



POWSYBL - GSE

Grid Study Environment

GRID STUDY ENVIRONMENT

A JavaFX UI for powsybl framework

Started few months ago (open-source since 2 weeks)

Distributed under MPL license

Fully extensible (features are discovered at runtime)

Public modules

Data management (AFS)

Common services (load-flow, security analysis, action simulator...)

Private modules

imaGrid (planning studies) already based on GSE

APPLICATION FILE SYSTEM

AFS is a file system to store business objects

2 different layers : business layer and storage layer

AFS expose business objects (cases, contingency lists, configuration, simulation results...)

AFS does not expose how these objects are stored (files, format...)

AFS is easily extendable

Business objects are plugins (core or specific)

Storage implementation are plugins

LocalAppFileSystem: a read-only view on the local file system

MapDbFileSystem: a off-heap or on-disk storage

CassandraAppFileSystem (*coming soon*)

RemoteAppFileSystem: access remotely (web services) to a remote AFS

Services are plugins

AFS is used as a context for studies

All input or output data

Isolated

APPLICATION FILE SYSTEM



AFS is also available from command line

run-script itools command

powsyblsh



DEMO 1

GETTING STARTED

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powSybl-core

<https://github.com/powsybl/powsybl-core.git>

powSybl-gse

<https://github.com/powsybl/powsybl-gse.git>

Load-flow implementation (Hades2, HelmFlow)

<http://www.itesla-pst.org>



DEMO 2

RUN A SECURITY-ANALYSIS



DEMO 3

EVERYTHING IS PLUGIN



DEMO 4

AFS FROM COMMAND LINE

ROADMAP



Create a complete security analysis tool

Security analysis

Action simulator

Todolist

Simulation parameters plugins (load-flow, security analysis)

Action simulator results plugin

Results visualizer

Network visualizer

Map view

Substation / voltage level

Packaging



QUESTIONS?