Creating a Hybrid Agent-Based and Network (Patient-Flow) Model

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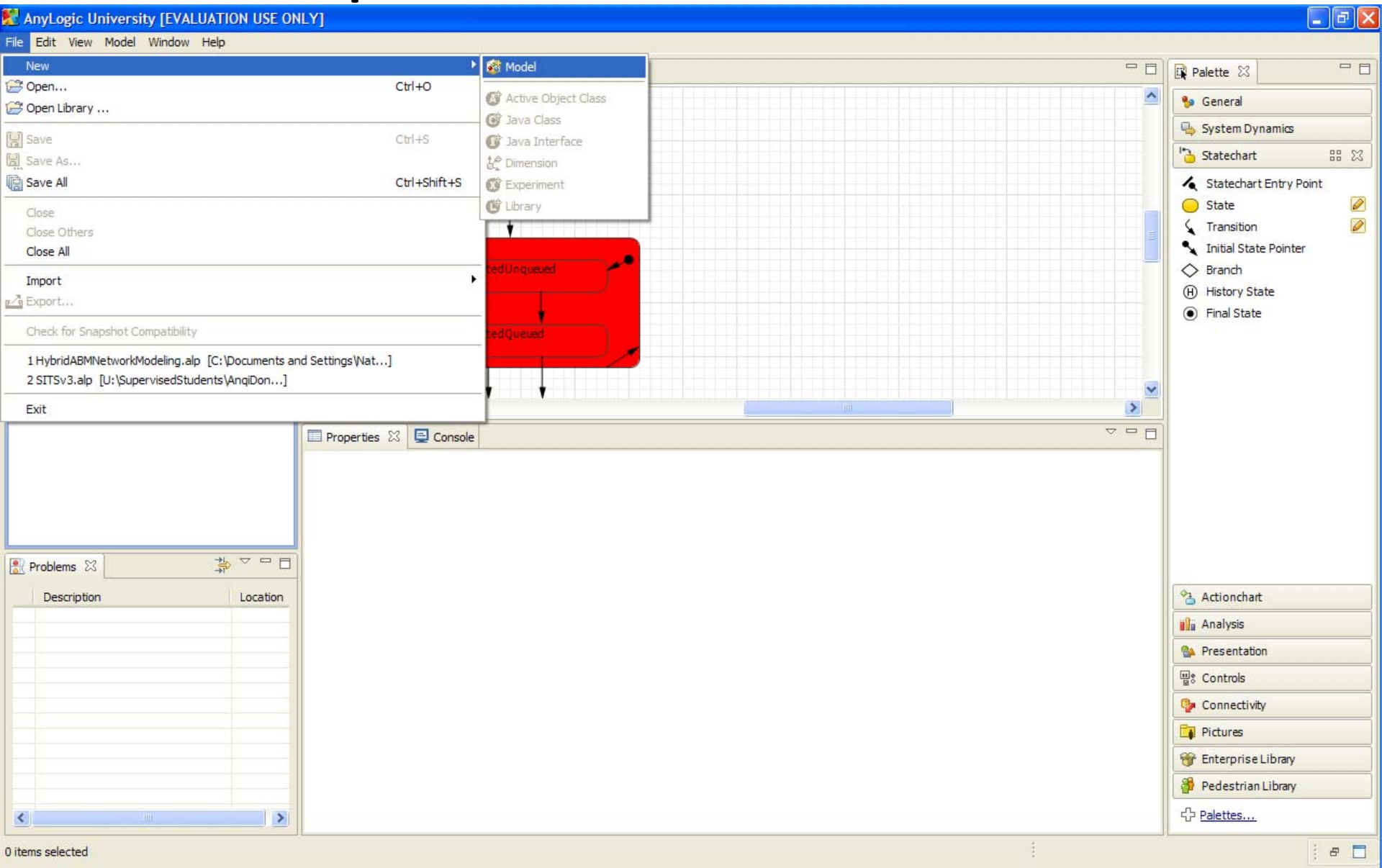
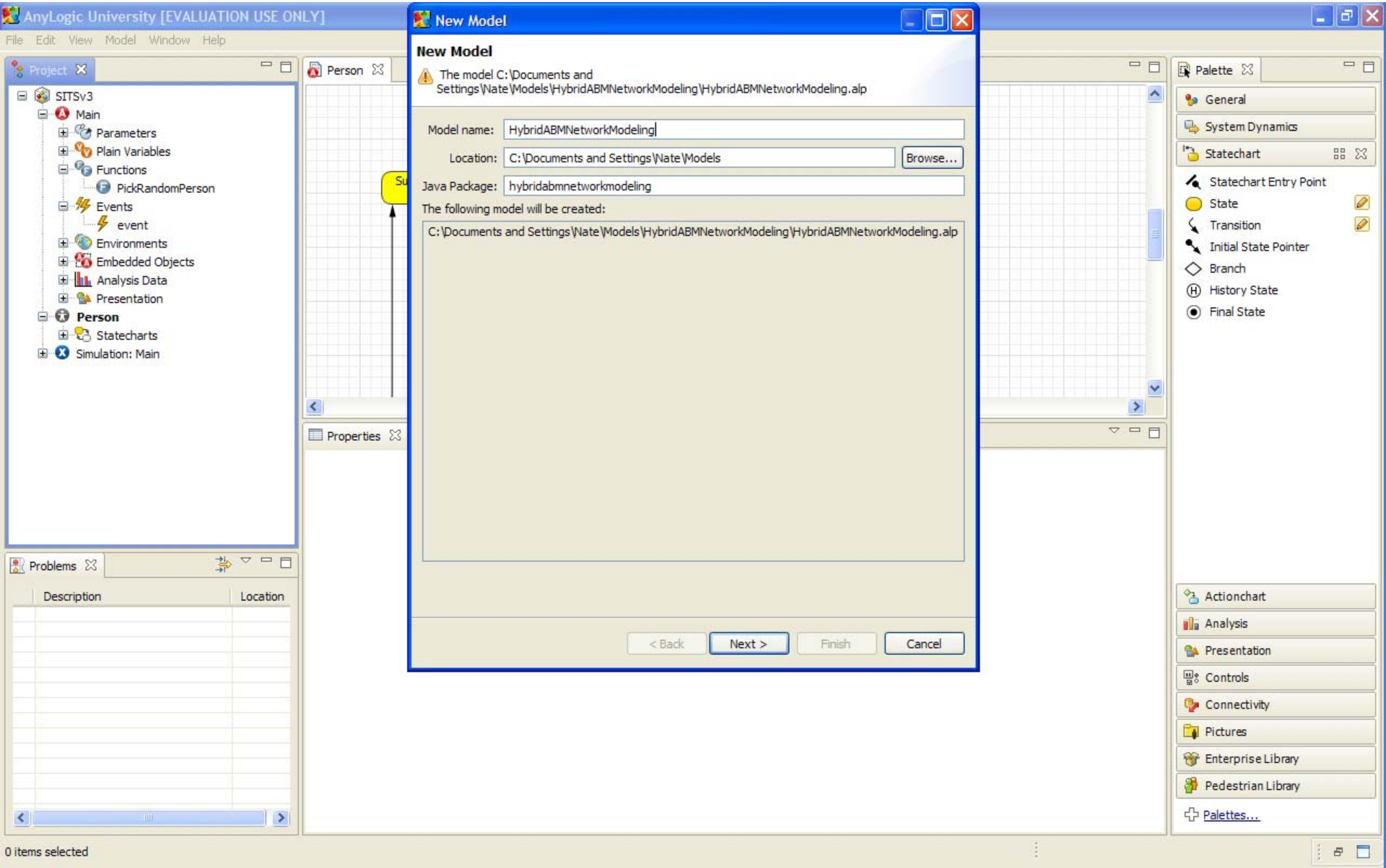
11-7-2009

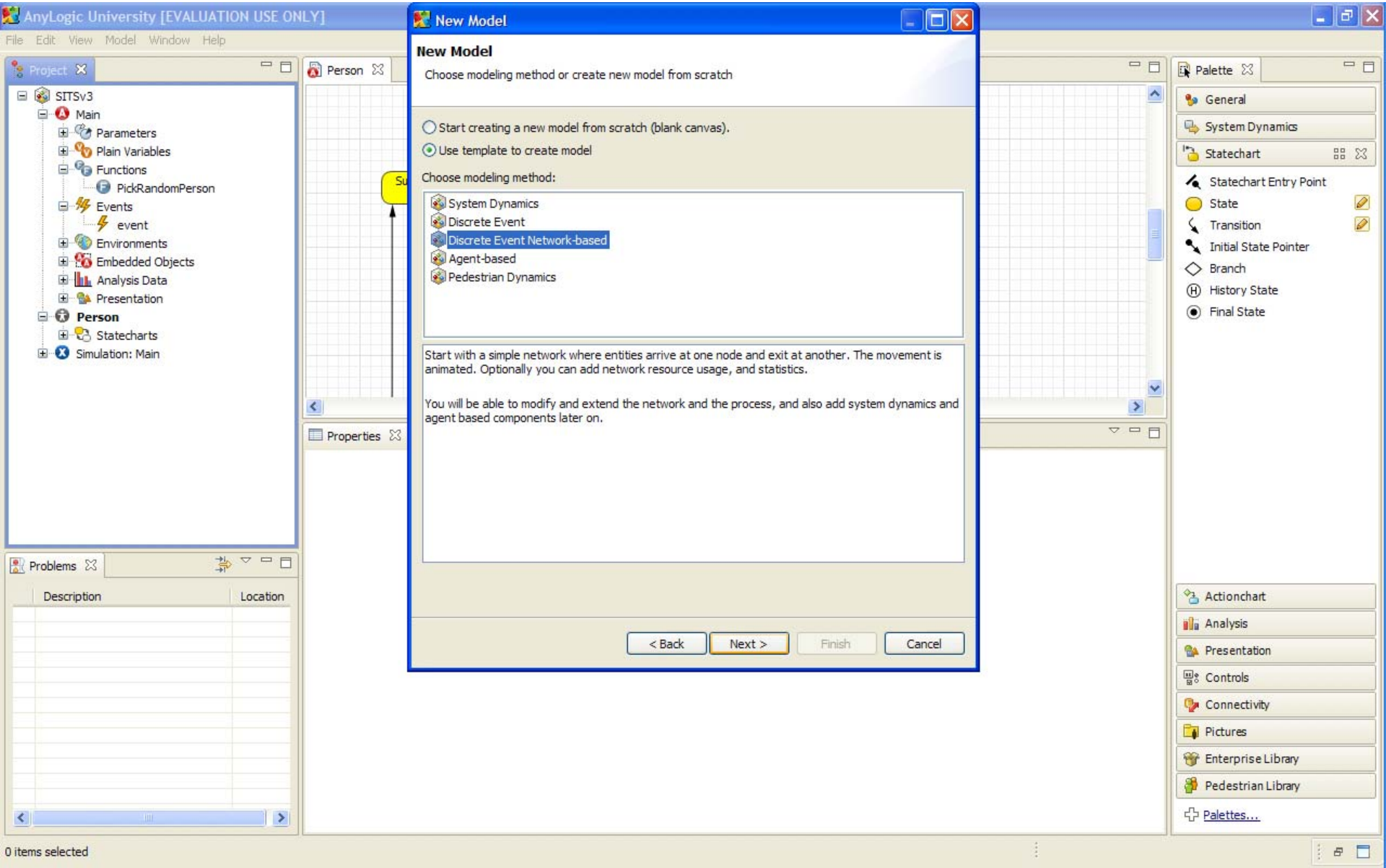
Request to Create a Model



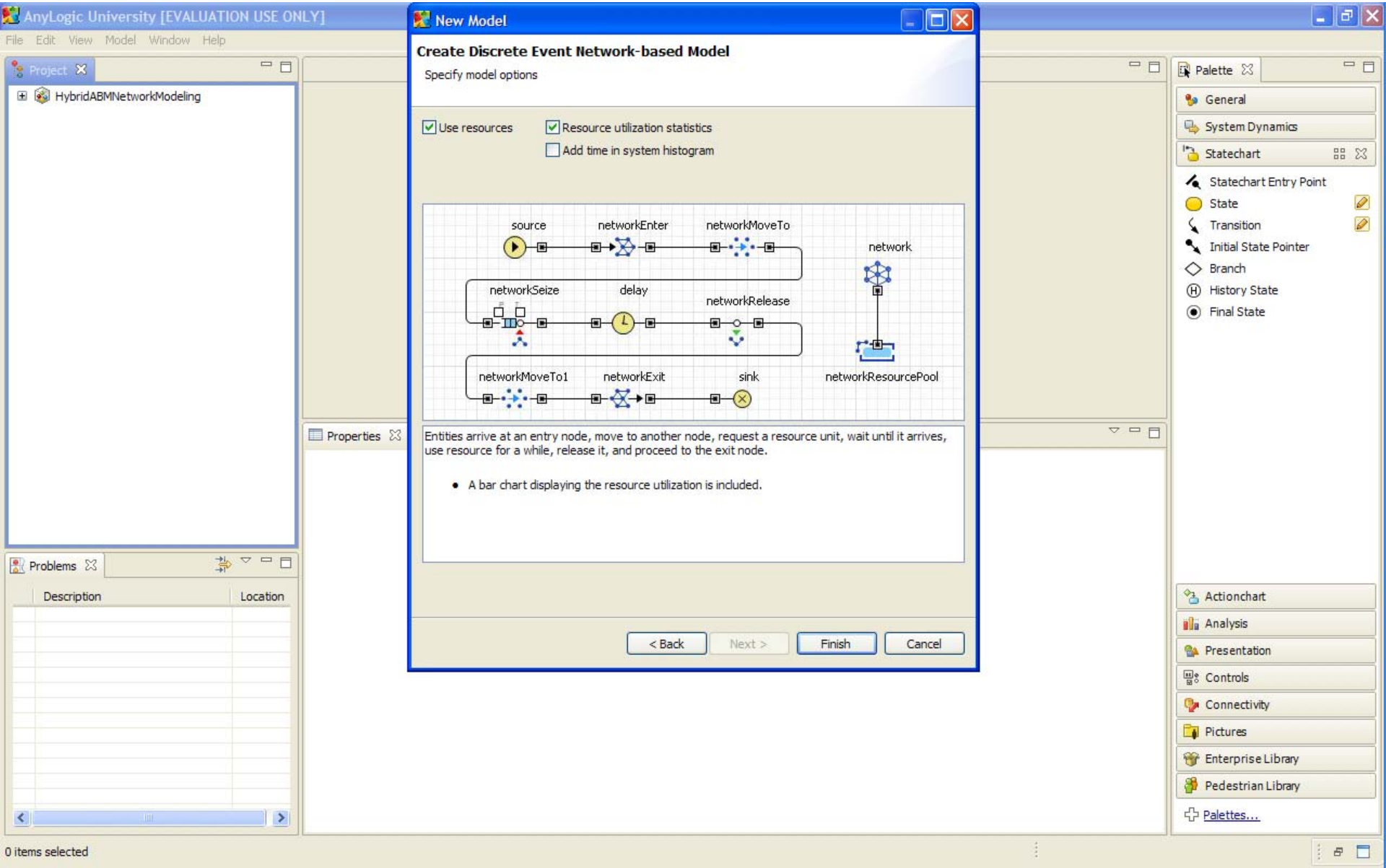
Give the Model A Name



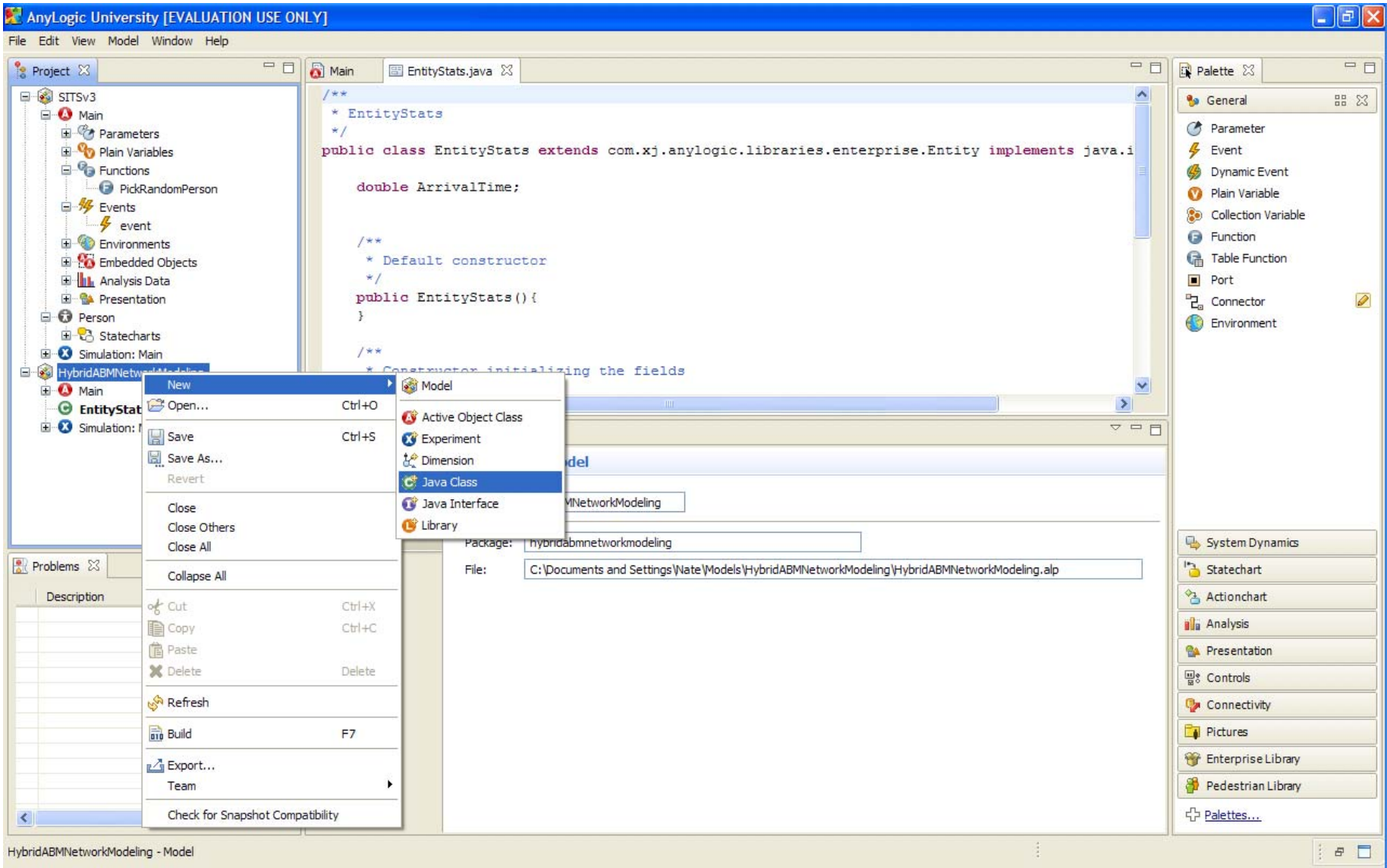
Indicate that this is to be a Network Model



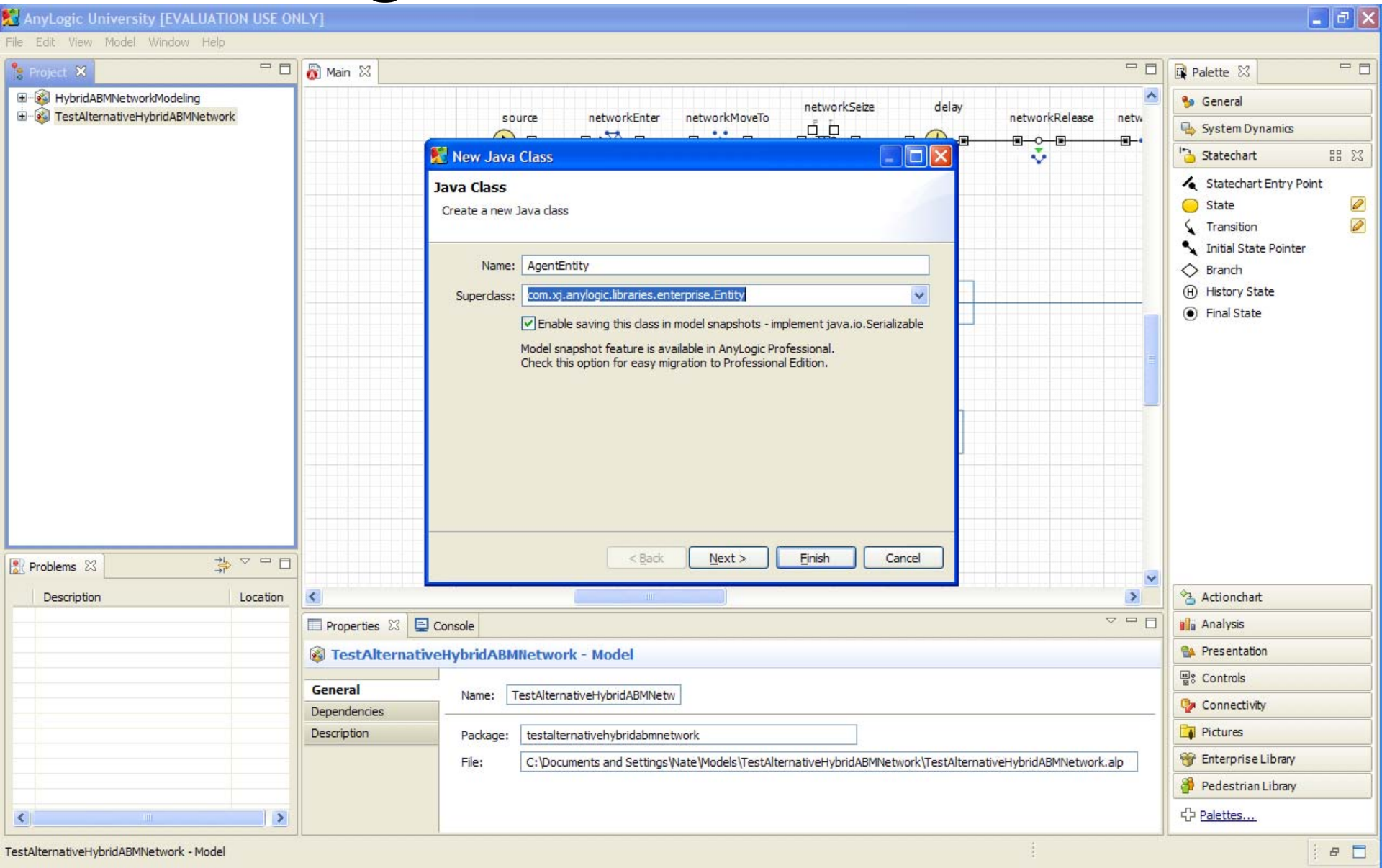
Create a Model without Statistics



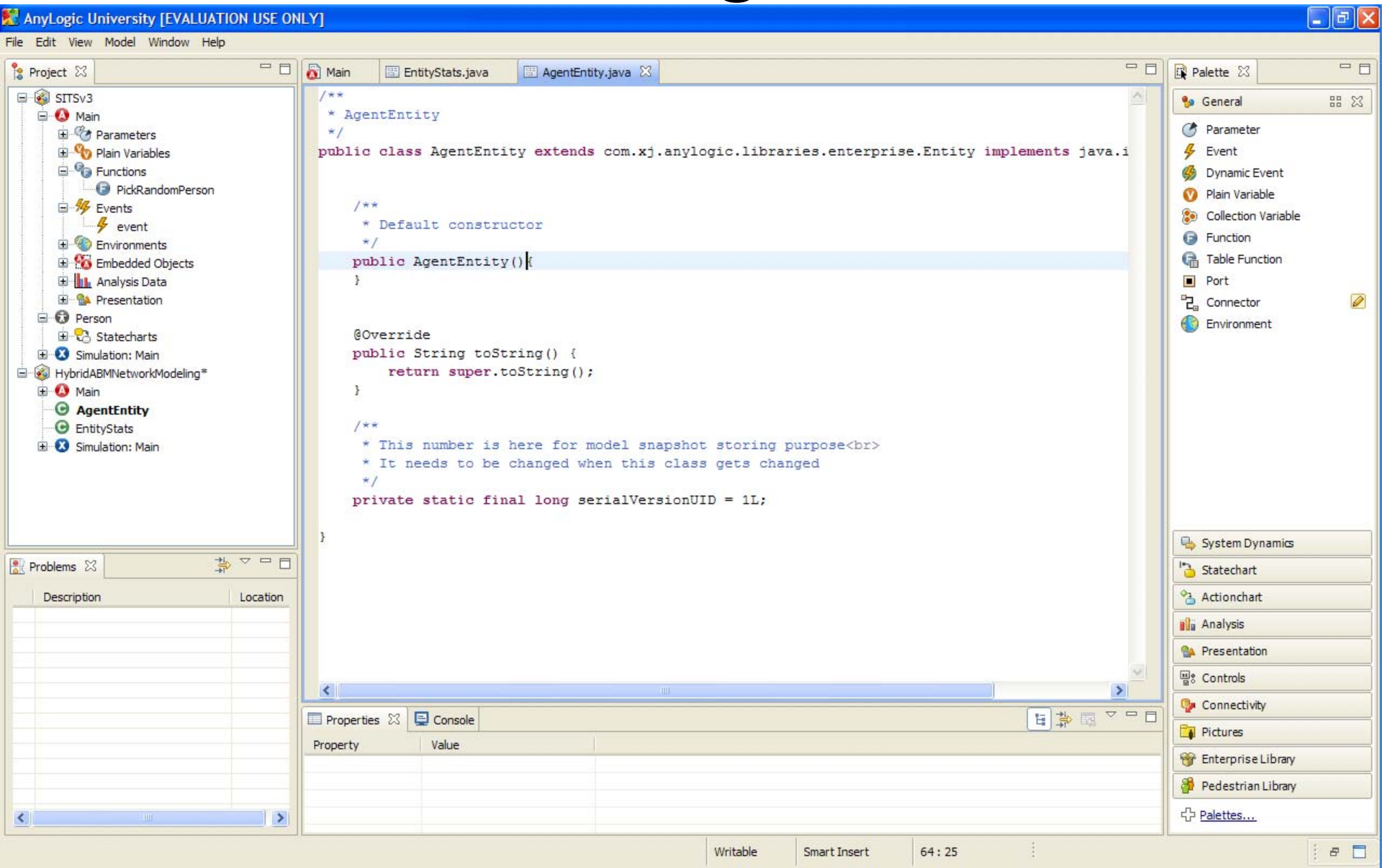
Add a Class


AnyLogic University [EVALUATION USE ONLY]
File Edit View Model Window Help
Project
SITSv3
Main
Parameters
Plain Variables
Functions
PickRandomPerson
Events
event
Environments
Embedded Objects
Analysis Data
Presentation
Person
Statecharts
Simulation: Main
Main
EntityStats.java
/**
* EntityStats
*/
public class EntityStats extends com.xj.anylogic.libraries.enterprise.Entity implements java.i
double ArrivalTime;
/**
* Default constructor
*/
public EntityStats(){
}
/**
* Constructor initializing the fields
New
Open... Ctrl+O
Save Ctrl+S
Save As...
Revert
Close
Close Others
Close All
Collapse All
Cut Ctrl+X
Copy Ctrl+C
Paste
Delete Delete
Refresh
Build F7
Export...
Team
Check for Snapshot Compatibility
Model
Active Object Class
Experiment
Dimension
Java Class
Java Interface
Library
Package: hybridabmnetworkmodeling
File: C:\Documents and Settings\Nate\Models\HybridABMNetworkModeling\HybridABMNetworkModeling.alp
Problems
Description
Palette
General
Parameter
Event
Dynamic Event
Plain Variable
Collection Variable
Function
Table Function
Port
Connector
Environment
System Dynamics
Statechart
Actionchart
Analysis
Presentation
Controls
Connectivity
Pictures
Enterprise Library
Pedestrian Library
Palettes...
HybridABMNetworkModeling - Model

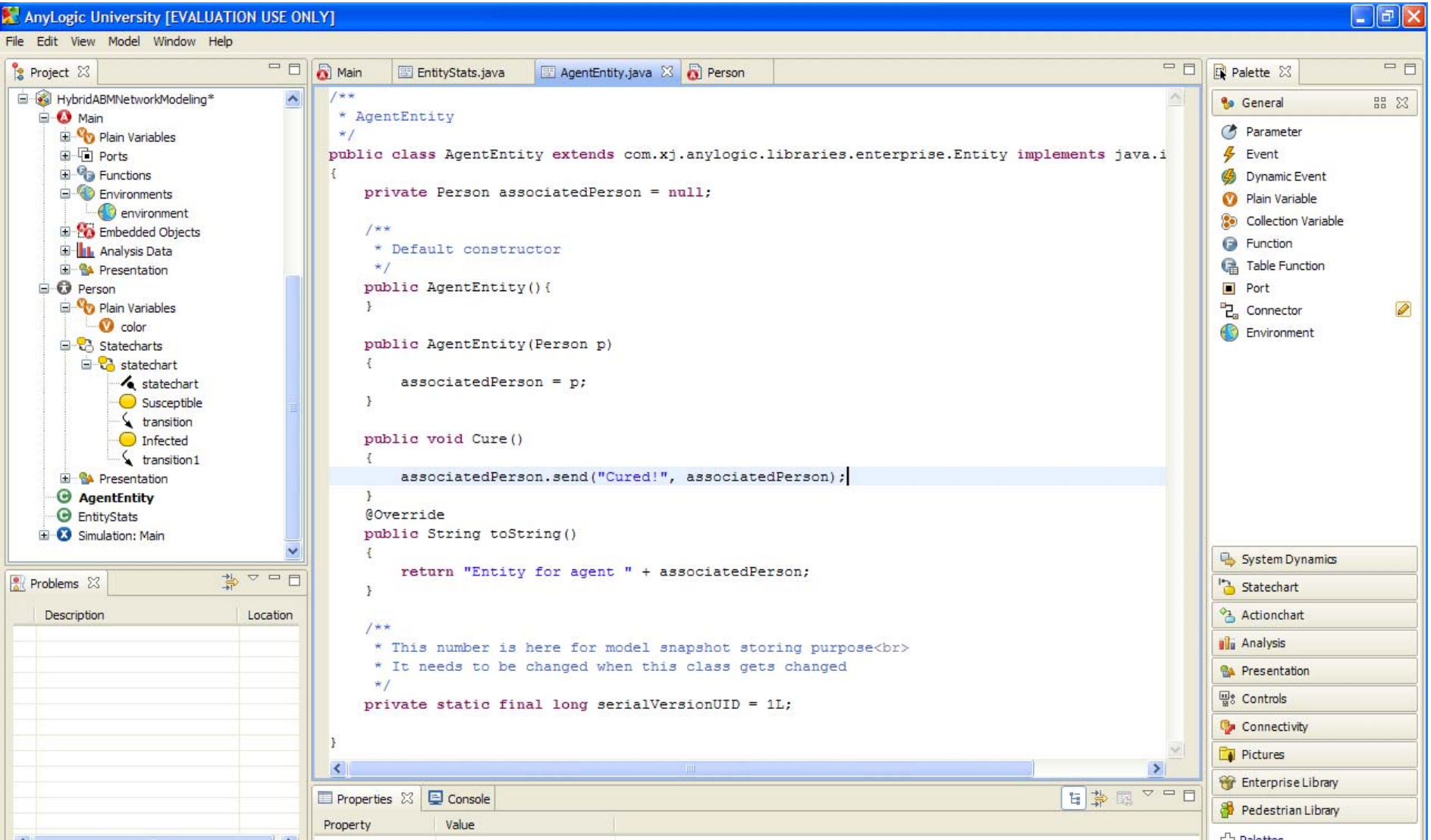
Giving the New Class a Name



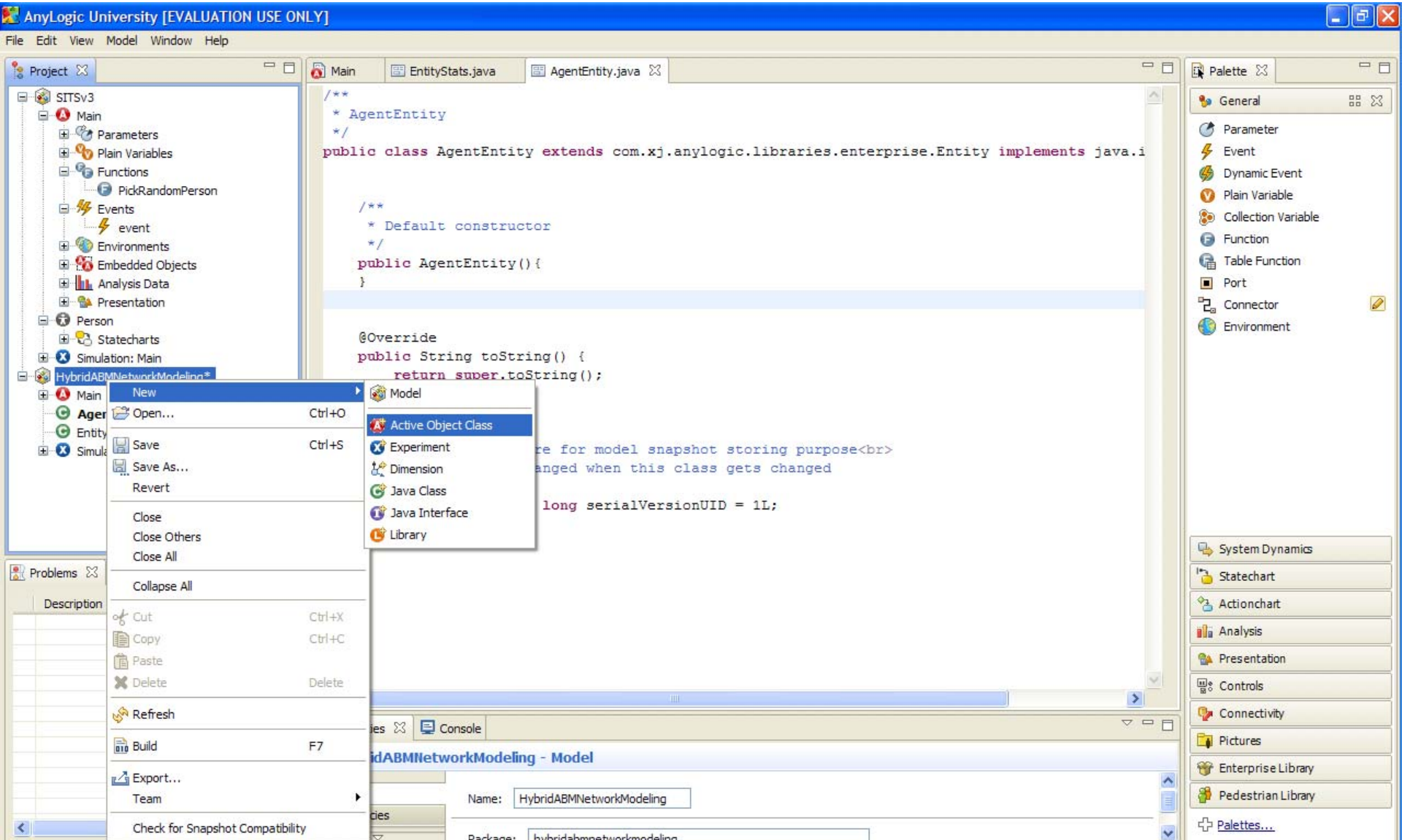
Resulting class



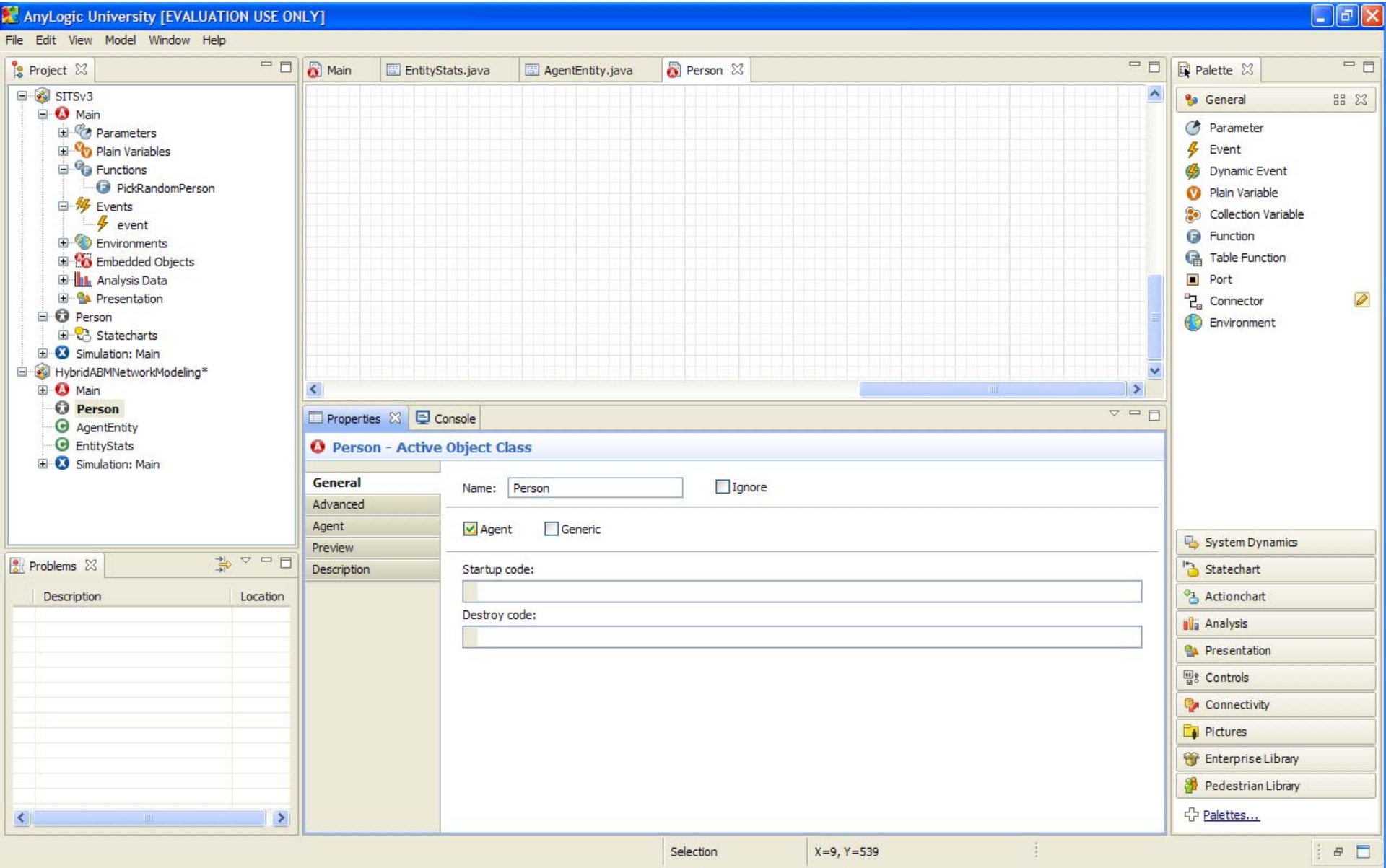
Make the AgentEntity capable of carrying around & curing your Agents



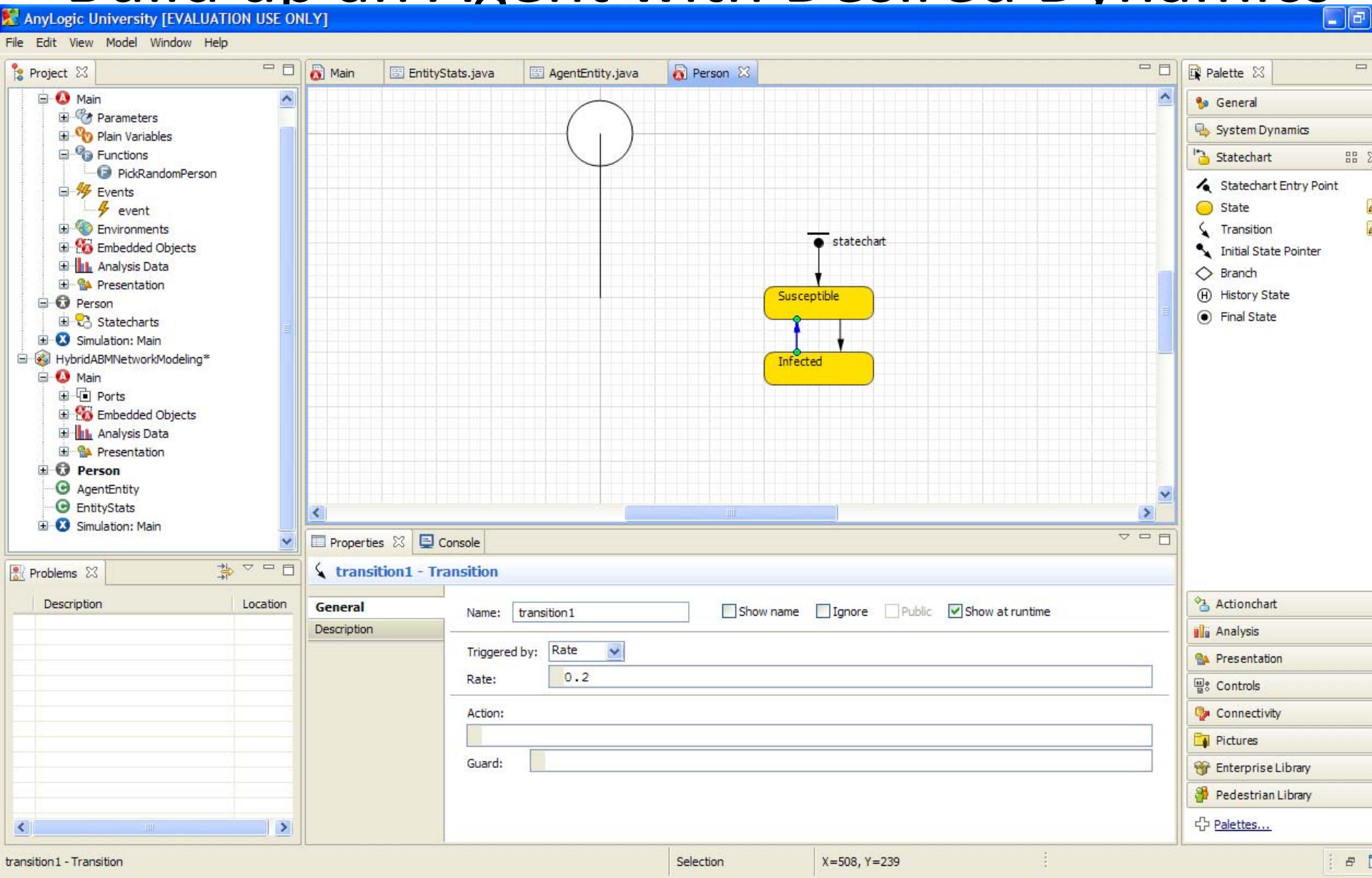
Add Person Active Object class



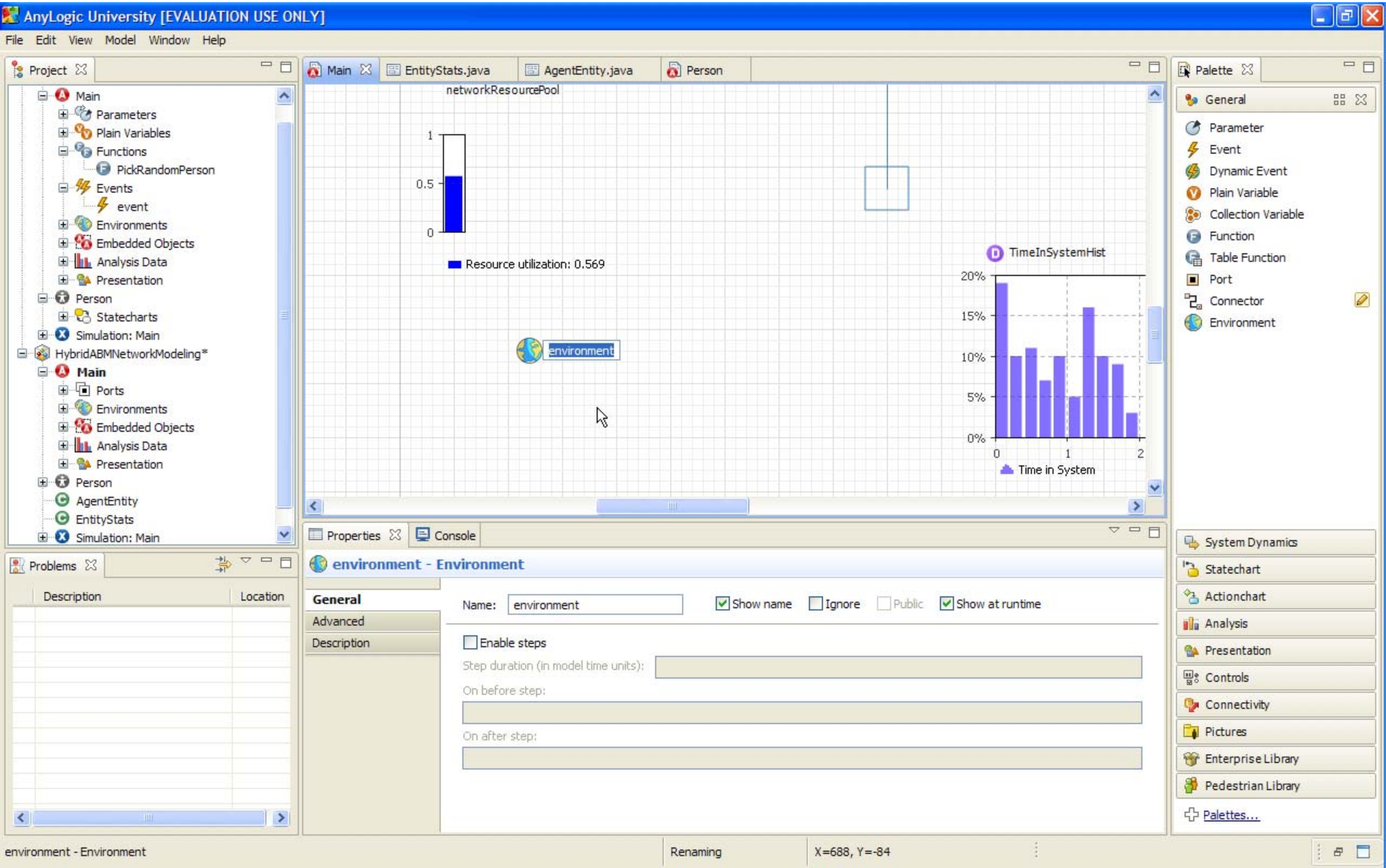
Indicate that the Person is an Agent



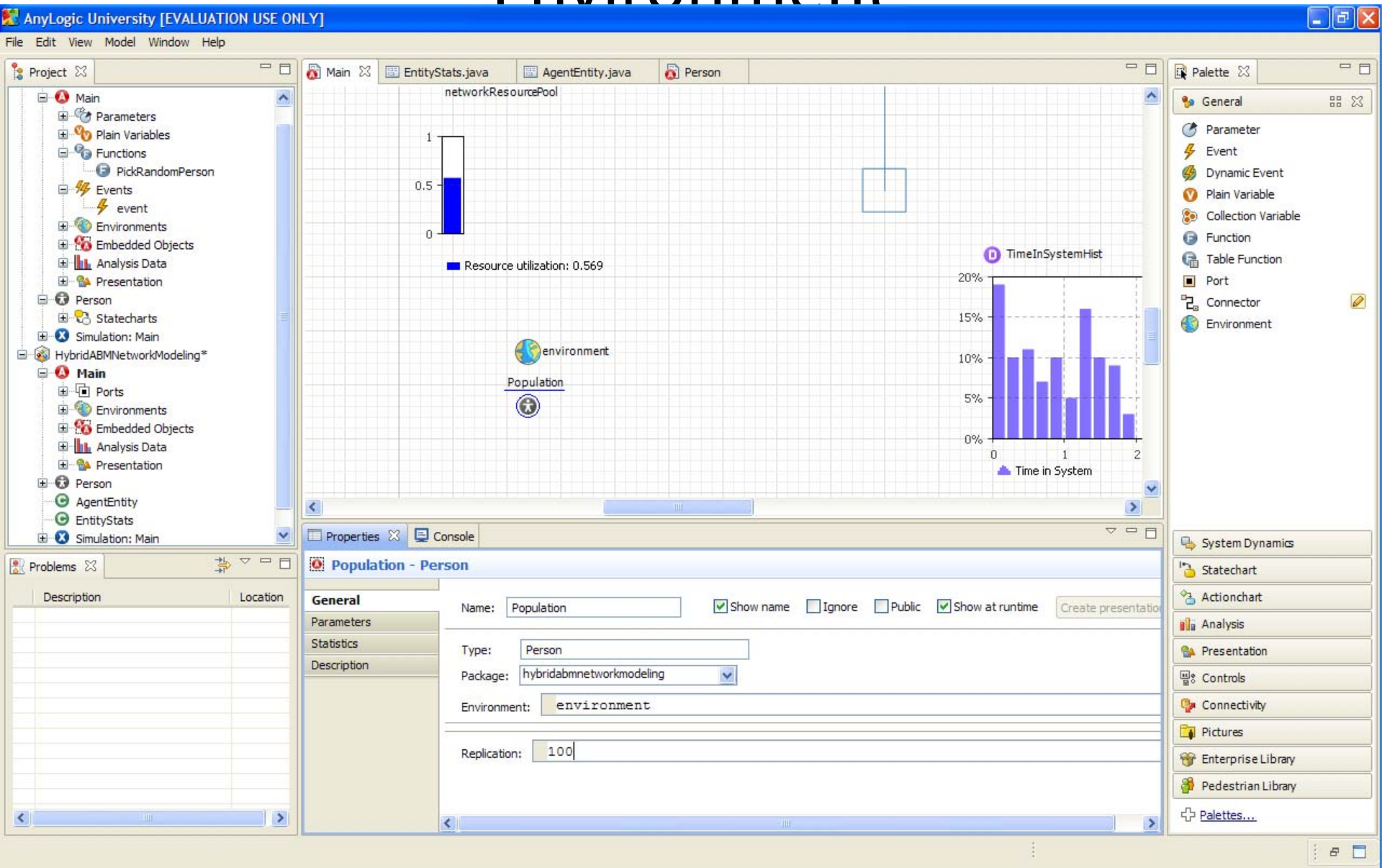
Build up an Agent with Desired Dynamics



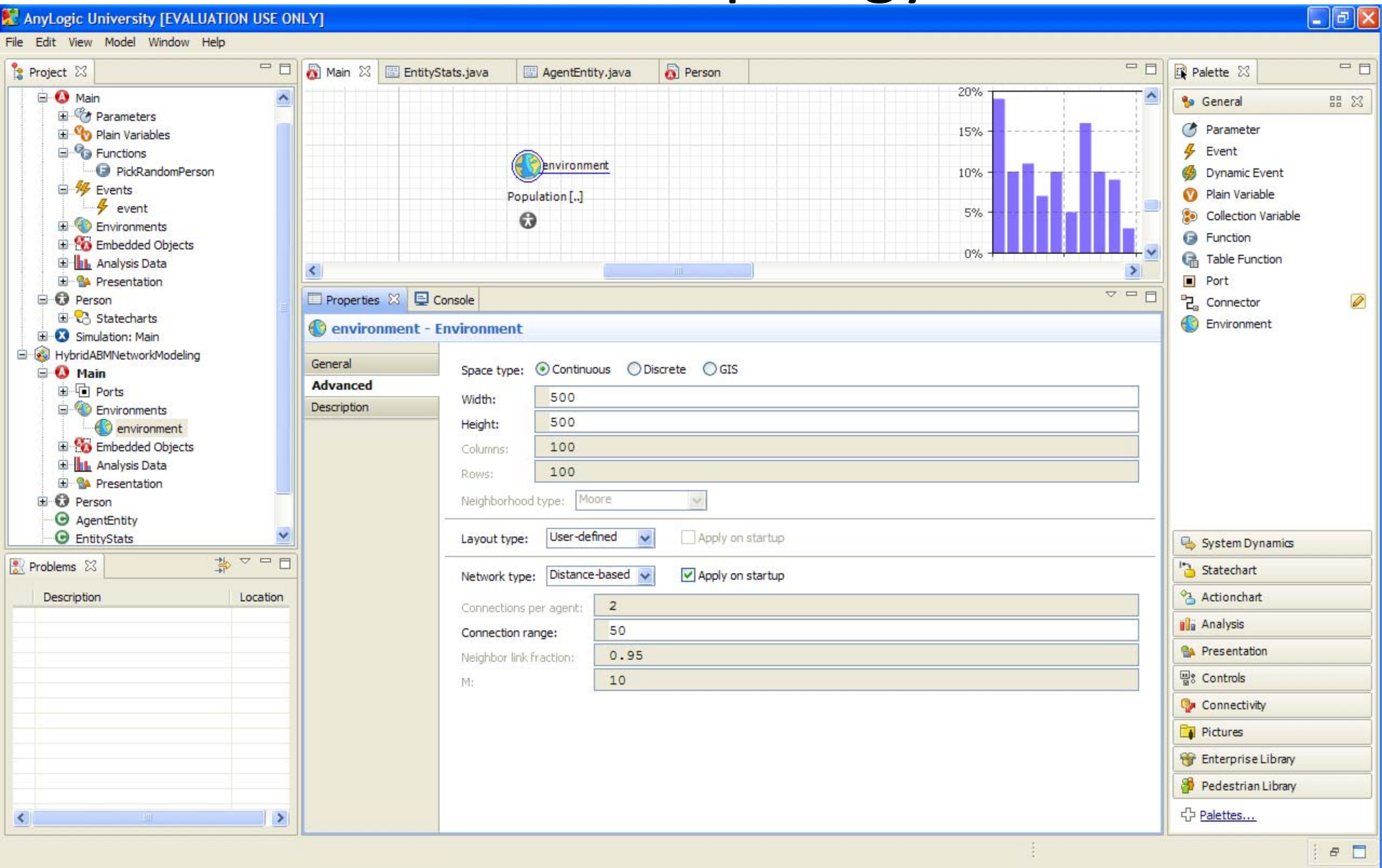
Add an Environment



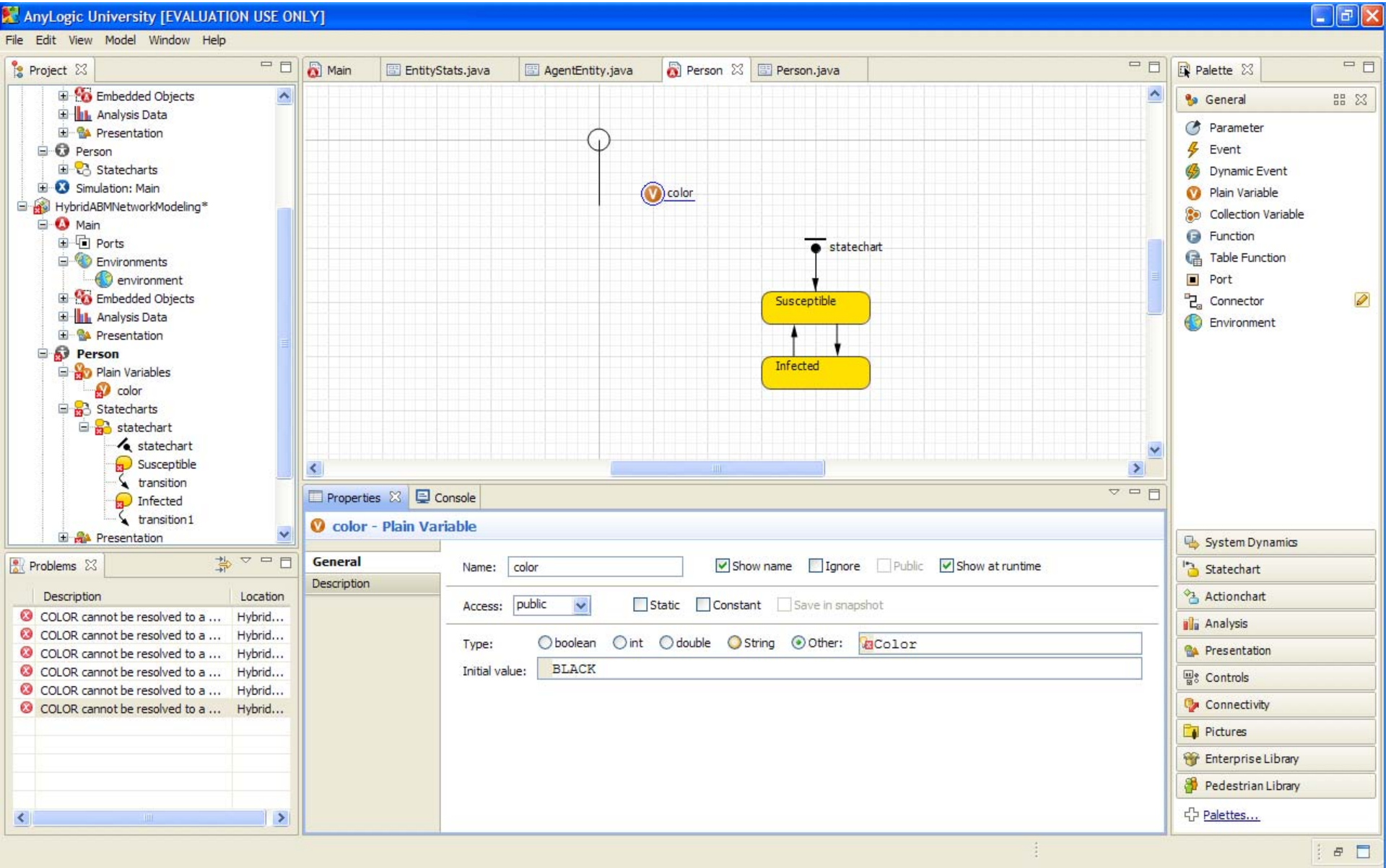
Add a Population & Associate with Environment



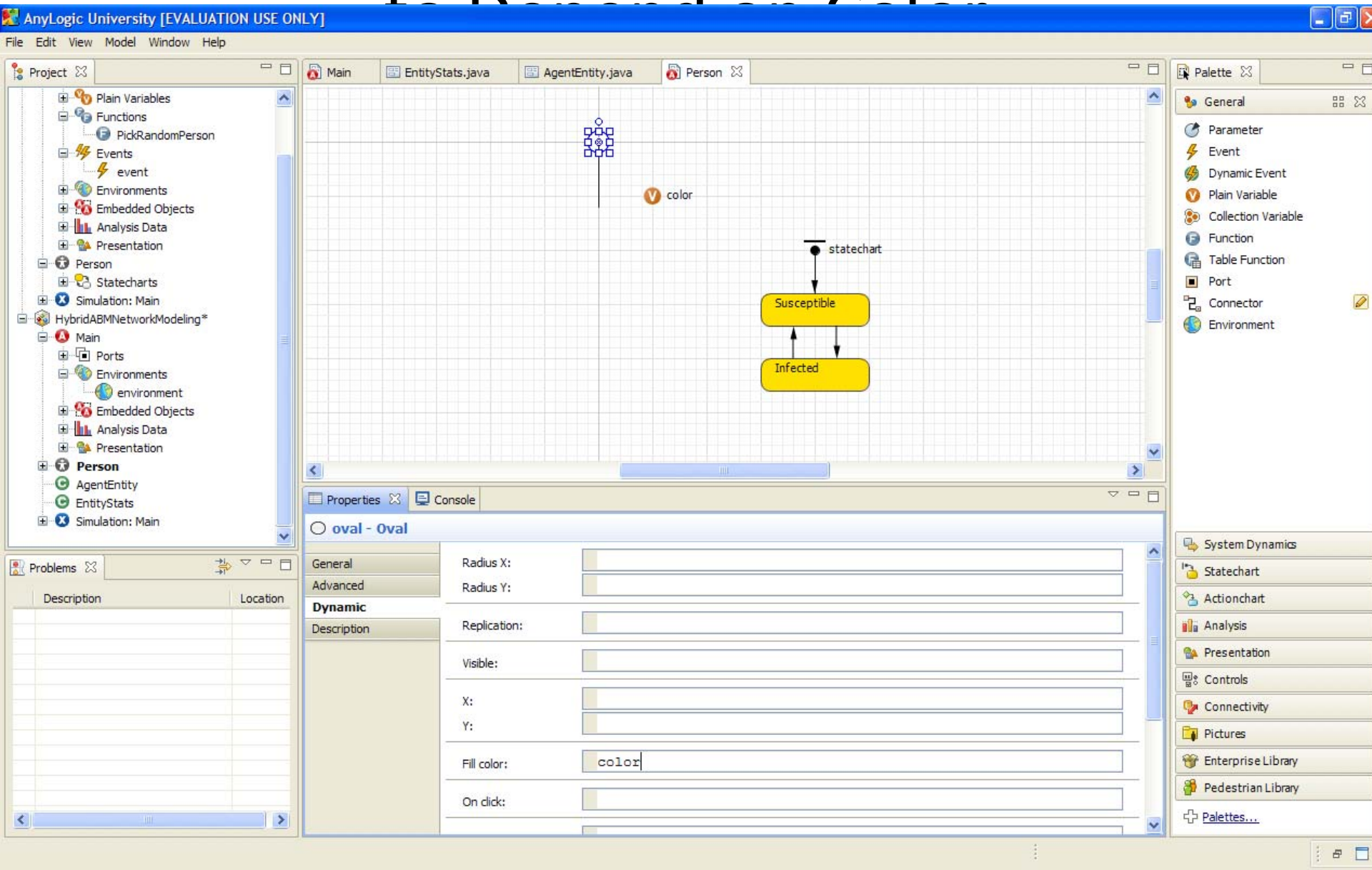
Set Environment to use Distance-Based Topology



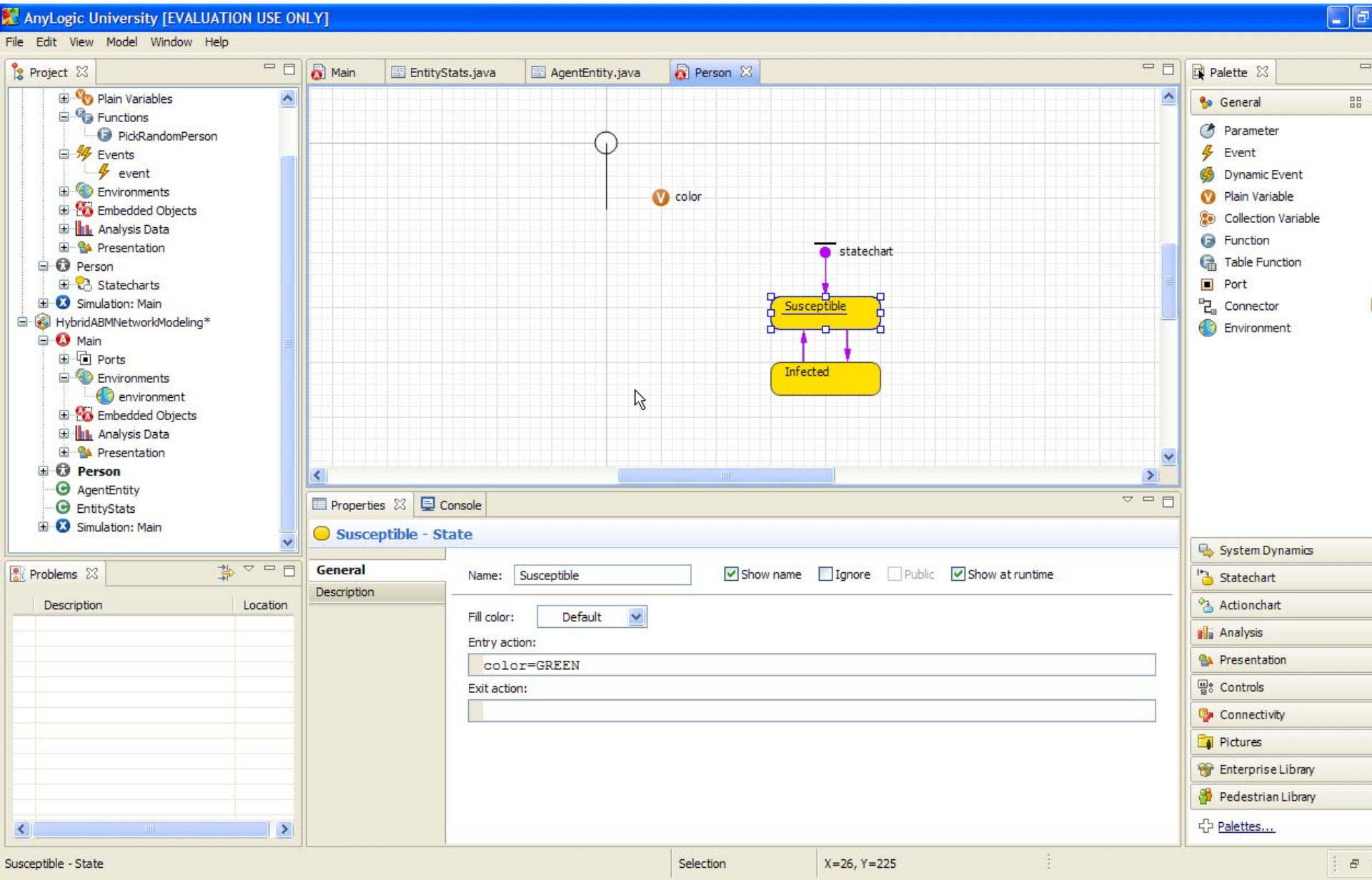
Add a “Color” variable



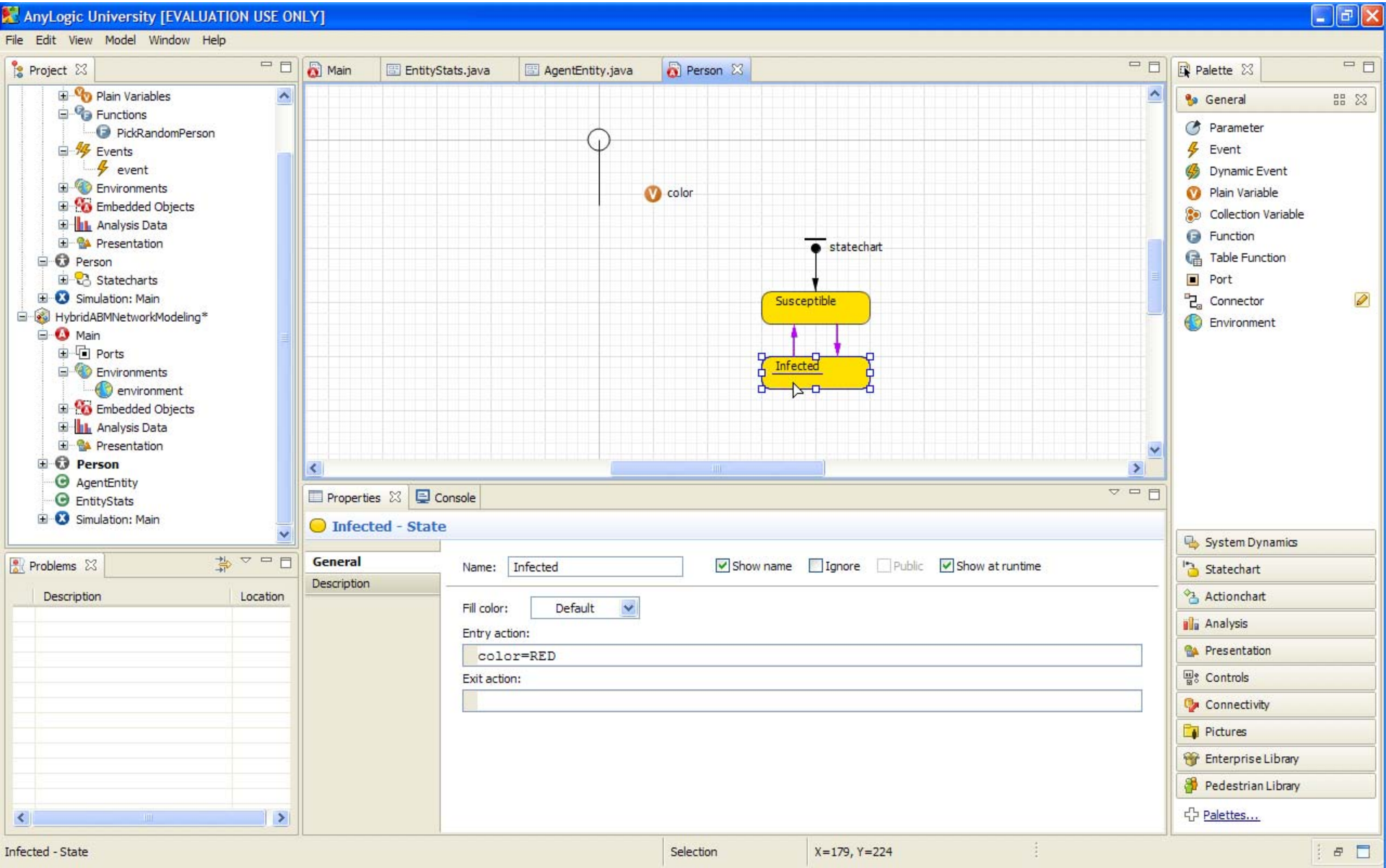
Set Dynamic Property “Color” of Oval to Depend on Color



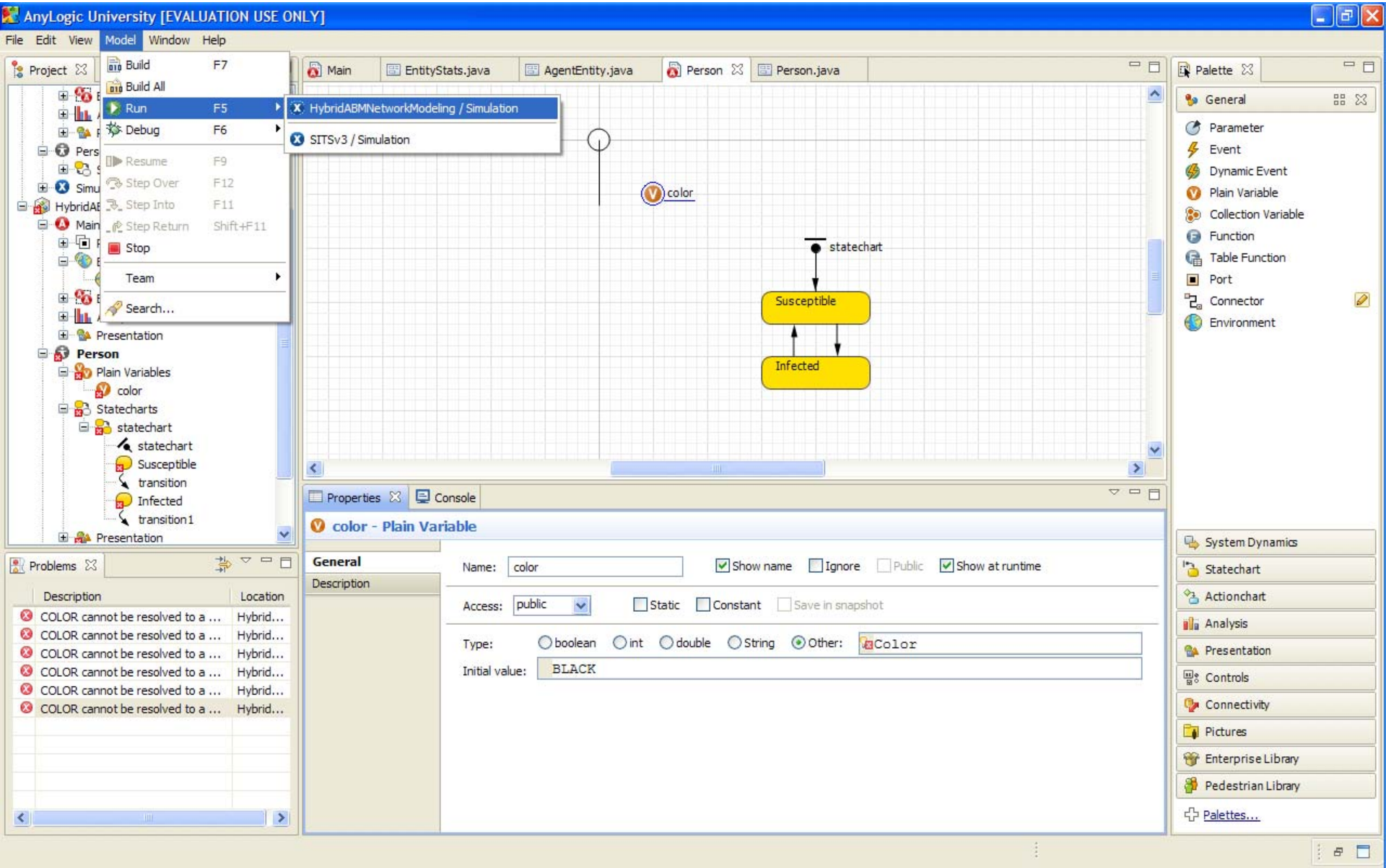
Set “Susceptible” to Turn Color Green



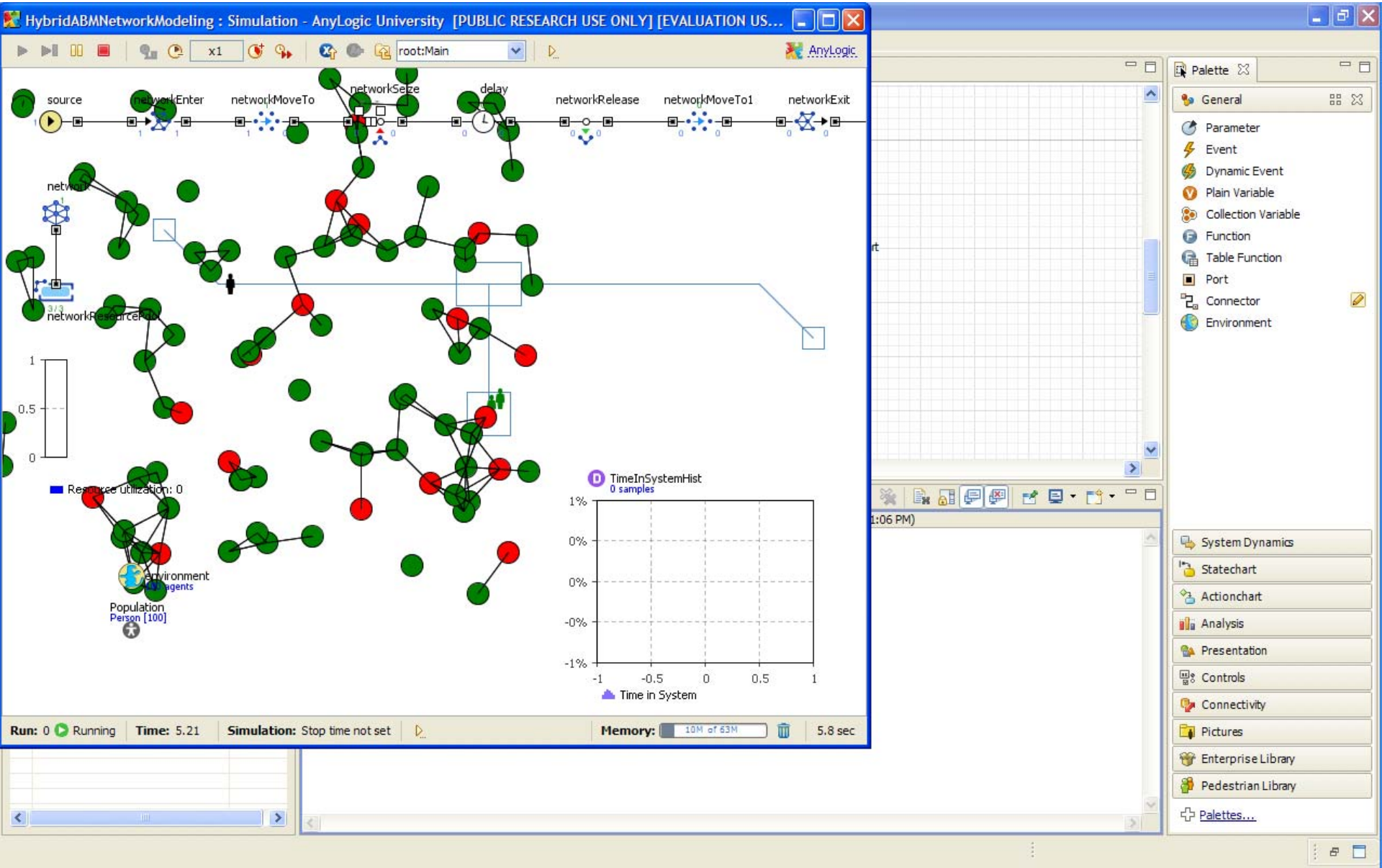
Set “Infected” to Turn Color Red



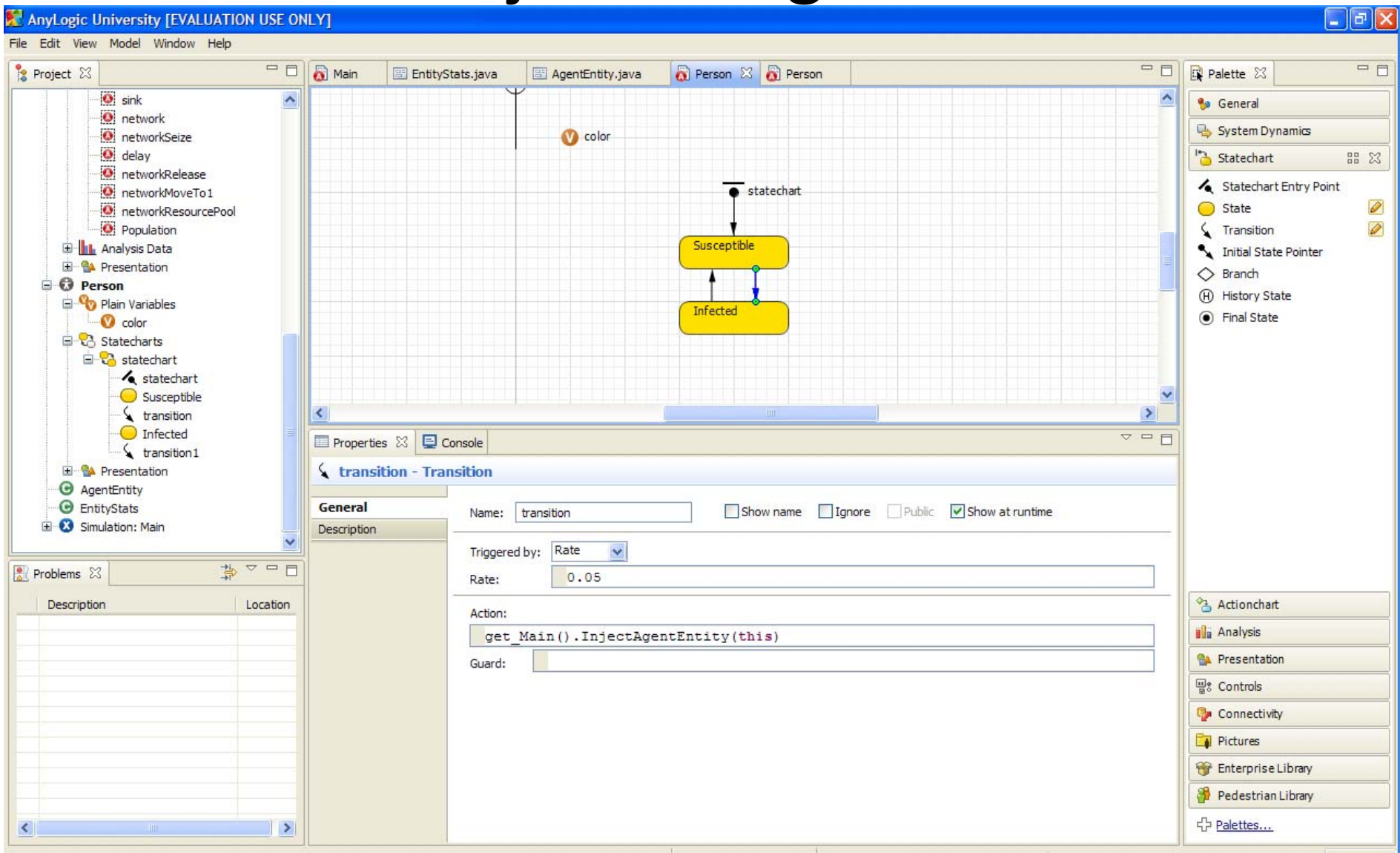
Test the Current Model by Running It



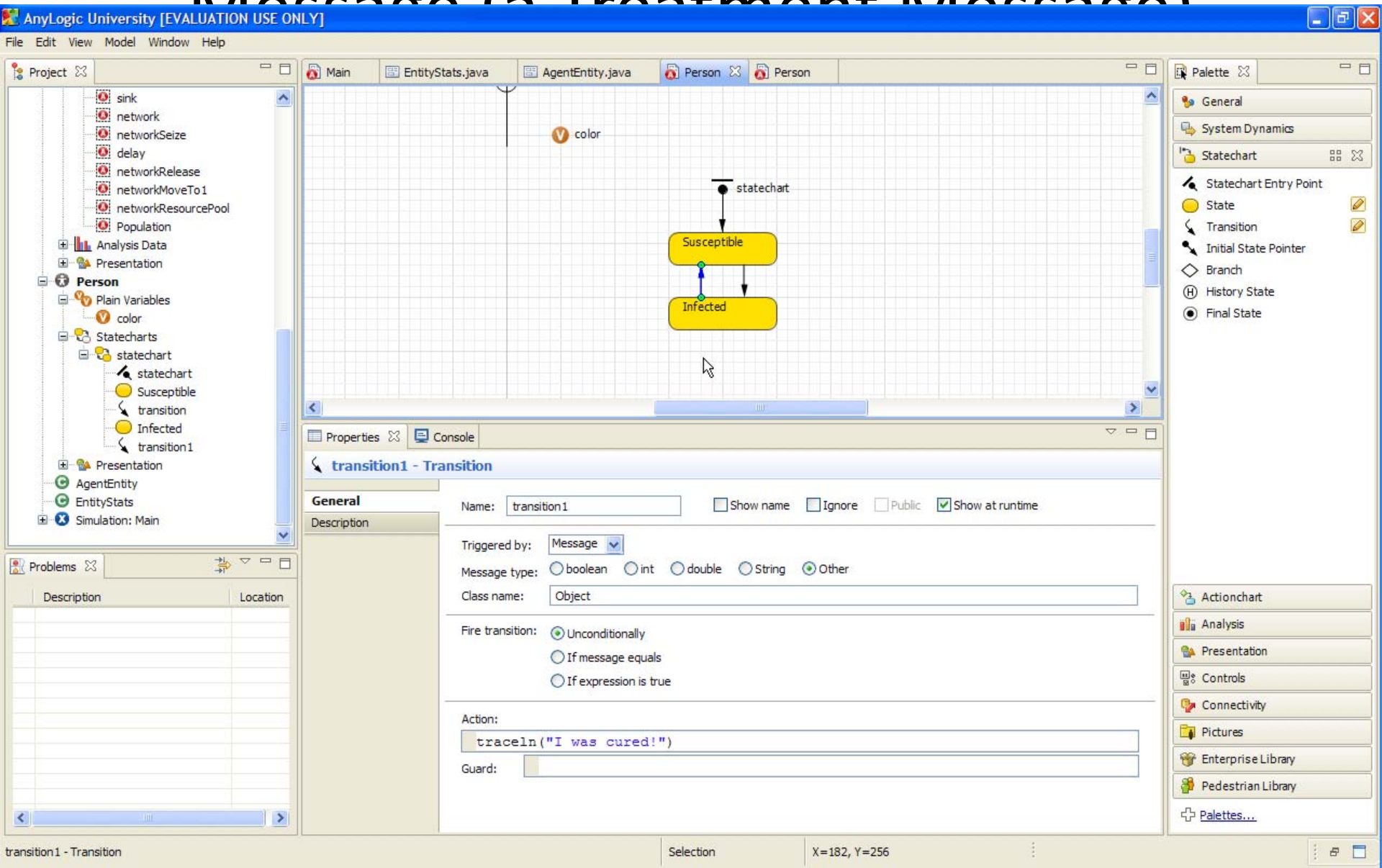
Simultaneous Models – Not Yet Linked!



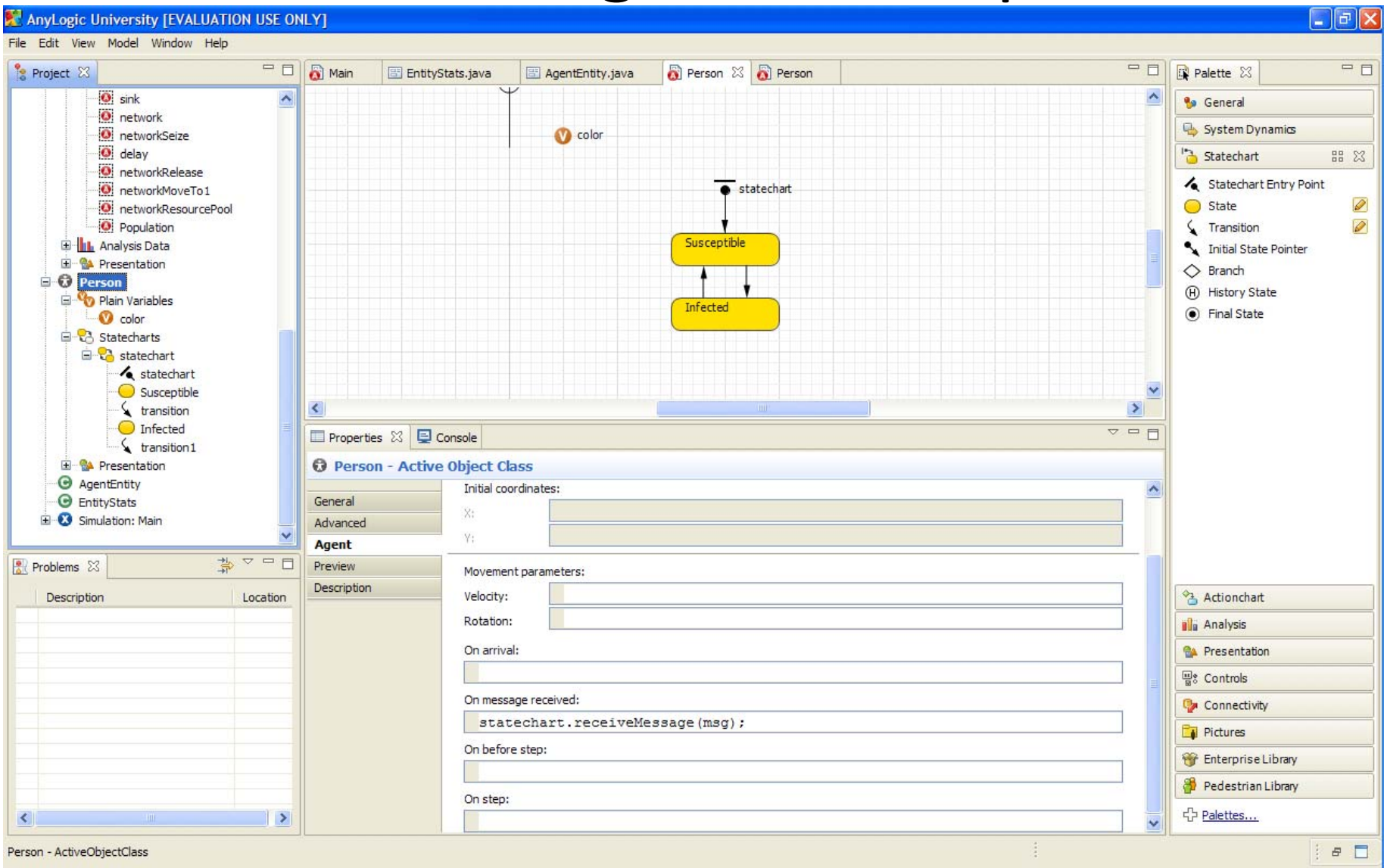
Set Transition to Call a Method to Inject an Agent



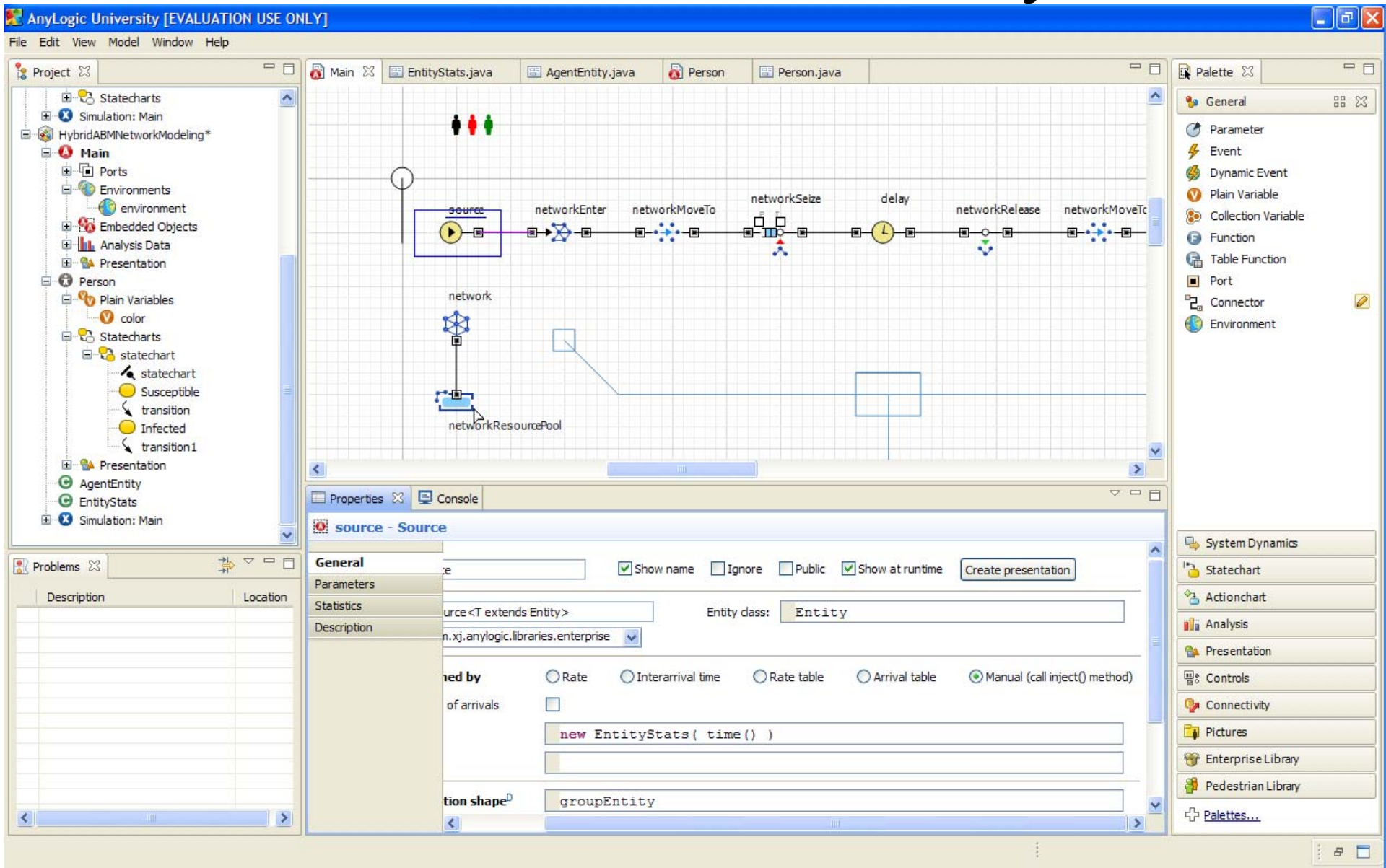
Set “Cure” of Infection to Depend on a Message (a Treatment Message)



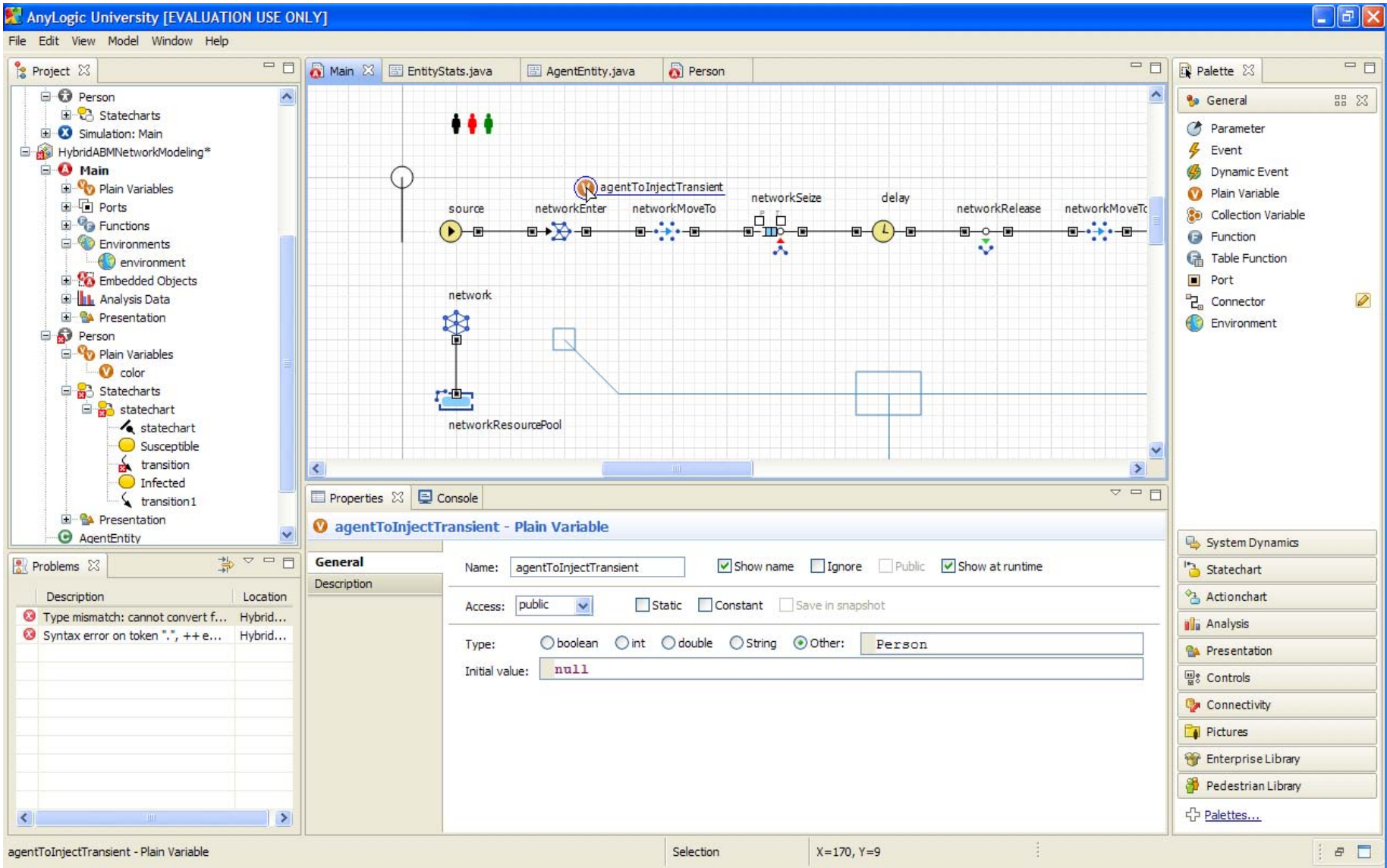
Making Sure the Statechart for “Person” Gets the Message sent to a person



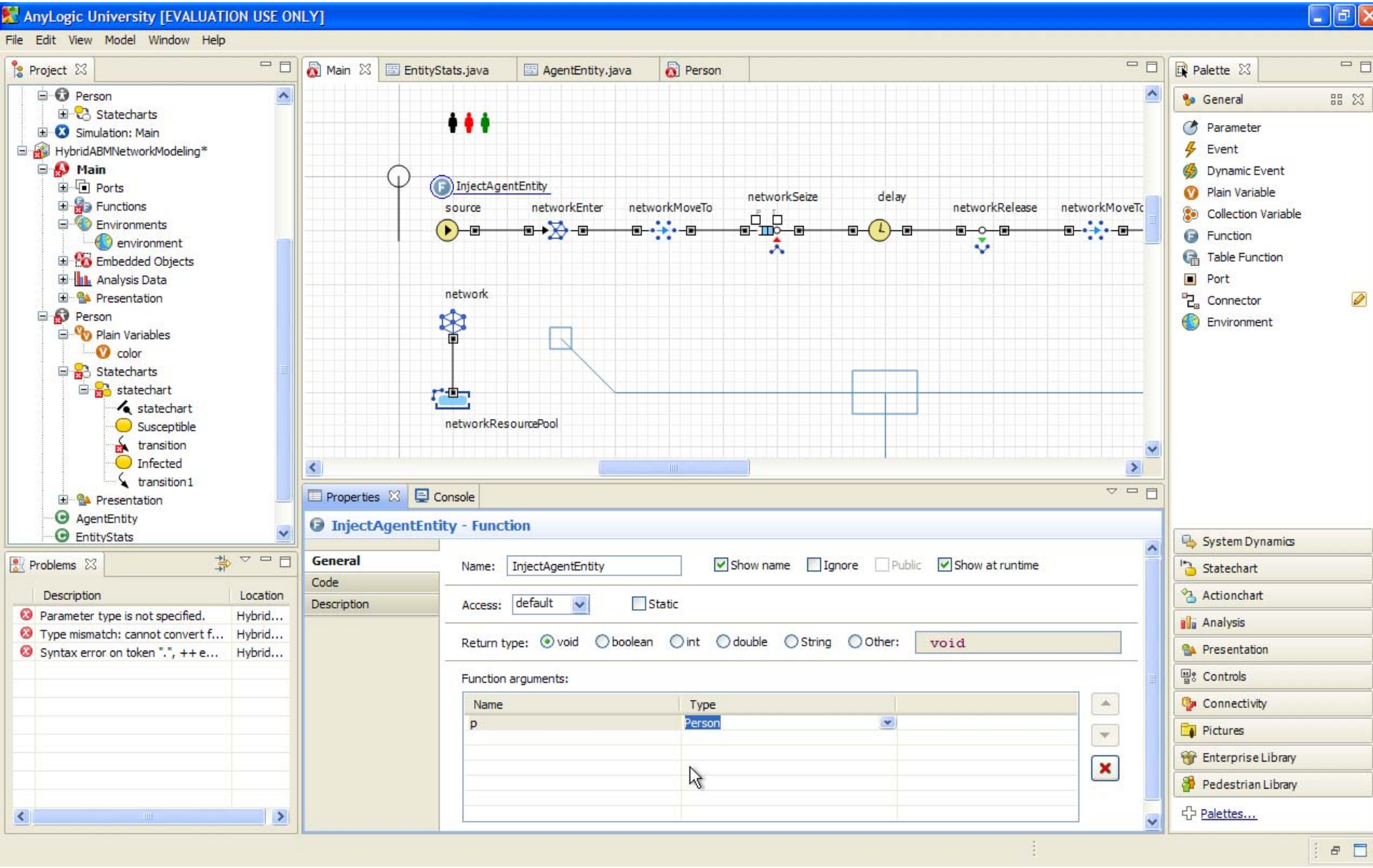
Double Click on Main Object & Select “Source” & Set to Manual Injection



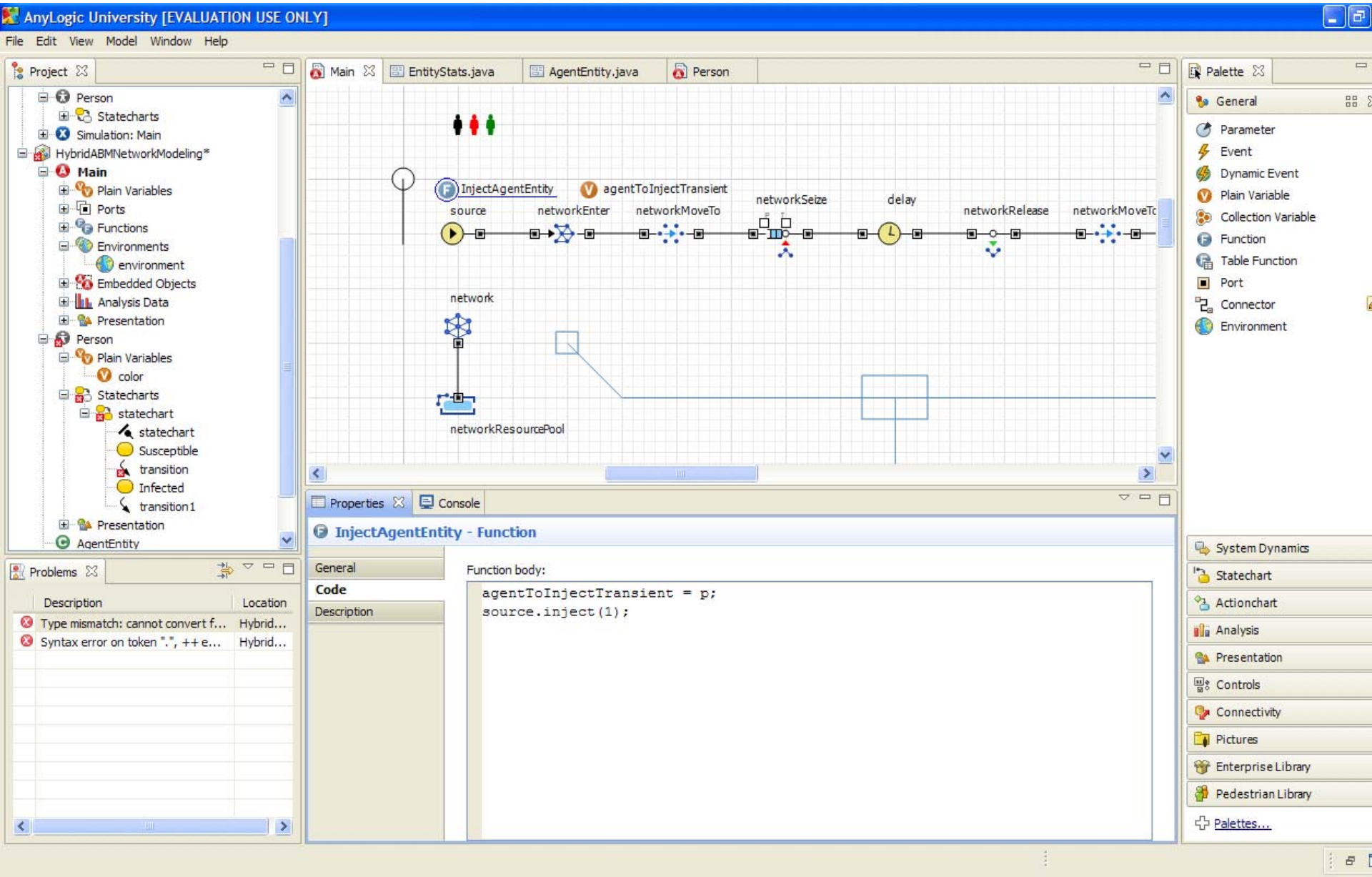
In “Main”, Create a Variable To Inject in the Movement Network



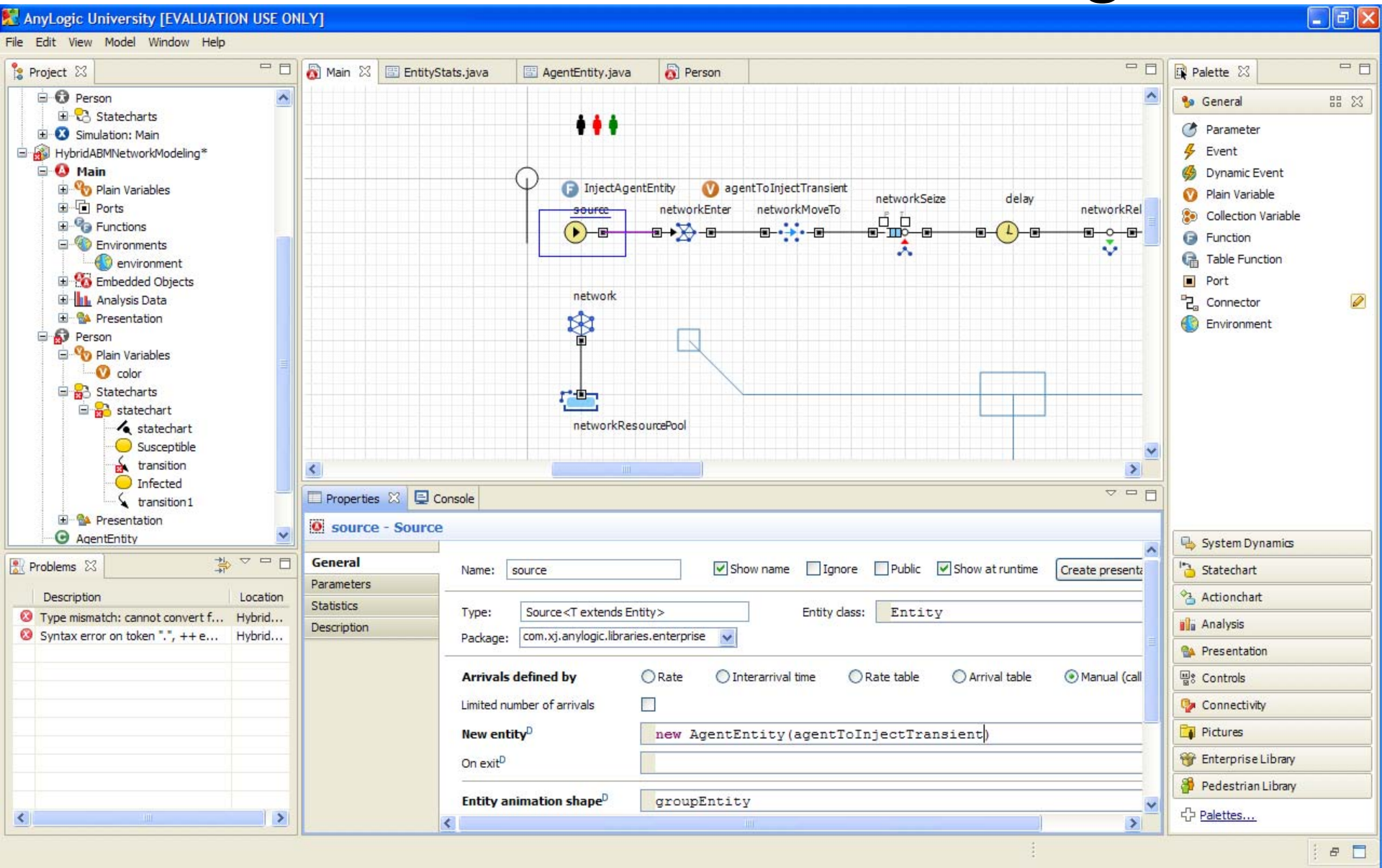
Create Function in “Main”: Part 1



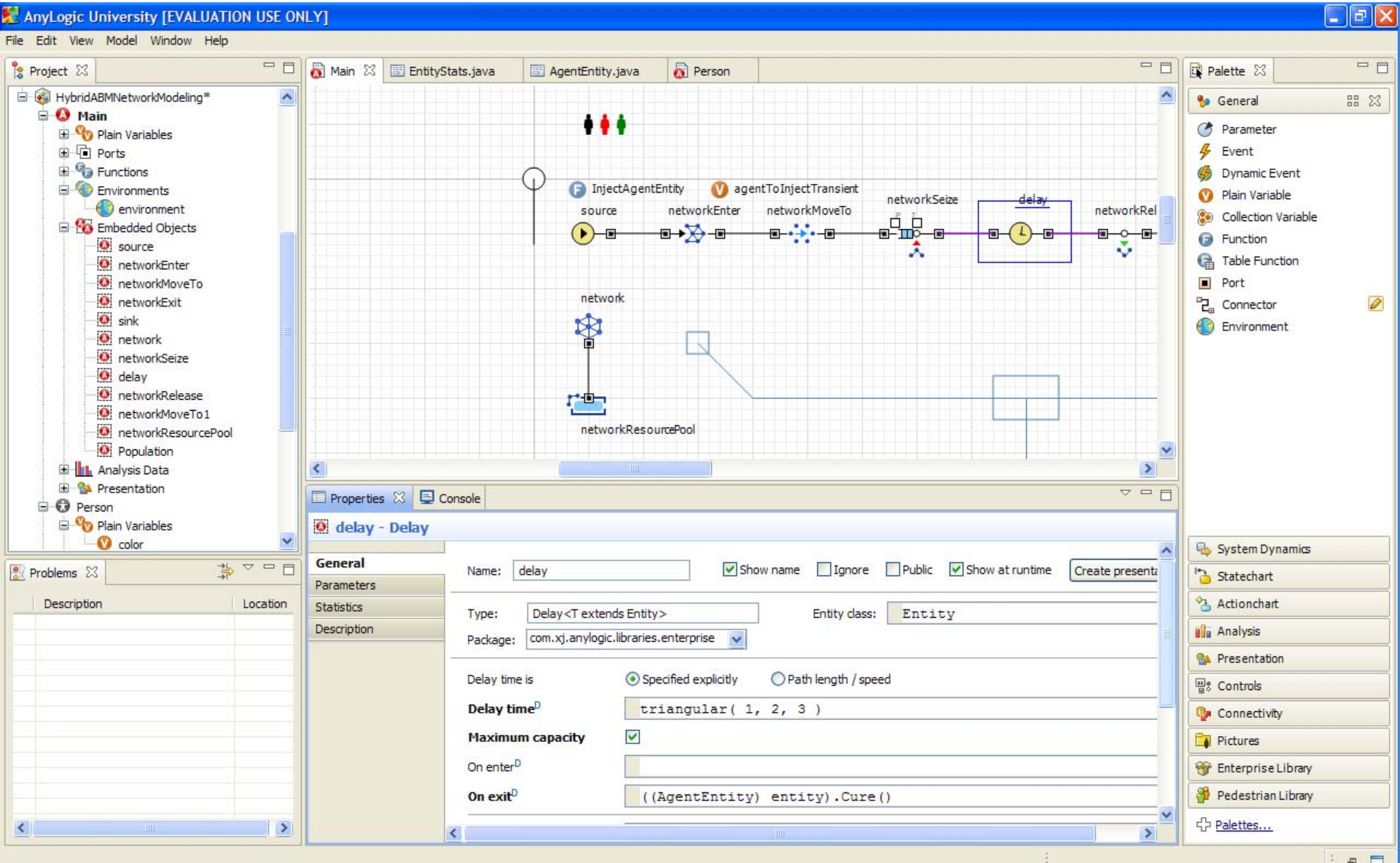
Create Function in Main Part 2



Set “Source” to Inject an Entity Associated with the Desired Agent



Set Agents to be Cured After Having been Seen by Doctors!



Running the Simulation