

PowerFactory Basic

Objective:

To provide a thorough and comprehensive introduction to the basic features of **PowerFactory** software. The topics Data management, loadflow studies, short circuit calculations, variations, operation scenarios and basic reporting will be covered.

Pre-requisites:

- A good working knowledge of how to operate Windows, Windows Explorer and any normal Windows program (e.g. Word).
- A basic mathematical understanding of loadflow studies and fault calculations.
- Background experience through the use of DIGSILENT **PowerFactory** - this will greatly enhance the participants absorption of the course material. This experience may be acquired by performing the Tutorial Exercises that are found under, Help -> Tutorial, in **PowerFactory**.

No of participants: Minimum: 6; Maximum: 12.

Schedule and Cost:

Please visit <https://www.digsilent.co.za/training-courses/> for the latest scheduled course dates and costs. PowerFactory license, for the duration of the training course, is included. Please note the booking clauses on the registration form.

CPD Points: 3

Duration: 3 days

Topics to be covered:

Introduction

- Structure and operation principles of DIGSILENT **PowerFactory** operation.
- Overview of main functionality.
- Project management; starting a project from scratch.
- Graphical User Interface; using the single line diagram, entering a network & defining network elements.
- Populating the database; using the Data Manager.
- Using the Built in Library and creating a user library.

Load flow

- Performing a loadflow and interpretation of error messages to debug the user data.
- Use of built in tools to analyze the load flow results.
- Examination of the models used for lines, cables, transformers, loads, synchronous and induction machines.
- Voltage control and tap changers.
- Configuration of results and reporting.

Short circuit calculations

- Performing fault calculations; single bus fault, all busses faulted, multiple faults, faults on lines and different fault types.
- Configuration of results boxes to suit the user's needs.
- Reporting of results.

Advanced data management

- Creating substation templates and adding GPS data to network elements such as substations and lines.
- Variations, Operation Scenarios and Study Cases.
- Management of the data and projects; backing up advice.
- Exporting and importing data.
- Searching and filtering of data, Flexible Data Manager and Network Model Manager.

Exercises

- Typical scenarios are examined using prepared networks and case studies.