

Quick Links To OPAL-RT How-To Videos & Quick Start Guides

(updated 12/2/2019)

This list provides links to videos and guides covering the fundamentals of working with OPAL-RT's RT-Lab Suite (eMEGASIM, eFPGASIM and ePHASORSIM) and HYPERSIM real-time simulation environments. Some links may require that you create a free user account with OPAL-RT.

DOWNLOAD CENTRE

RT-Lab and HYPERSIM are OPAL-RT's core modelling environments. They can be used 'offline' ie in non-real-time modelling mode, on a PC, not connected to an OPAL-RT simulator chassis. However, while RT-Lab can be used offline without a licence, HYPERSIM does require licence activation.

Get RT-LAB and HYPERSIM:

<https://www.opal-rt.com/download-center>

1 - Getting Started with RT-LAB

RT-Lab is the core product underlying the following 'suites'; ie you start with RT-Lab then select add-ons from these related product sets, as required:

- eMEGASIM
- eFPGASIM
- ePHASORSIM

These suites include solvers, utilities and libraries designed to address specific needs.

RT-LAB Release Notes:

Product **RT-LAB2018a**
Version **11.2.5**
Release Notes **11 February 2019**

http://www.ecadtools.com.au/documents-opal/RT-LAB_Release_Notes_v11.3.5.pdf

Quick Start Guides:

#1 – RT-Lab 2017 Quick Start Guide

https://www.opal-rt.com/wp-content/themes/enfold-opal/pdf/L00161_0582.pdf

#2 – Using RT-Lab with OP4200 Quick Start Guide

https://www.opal-rt.com/wp-content/themes/enfold-opal/pdf/L00161_0519.pdf

How-to Videos:

#1 - How to install RT-LAB on your host (desktop) computer

<https://www.opal-rt.com/video-tutorials/video-1-how-to-install-rt-lab-on-your-computer/>

#2 - Connecting your real time simulator to your host computer

<https://www.opal-rt.com/video-tutorials/video-2-connect-real-time-simulator-host-computer/>

#3 - Preparing a Simulink model for Real Time Execution (Lesson)

<https://www.opal-rt.com/video-tutorials/preparing-simulink-model-real-time-execution/>

Contents:

- Grouping into Subsystems (01:00)
- Naming the subsystems (03:45)
- Adding Opcomm blocks (05:40)
- Maximising parallel execution (08:40)
- Setting simulation parameters (12:10)

View as PPT:

[OPAL_RT_RT-LAB.pptx](https://www.opal-rt.com/wp-content/uploads/2018/02/OPAL_RT_RT-LAB.pptx)

#4 - Preparing a Simulink model for Real Time Execution (Hands-On)

<https://www.opal-rt.com/video-tutorials/video-tutorials-2-preparing-simulink-model-real-time-execution-hands/>

#5 - Creating your first project in 6 steps

<https://www.opal-rt.com/video-tutorials/video-3-create-first-project-6-steps/>

#6 - Using models with I/Os for simulation on the OP4200

<https://www.opal-rt.com/video-tutorials/video-4-using-model-ios-op4200/>

#7 - Using models with I/Os for simulation on the OP4510

<https://www.opal-rt.com/video-tutorials/video-5-using-model-ios-op4510/>

2 - Getting Started with eMEGASIM ArtemisSuite add-ons

How-to Videos:

#1 –ARTEMiS-SSN: How to Use State Space Nodal (SSN) Solver Suite Efficiently

<https://www.opal-rt.com/video-tutorials/1-real-time-simulation-distributed-power-grid-elements-limitation-challenges/>

#2 - ARTEMiS-SSN Foundations

<https://www.opal-rt.com/video-tutorials/2-learning-foundation-artemis-ssn/>

#3 - ARTEMiS-SSN Getting Started

<https://www.opal-rt.com/video-tutorials/3-starting-artemis-ssn/>

#4 - ARTEMiS-SSN Decoupling methods

<https://www.opal-rt.com/video-tutorials/4-artemis-ssn-decoupling-methods/>

#5 - ARTEMiS-SSN Switch Model Management

<https://www.opal-rt.com/video-tutorials/5-managing-switch-model-artemis-ssn/>

#6 - ARTEMiS-SSN Custom Models

<https://www.opal-rt.com/video-tutorials/6-artemis-ssn-user-custom-models/>

#7 - ARTEMiS-SSN Switch Management and Groups

<https://www.opal-rt.com/video-tutorials/7-artemis-ssn-switch-management-groups/>

#8 - ARTEMiS-SSN Iterative Methods

<https://www.opal-rt.com/video-tutorials/8-iterative-method-artemis-ssn/>

#9 - ARTEMiS-SSN: Example of a Distribution Grid EMT Simulation

<https://www.opal-rt.com/video-tutorials/9-example-distribution-grid-emt-simulation-artemis-ssn/>

#10 - ARTEMiS-SSN: Example of a Machine Model with Snubberless SSN

<https://www.opal-rt.com/video-tutorials/10-example-machine-model-snubberless-artemis-ssn/>

#11 - ARTEMiS-SSN Electric Drive Demo

<https://www.opal-rt.com/video-tutorials/11-electric-drive-demo-artemis-ssn/>

3 - Getting Started with eFPGASIM eHS Solver

Quick Start Guides:

#1 – eHS Quick Start Guide

https://www.opal-rt.com/wp-content/themes/enfold-opal/pdf/L00161_0329.pdf

How-to Videos:

#1 – eHS Solver - Get Started

<https://www.opal-rt.com/video-tutorials/video-1-running-model-op4200-targets/>

4 - Getting Started with ePHASORSIM for phasor and network stability studies

How-to Videos:

#1 - Importing a PSS/e model into ePHASORSIM

<https://www.opal-rt.com/video-tutorials/1-required-files-demo/>

#2 - How to configure the I/O pins when importing PSS/e files

<https://www.opal-rt.com/video-tutorials/2-configure-io-pins-importing-psse-files/>

#3 - How to import ANSYS Maxwell Electric Motor models into eFPGASIM

https://www.opal-rt.com/wp-content/themes/enfold-opal/pdf/L00161_0503.pdf

5 - Getting Started with HYPERSIM

HYPERSIM Release Notes:

Product **HYPERSIM 6**
Version **6.1.3**
Release Notes **9 March 2018**

[Document download](#)

Quick Start Guides:

#1 - HYPERSIM 6 Quick Start Guide

https://www.opal-rt.com/wp-content/themes/enfold-opal/pdf/L00161_0104.pdf

How-to Videos:

#1 - Installing HYPERSIM on your computer

<https://www.opal-rt.com/video-tutorials/21729/>

#2 - Getting started with HYPERSIM

<https://www.opal-rt.com/video-tutorials/video-2-getting-started-with-hypersim/>

Contents:

- Open an example model in HYPERSIM (01:10)
- Run a model off-line (01:40)
- Connect HYPERSIM to your real time target (03:40)
- Request your real time license (05:20)
- Run your model in real time on HYPERSIM (06:30)

Related:

HYPERSIM 6.0 License Configuration on Localhost and Target

<https://www.opal-rt.com/support-knowledge-base/?article=AA-01177>

#3 – Using ScopeView with HYPERSIM

<https://www.opal-rt.com/video-tutorials/video-3-interacting-hypersim-with-scopeview/>