

Introduction to OpenIPSL

Spoken Tutorial Project

<https://spoken-tutorial.org>

National Mission on Education through ICT

<http://sakshat.ac.in>

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8 April 2019



Learning Objectives

In this tutorial, we will learn:



Learning Objectives

In this tutorial, we will learn:

- ▶ **About OpenIPSL**



Learning Objectives

In this tutorial, we will learn:

- ▶ **About OpenIPSL**
- ▶ **Objectives of OpenIPSL package**



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- ▶ **Objectives of OpenIPSL package**
- ▶ **How to download OpenIPSL package**



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- ▶ **About OpenIPSL**
- ▶ **Objectives of OpenIPSL package**
- ▶ **How to download OpenIPSL package**
- ▶ **Library structure of OpenIPSL**



System Requirements



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- ▶ **OpenModelica version 1.12.0**

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- ▶ **Ubuntu Linux OS 16.04**

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- ▶ **OpenModelica version 1.12.0**
- ▶ **Ubuntu Linux OS 16.04**
- ▶ **Any OS: Windows, Mac OS X or FOSSEE OS on ARM**



Prerequisites



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- ▶ **Knowledge of power systems**



Prerequisites

- ▶ Knowledge of power systems
- ▶ Knowledge of modeling using OpenModelica

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- ▶ Knowledge of modeling using OpenModelica
- ▶ Prerequisite tutorials are available on <https://spoken-tutorial.org>



What is OpenIPSL?



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- ▶ **OpenIPSL stands for Open-Instance Power System Library**



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- ▶ **A Modelica library for power system dynamic simulations**

What is OpenIPSL?

- ▶ **OpenIPSL stands for Open-Instance Power System Library**
- ▶ **A Modelica library for power system dynamic simulations**
- ▶ **Contains a set of power system components**



Objectives



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- ▶ **OpenIPSL provides an open source alternative for power system simulations**

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- ▶ **OpenIPSL provides an open source alternative for power system simulations**
- ▶ **It can have several possible typical “test networks” for research and teaching purpose**



How to download OpenIPSL?



How to download OpenIPSL?

- ▶ **Link to download from GitHub:**
<https://github.com/OpenIPSL/OpenIPSL>

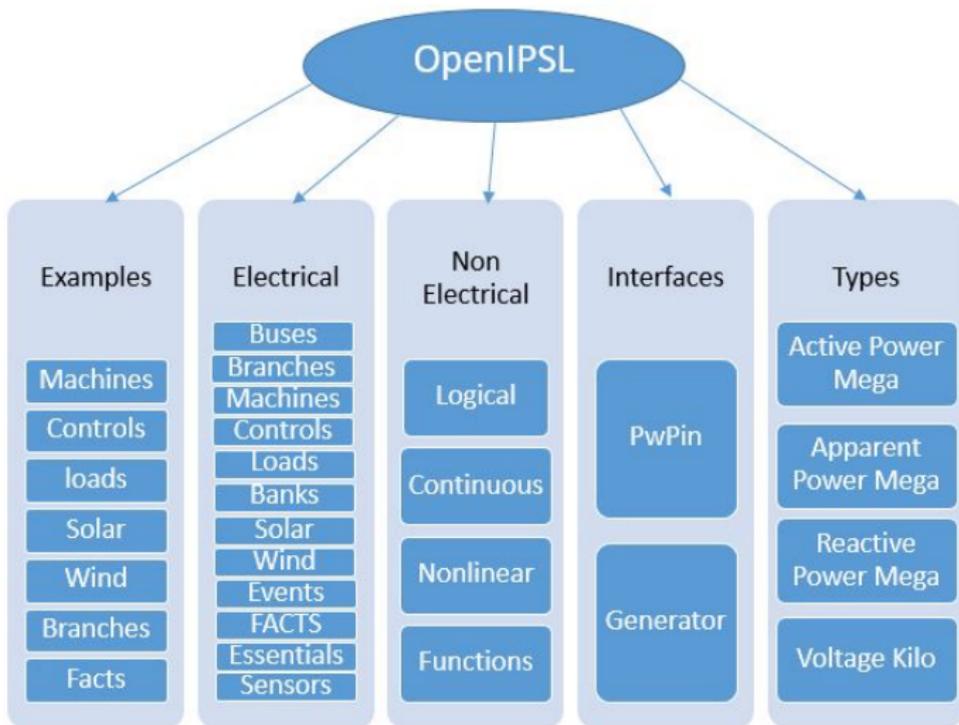


How to download OpenIPSL?

- ▶ **Link to download from GitHub:**
<https://github.com/OpenIPSL/OpenIPSL>
- ▶ **Demonstration of how to download and include it in OpenModelica**



Library Structure



Library Structure



Library Structure

- ▶ **The components serve as basic building blocks for modelling a power network**

Library Structure

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- ▶ **The Library structure is properly categorized**



Library Structure

- ▶ **The components serve as basic building blocks for modelling a power network**
- ▶ **The Library structure is properly categorized**
- ▶ **It helps the user to search a specific component or model easily**



Library Structure



Library Structure

- ▶ **These example models help the user to get acquainted with different models**

Library Structure

- ▶ **These example models help the user to get acquainted with different models**
- ▶ **It also provides basic idea of the modeling**



Summary

Let's summarize:

- ▶ **About OpenIPSL**
- ▶ **Objectives of OpenIPSL package**
- ▶ **Download OpenIPSL package**
- ▶ **Library structure of OpenIPSL**



Power System Simulation Project

The FOSSEE team

- ▶ Invites contributions to develop power system networks using OpenIPSL library
- ▶ Gives honararium and certificates to those who do this
- ▶ For more details, please visit this site
<https://om.fossee.in/powersystems>



About the Spoken Tutorial Project

- ▶ Watch the video available at https://spoken-tutorial.org/What_is_a_Spoken_Tutorial
- ▶ It summarises the Spoken Tutorial project

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- ▶ If you do not have good bandwidth, you can download and watch it

Spoken Tutorial Workshops

The Spoken Tutorial Project Team

- ▶ Conducts workshops using spoken tutorials
- ▶ Gives certificates to those who pass an online test
- ▶ For more details, please write to contact@spoken-tutorial.org



Forum to answer questions

- ▶ **Do you have questions in THIS Spoken Tutorial?**
- ▶ **Choose the minute and second where you have the question.**
- ▶ **Explain your question briefly.**
- ▶ **Someone from the FOSSEE team will answer them.**

Please visit <https://forums.spoken-tutorial.org/>



Forum to answer questions

- ▶ Questions not related to Spoken Tutorial?
- ▶ Do you have general / technical questions on the software?
- ▶ Please visit the FOSSEE Forum
<https://forums.fossee.in/>
- ▶ Choose the software and post your question



Textbook Companion Project

- ▶ **The FOSSEE team coordinates coding of solved examples of popular books**
- ▶ **We give honorarium and certificate to those who do this**

For more details, please visit this site:

<https://OM.fossee.in/Textbook-Companion-Project>

Lab Migration Project

- ▶ **The FOSSEE team helps migrate commercial simulator labs to OpenModelica**
- ▶ **We give honorarium and certificates to those who do this**

For more details, please visit this site:

<https://OM.fossee.in/lab-migration-project>



Acknowledgements

- ▶ Spoken Tutorial Project is a part of the Talk to a Teacher project
- ▶ It is supported by the National Mission on Education through ICT, MHRD, Government of India
- ▶ More information on this Mission is available at <https://spoken-tutorial.org/NMEICT-Intro>



Thanks!

<https://openmodelica.org>

