

# Running a Simulation with BoF-PSS2 Introduction



## Phases of a simulation

**Main steps of a simulation:**

- 1. Defining a project**
- 2. Defining a system**
- 3. Importing data**
- 4. Configuring a simulation**
- 5. Executing a simulation**
- 6. Analysis of results**



## Creating a project

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- All the modelled systems and the related data are stored under a project in project specific directories.
- Items to be stored under the project directory:
  - Input files
  - Input databases (system configuration data, input data, ... )
  - Output databases (simulation results)
  - Error reports and logs
  - Output reports
  - Everything related to simulation project!
- Default directory: `c:\BOF-PSS2\IP_projectname`.
- Benefits: you can take a backup or copy a whole project to an other computer by simply copying the project directory.



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## Defining a system

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- **System ID**  
System ID is the name for the "real" system under study. It is used to link together all different datasets( System Data Sets, Data sets) belonging to one system. System ID:s are needed because there can be several "real" systems in one project or one simulation e.g. parallel RTGS and DNS-systems.
- **System Data Set (SYCD)**
  - opening hours
  - Transfer of balances to next day
  - Use of bilateral limits
  - Availability of intraday credit
  - treatment of unsettled transactions at end of day
  - Settlement algorithms

Several system data sets can be attached to one System ID. These can be used to test different queuing methods or effects of including some optimization feature.



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## Importing simulation data

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### Input Data sets

- Participant data (PART) mandatory
- Daily Balances (DBAL) optional
- Intraday credit limit data (ICCL) optional
- Transaction data (TRAN) mandatory
- Bilateral Credit limit data (BLIM) optional

You can import several parallel versions of each Data set for a system.  
It is possible to simulate one system with different data sets.



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## Configuring a simulation

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- **To configure a simulation you need to select:**
  - Submission algorithm (SUB)
  - System/systems
  - System data set (SYCD)
  - Input data sets (PART, DBAL, ICCL, TRAN, BLIM)
- **Cross-check:**
  - Transactions' introduction times are in line with the opening hours
  - Participants in input tables can be found in the participant data table



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## Executing a simulation

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- Chose the simulations you wish to run and the related output statistics .
- You can create a simulation batch to define a set of simulations you wish to run repeatedly.



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## Analyzing output

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- System and account level statistics
- Exporting extracts form output databases to CSV -files

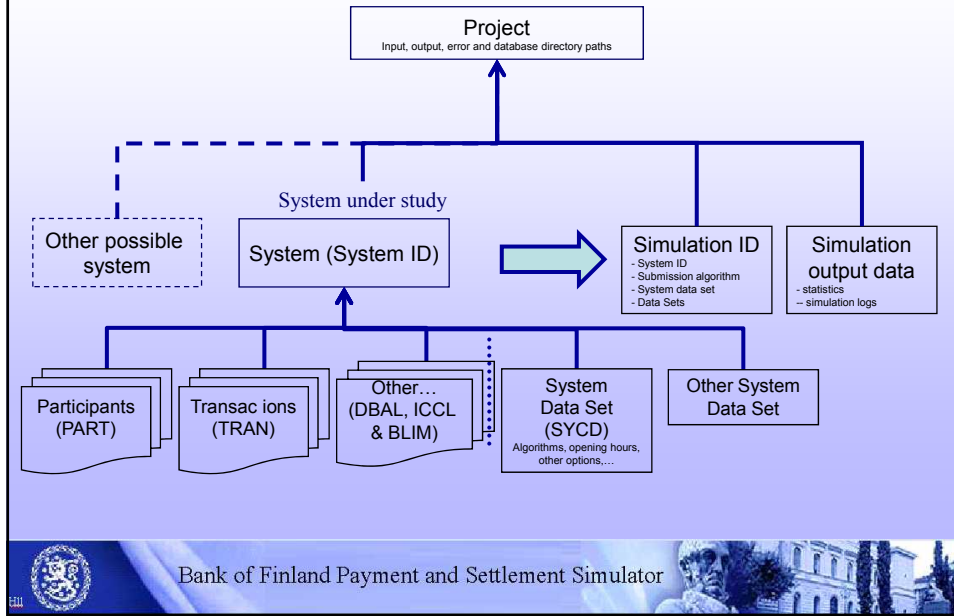


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# Relations between concepts

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