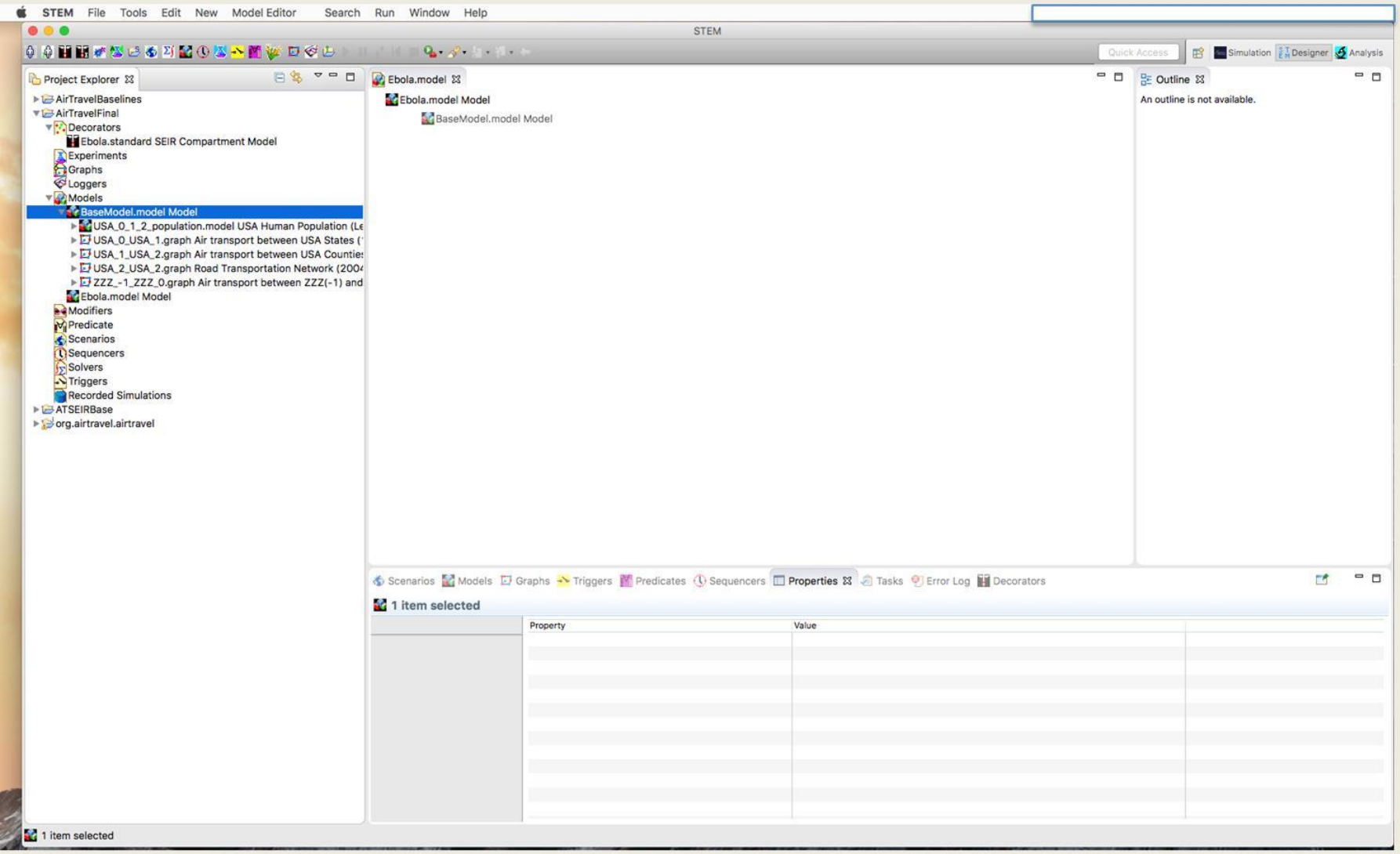


Name the disease, here Ebola, and then all the parameters are on the Excel Spreadsheet for each disease. Keep all other variables to the default. This is Ebola



Now for Ebola Model, you create a New Model, and add the basemodel and the New disease…

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USA_0_USA_1.graph Air transport between USA States (
USA_1_USA_2.graph Air transport between USA Counties
USA_2_USA_2.graph Road Transportation Network (200
ZZZ_-1_ZZZ_0.graph Air transport between ZZZ(-1) and
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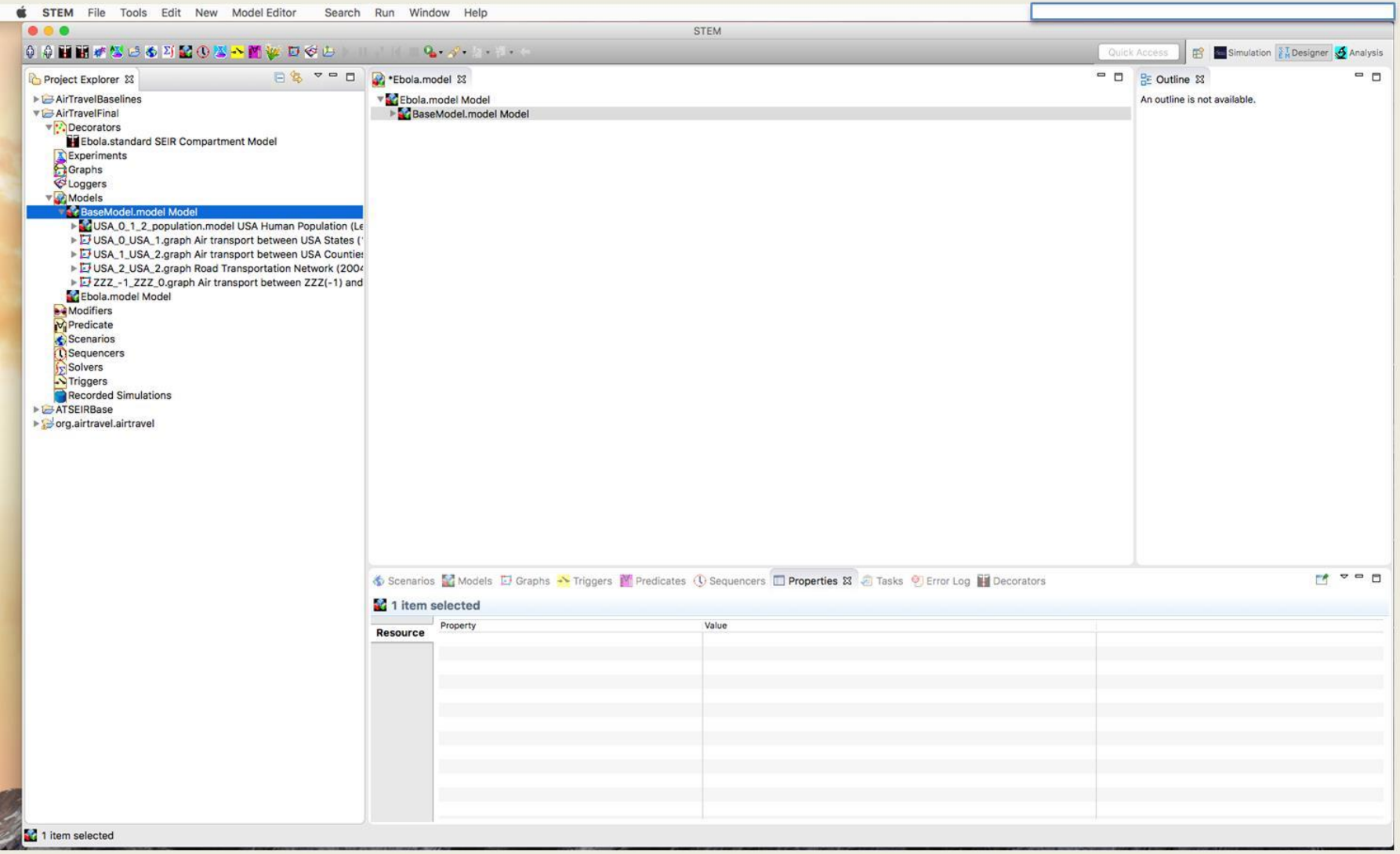
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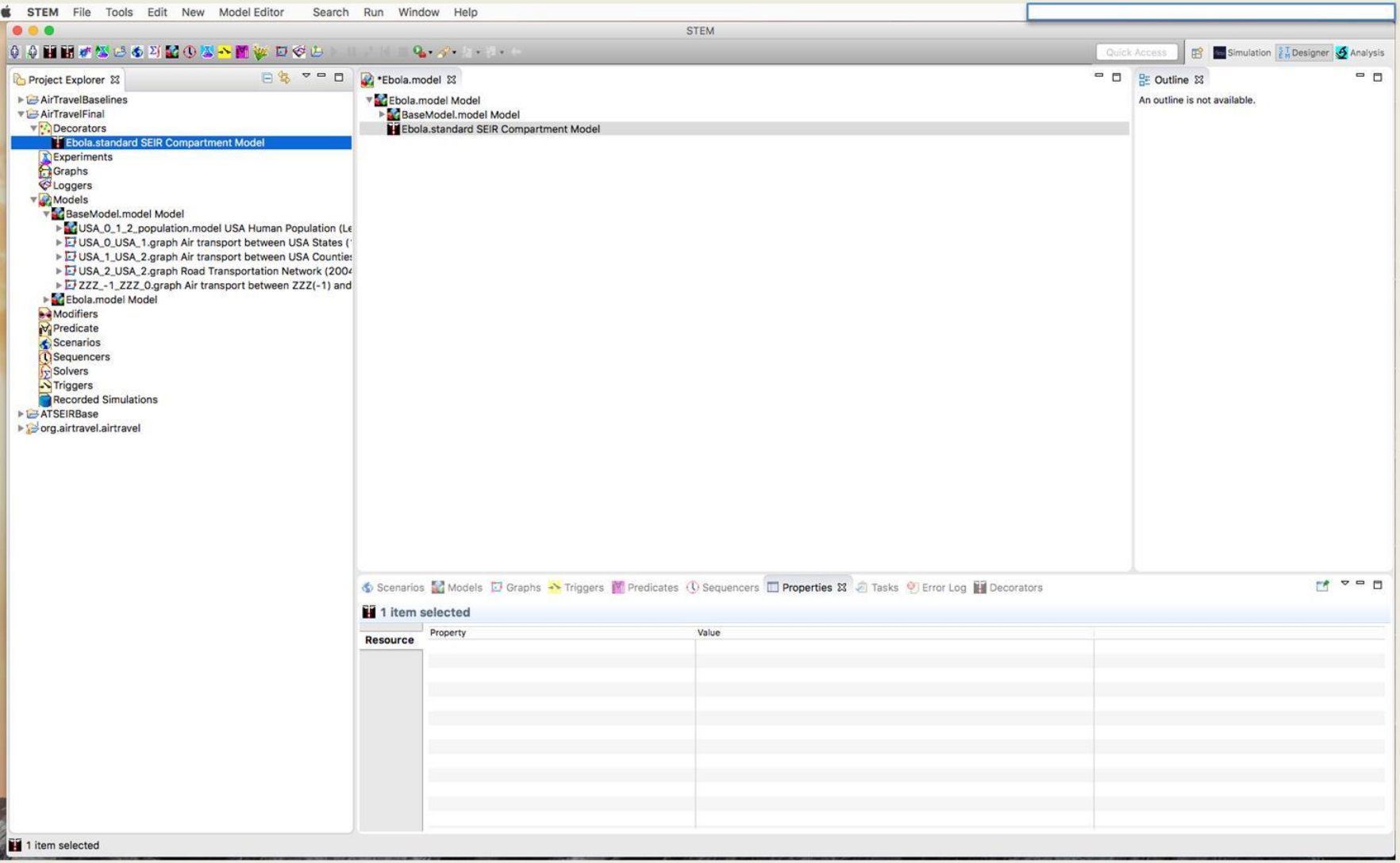
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USA_1_USA_2.graph Air transport between USA Counties
USA_2_USA_2.graph Road Transportation Network (2004
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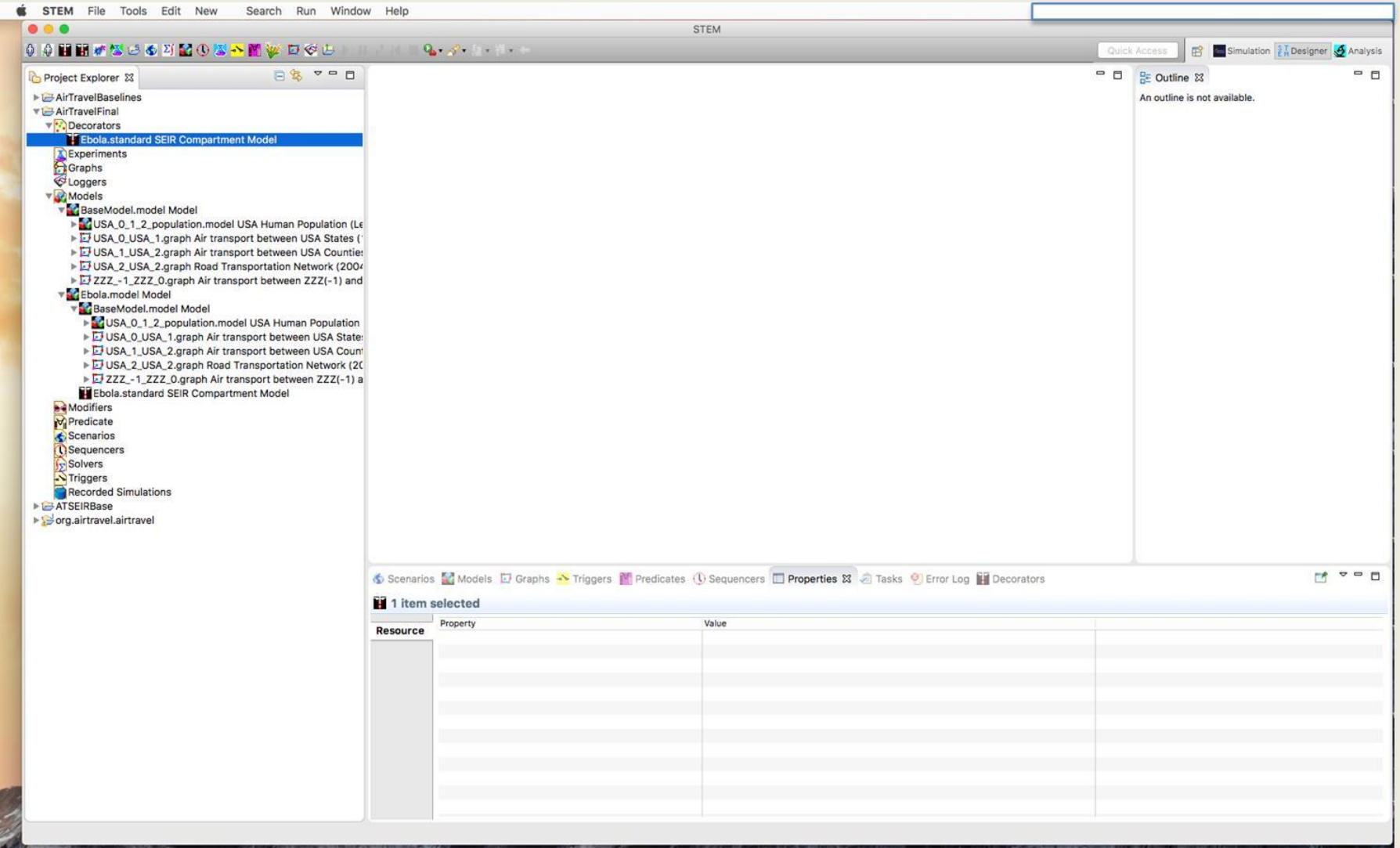
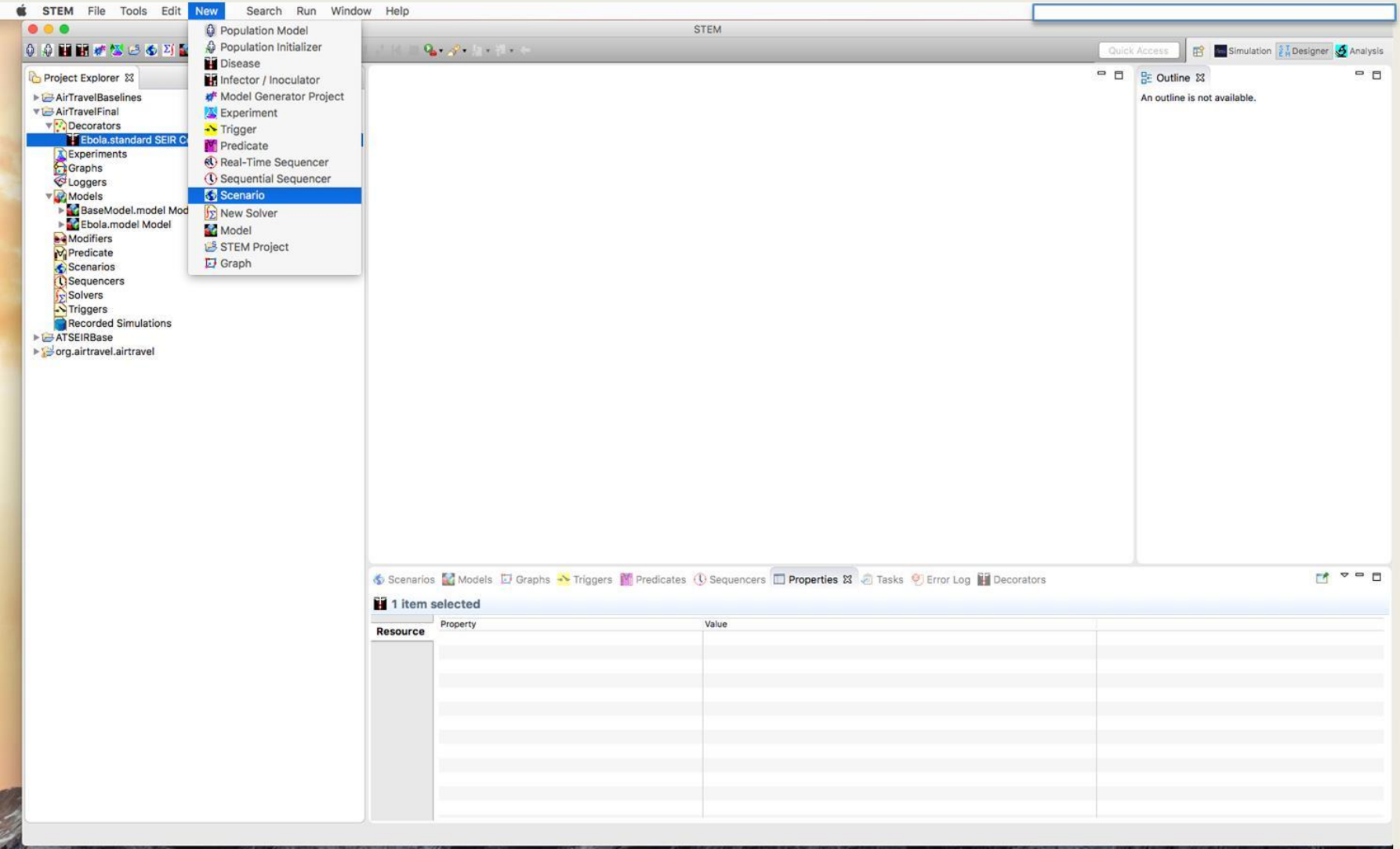
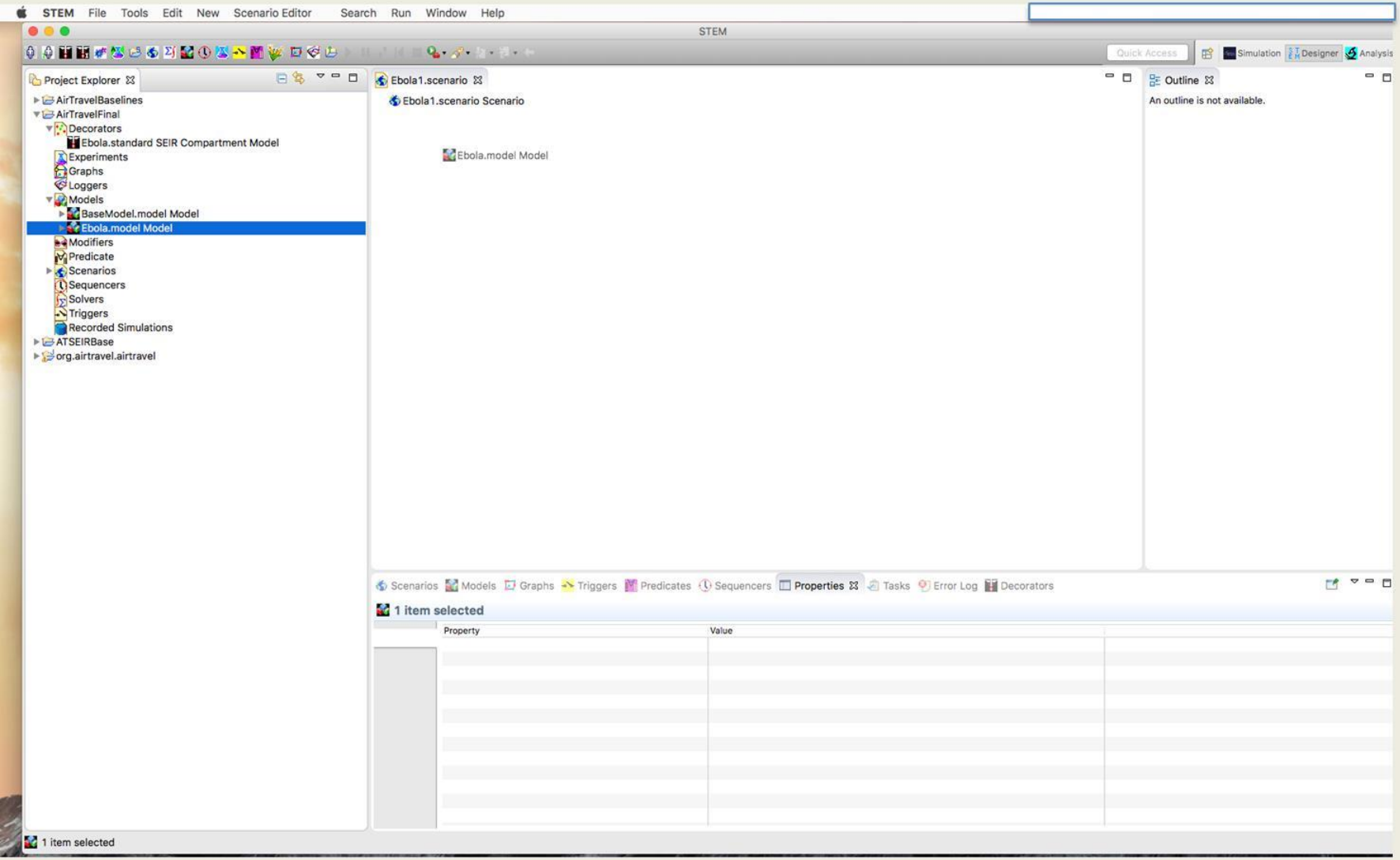
Now you have an Ebola Model with the basemodel and disease parameters.

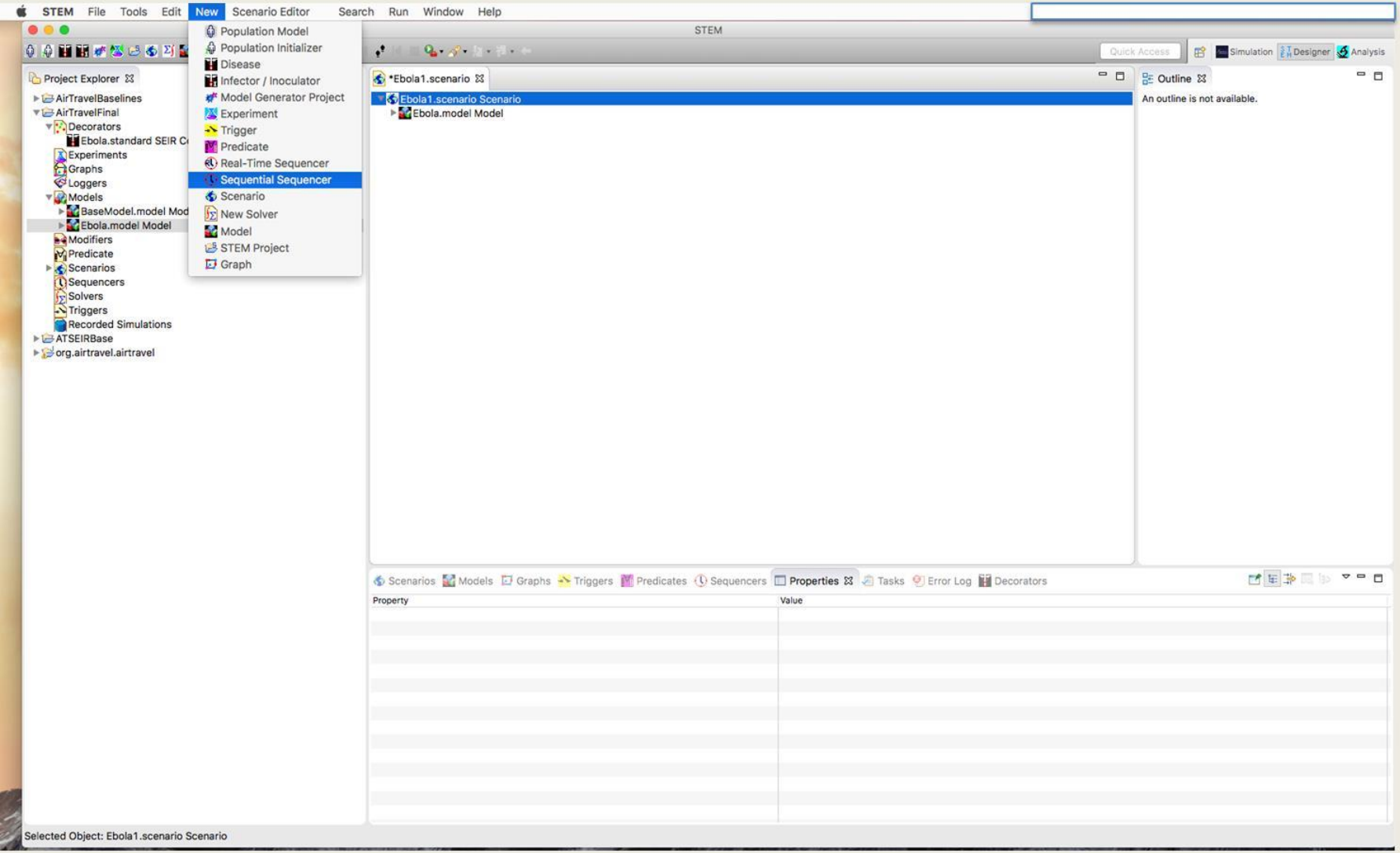


Now build the scenario—New Scenario



Drag the Model from Model on the left side into the open scenario in the middle panel
Notice I named the scenario Ebola1 – One initial case




STEM File Tools Edit New Scenario Editor Search Run Window Help
Population Model
Population Initializer
Disease
Infector / Inoculator
Model Generator Project
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Predicate
Real-Time Sequencer
Sequential Sequencer
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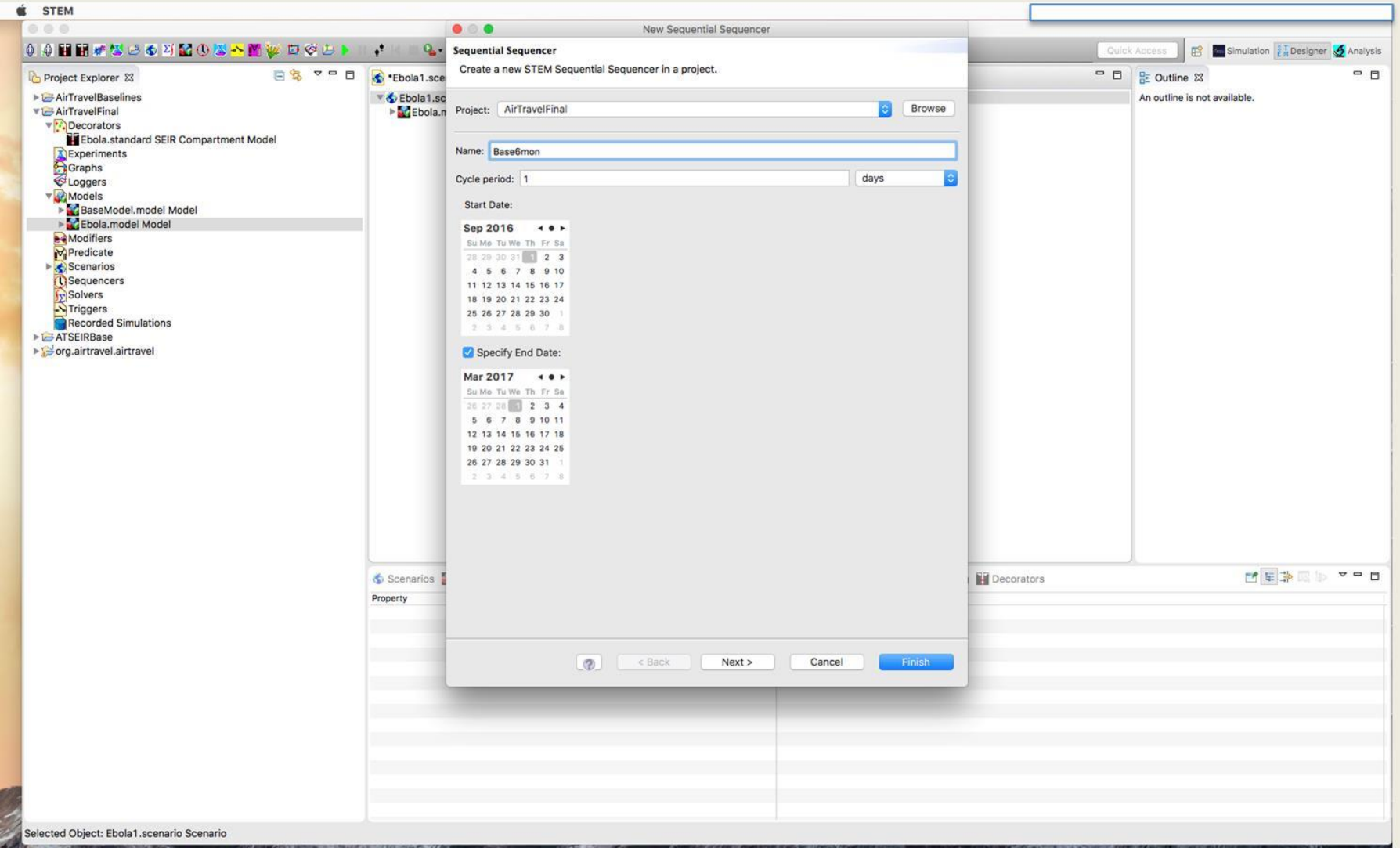
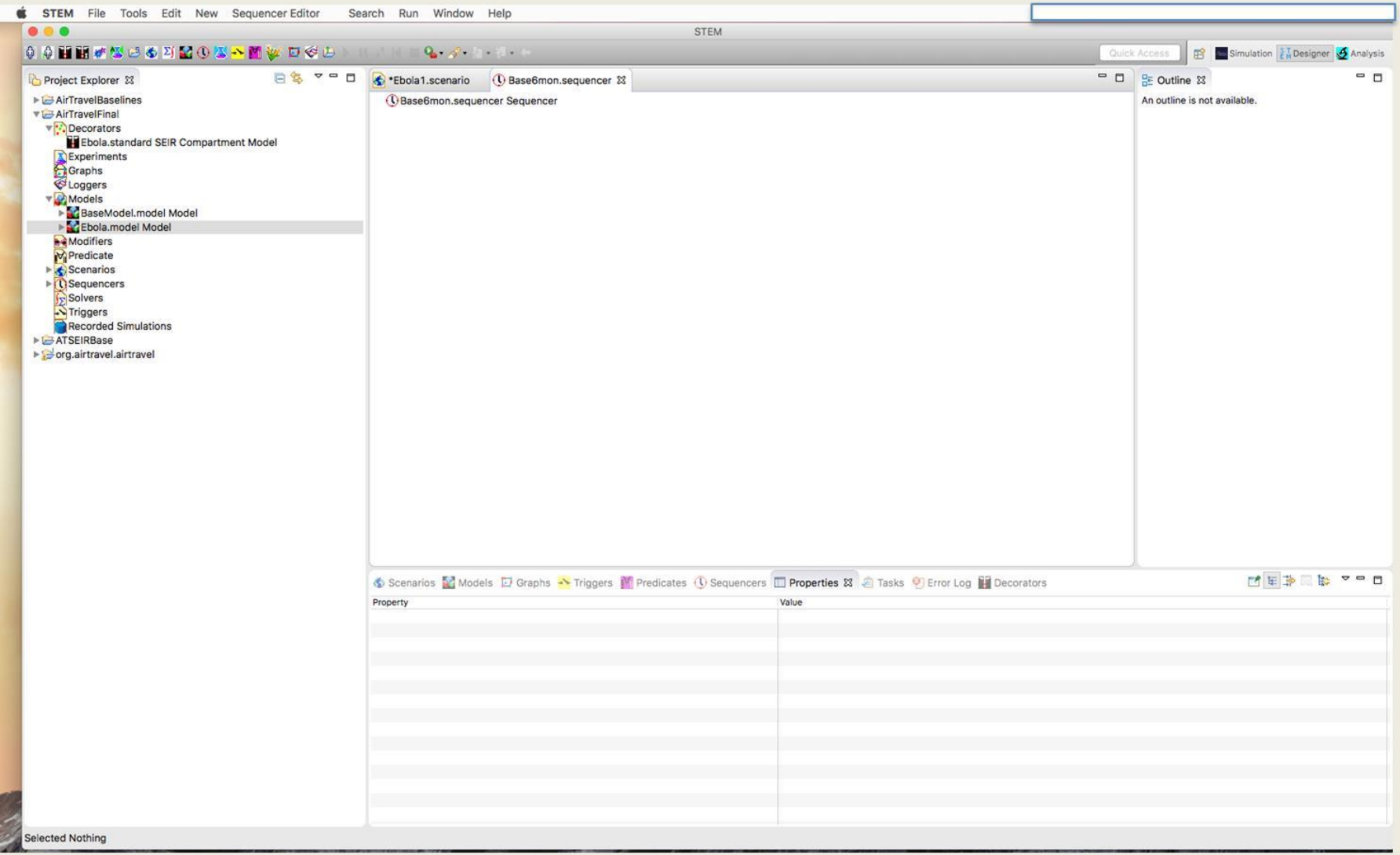
Selected Object: Ebola1.scenario Scenario

Now you need a time frame—You will only have to do this once, and reuse the model.
This is a new Sequential Sequencer…I name it base6months…
From 1 Sept 2016, to 1 March 2016 (specific end date.)- finish

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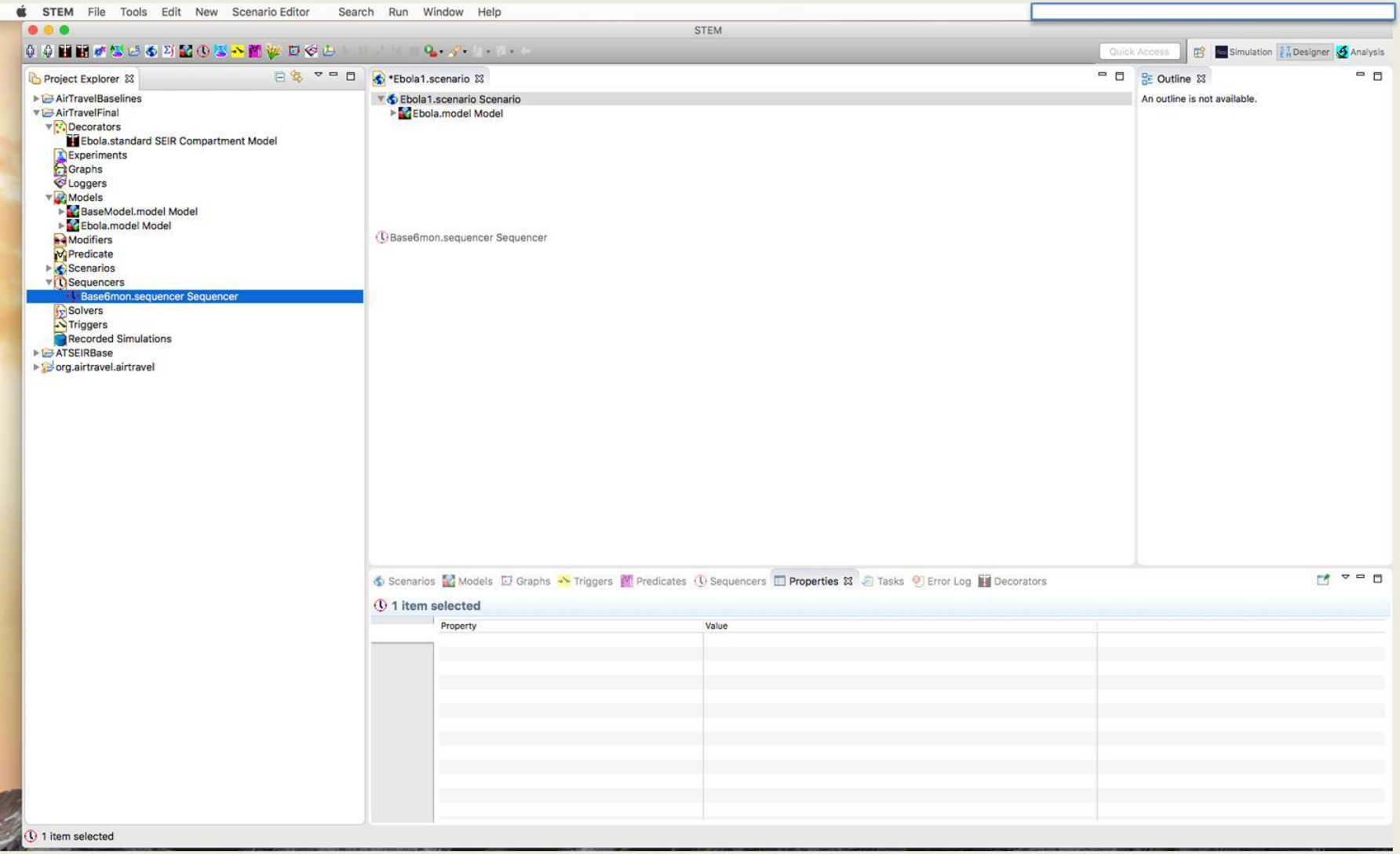
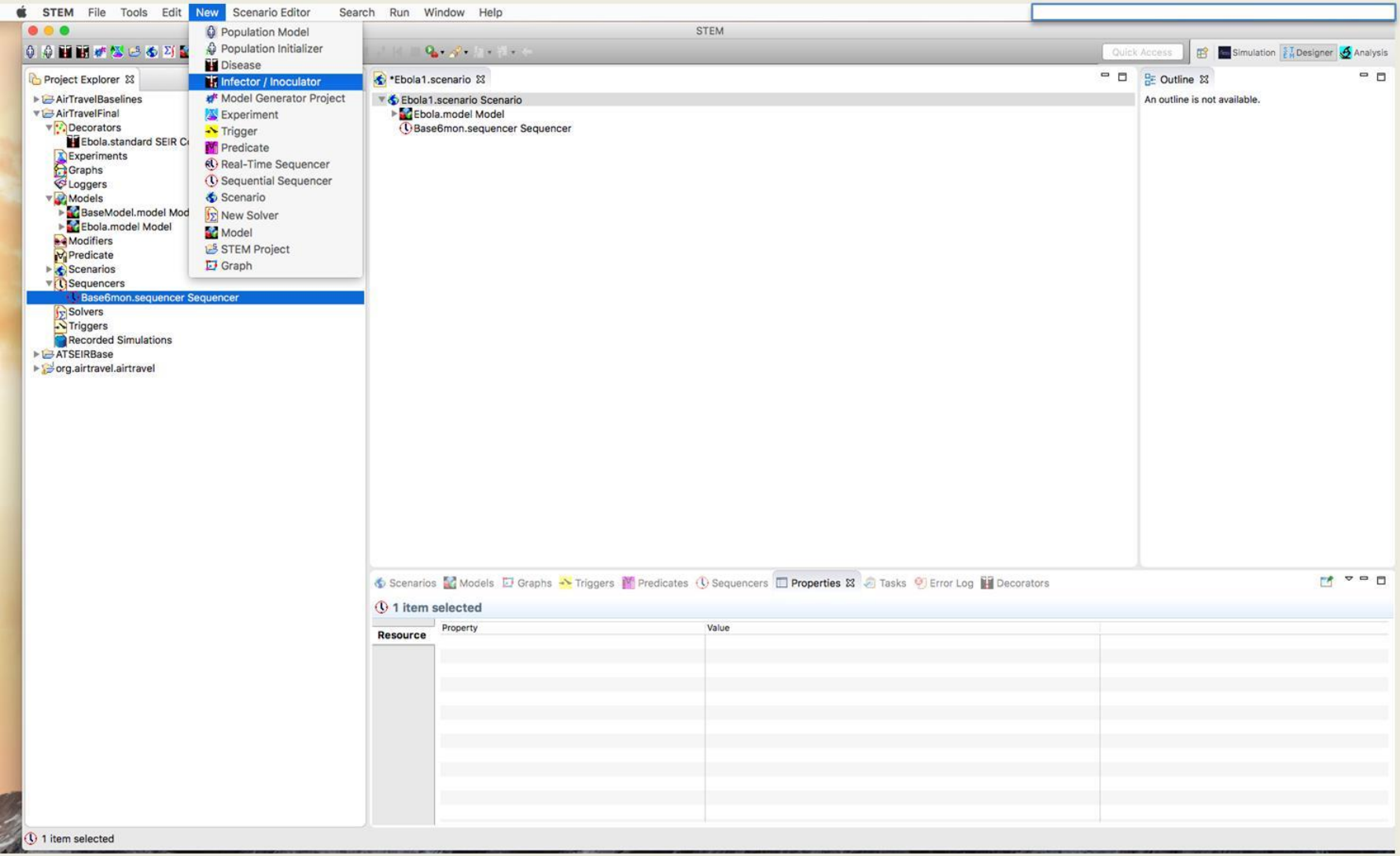
Now drag new sequencer to your scenario…from left side to right side

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Resource
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Value
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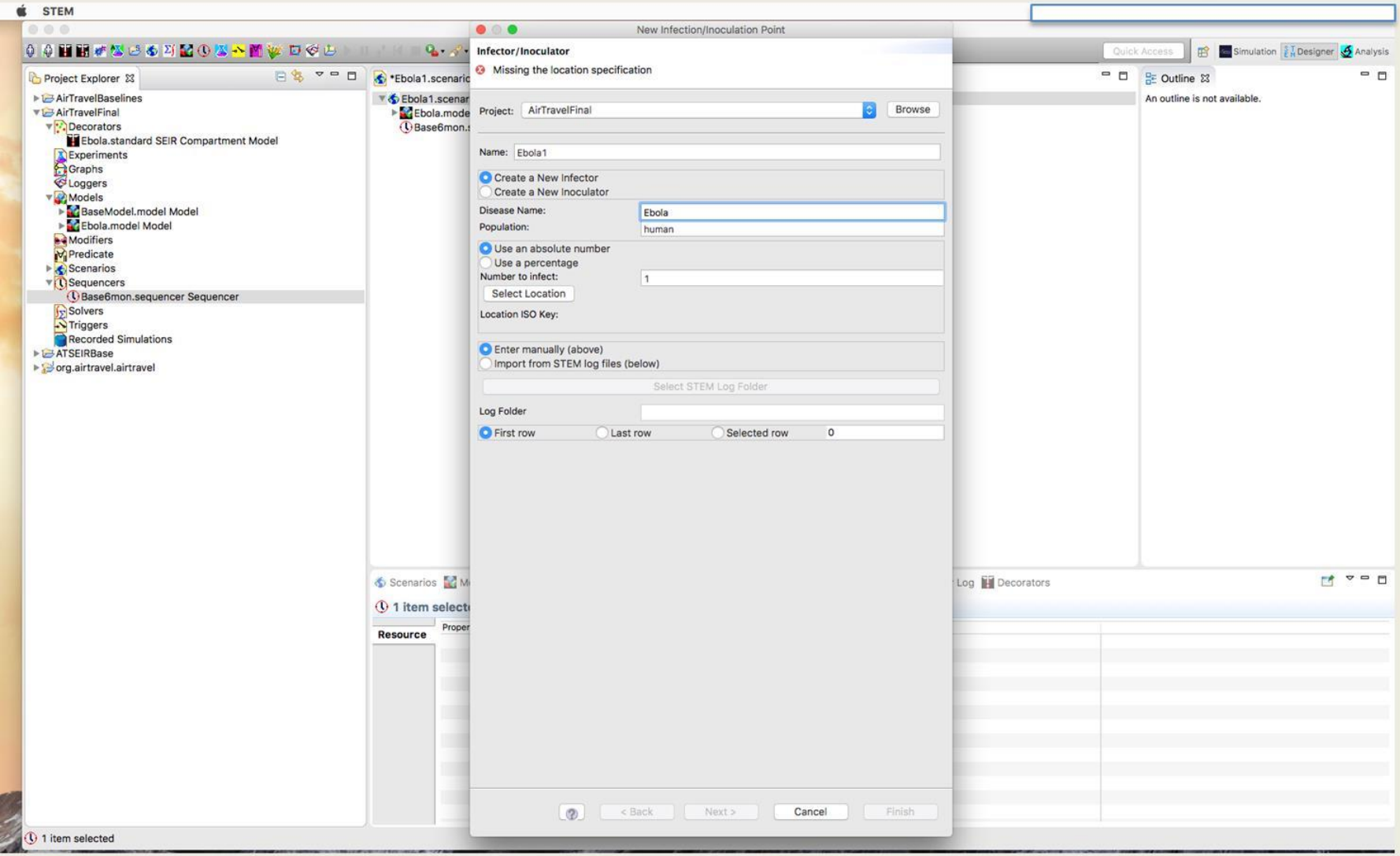
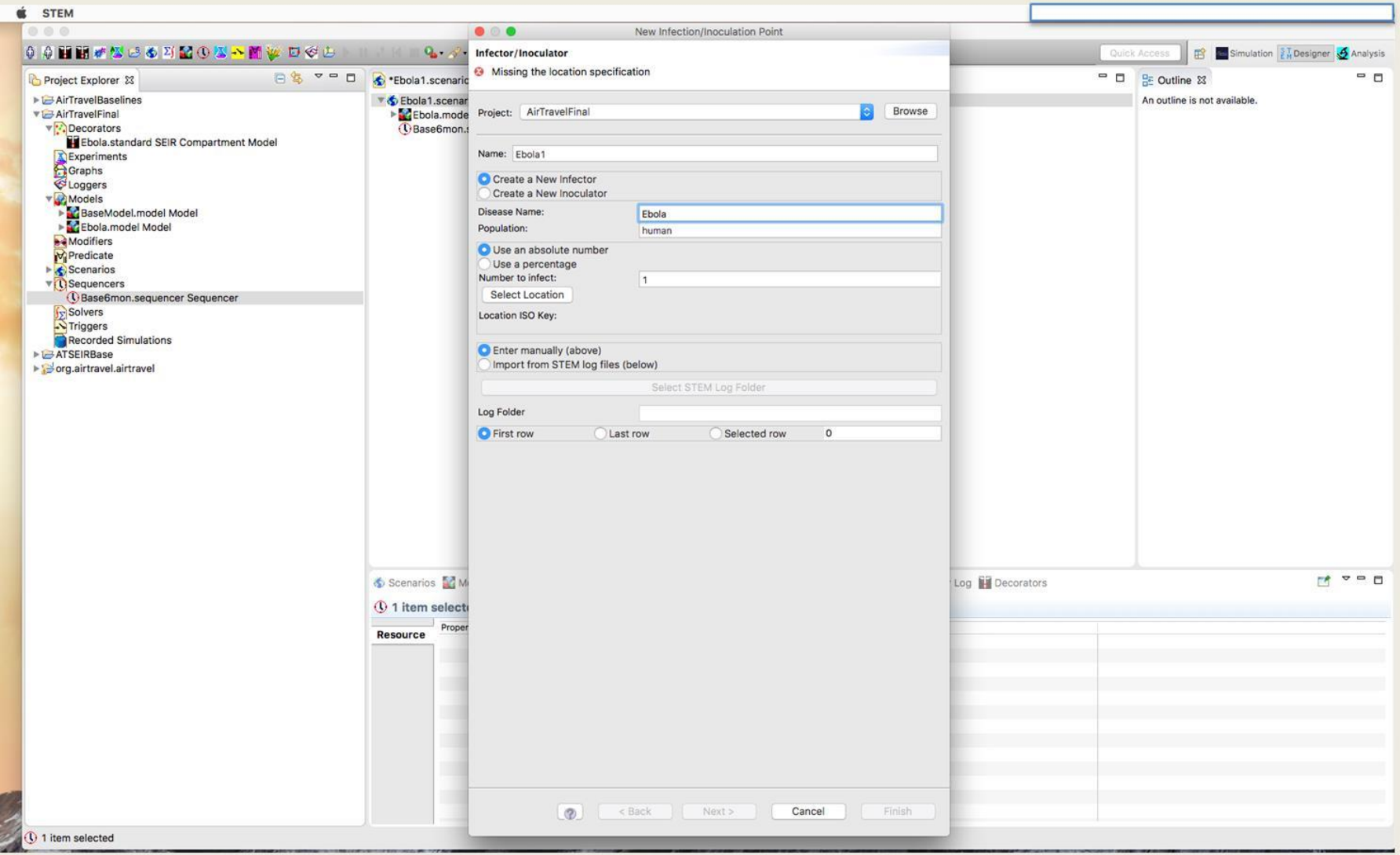
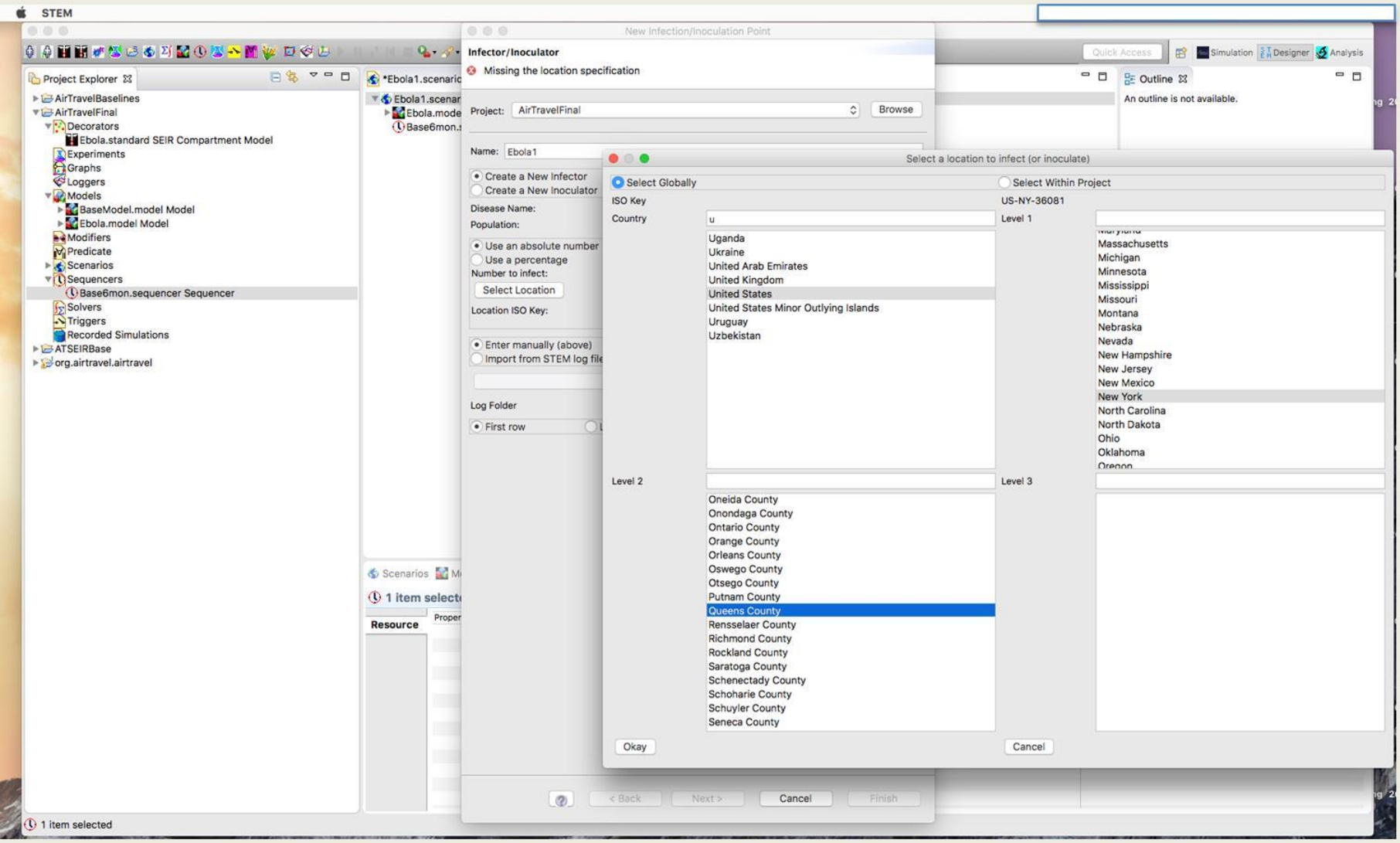
Now you need your infector, and where to infect the person. Under “New Infector”
--Disease name (must match the disease name you are using…here Ebola)



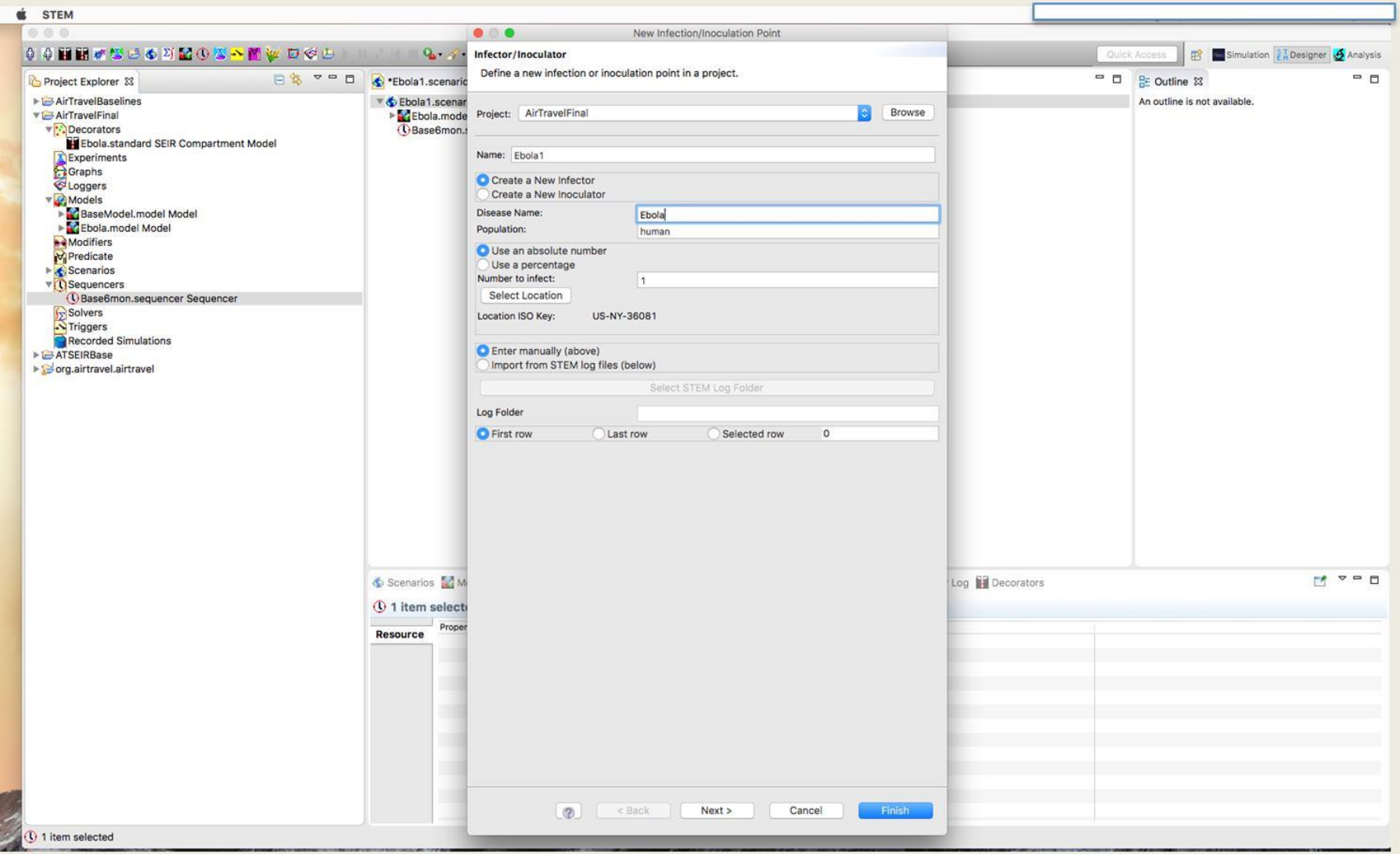
You name a new infector based on the scenario…this one will be Ebola1
Location…Queens, New York

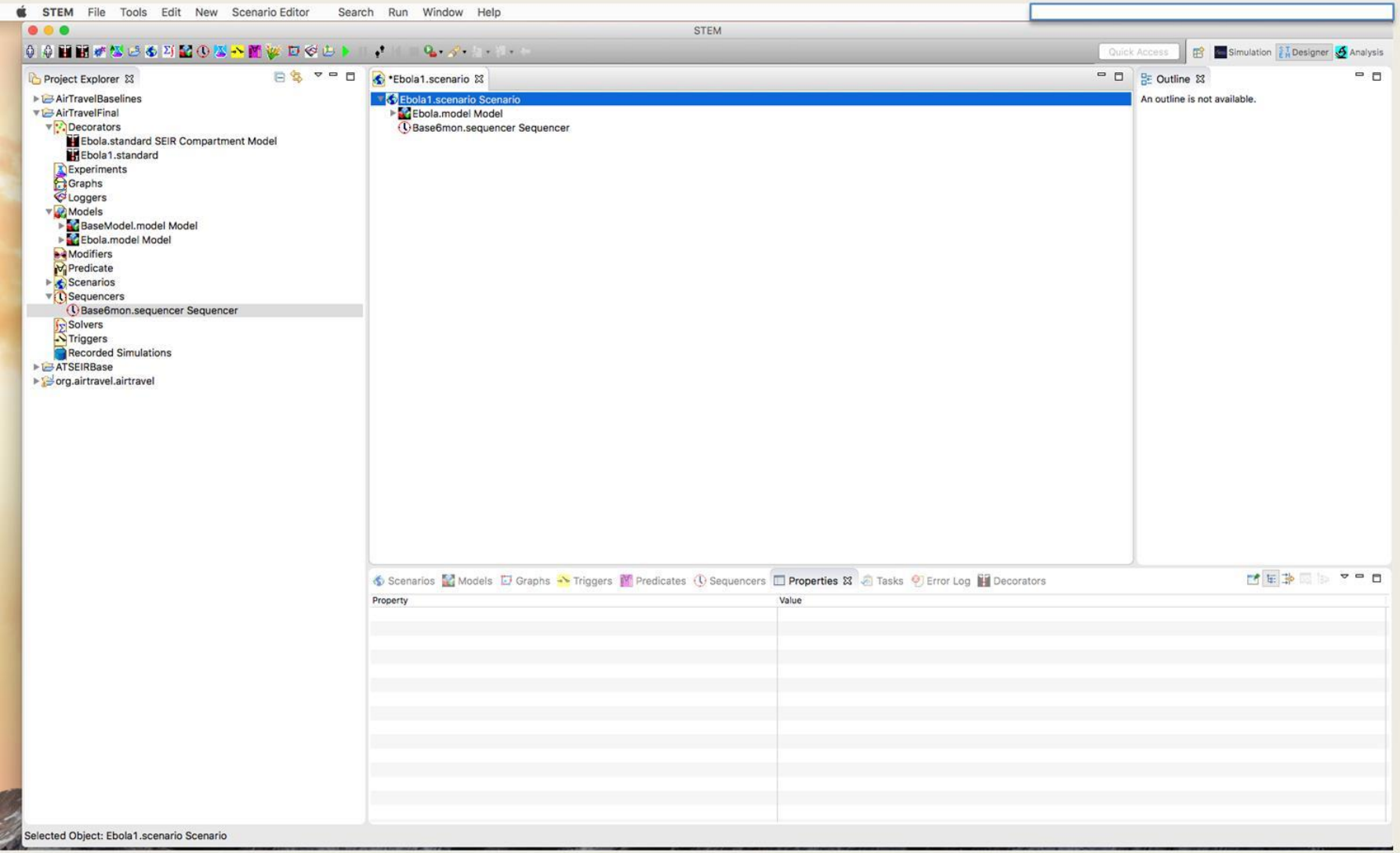


Select Location



Should come out as US-NY-36081-- Finish

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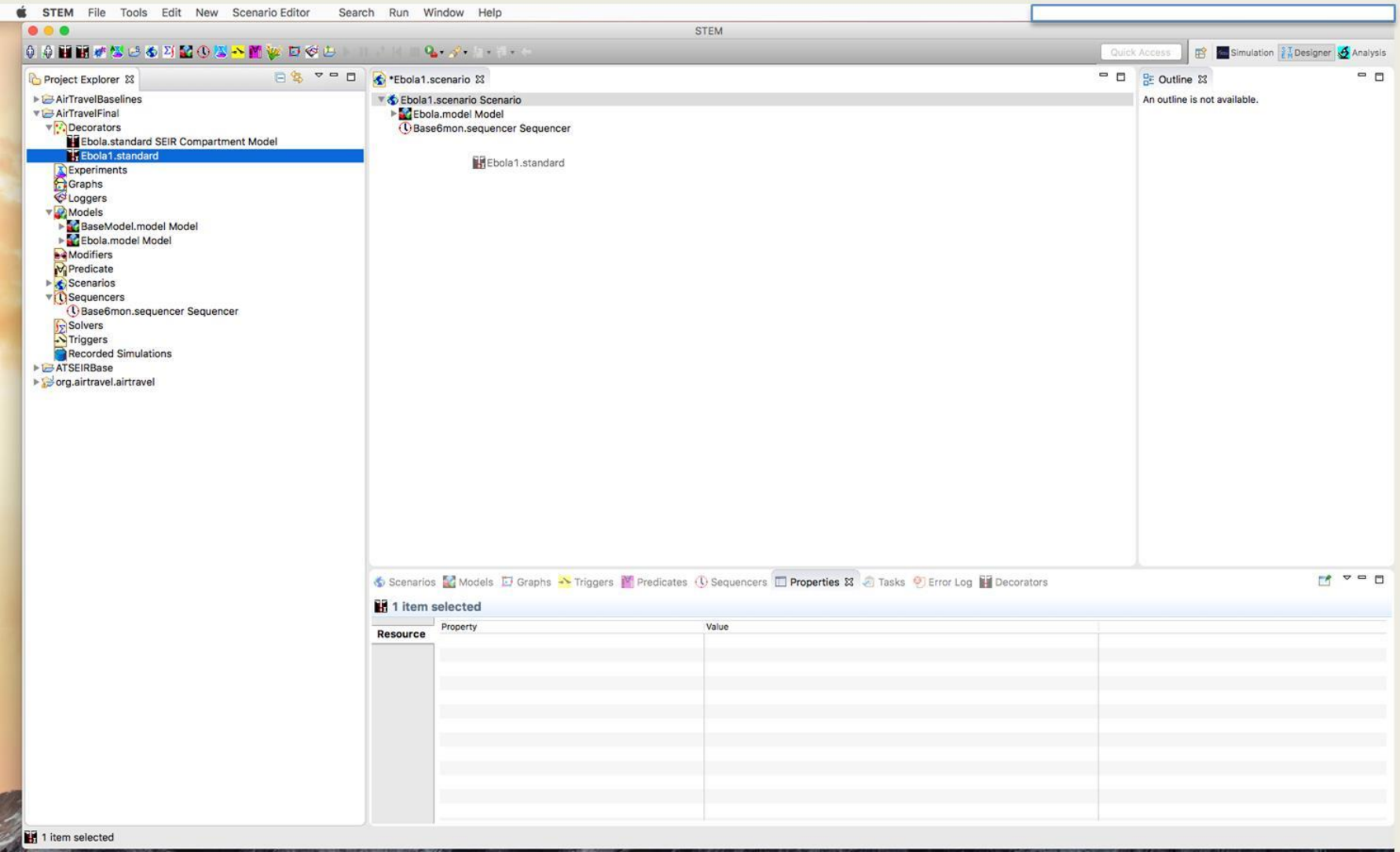
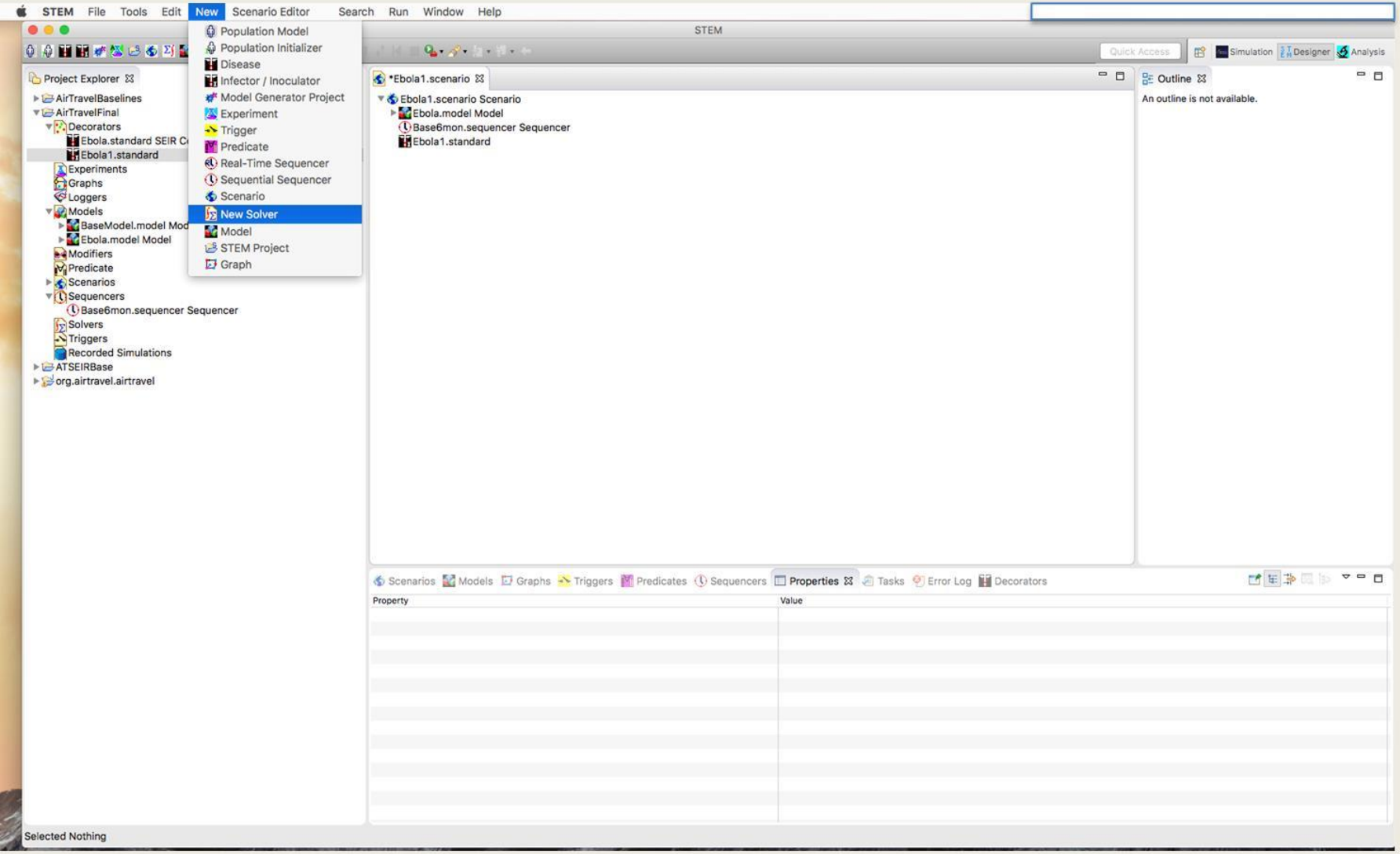
Property
Value
Selected Object: Ebola1.scenario Scenario

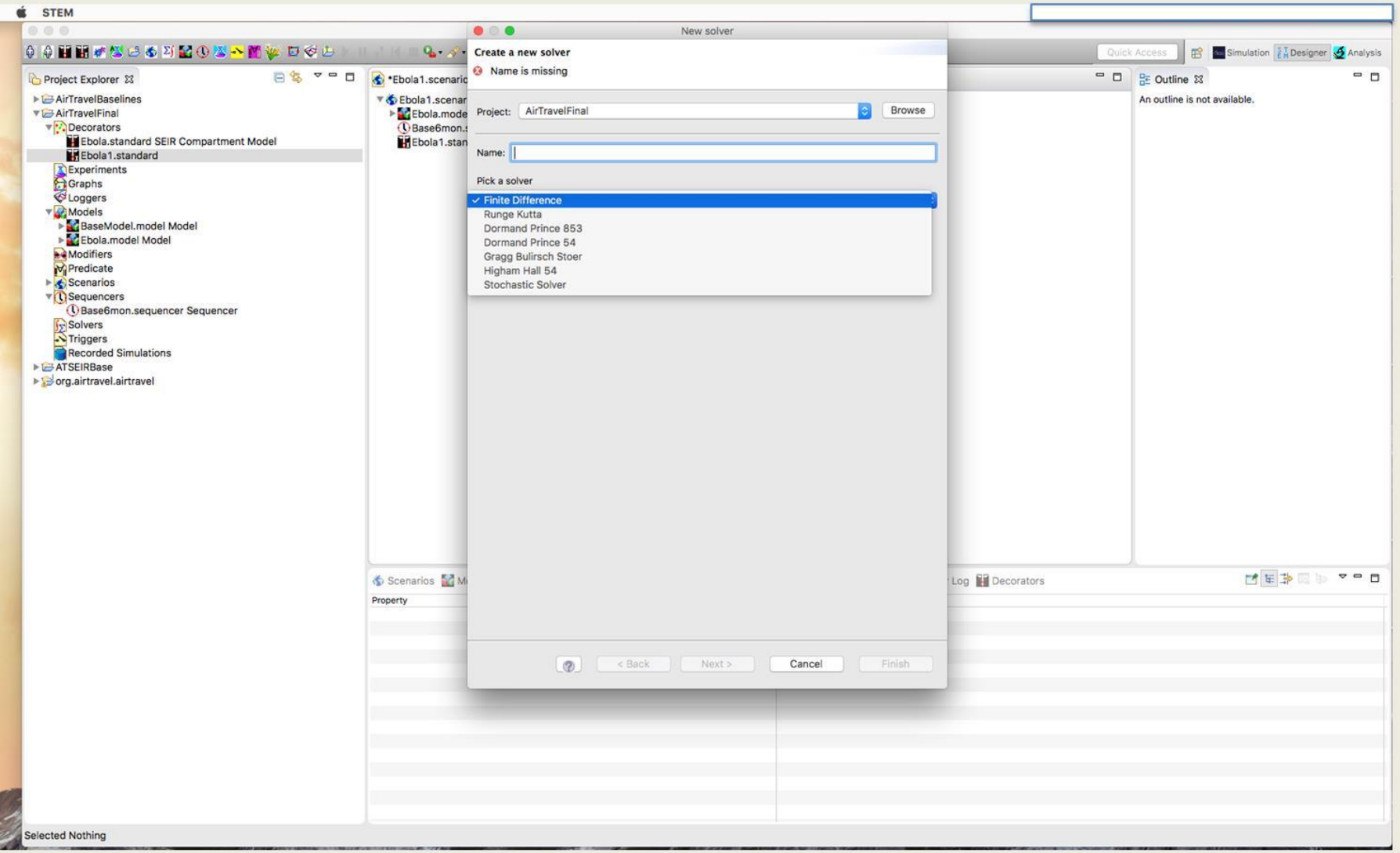
Now drag to your scenario…Ebola1 is the infector in the Decorators Folder… Don't confuse with the Ebola disease that was created…The infector has an "I" on it!

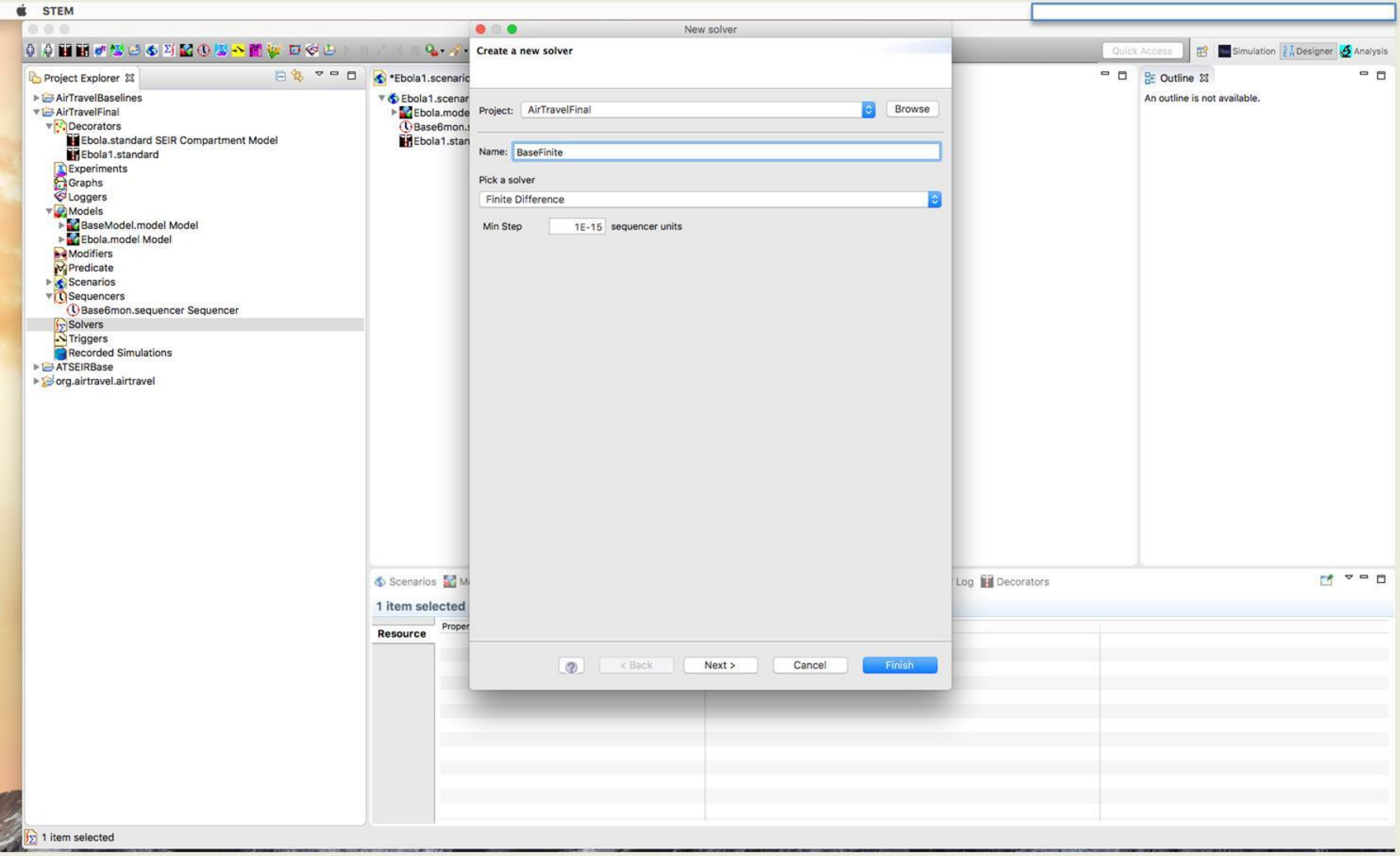


Now need to add a Solver…Read this article on Solvers
http://wiki.eclipse.org/STEM_Solvers
Here is for Finite…



Will use Finite in this example




STEM
New solver
Create a new solver
Project: AirTravelFinal
Browse
Name: BaseFinite
Pick a solver
Finite Difference
Min Step 1E-15 sequencer units
< Back
Next >
Cancel
Finish
Project Explorer
AirTravelBaselines
AirTravelFinal
Decorators
Ebola.standard SEIR Compartment Model
Ebola1.standard
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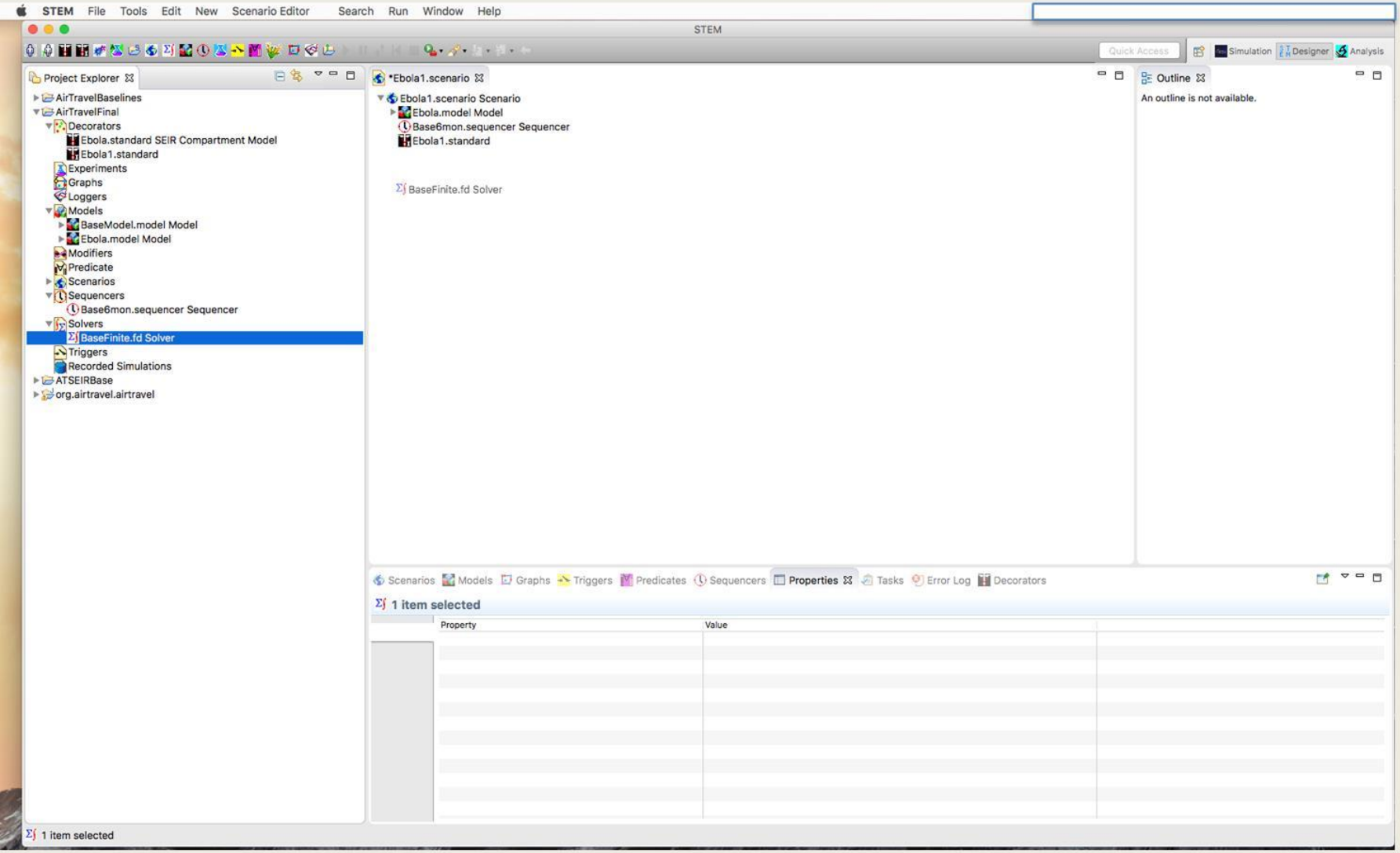
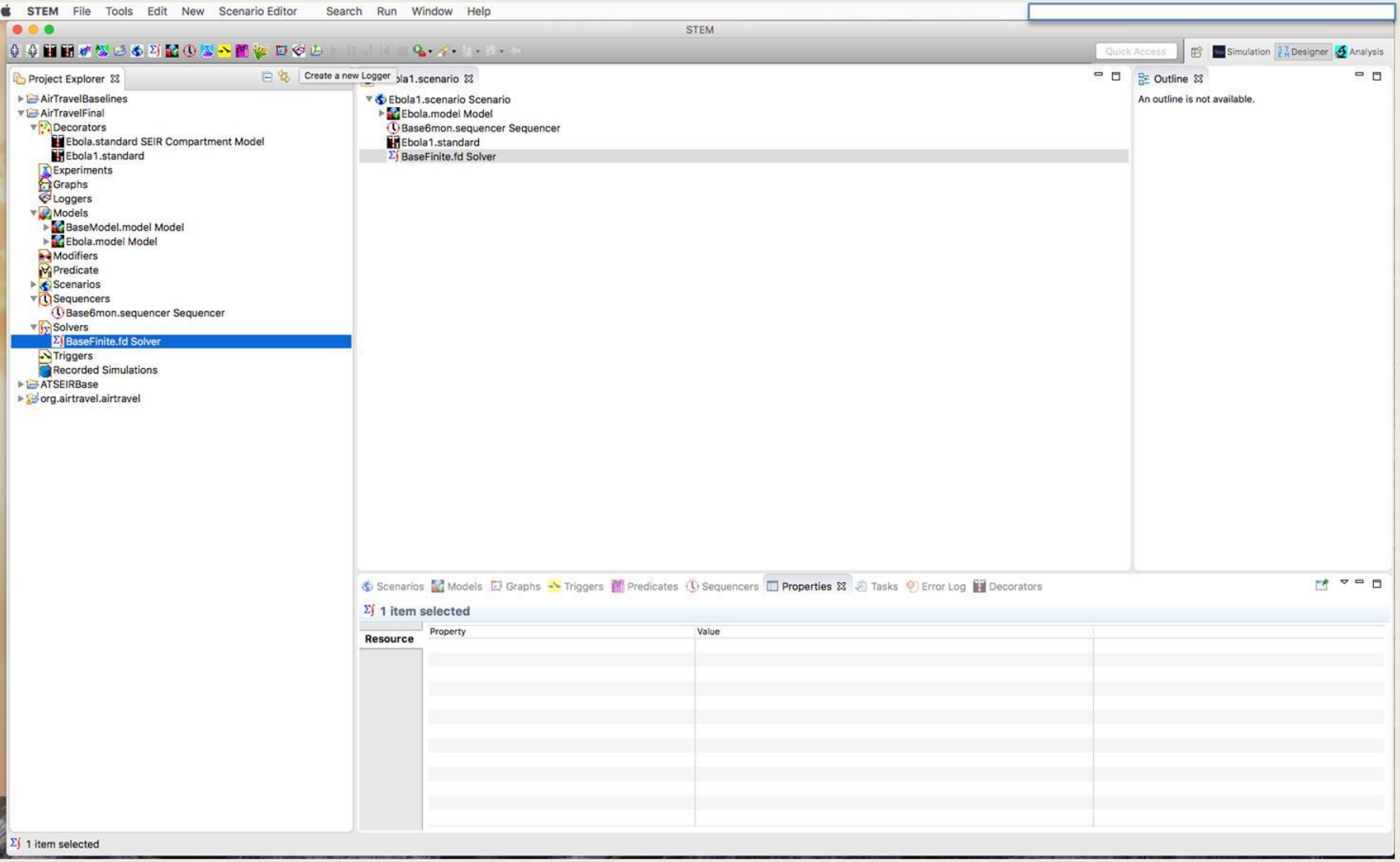
Sequencers
Base6mon.sequencer Sequencer
Solvers
Triggers
Recorded Simulations
ATSEIRBase
org.airtravel.airtravel
Outline
An outline is not available.
Quick Access
Simulation
Designer
Analysis
1 item selected
Resource
Log
Decorators
1 item selected

Now drag the solver to the scenario…




STEM File Tools Edit New Scenario Editor Search Run Window Help
STEM
Quick Access
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Designer
Analysis
Project Explorer
Create a new Logger
AirTravelBaselines
AirTravelFinal
Decorators
Ebola.standard SEIR Compartment Model
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Base6mon.sequencer Sequencer
Solvers
BaseFinite.fd Solver
Triggers
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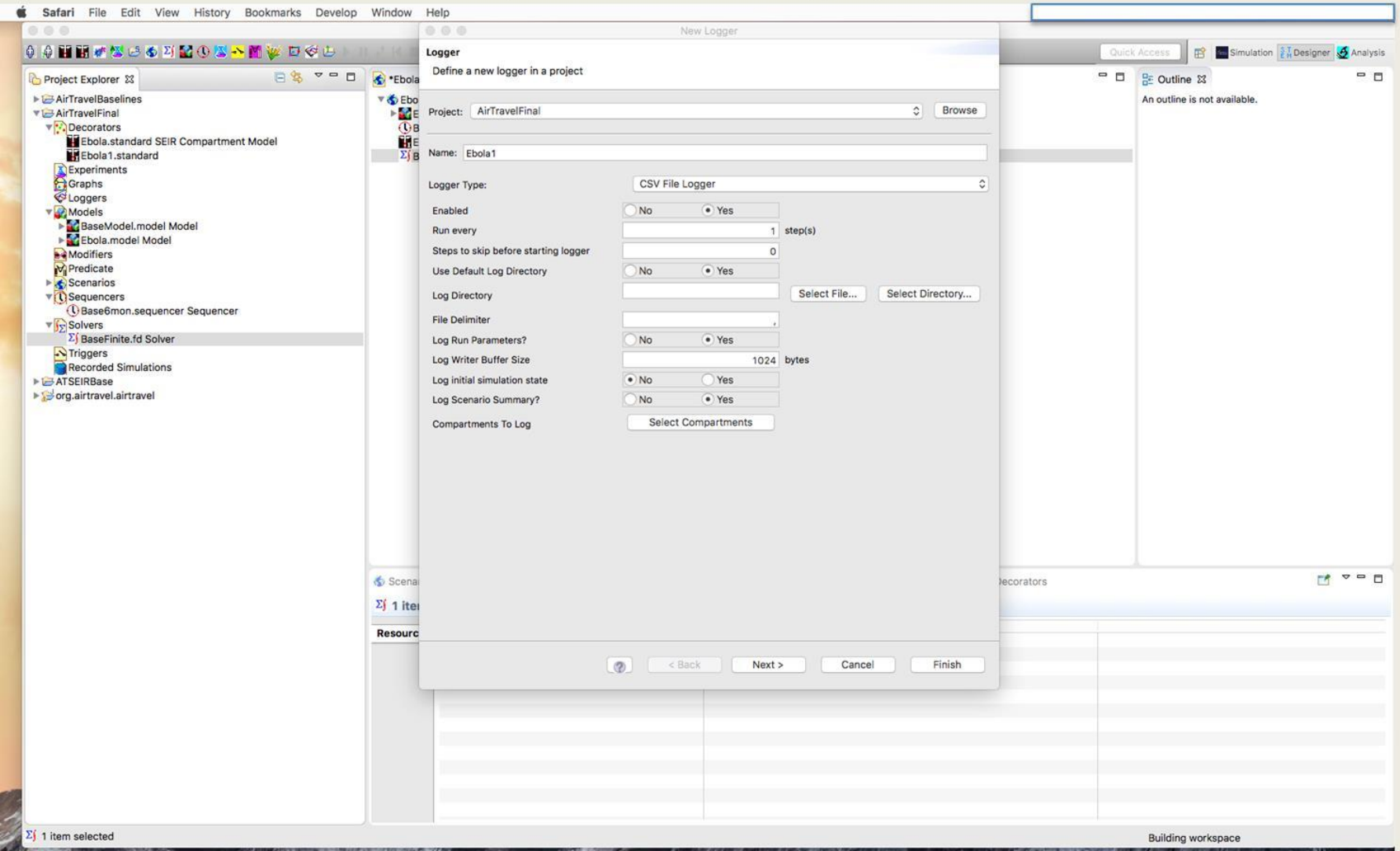
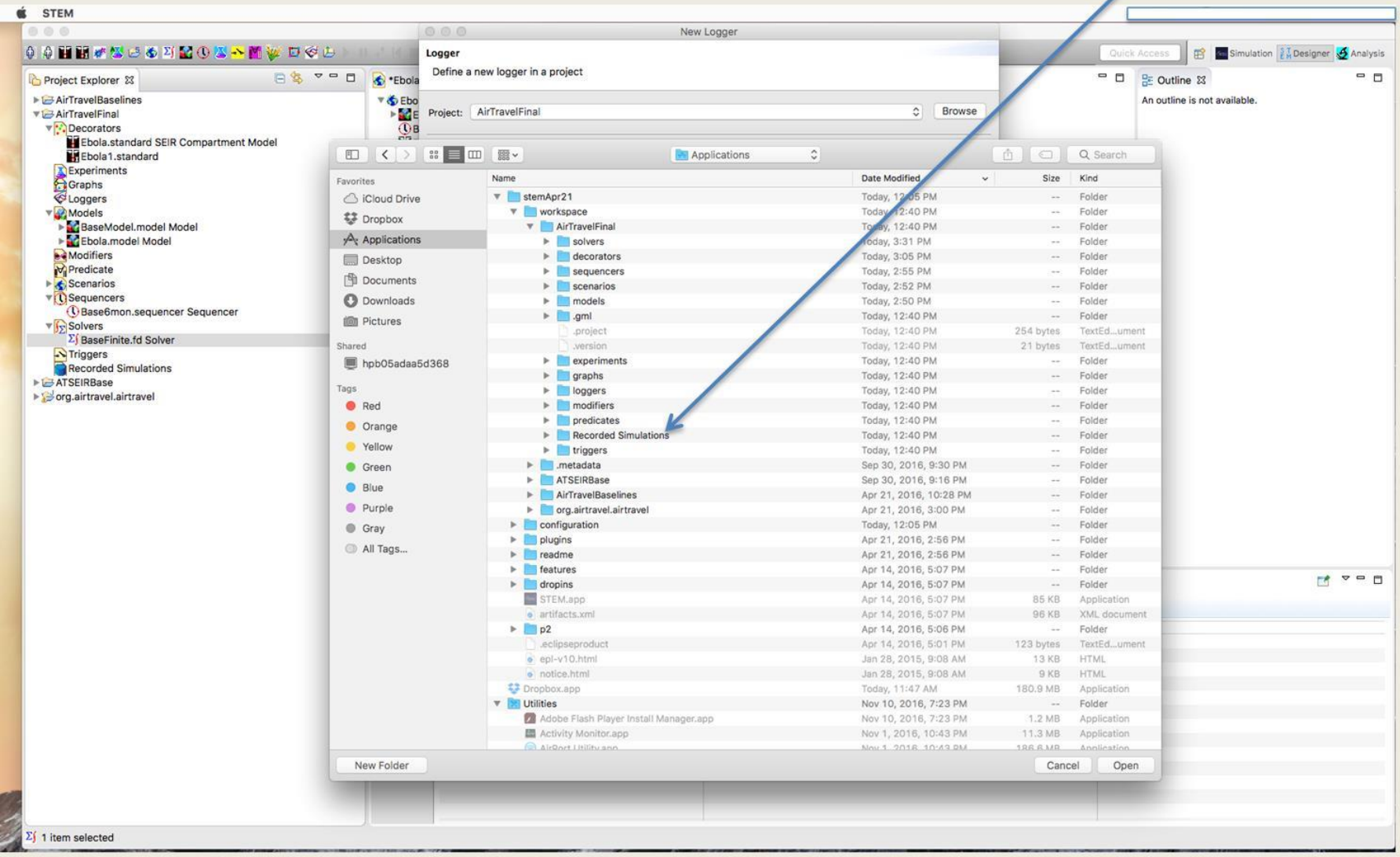
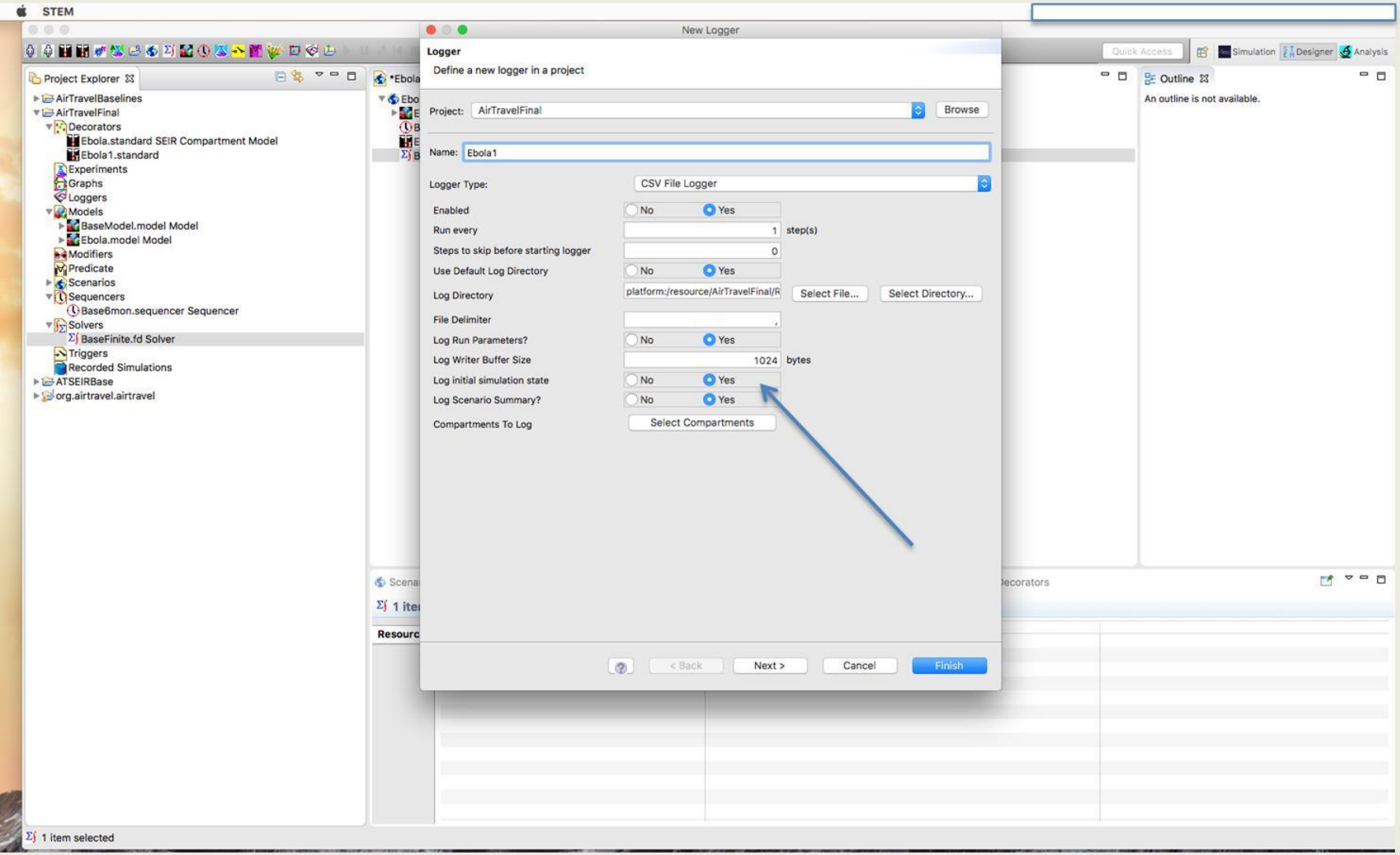
ATSEIRBase
org.airtravel.airtravel
la1.scenario
Ebola1.scenario Scenario
Ebola.model Model
Base6mon.sequencer Sequencer
Ebola1.standard
BaseFinite.fd Solver
Outline
An outline is not available.
Scenarios Models Graphs Triggers Predicates Sequencers Properties Tasks Error Log Decorators
1 item selected
Resource
Property
Value
1 item selected

Now you need to add the Logger…Here you create the folder of the raw data.
The directory under recorded simulations, wherever folder you put the STEM model on your computer is the easiest.
Note: make sure to put “YES” on log initial simulation state
Then select all the compartments in the “Appropriate Disease”



Select the “recorded simulation”, in the Folder that you call the STEM project…




STEM
New Logger
Logger
Define a new logger in a project
Project: AirTravelFinal
Browse
Name: Ebola1
Logger Type: CSV File Logger
Enabled No Yes
Run every 1 step(s)
Steps to skip before starting logger 0
Use Default Log Directory No Yes
Log Directory platform:/resource/AirTravelFinal/R
Select File...
Select Directory...
File Delimiter ,
Log Run Parameters? No Yes
Log Writer Buffer Size 1024 bytes
Log initial simulation state No Yes
Log Scenario Summary? No Yes
Compartments To Log
Select Compartments
< Back
Next >
Cancel
Finish
Project Explorer
AirTravelBaselines
AirTravelFinal
Decorators
Ebola.standard SEIR Compartment Model
Ebola1.standard
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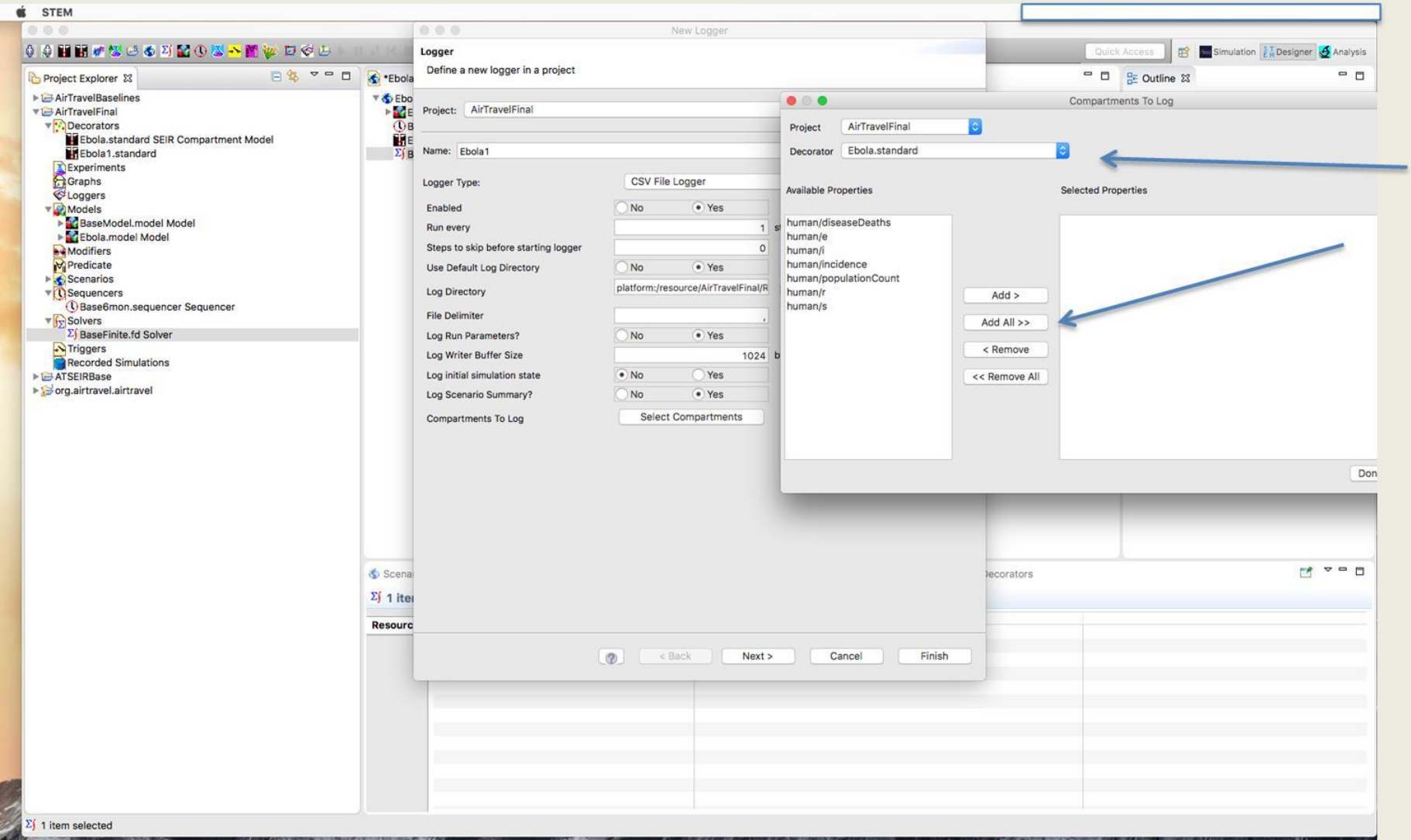
Sequencers
Base6mon.sequencer Sequencer
Solvers
BaseFinite.fd Solver
Triggers
Recorded Simulations
ATSEIRBase
org.airtravel.airtravel
Outline
An outline is not available.
Quick Access
Simulation
Designer
Analysis
1 item selected


STEM
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AirTravelBaselines
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Decorators
Ebola.standard SEIR Compartment Model
Ebola1.standard
Experiments
Graphs
Loggers
Models
BaseModel.model Model
Ebola.model Model
Modifiers
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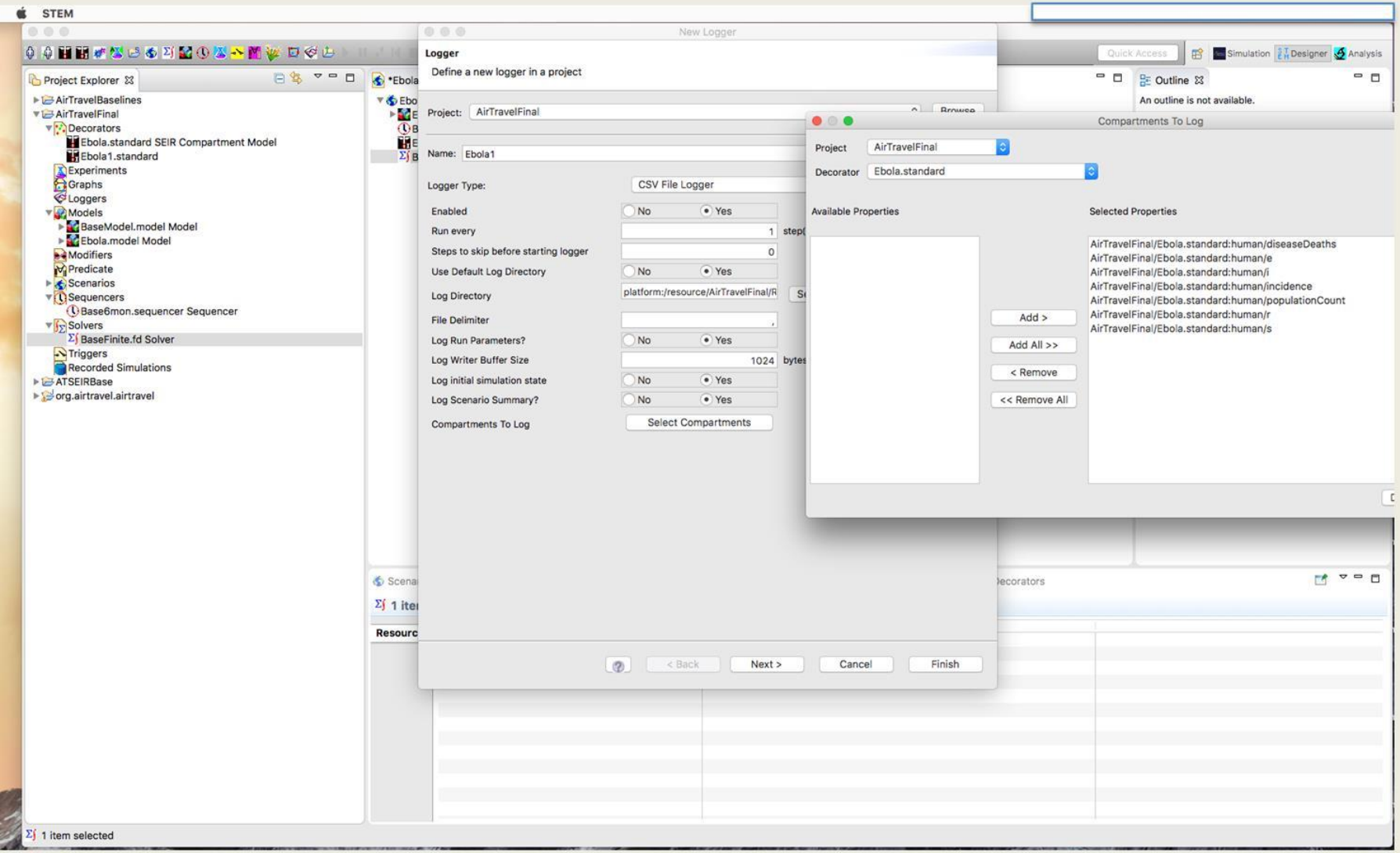
Scenarios
Sequencers
Base6mon.sequencer Sequencer
Solvers
BaseFinite.fd Solver
Triggers
Recorded Simulations
ATSEIRBase
org.airtravel.airtravel
1 item selected
New Logger
Logger
Define a new logger in a project
Project: AirTravelFinal
Name: Ebola1
Logger Type: CSV File Logger
Enabled No Yes
Run every 1
Steps to skip before starting logger 0
Use Default Log Directory No Yes
Log Directory platform:/resource/AirTravelFinal/R
File Delimiter ,
Log Run Parameters? No Yes
Log Writer Buffer Size 1024
Log initial simulation state No Yes
Log Scenario Summary? No Yes
Compartments To Log Select Compartments
< Back Next > Cancel Finish
Compartments To Log
Project AirTravelFinal
Decorator Ebola.standard
Available Properties
Selected Properties
human/diseaseDeaths
human/e
human/i
human/incidence
human/populationCount
human/r
human/s
Add >
Add All >>
< Remove
<< Remove All
Quick Access
Simulation
Designer
Analysis
Outline


STEM
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Decorators
Ebola.standard SEIR Compartment Model
Ebola1.standard
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Graphs
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BaseModel.model Model
Ebola.model Model
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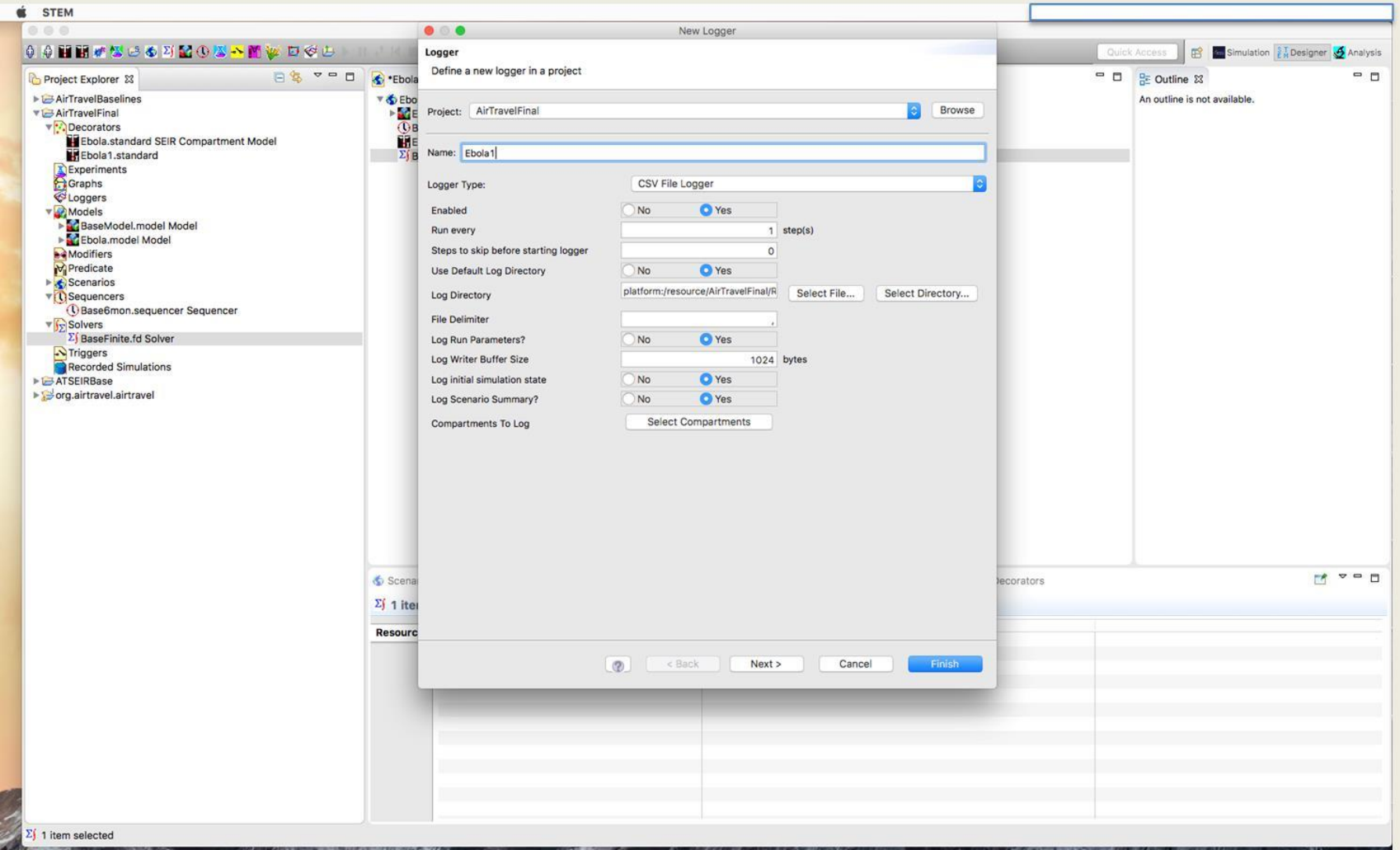
Predicate
Scenarios
Sequencers
Base6mon.sequencer Sequencer
Solvers
BaseFinite.fd Solver
Triggers
Recorded Simulations
ATSEIRBase
org.airtravel.airtravel
New Logger
Logger
Define a new logger in a project
Project: AirTravelFinal
Browse
Name: Ebola1
Logger Type: CSV File Logger
Enabled No Yes
Run every 1
Steps to skip before starting logger 0
Use Default Log Directory No Yes
Log Directory platform:/resource/AirTravelFinal/R
File Delimiter ,
Log Run Parameters? No Yes
Log Writer Buffer Size 1024 bytes
Log initial simulation state No Yes
Log Scenario Summary? No Yes
Compartments To Log
Select Compartments
< Back
Next >
Cancel
Finish
Compartments To Log
Project AirTravelFinal
Decorator Ebola.standard
Available Properties
Selected Properties
AirTravelFinal/Ebola.standard:human/diseaseDeaths
AirTravelFinal/Ebola.standard:human/e
AirTravelFinal/Ebola.standard:human/i
AirTravelFinal/Ebola.standard:human/incidence
AirTravelFinal/Ebola.standard:human/populationCount
AirTravelFinal/Ebola.standard:human/r
AirTravelFinal/Ebola.standard:human/s
Add >
Add All >>
< Remove
<< Remove All
Quick Access
Simulation
Designer
Analysis
Outline
An outline is not available.
Decorators
1 item selected


STEM
New Logger
Logger
Define a new logger in a project
Project: AirTravelFinal
Browse
Name: Ebola1
Logger Type: CSV File Logger
Enabled No Yes
Run every 1 step(s)
Steps to skip before starting logger 0
Use Default Log Directory No Yes
Log Directory platform:/resource/AirTravelFinal/R
Select File...
Select Directory...
File Delimiter ,
Log Run Parameters? No Yes
Log Writer Buffer Size 1024 bytes
Log initial simulation state No Yes
Log Scenario Summary? No Yes
Compartments To Log
Select Compartments
< Back
Next >
Cancel
Finish
Project Explorer
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AirTravelFinal
Decorators
Ebola.standard SEIR Compartment Model
Ebola1.standard
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Base6mon.sequencer Sequencer
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BaseFinite.fd Solver
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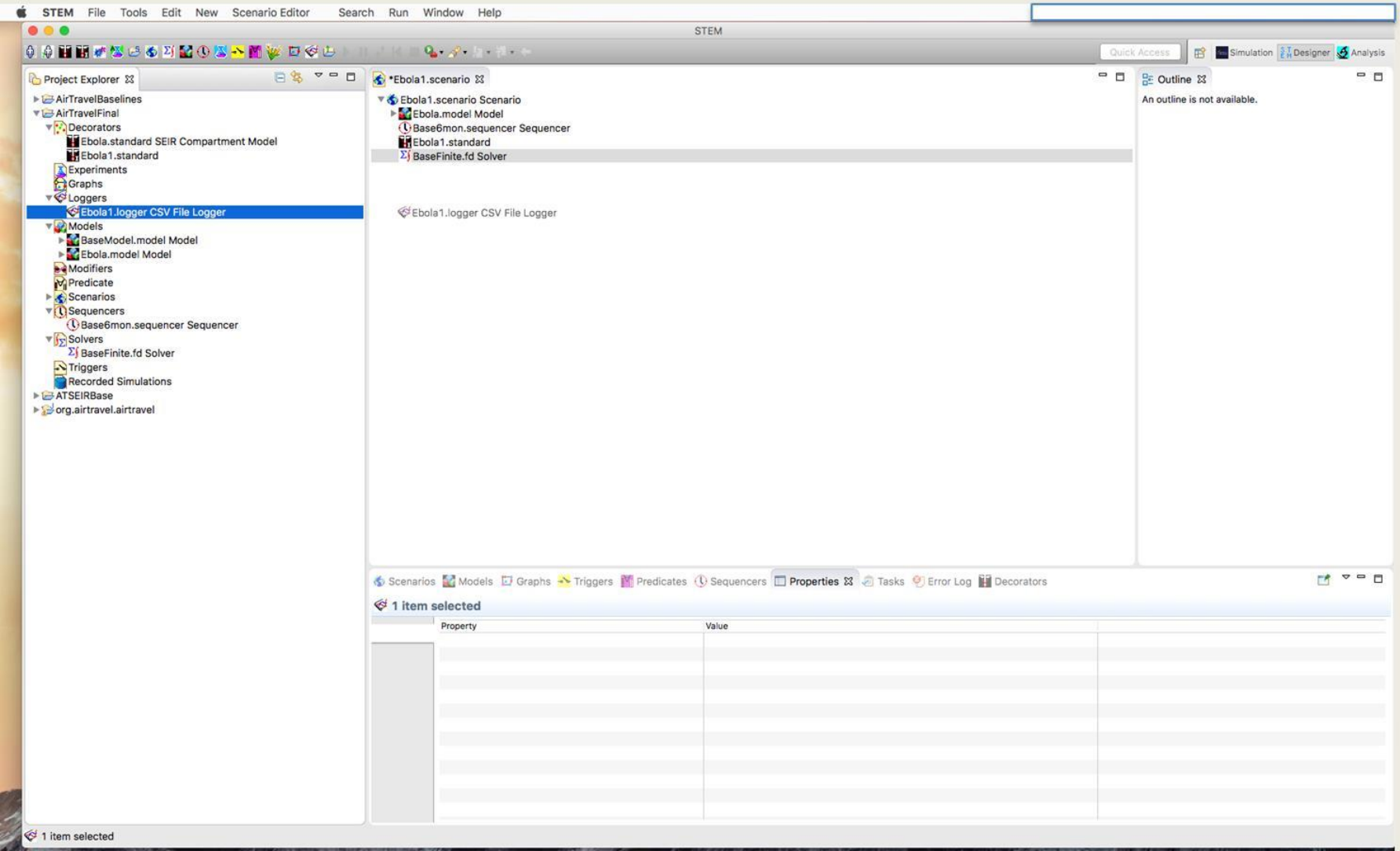
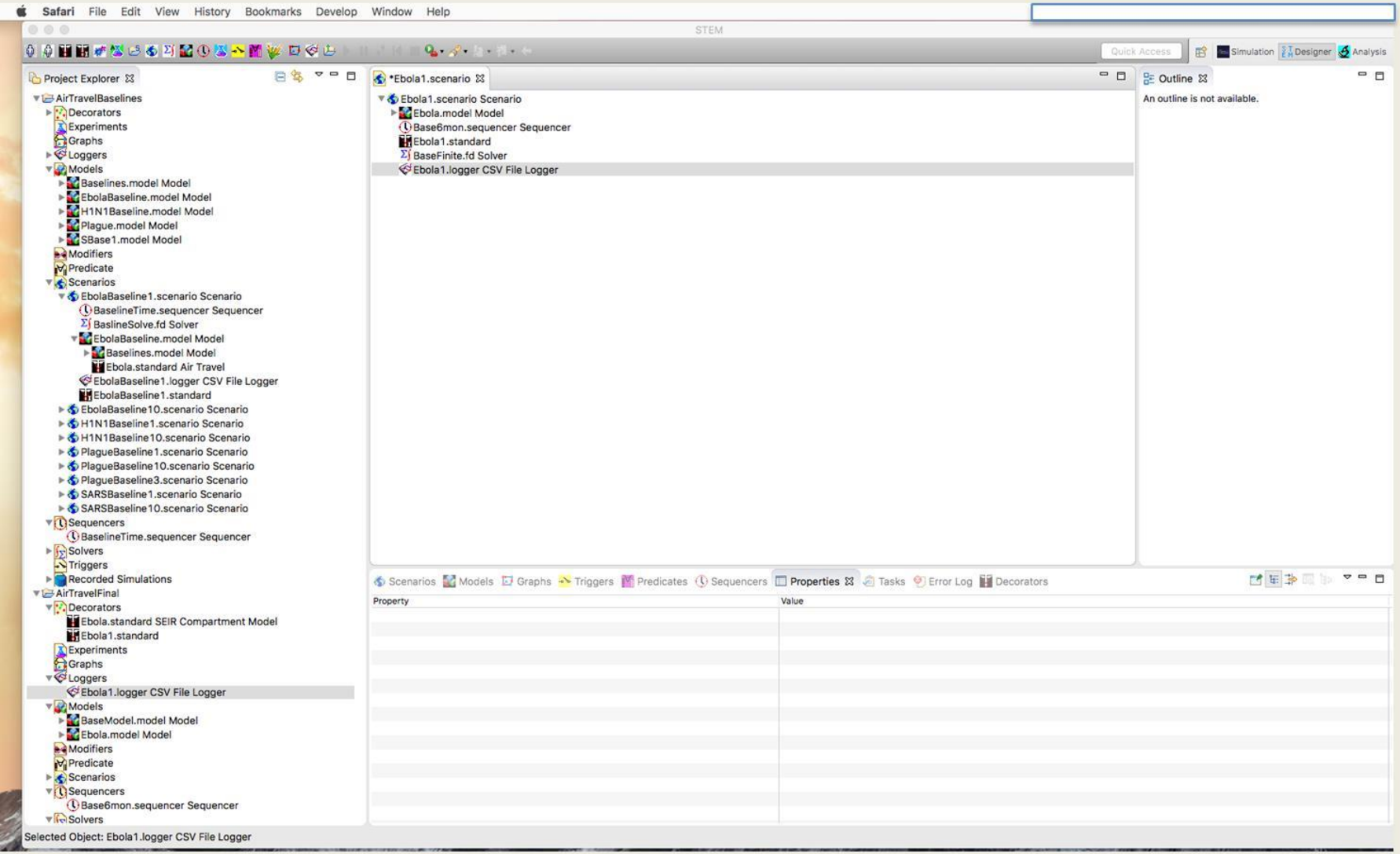
org.airtravel.airtravel
Outline
An outline is not available.
Quick Access
Simulation
Designer
Analysis
1 item selected

Now add logger to your scenario…you are done!




Safari File Edit View History Bookmarks Develop Window Help
STEM
Quick Access
Simulation
Designer
Analysis
Project Explorer
AirTravelBaselines
Decorators
Experiments
Graphs
Loggers
Models
Baselines.model Model
EbolaBaseline.model Model
H1N1Baseline.model Model
Plague.model Model
SBase1.model Model
Modifiers
Predicate
Scenarios
EbolaBaseline1.scenario Scenario
BaselineTime.sequencer Sequencer
BaslineSolve.fd Solver
EbolaBaseline.model Model
Baselines.model Model
Ebola.standard Air Travel
EbolaBaseline1.logger CSV File Logger
EbolaBaseline1.standard
EbolaBaseline10.scenario Scenario
H1N1Baseline1.scenario Scenario
H1N1Baseline10.scenario Scenario
PlagueBaseline1.scenario Scenario
PlagueBaseline10.scenario Scenario
PlagueBaseline3.scenario Scenario
SARSBaseline1.scenario Scenario
SARSBaseline10.scenario Scenario
Sequencers
BaselineTime.sequencer Sequencer
Solvers
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Ebola1.standard
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Loggers
Ebola1.logger CSV File Logger
Models
BaseModel.model Model
Ebola.model Model
Modifiers
Predicate
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Base6mon.sequencer Sequencer
Solvers
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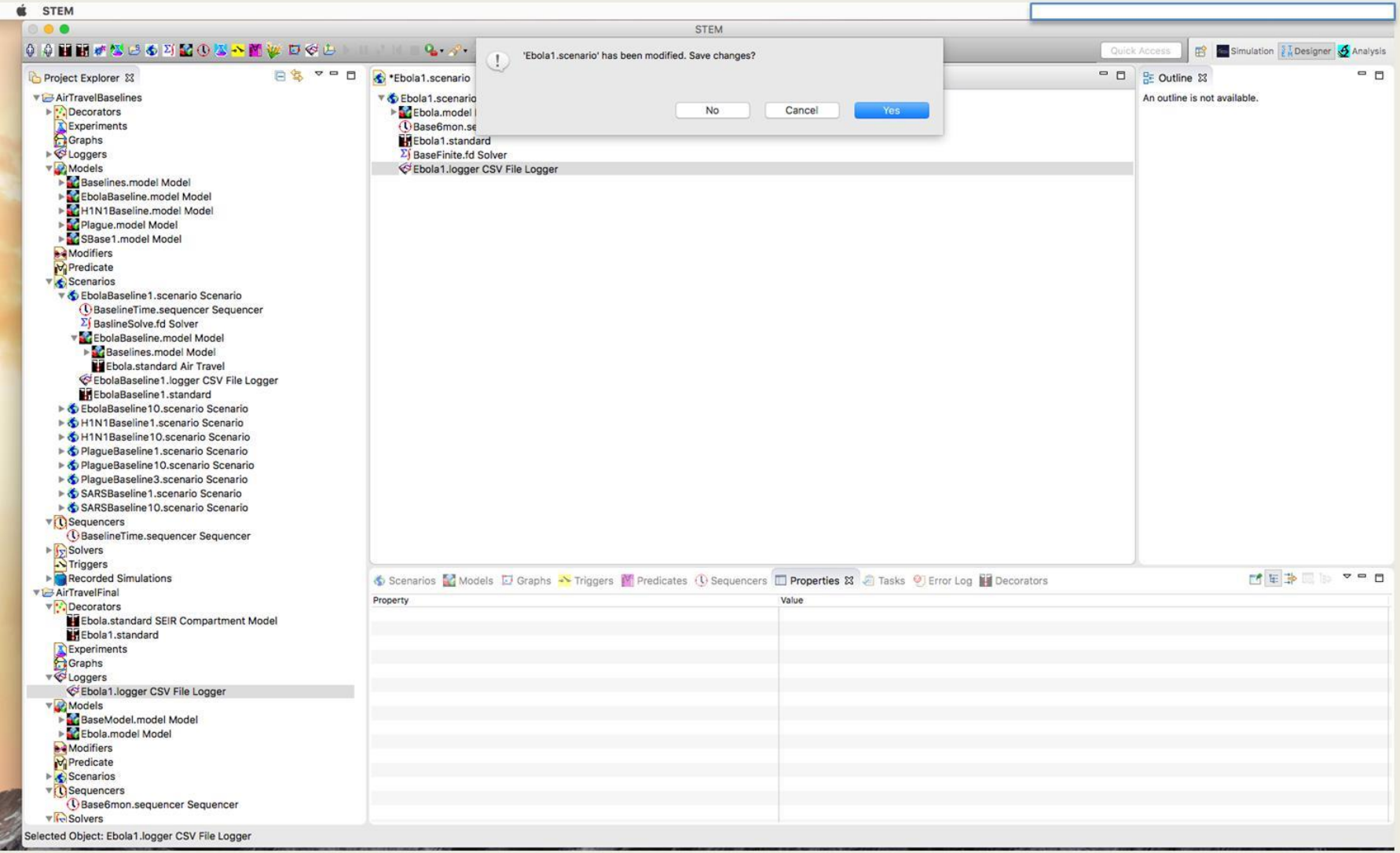
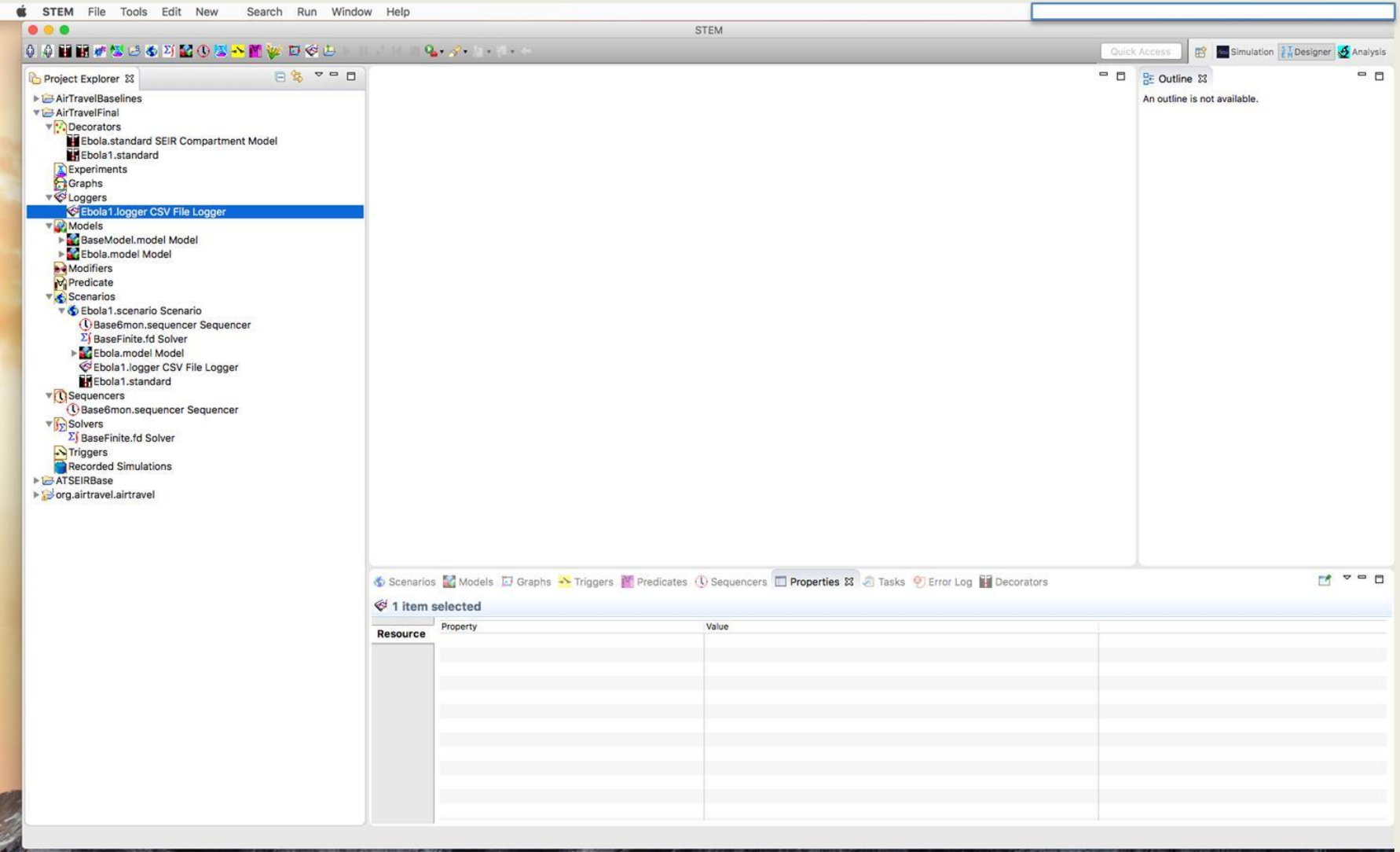
Ebola1.scenario Scenario
Ebola.model Model
Base6mon.sequencer Sequencer
Ebola1.standard
BaseFinite.fd Solver
Ebola1.logger CSV File Logger
Outline
An outline is not available.
Scenarios
Models
Graphs
Triggers
Predicates
Sequencers
Properties
Tasks
Error Log
Decorators
Property
Value
Selected Object: Ebola1.logger CSV File Logger

Close and it will save…




STEM File Tools Edit New Search Run Window Help
STEM
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Project Explorer
AirTravelBaselines
AirTravelFinal
Decorators
Ebola.standard SEIR Compartment Model
Ebola1.standard
Experiments
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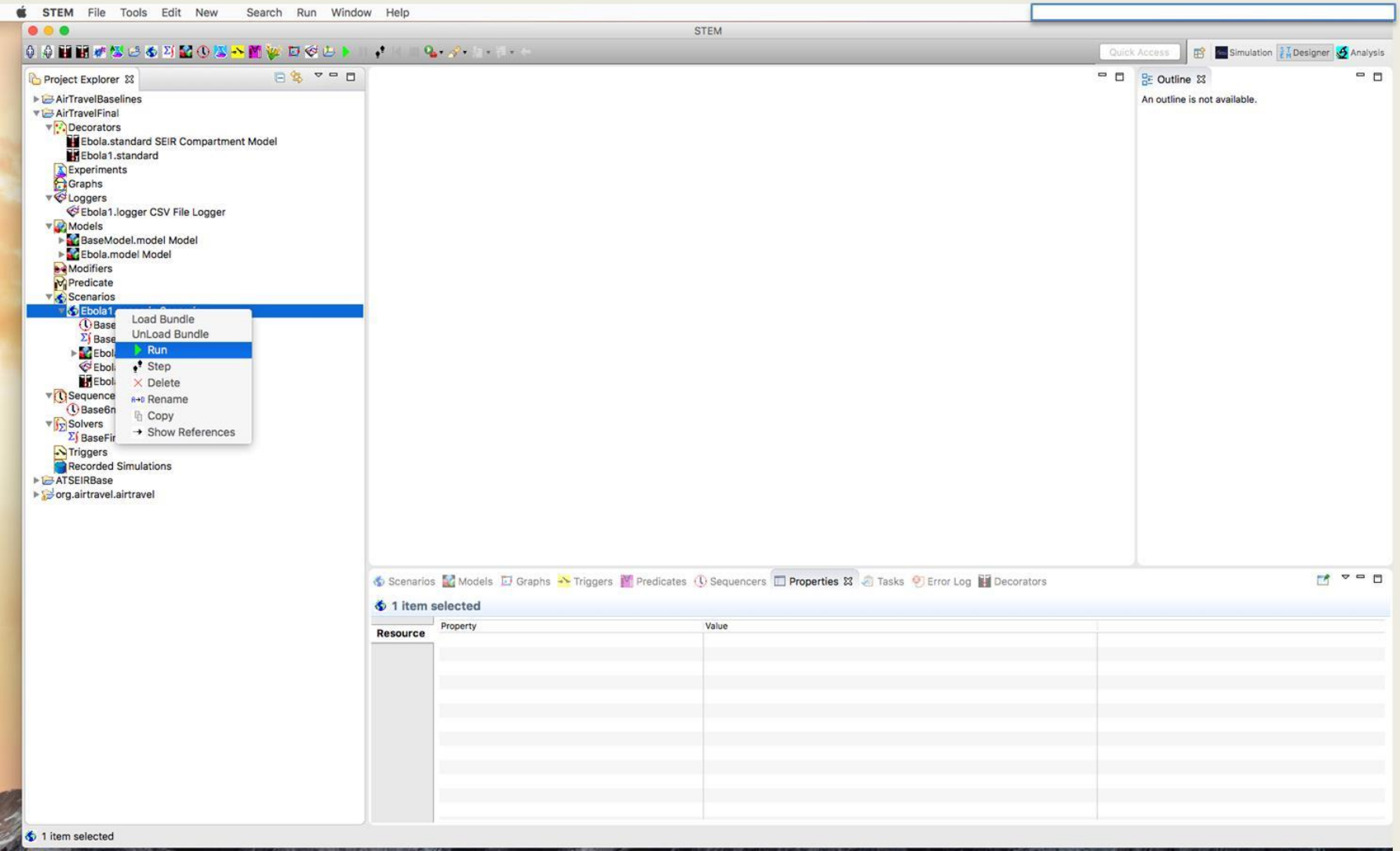
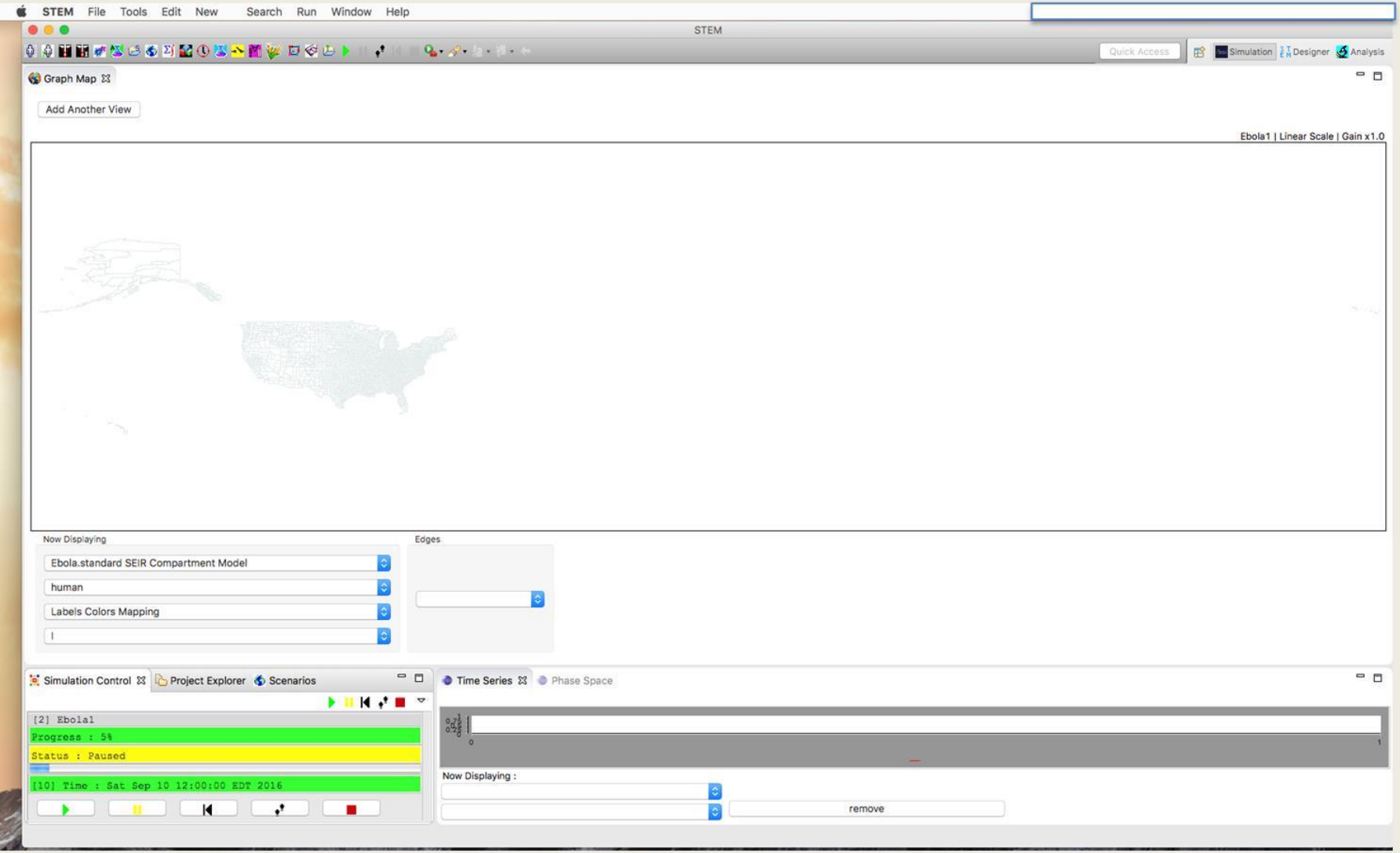
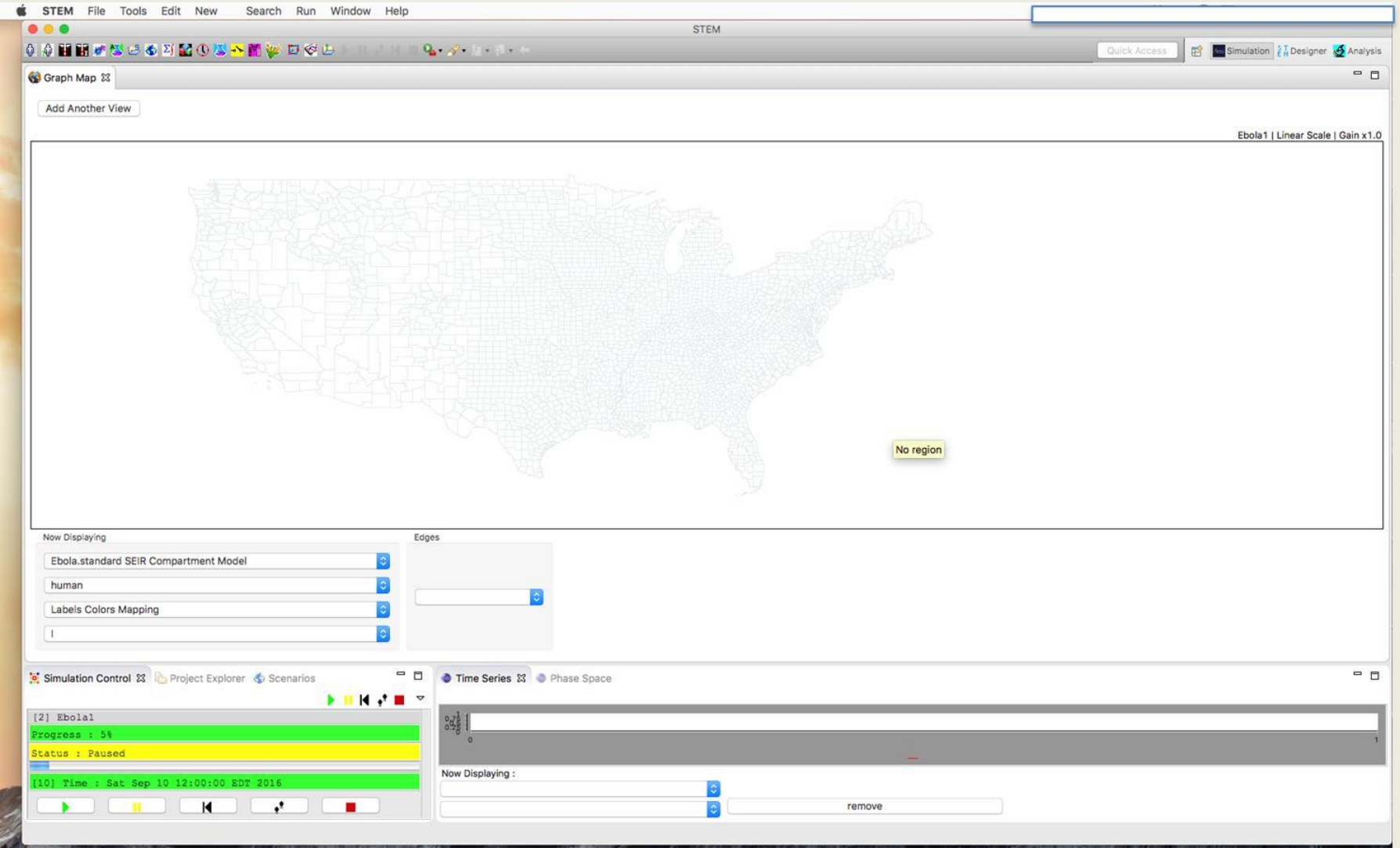
Loggers
Ebola1.logger CSV File Logger
Models
BaseModel.model Model
Ebola.model Model
Modifiers
Predicate
Scenarios
Ebola1.scenario Scenario
Base6mon.sequencer Sequencer
BaseFinite.fd Solver
Ebola.model Model
Ebola1.logger CSV File Logger
Ebola1.standard
Sequencers
Base6mon.sequencer Sequencer
Solvers
BaseFinite.fd Solver
Triggers
Recorded Simulations
ATSEIRBase
org.airtravel.airtravel
Outline
An outline is not available.
Scenarios
Models
Graphs
Triggers
Predicates
Sequencers
Properties
Tasks
Error Log
Decorators
1 item selected
Resource
Property
Value

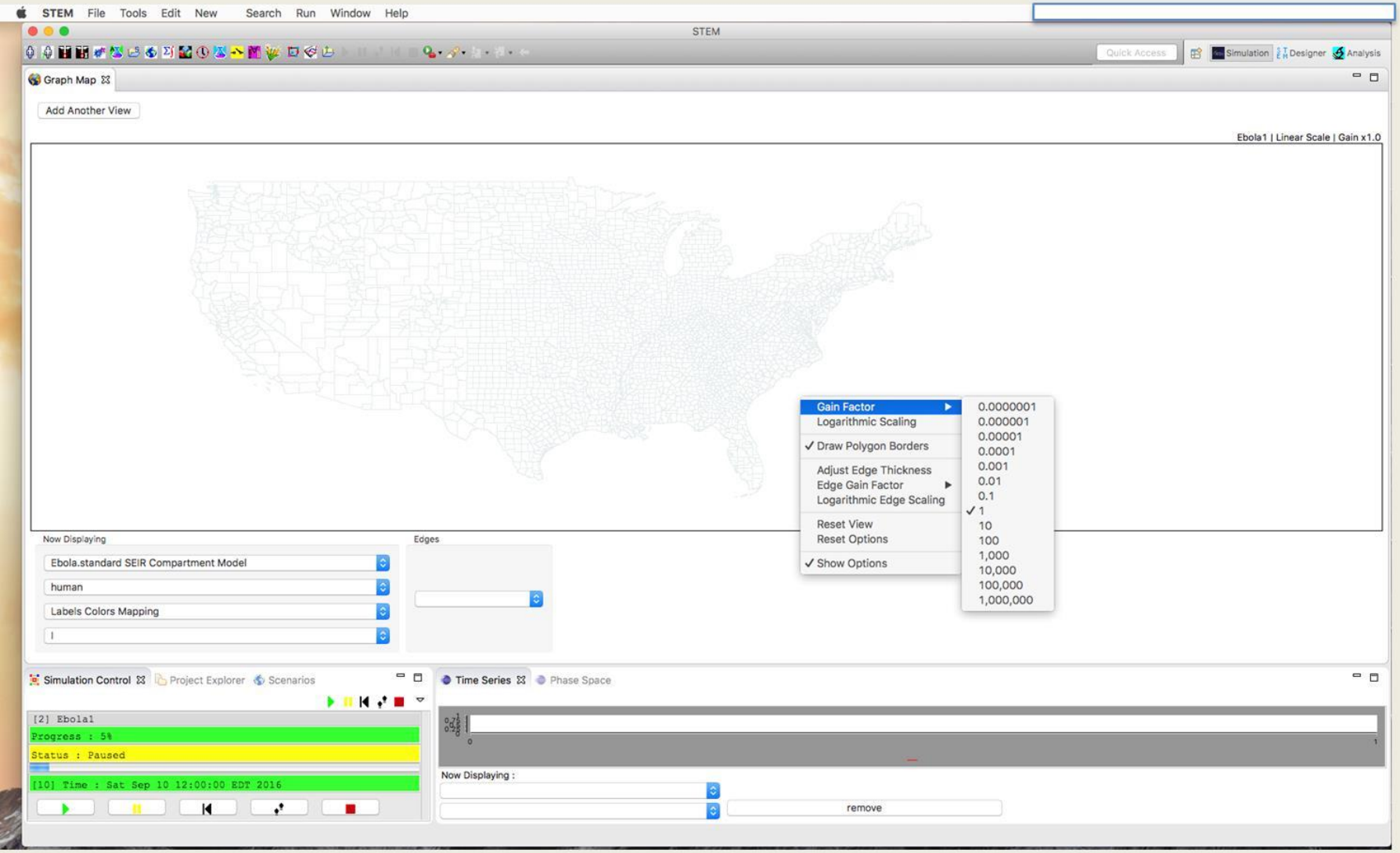
Now right click on the right hand side scenario, and hit “Run”



Now you will come to this screen…pause it (Yellow pause button)---center the US, Enlarge, then you can continue with the play button, you can also change the GAIN Value to show the values better




STEM File Tools Edit New Search Run Window Help
STEM
Quick Access
Simulation
Designer
Analysis
Graph Map
Add Another View
Ebola1 | Linear Scale | Gain x1.0
No region
Now Displaying
Ebola.standard SEIR Compartment Model
human
Labels Colors Mapping
I
Edges
Simulation Control
Project Explorer
Scenarios
[2] Ebola1
Progress : 5%
Status : Paused
[10] Time : Sat Sep 10 12:00:00 EDT 2016
Time Series
Phase Space
Now Displaying :
remove


STEM File Tools Edit New Search Run Window Help
STEM
Quick Access
Simulation
Designer
Analysis
Graph Map
Add Another View
Ebola1 | Linear Scale | Gain x1.0
Gain Factor
Logarithmic Scaling
Draw Polygon Borders
Adjust Edge Thickness
Edge Gain Factor
Logarithmic Edge Scaling
Reset View
Reset Options
Show Options
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0.00001
0.0001
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Ebola.standard SEIR Compartment Model
human
Labels Colors Mapping
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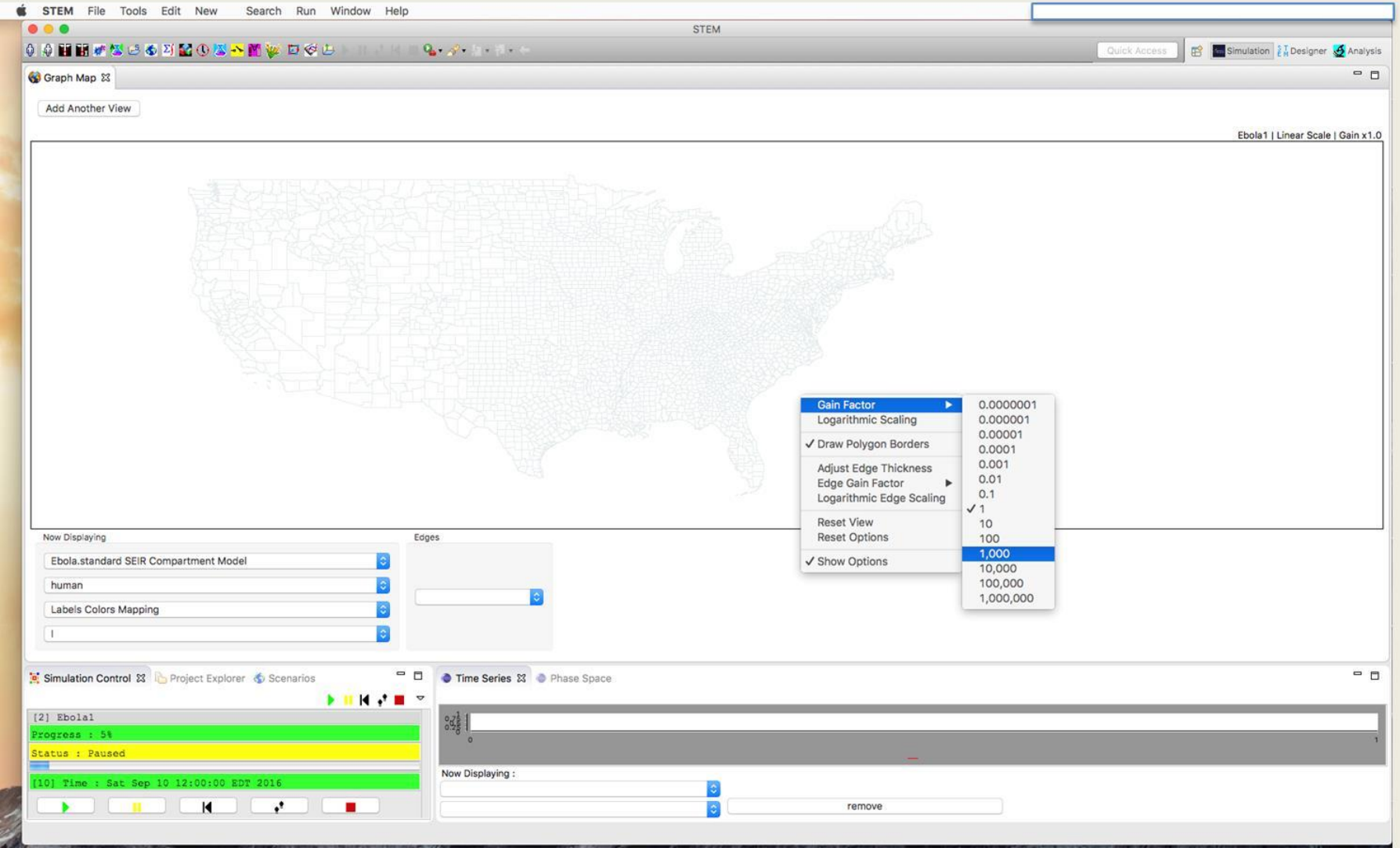
Edges
Simulation Control
Project Explorer
Scenarios
[2] Ebola1
Progress : 5%
Status : Paused
[10] Time : Sat Sep 10 12:00:00 EDT 2016
Time Series
Phase Space
Now Displaying :
remove


STEM File Tools Edit New Search Run Window Help
STEM
Quick Access
Simulation
Designer
Analysis
Graph Map
Add Another View
Ebola1 | Linear Scale | Gain x1.0
Gain Factor
Logarithmic Scaling
Draw Polygon Borders
Adjust Edge Thickness
Edge Gain Factor
Logarithmic Edge Scaling
Reset View
Reset Options
Show Options
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Now Displaying
Ebola.standard SEIR Compartment Model
human
Labels Colors Mapping
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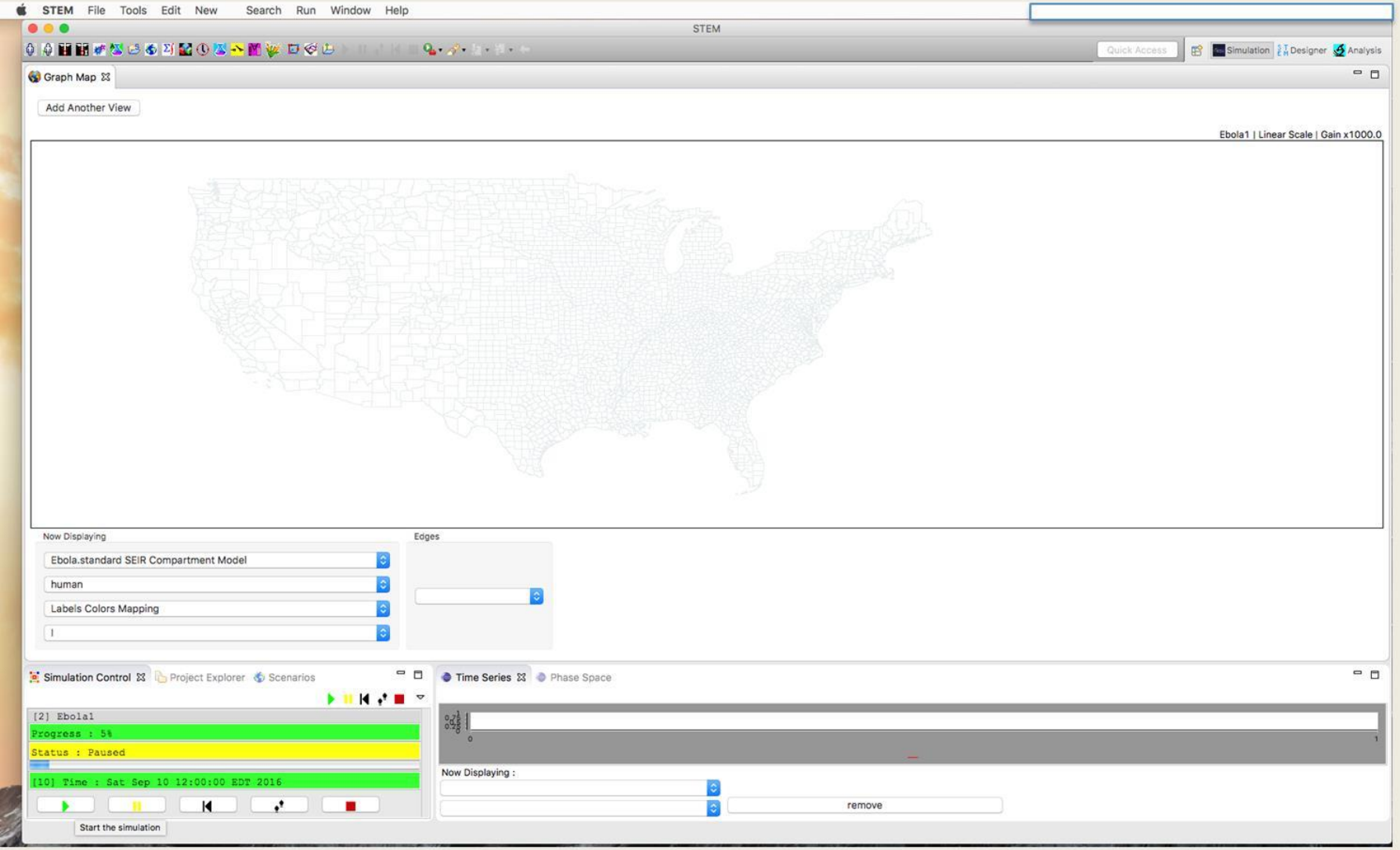
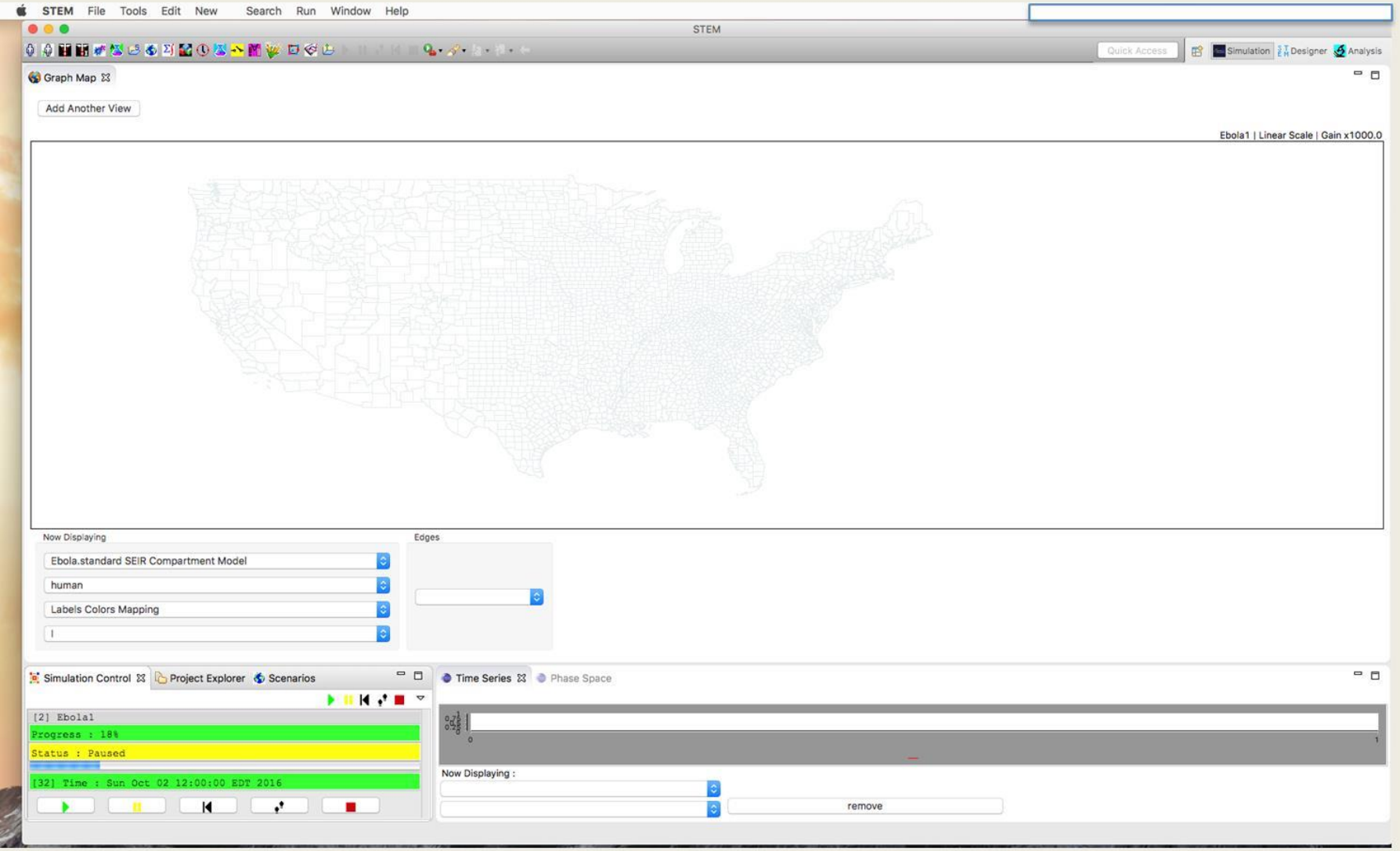
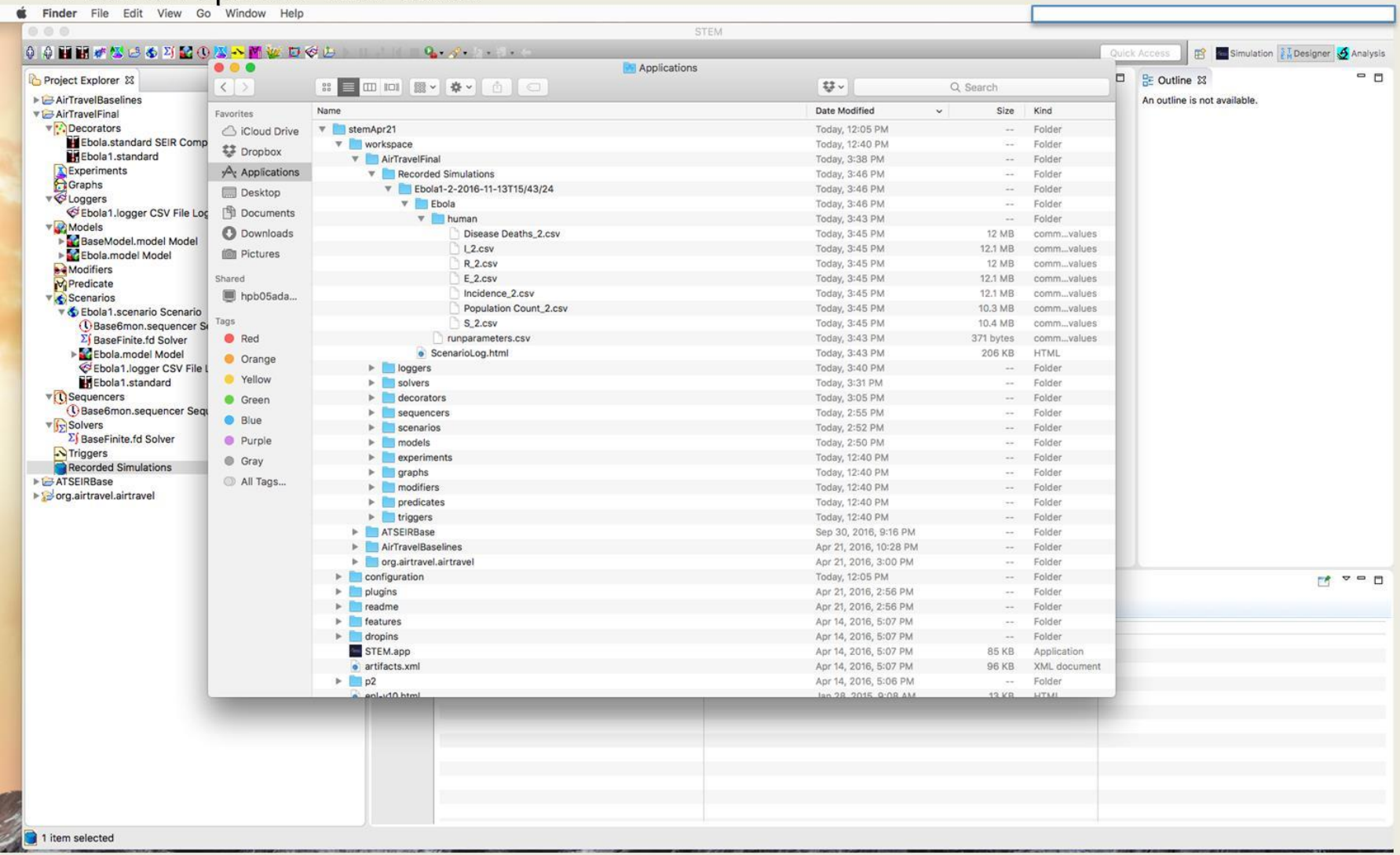
Edges
Simulation Control
Project Explorer
Scenarios
[2] Ebola1
Progress : 5%
Status : Paused
[10] Time : Sat Sep 10 12:00:00 EDT 2016
Time Series
Phase Space
Now Displaying :
remove

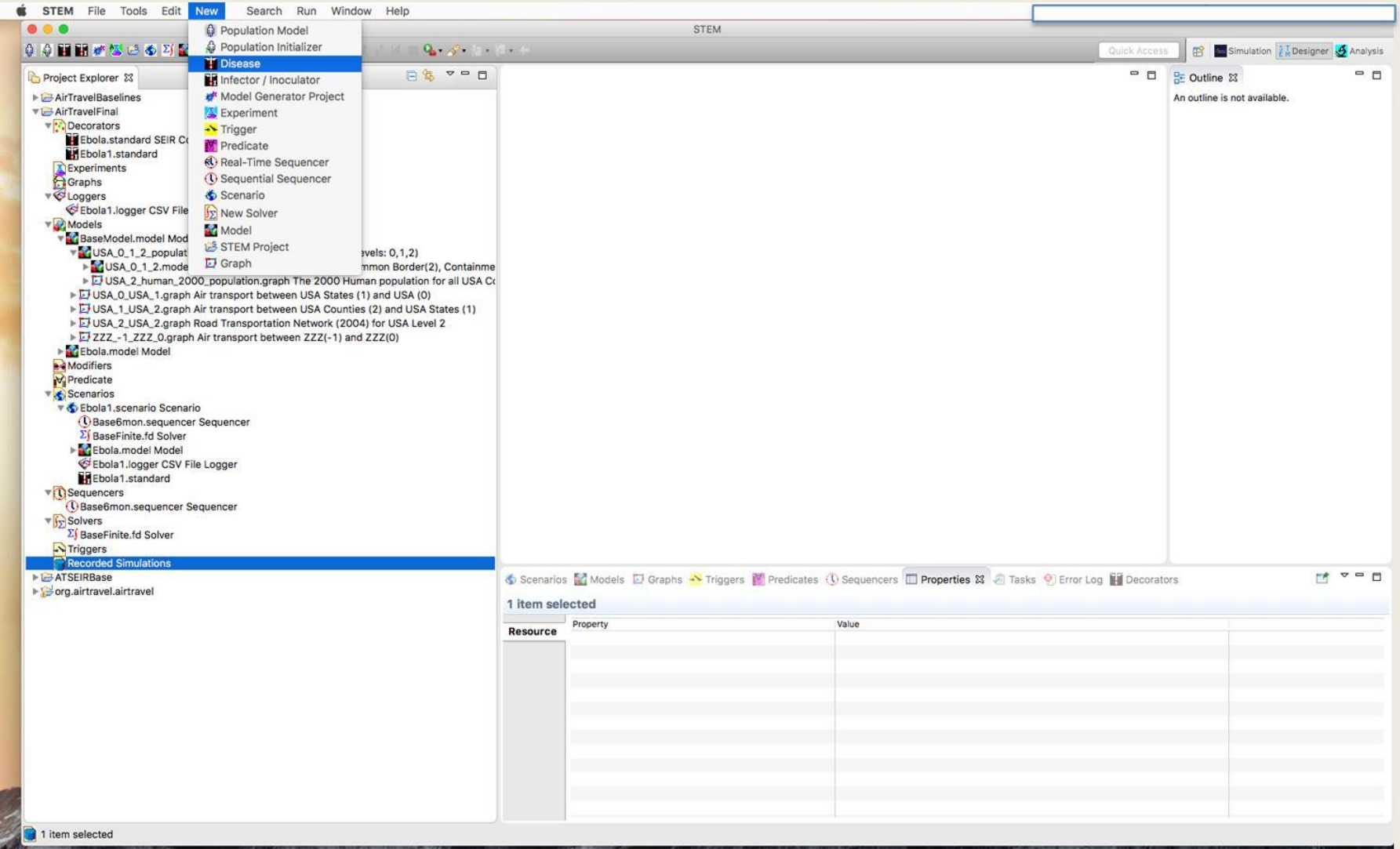

STEM File Tools Edit New Search Run Window Help
STEM
Quick Access
Simulation
Designer
Analysis
Graph Map
Add Another View
Ebola1 | Linear Scale | Gain x1000.0
Now Displaying
Ebola.standard SEIR Compartment Model
human
Labels Colors Mapping
I
Edges
Simulation Control
Project Explorer
Scenarios
[2] Ebola1
Progress : 5%
Status : Paused
[10] Time : Sat Sep 10 12:00:00 EDT 2016
Start the simulation
Time Series
Phase Space
Now Displaying :
remove


STEM File Tools Edit New Search Run Window Help
STEM
Quick Access
Simulation
Designer
Analysis
Graph Map
Add Another View
Ebola1 | Linear Scale | Gain x1000.0
Now Displaying
Ebola.standard SEIR Compartment Model
human
Labels Colors Mapping
I
Edges
Simulation Control
Project Explorer
Scenarios
[2] Ebola1
Progress : 18%
Status : Paused
[32] Time : Sun Oct 02 12:00:00 EDT 2016
Time Series
Phase Space
Now Displaying :
remove

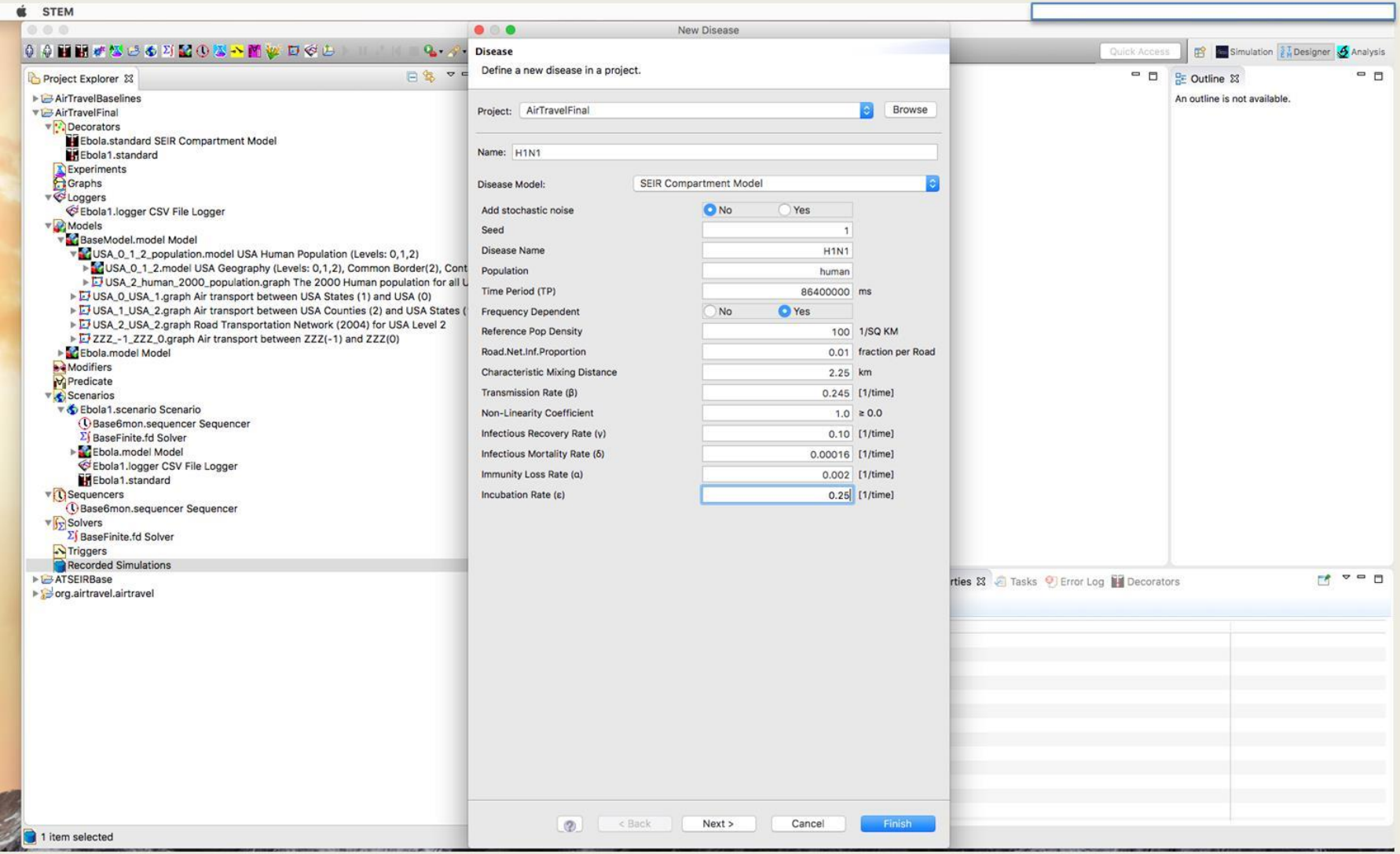
Now go find the folder of recorded simulations, and now all your data
Is stored…Ebola, you have deaths, incidence, exposed, susceptible, etc
It can be opened with Excel.



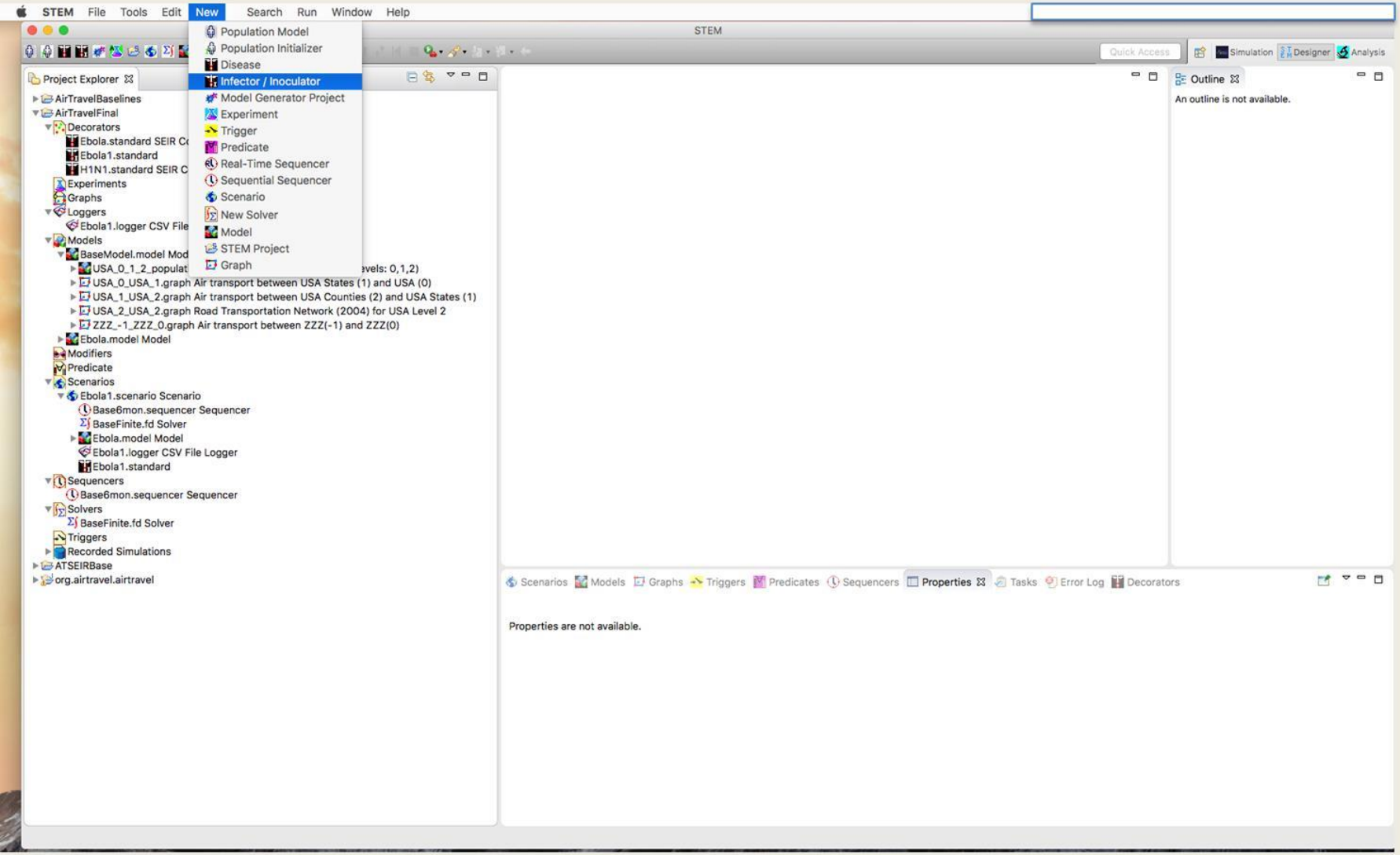
Now lets do another disease…lets do 10 people of Flu
Need new disease



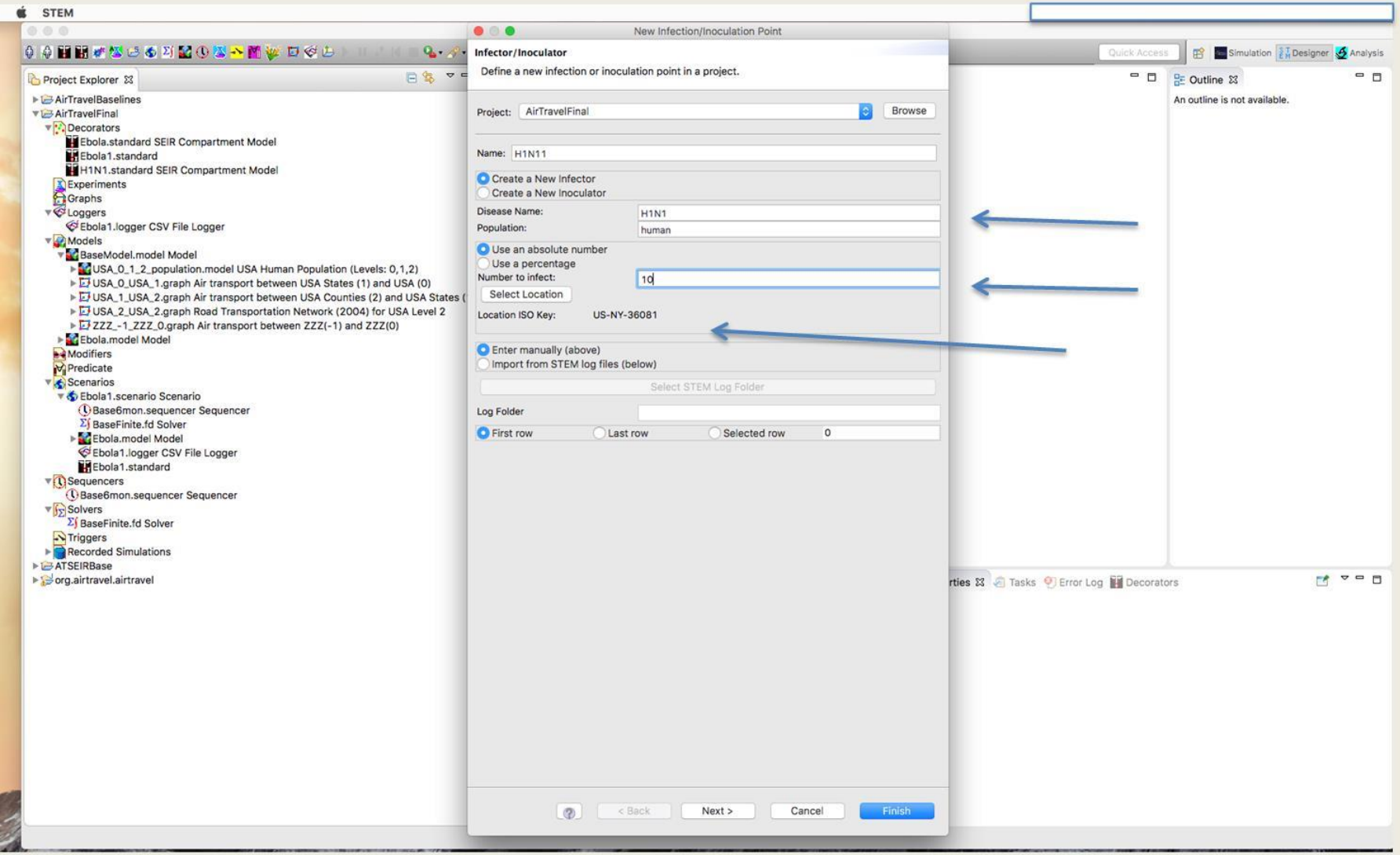
Add the parameters



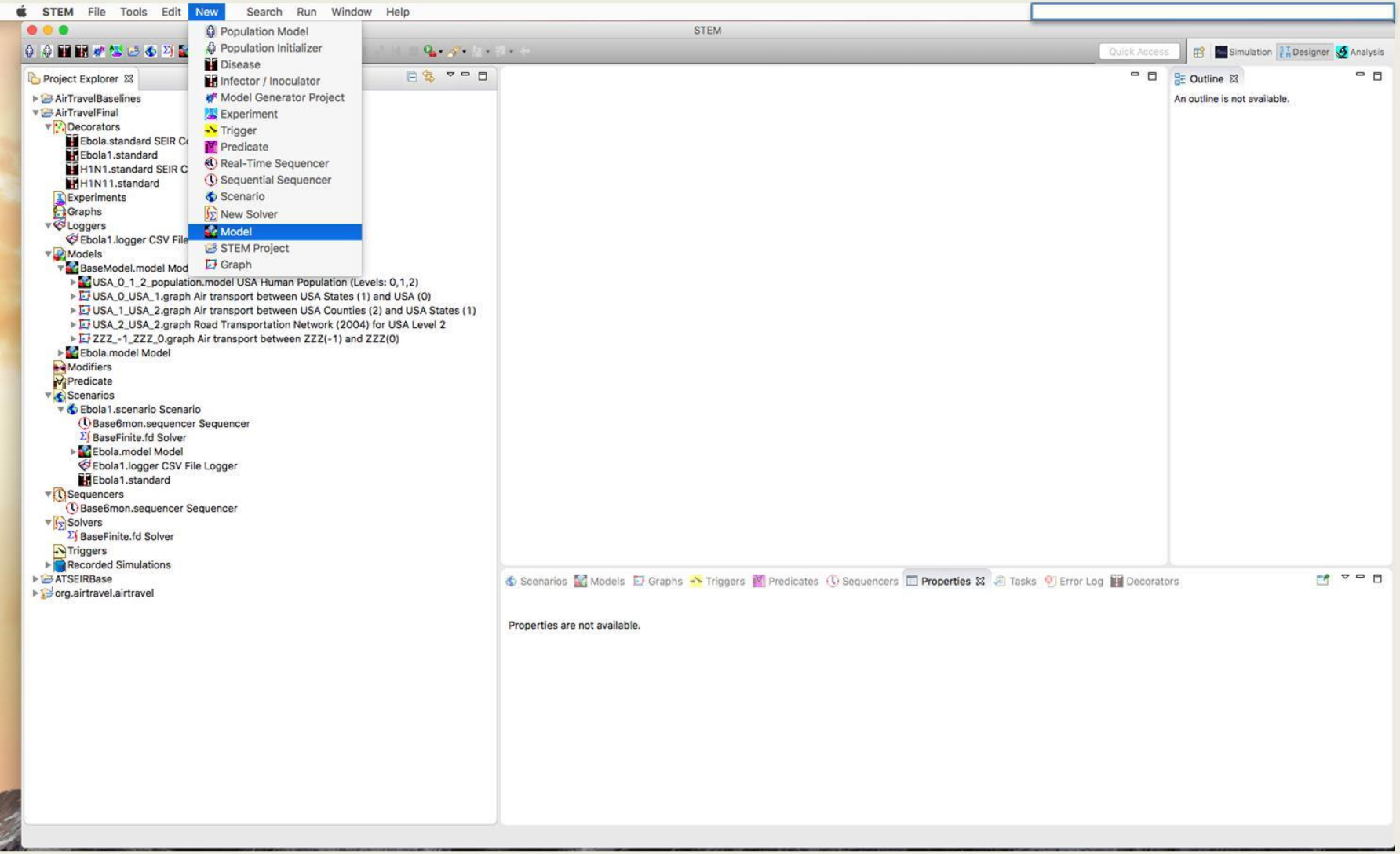
Need new infector because it is 10 people

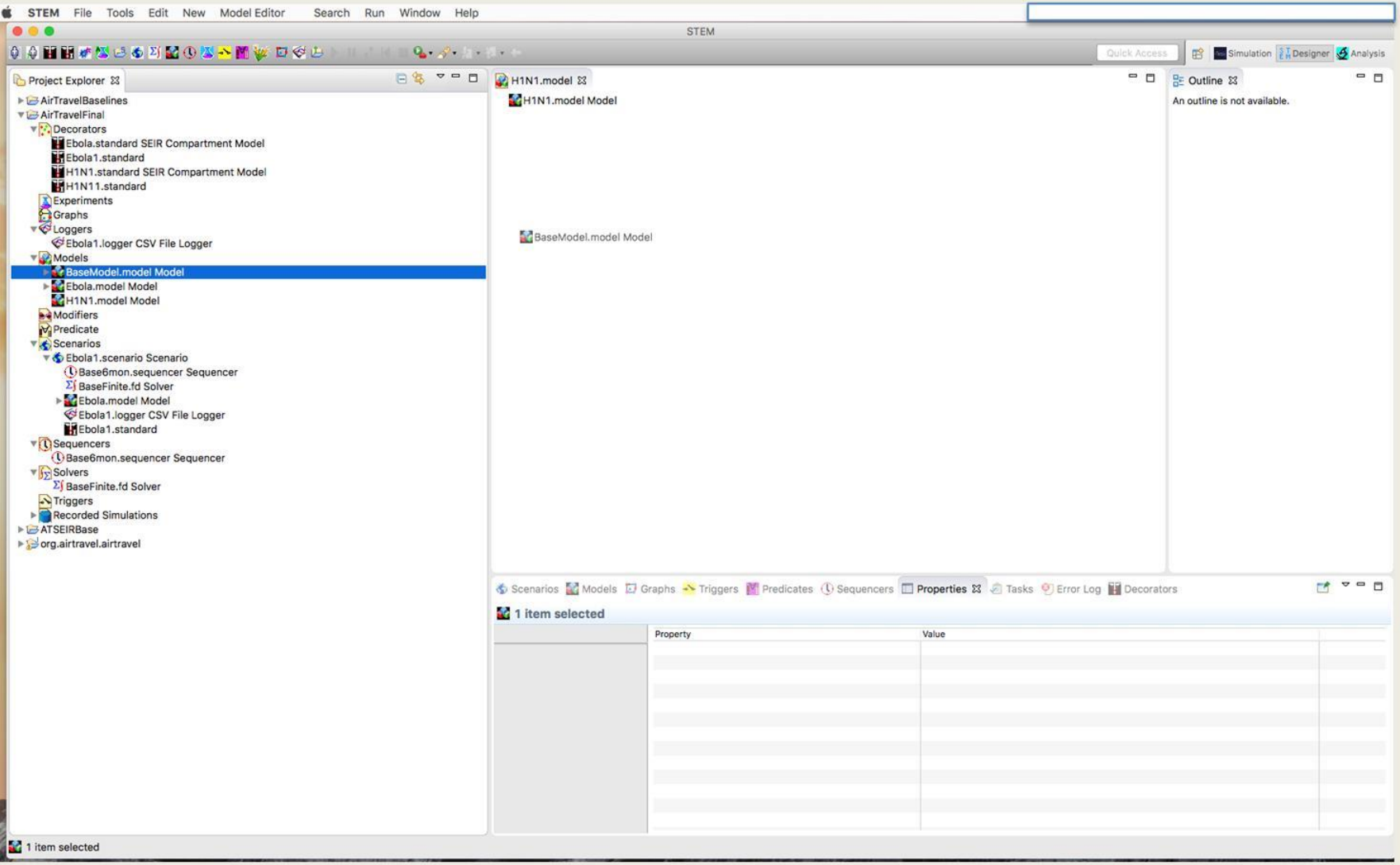


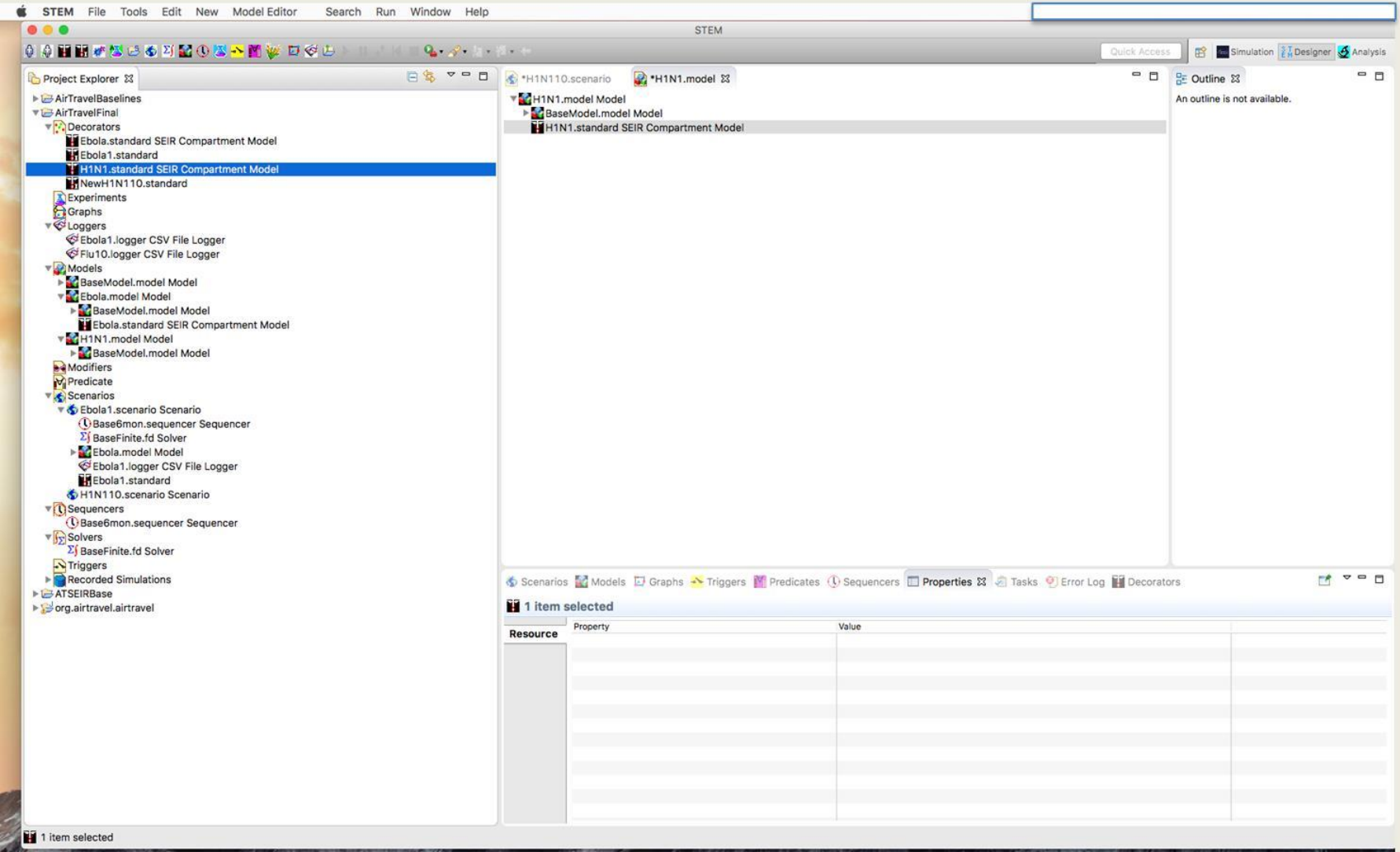
Make sure that the disease matches the disease name you need.
10 people infected, in NY Queens, 36081



Now make the Flu model (you have already created the baseline that you can reuse)




STEM File Tools Edit New Model Editor Search Run Window Help
STEM
Quick Access
Simulation
Designer
Analysis
Project Explorer
AirTravelBaselines
AirTravelFinal
Decorators
Ebola.standard SEIR Compartment Model
Ebola1.standard
H1N1.standard SEIR Compartment Model
H1N11.standard
Experiments
Graphs
Loggers
Ebola1.logger CSV File Logger
Models
BaseModel.model Model
Ebola.model Model
H1N1.model Model
Modifiers
Predicate
Scenarios
Ebola1.scenario Scenario
Base6mon.sequencer Sequencer
BaseFinite.fd Solver
Ebola.model Model
Ebola1.logger CSV File Logger
Ebola1.standard
Sequencers
Base6mon.sequencer Sequencer
Solvers
BaseFinite.fd Solver
Triggers
Recorded Simulations
ATSEIRBase
org.airtravel.airtravel
H1N1.model
H1N1.model Model
BaseModel.model Model
Outline
An outline is not available.
Scenarios Models Graphs Triggers Predicates Sequencers Properties Tasks Error Log Decorators
1 item selected
Property
Value
1 item selected


STEM File Tools Edit New Model Editor Search Run Window Help
STEM
Quick Access
Simulation
Designer
Analysis
Project Explorer
AirTravelBaselines
AirTravelFinal
Decorators
Ebola.standard SEIR Compartment Model
Ebola1.standard
H1N1.standard SEIR Compartment Model
NewH1N110.standard
Experiments
Graphs
Loggers
Ebola1.logger CSV File Logger
Flu10.logger CSV File Logger
Models
BaseModel.model Model
Ebola.model Model
BaseModel.model Model
Ebola.standard SEIR Compartment Model
H1N1.model Model
BaseModel.model Model
Modifiers
Predicate
Scenarios
Ebola1.scenario Scenario
Base6mon.sequencer Sequencer
BaseFinite.fd Solver
Ebola.model Model
Ebola1.logger CSV File Logger
Ebola1.standard
H1N110.scenario Scenario
Sequencers
Base6mon.sequencer Sequencer
Solvers
BaseFinite.fd Solver
Triggers
Recorded Simulations
ATSEIRBase
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*H1N110.scenario
*H1N1.model
H1N1.model Model
BaseModel.model Model
H1N1.standard SEIR Compartment Model
Outline
An outline is not available.
Scenarios Models Graphs Triggers Predicates Sequencers Properties Tasks Error Log Decorators
1 item selected
Resource
Property
Value
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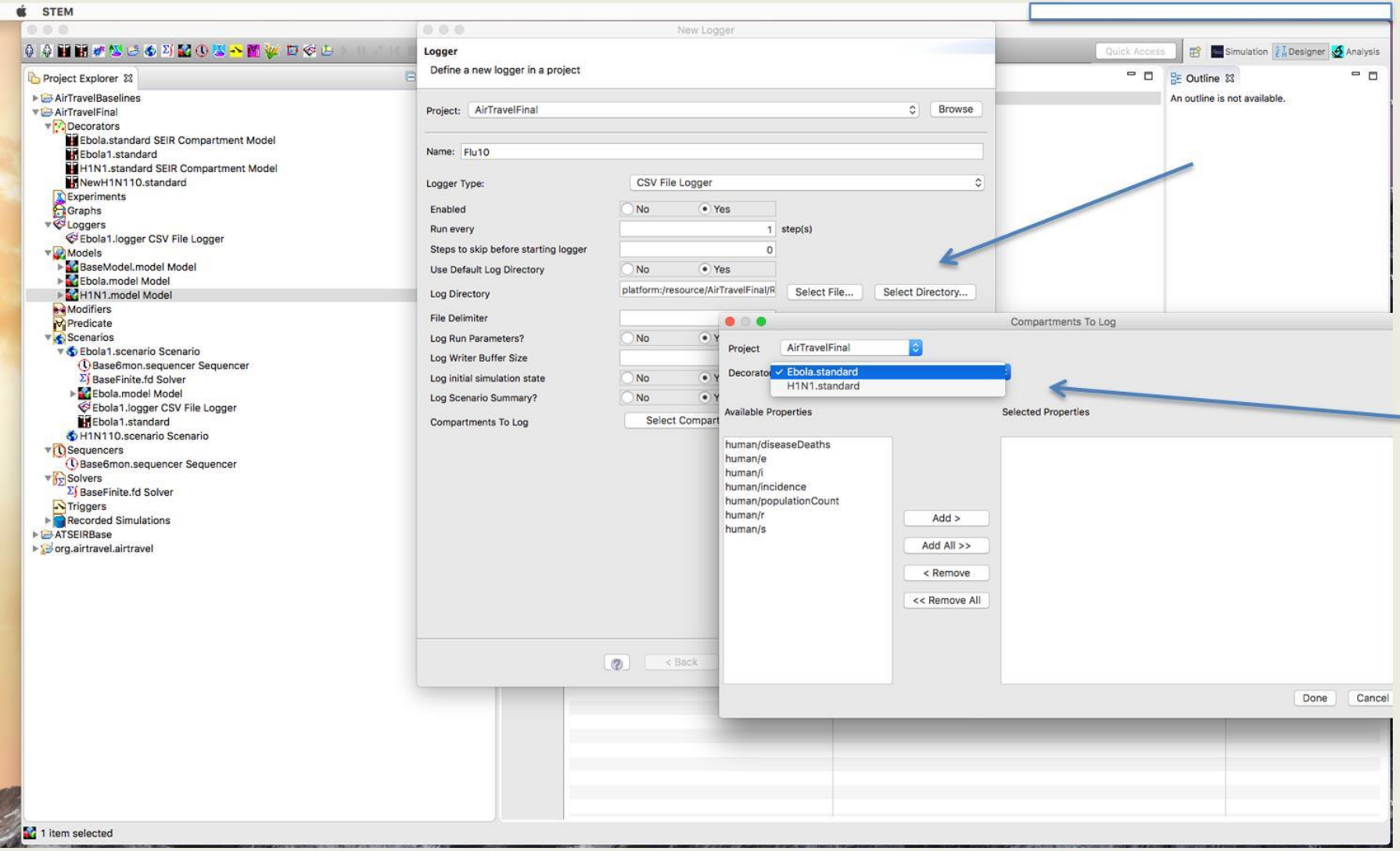
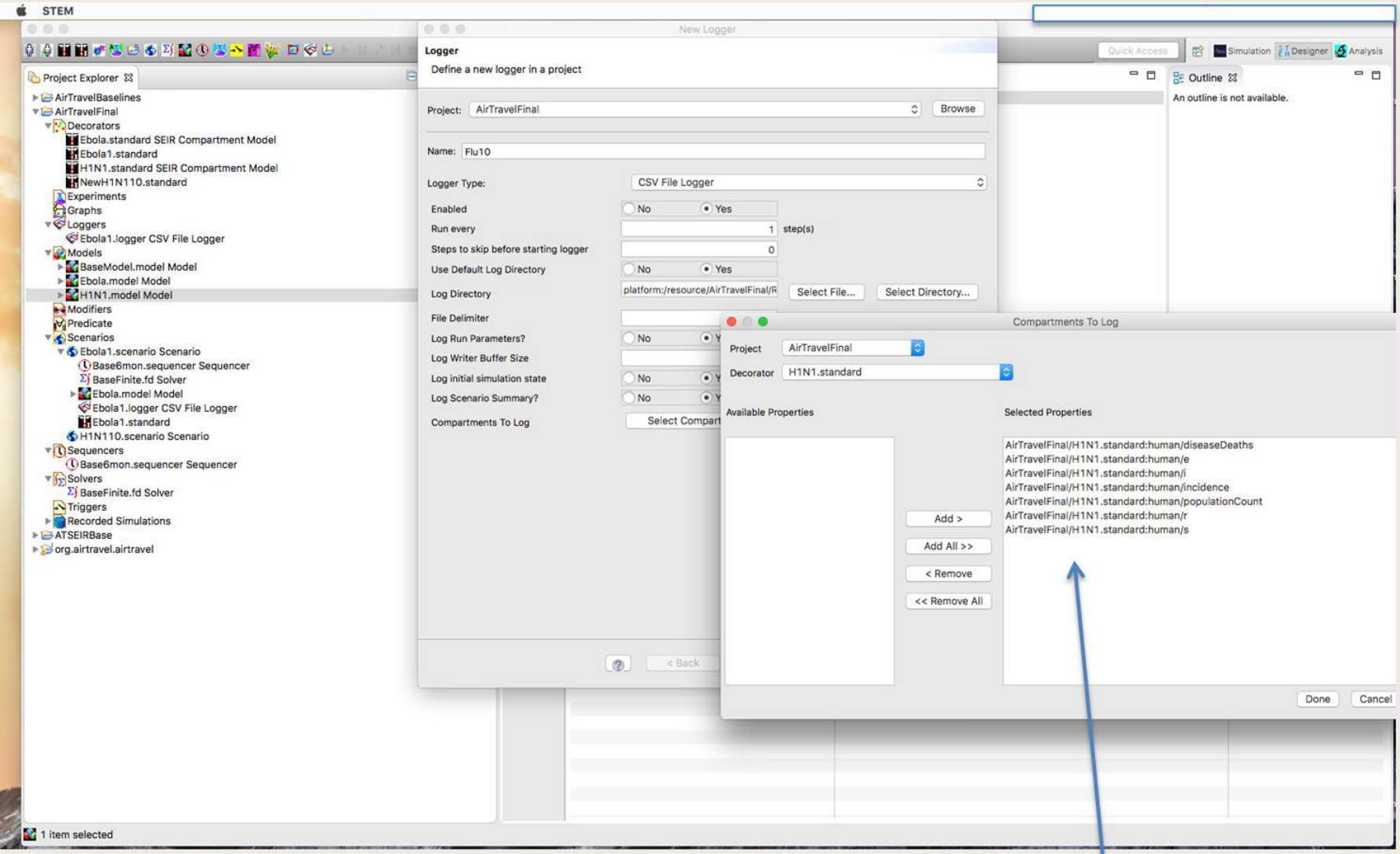
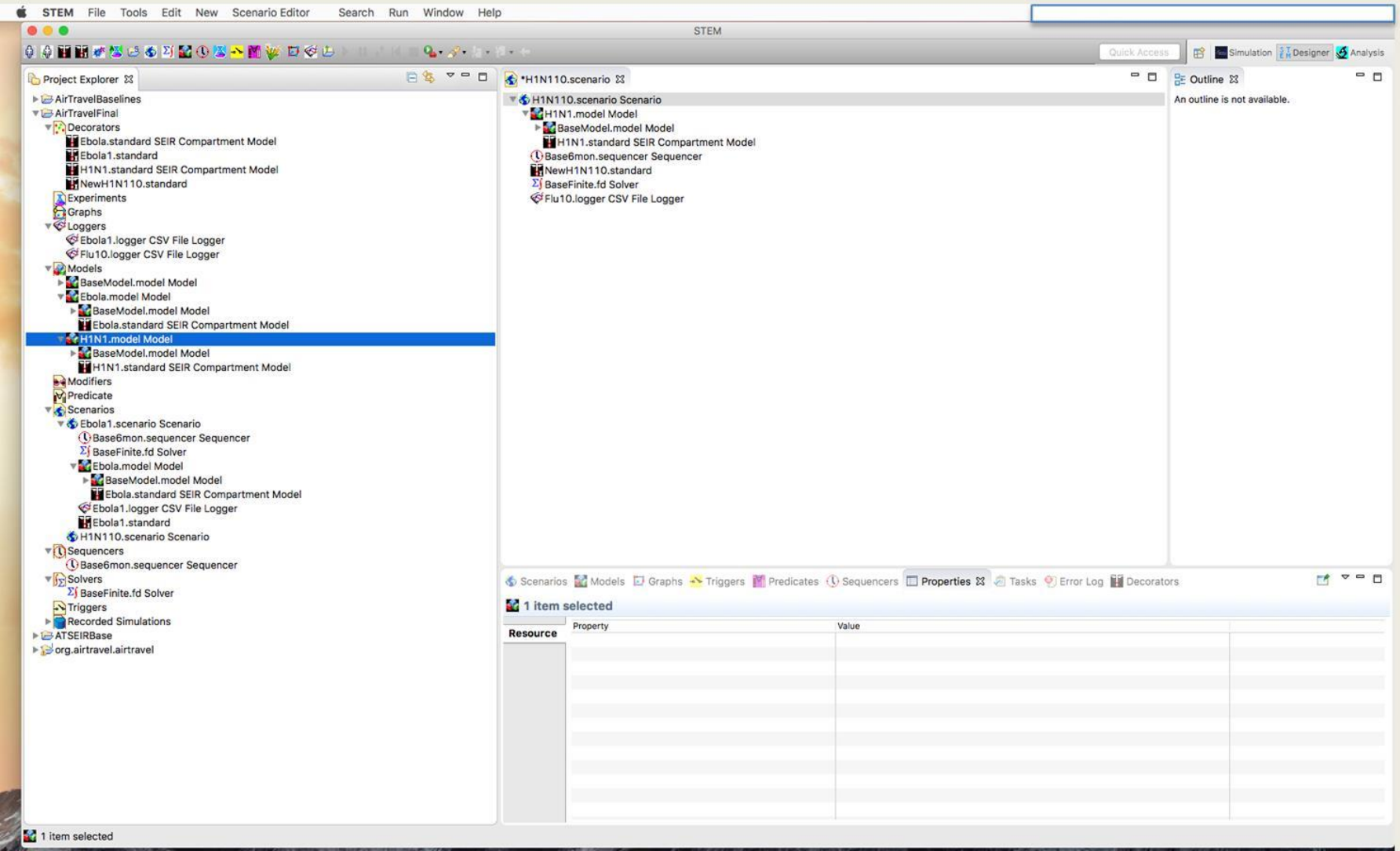
Now you need a new logger, flu10, but make sure you find the directory
Same “recorded simulations”, and change the disease from Ebola to flu



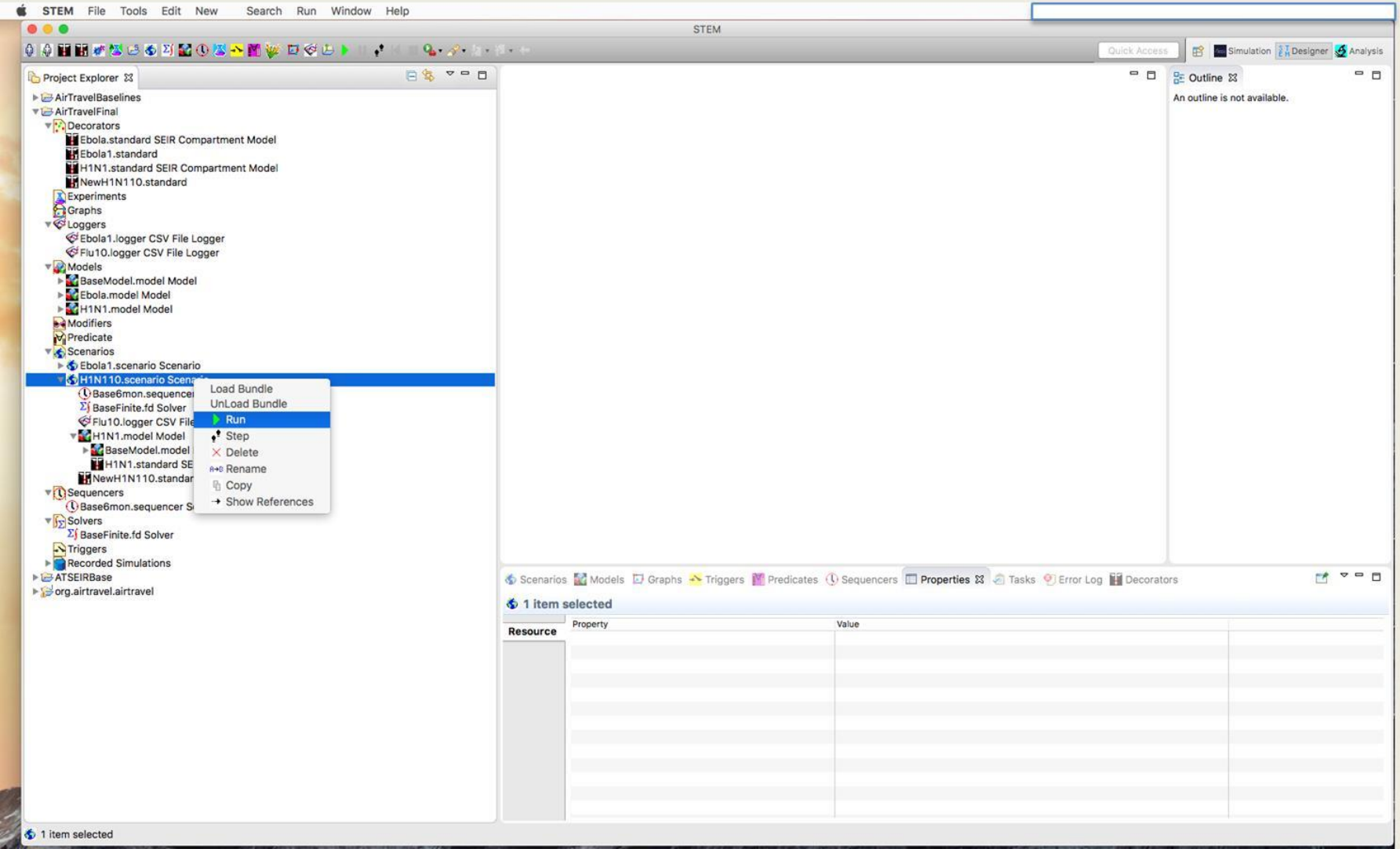


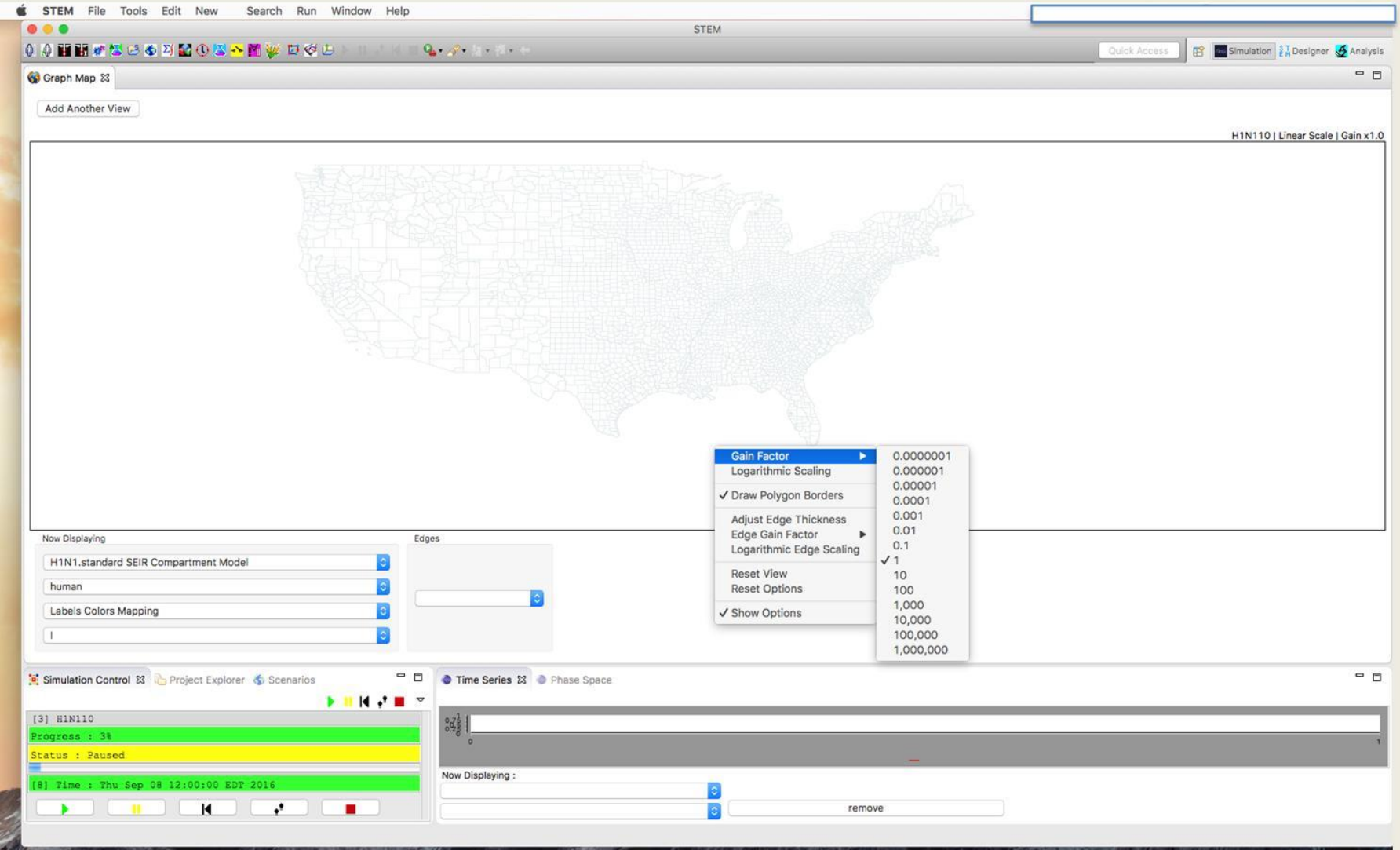
Check the disease and the Name of the folder

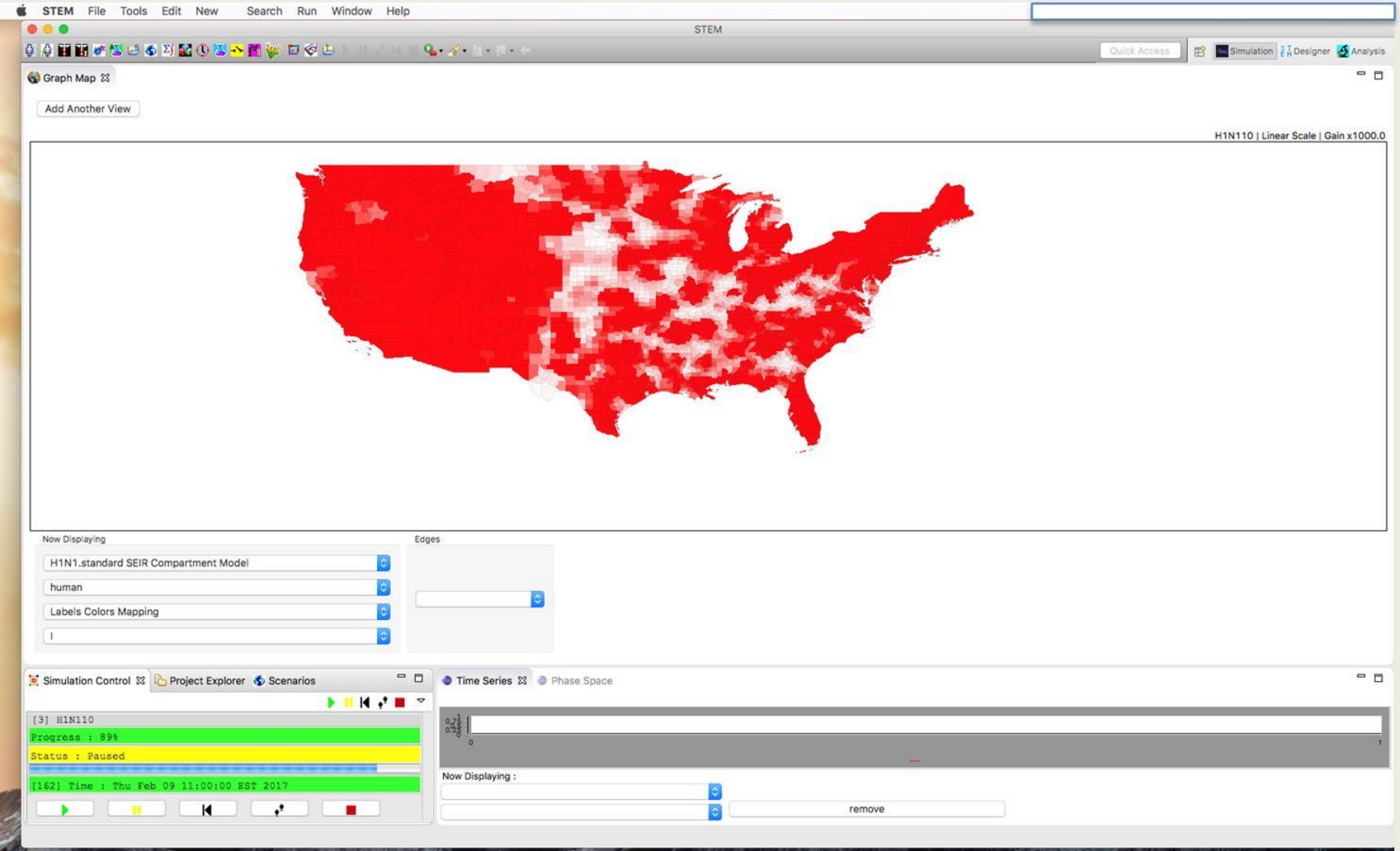
Now you have all you need for a flu scenario…reuse sequencer, solver, put the right Model, add the 10 flu infector, and the 10 flu logger



Now run the model….10 flu…




STEM File Tools Edit New Search Run Window Help
STEM
Quick Access
Simulation
Designer
Analysis
Graph Map
Add Another View
H1N110 | Linear Scale | Gain x1.0
Gain Factor
Logarithmic Scaling
Draw Polygon Borders
Adjust Edge Thickness
Edge Gain Factor
Logarithmic Edge Scaling
Reset View
Reset Options
Show Options
0.0000001
0.000001
0.00001
0.0001
0.001
0.01
0.1
1
10
100
1,000
10,000
100,000
1,000,000
Now Displaying
H1N1.standard SEIR Compartment Model
human
Labels Colors Mapping
I
Edges
Simulation Control
Project Explorer
Scenarios
[3] H1N110
Progress : 3%
Status : Paused
[8] Time : Thu Sep 08 12:00:00 EDT 2016
Time Series
Phase Space
Now Displaying :
remove


STEM File Tools Edit New Search Run Window Help
STEM
Quick Access
Simulation
Designer
Analysis
Graph Map
Add Another View
H1N110 | Linear Scale | Gain x1000.0
Now Displaying
H1N1.standard SEIR Compartment Model
human
Labels Colors Mapping
I
Edges
Simulation Control
Project Explorer
Scenarios
[3] H1N110
Progress : 89%
Status : Paused
[162] Time : Thu Feb 09 11:00:00 EST 2017
Time Series
Phase Space
Now Displaying :
remove

Here you can really see how the “Gain” changes the picture…you can see how The disease spreads