

anylogic® workshop

AnyLogic 8.4 : new features
AnyLogic Cloud : building a custom UI for a cloud based model

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agenda

1. AnyLogic 8.4 new features demo, focus on Material Handling Library
2. A use case for AnyLogic Private Cloud – a custom branded UI for a cloud-based model

1

Material Handling Library in AnyLogic 8.4 – new features

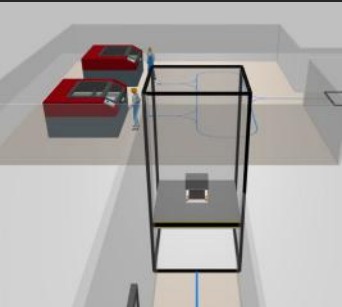
Material Handling Library 8.4 – new features & example models



[jib crane]

Jib Cranes at Press Shop

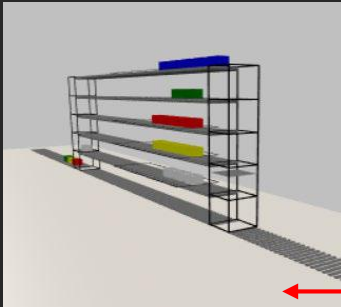
Crane (markup) is referenced by **MoveByCrane** block (for now, routing is not done through cranes, but will be)
See also **Blocked zone**



[lift]

Three Level Facility with Lift

Levels are visualized side by side on one canvas
Routing works seamlessly through the lift



[lift]

Buffer with Lift

5 levels implemented by a replicated object BufferLines
Lift property **Main landing** – is on in main, off on levels

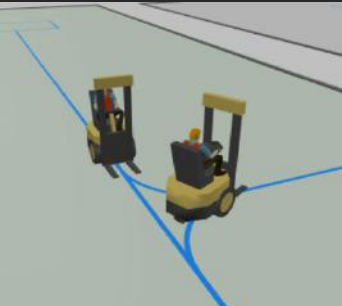
Dynamic creation of regularly structured networks



[free space]

Transporters Moving in Free Space

Walls, Racks & Conveyors are obstacles (see **Is obstacle** property)
TransporterFleet now has **Free space** option



[custom routing]

Passing with Oncoming Transporter

See **TransporterControl: Can enter node** and **Find path** (returns RouteData)
For simple cases see **Avoid paths** and **Avoid nodes** – dynamic lists, may depend on transporter & agent



[network port]

Order Picking Line

Replicated PickingZone is connected on startup to Network port can connect (the latter will work for Transporter general agents)

Demo >>

2

a use case for
AnyLogic Private Cloud

the problem



- The model that I have built will be used operationally
- The users of the model are other employees of my company / my client
 - They know nothing or little about simulation modeling and do not have AnyLogic installed
 - They work from different locations and may access the model simultaneously



- My company / my client is very sensitive about the model and related data
 - It should never leave our local network / our client network



- The scenario of using the model is sophisticated, must be packaged nicely & branded!








- UI that I have in mind differs from the default animation UI
- It contains dashboard elements (controls, charts) that are not present in the default set
- The UI should work equally good from phones, tablets, and laptops



thoughts

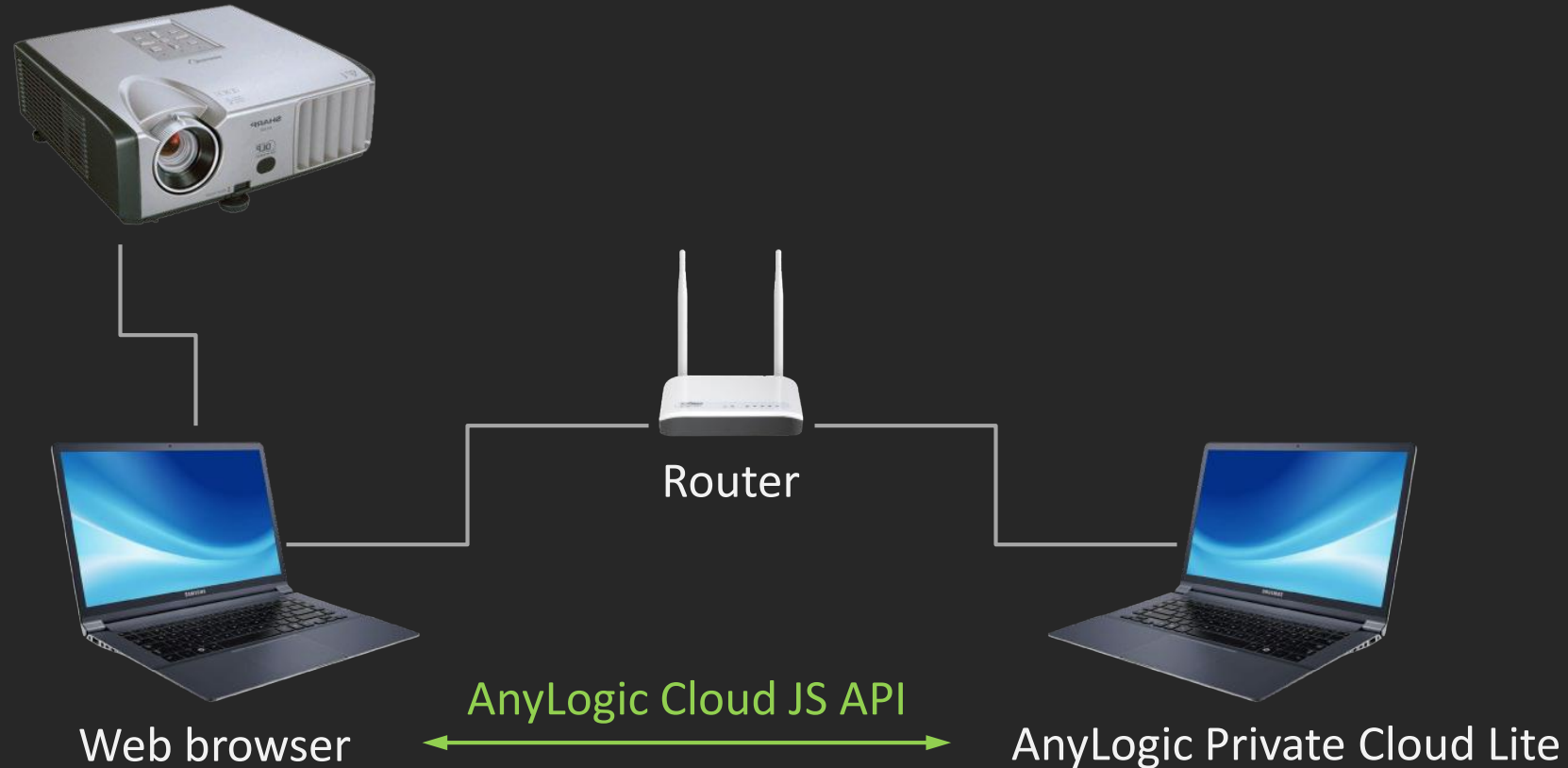
- Obviously, I cannot leave the model on my laptop
 - God bless 🙏, in AnyLogic I can export the model as a Java application
 - But where should I put it? On our server / client's server? Who will manage multi-user access to it? How am I going to apply upgrades? 🤔
 - I can also export the model to AnyLogic Cloud – but I think I will never be able to convince my / my client's management that any third party cloud can be secure enough 🙅‍♀️
- And what about the user interface?
 - Some time ago I learned Java Swing (never liked it 😡) to customize appearance of models
 - But Java Swing is so out of date! It obviously don't work on phones, etc.
And also, since AnyLogic 8.3 Java Swing has been replaced by HTML/SVG... 😞

the solution

- I will use **AnyLogic Private Cloud** as the execution environment for my model
 - While the model is not so resource-demanding, even the Lite version  would work for me
 - I will ask my sysadmin to install it once (!) on our / our client server – behind the firewall 
 - And by the way, the Cloud gives me user management and model update capabilities
- And I will develop a cool sophisticated and flexible **web UI** for my end users
 - I consider myself a simulation modeler  and I do not want to spend much time on UI...
 - ...so I will ask a web designer  to do it, it is a commodity job these days
- I will use **AnyLogic Cloud API** to invoke and control simulation from my web UI
 - There is  JavaScript,  Java, and  Python, I'll use JavaScript
- And I do not need even to run a web server – AnyLogic Cloud does that for me



so, let's go! Here is the architecture we will use during the demo:



In the beginning we will also need:

AnyLogic Professional – to upload the model
IDEA IDE – to show the web UI sources

Demo >>

navigate to <https://cloud.anylogic.com/custom-ui-demo>
right now from your phones, tablets, and laptops
to get custom UI experience!

Thank you!
(More about AnyLogic and
AnyLogic Cloud in the afternoon
presentation)