AnyLogic 6.7

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Team License

In release 6.7 we are introducing a new type of license for AnyLogic Professional – the Team License. This new license allows multiple users to share AnyLogic without physically moving a dongle between their workstations. A Team License can be purchased and used in parallel with other types licenses: dongle-based and software-activated.

The Team License is implemented as an AnyLogic Team License Server – an application with a web interface that is installed on a corporate server (the server should have a Windows operating system). The Team License Server keeps track of the number of AnyLogic copies run concurrently and allows you to view and manage AnyLogic usage.

The modeler requests a key from the server – either time limited or perpetual. If there is an available license, the key is issued and the modeler can use AnyLogic regardless of the network connection. This is convenient when you know you plan to use AnyLogic intensively during a certain period of time and/or you plan to travel and work on a plane, at a client site, or in a hotel. When you finish, you should explicitly give up the license (at that time you’ll need to be connected to the server), or, if the lease was time limited, it will expire automatically.

![Team License usage diagram](image)
Now runtime is free. No activation required.

As AnyLogic models are being installed and run on a larger variety of target hardware configurations, we are continuously working to make the deployment of AnyLogic models easier for our clients. From release 6.7 on AnyLogic models exported as Java applications to the target machines do not require any kind of activation or registration. They also do not contain any non-Java native code. An exported model can be freely installed and run on an unlimited number of computers with supported operating systems.

The prior versus new ways of running exported standalone models
Integrate your models into any Java application

As of this release you will be able to integrate AnyLogic models into your own Java applications. You can create a "master" application and invoke the AnyLogic model directly from Java code. The model animation can optionally be a part of your custom user interface, or the model can run without displaying its UI. This new possibility allows advanced users to create highly customized solutions based on simulation and seamlessly include simulation models into existing workflows.

The new release contains three examples showing how to call an AnyLogic model from an Eclipse Java project, how to embed the AnyLogic animation panel into your UI, and how to invoke a model without showing its UI. See also the new Help item Integrating AnyLogic Models with External Java Applications.
3D animation in applets

We have made AnyLogic 3D animation compatible with Java applets. Now you can publish your models with 3D animation on the web and remote users will be able to view and navigate in the 3D scene from their web browsers. The exported applet package now contains all 3D-related libraries (please note that the size of the libraries is about 10MB, so the size of the applet with 3D is larger respectively).

Because of Apple's proprietary treatment of Java in their OS the 3D applets animation feature is currently only available for our Windows and Linux users.

You can see the examples of model applets with 3D on our website, please visit http://www.xjtek.com/anylogic/demo_models_3d/.

An Anylogic-generated Java applet with 3D animation
Rail Library: new objects and capabilities

As the AnyLogic Rail Library (introduced in release 6.5) increases in popularity, we are continuously working to further expand its functionality and flexibility. The important improvements in the release 6.7 are:

**The pair TrainExit / TrainEnter objects**

The new TrainExit object removes the train from the rail yard and passes the train entity on to the regular process flowchart where it can go through delays, queues, decisions, etc. Together with TrainEnter, this object is used to model part of the train movement at a higher abstraction level without detailed physical level modeling of its movement. The new TrainEnter object takes the train entity and places it back on the rail track of a (possibly another) rail yard.

**New option in TrainSource: create a train but do not put it on rails**

The new option After creation of the TrainSource object allows you to create trains without putting them in a rail yard. This may be needed if the train created should wait until certain conditions are met before it can be put on the rails; for example: a track is cleared of other trains, a particular resource is available, etc. A train created as a logical entity can wait in queues, seize resources, and then it can be placed in a rail yard by the TrainEnter object.

**The option Limit distance to move in TrainMoveTo object**

This option, as well as the corresponding parameter Maximum distance, is available if the route is defined. If the target is defined as well, the train will exit TrainMoveTo on the first of the two events: reaching the target or going the maximum distance. You can use this option when you are not comfortable with setting the target point for the head of the train, for example, when you want to position the n\textsuperscript{th} car of the train over a particular place on a track.

**Public access to the train’s route**

The class Route is now public and you have access to the list of tracks and switches in the route. While the train is in a TrainMoveTo object, the method getRoute() will return its current route.

Examples illustrating use of the new Rail Library objects
Export models to Forio

We are pleased to announce our alliance with Forio, Inc. (www.forio.com). Forio hosts simulation models on a server and provides web access to them. As of AnyLogic version 6.7 you can export an AnyLogic model to the Forio server, develop a customized web UI for the model, allow end users run it, modify parameters, and view simulation output on the fly. Compared to AnyLogic model applets, the models exported to Forio run on a server, not on the client machines, and expose their input variables and output data via HTTP protocol. The Forio portal also offers user management and experiment management capabilities. You can store the input and output datasets, compare runs, etc., and control who has permission to run the model.

Web interface to AnyLogic model running on a Forio server
New example models

The new example models in release 6.7 are:

In the Examples folder:

- Job Shop
- Hump Yard
- Queuing Models

In the How-To Models folder:

- Trains Wait to Enter the Rail Yard
- Train Exits One and Enters Another Rail Yard
- Bank
- Epidemic
- Embedding AnyLogic Models in External Applications
- Launching AnyLogic Model from External Application
- Running the Model from Outside Without Presentation Window

Screenshots of the new example models included with AnyLogic
Other new features and improvements

Support for Windows XP and Vista
As some modelers are still using legacy operating systems, we have made AnyLogic action charts compatible with XP and Vista.

Fixes
- Fixed snapshot loading of experiments with parallel evaluations
- Fixed memory leak in models with a number of (replicated) objects connected with ports
- Corrected delay() function to work well in hybrid models with frequent discrete events and system dynamics
- Fixed code generation for a connector from an SD variable shadow to a variable on an embedded object
- Fixed code generation to allow Java comments in the array parameters of embedded objects
- A problem with ActionCharts under Windows XP and Vista has been resolved
- Fixed 'mysql' driver support in Insert and Update objects

Miscellaneous
- Experiment.setup() method has been changed - it now has argument of type java.awt.Container (instead of JApplet) - for the ability to construct animation panel embedded into external UI container.
- Added the button Turn off shaders in the Animation setup section of toolbar. Try using it if something goes wrong with 3D appearance (there is also an option in AnyLogic Preferences dialog)
- Dimensions now have methods allowing to find index by its textual name: getIndexByName() and getIndexPositionByName()
- It is now possible to view a Java version of the About dialog of exported standalone models.