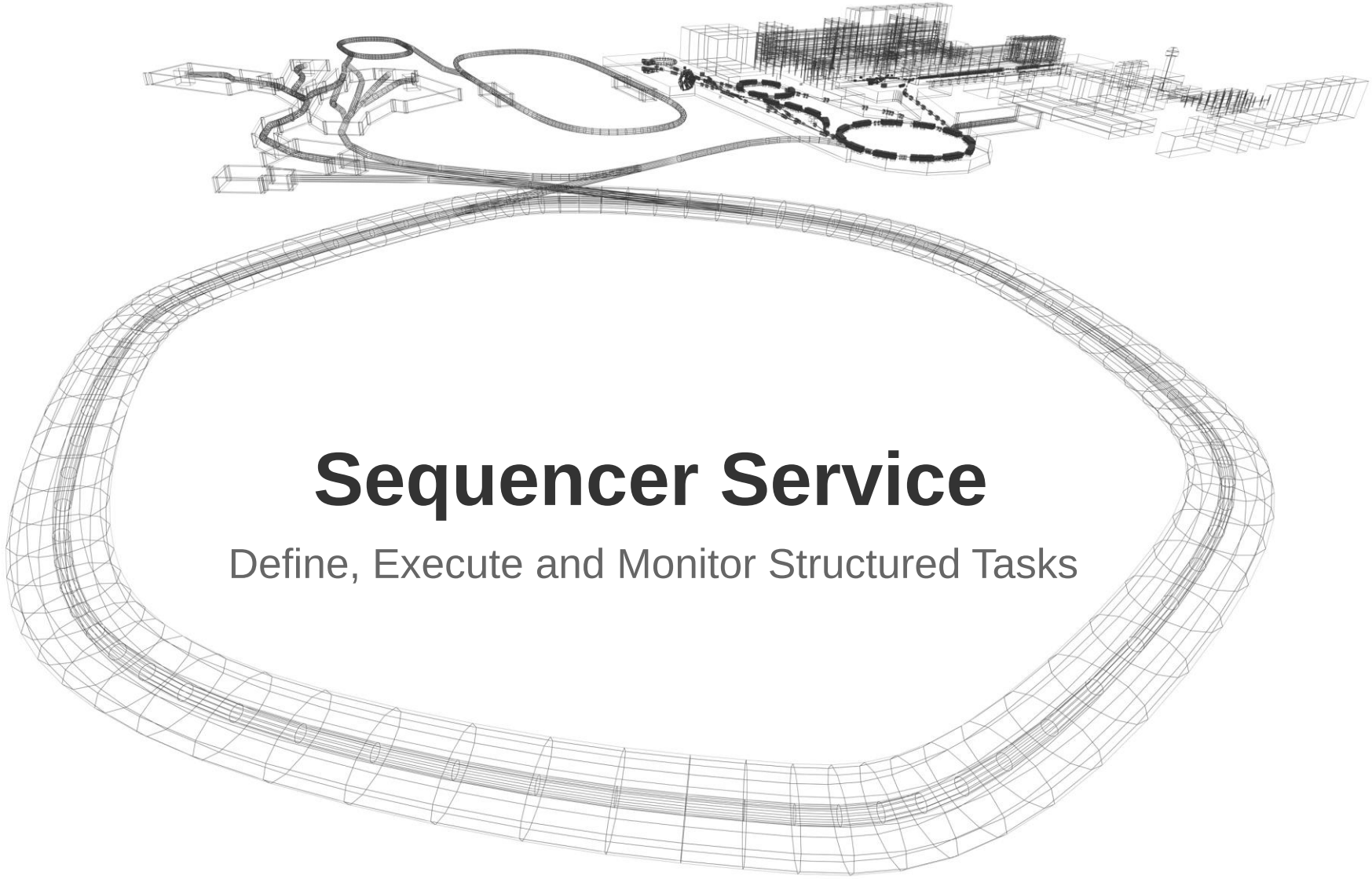
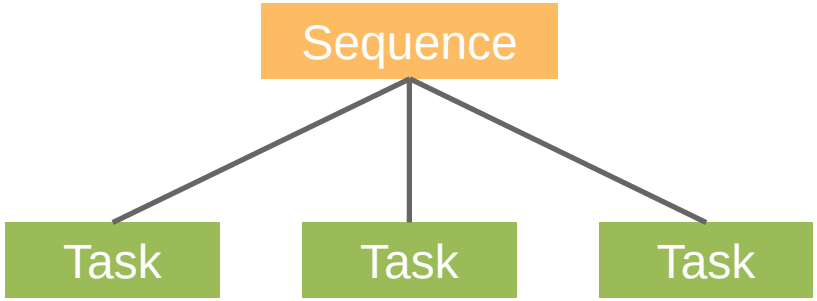


Sequencer Service

Define, Execute and Monitor Structured Tasks

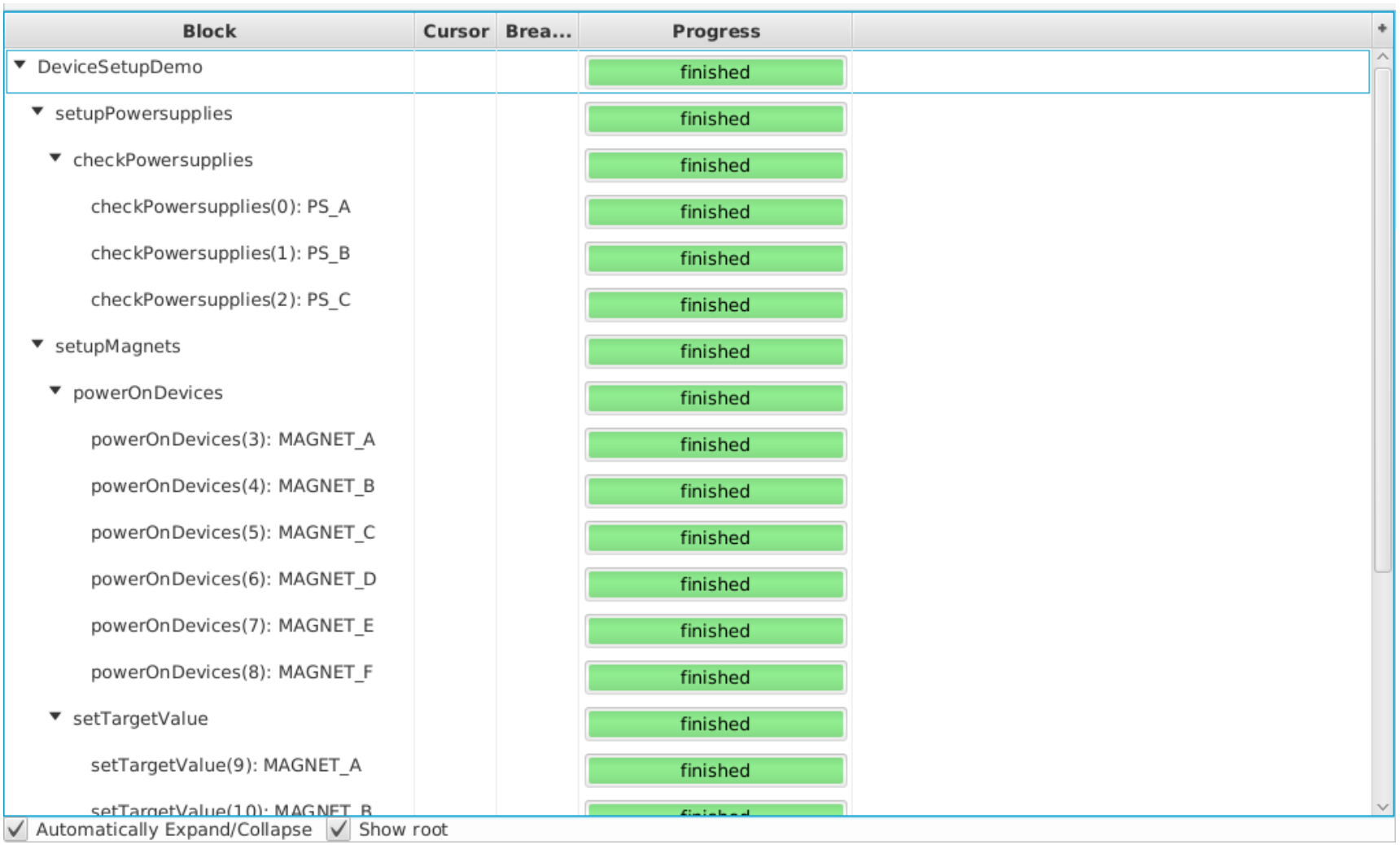
Sequences and Tasks

- **Tasks**
  - check device state
    - connectivity
    - actual value vs target value
  - power on/off a device
  - change settings
    - set value of device A to X



- Combine tasks into more complex **Sequences**
  - Check availability of multiple devices
  - set values for a set of devices, then do … and then …
  - arbitrary complexity with nested sequences

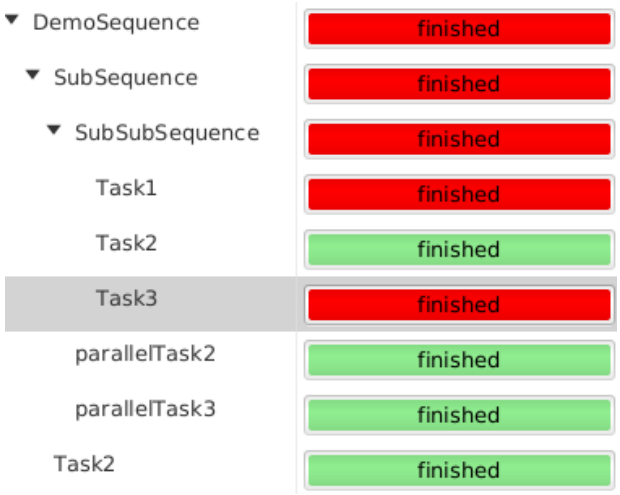
Sequences and Tasks



Purpose

- System Setup
  - define sequences for repetitive setup activities
  - helps to prevent errors through automation

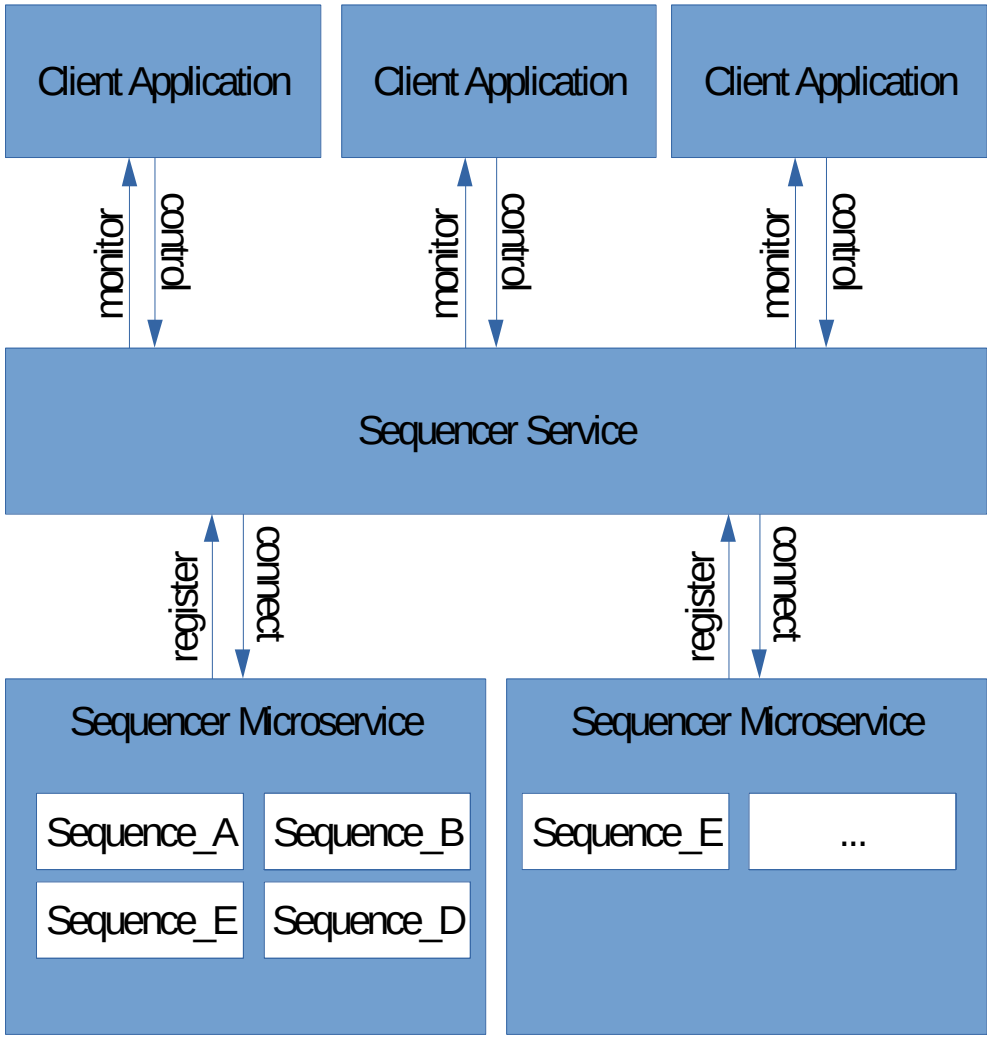
- Testing
  - define test cases as sequences
  - combine test cases into test scenarios
  - -> identify errors



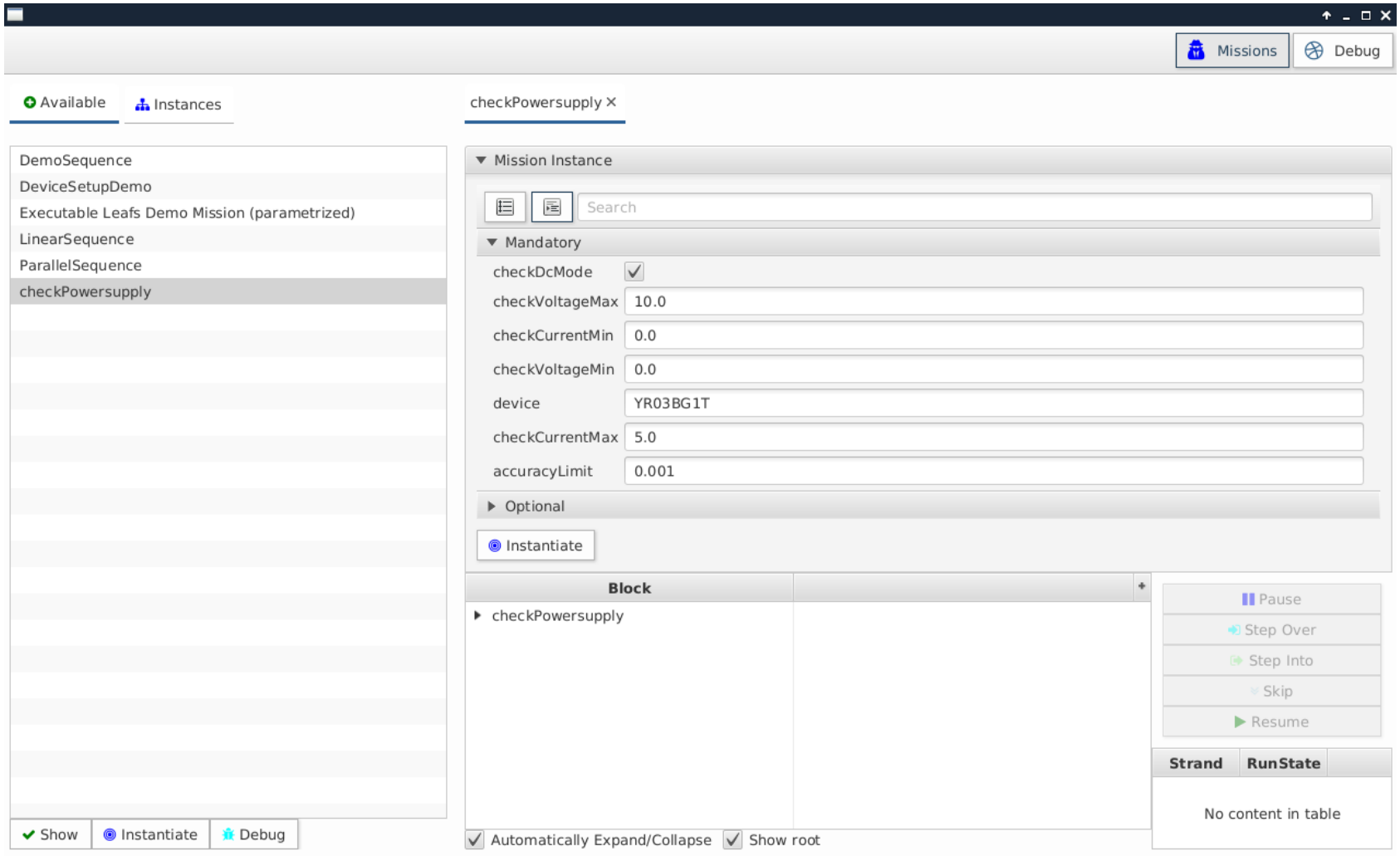
The GSI Sequencer Service Framework

- Framework for programming and deploying sequences
  - Sequences are written by or with the help of domain experts
  - Some programming skills (Java) required
- Environment for executing and monitoring Sequences
  - Once deployed sequences can be executed and monitored by operators
  - Provide a graphical user interface

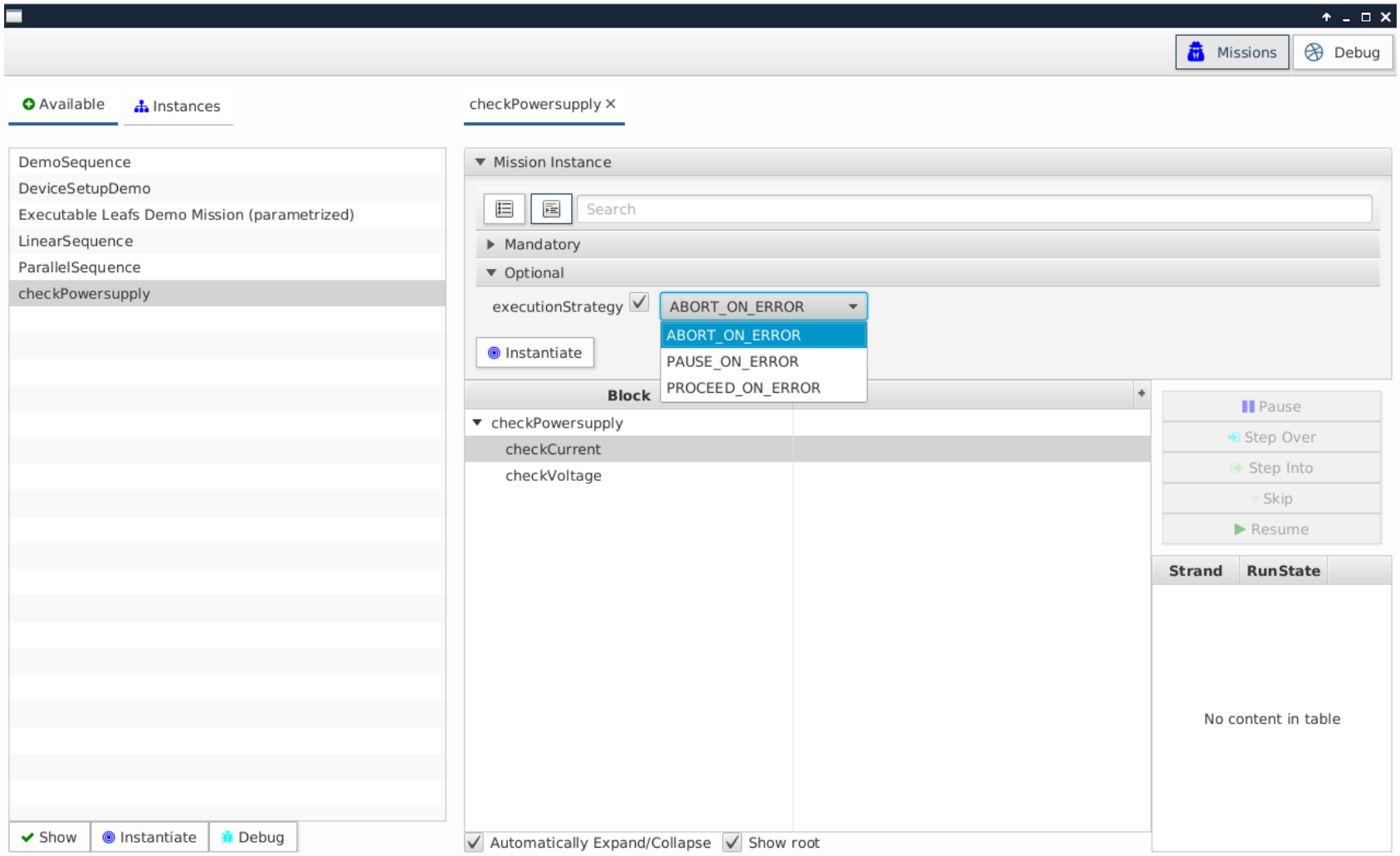
Sequencer Service Prototype



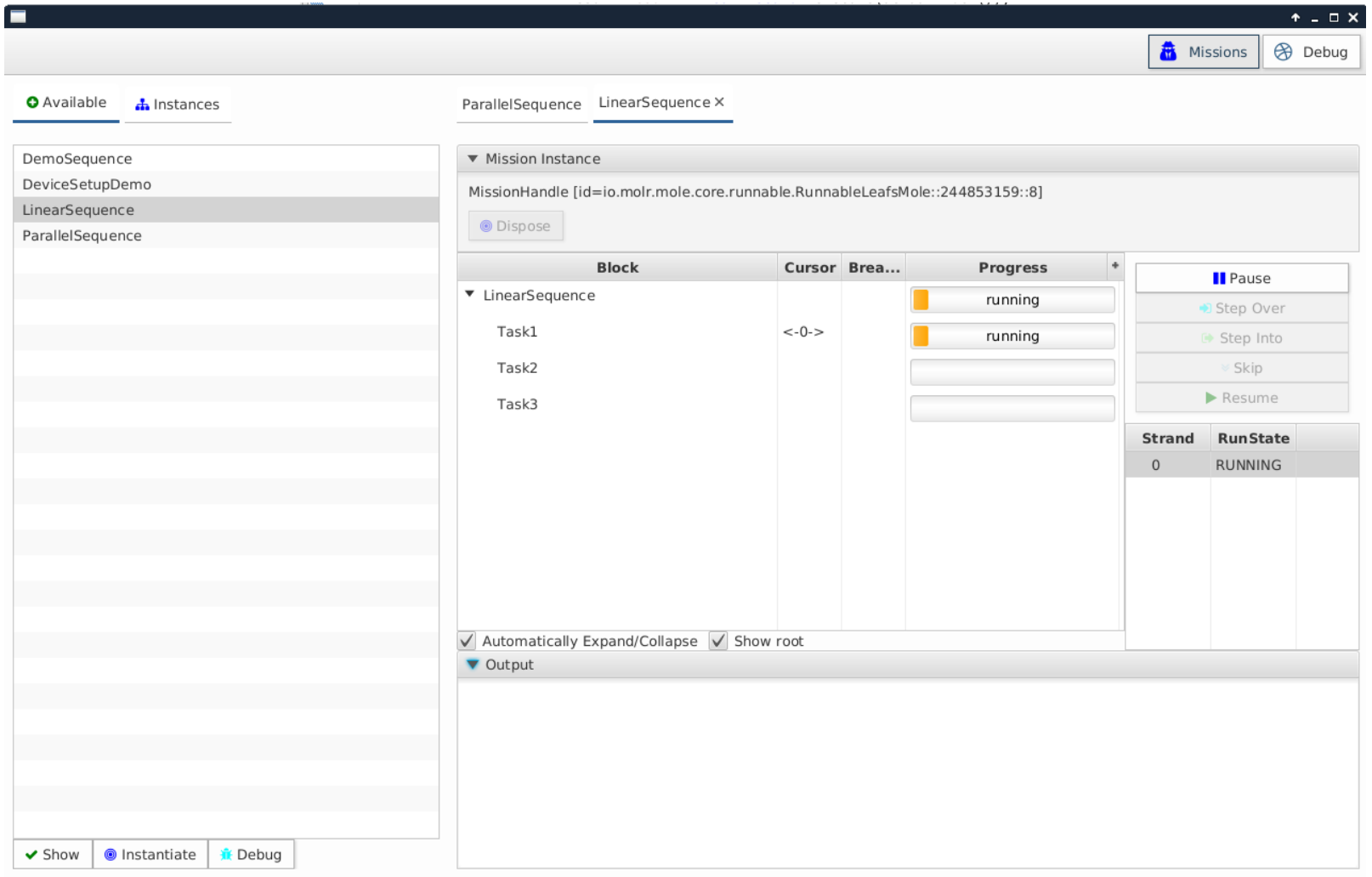
Parameter Configuration



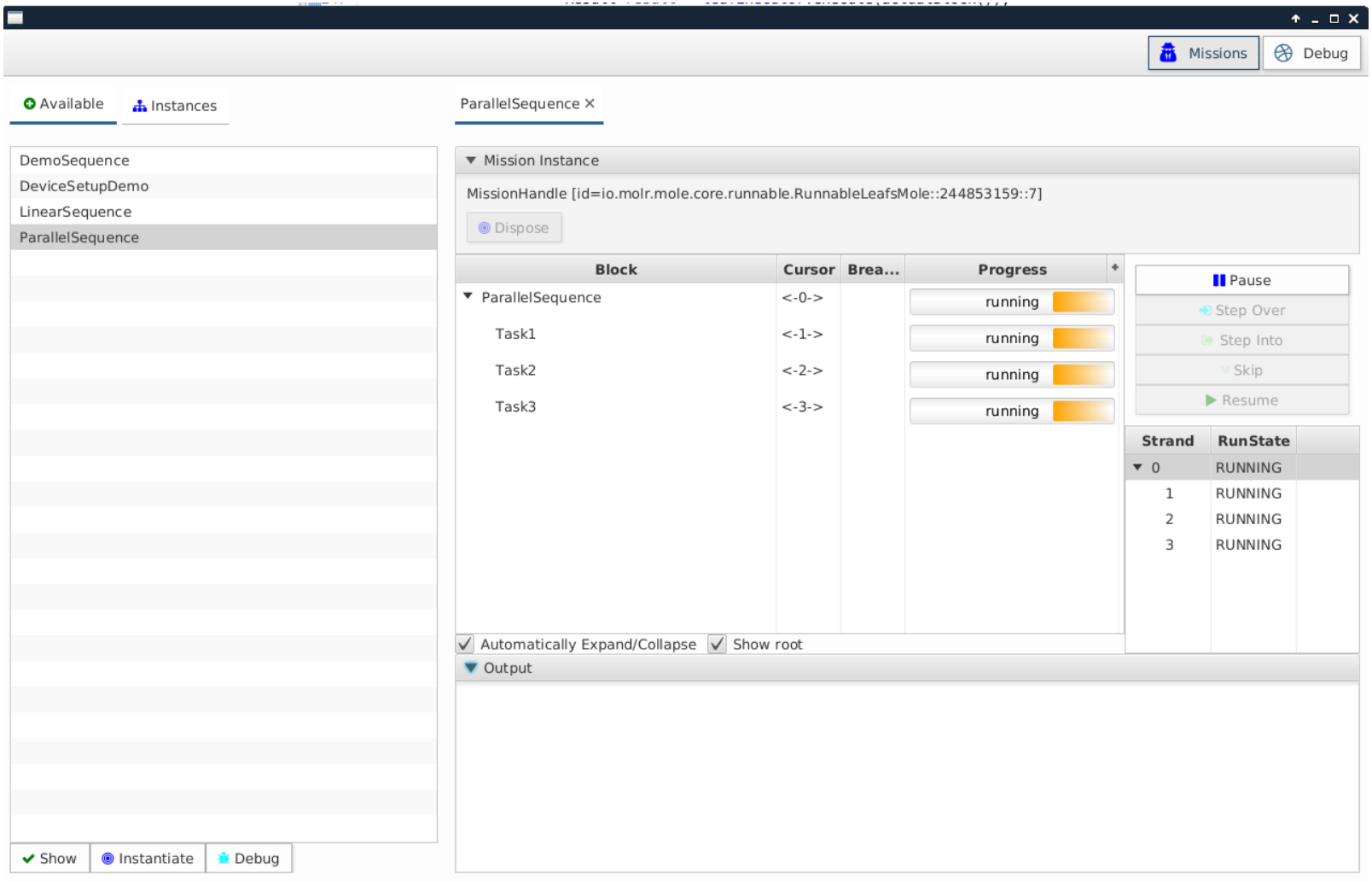
Execution Strategies in Case of Errors



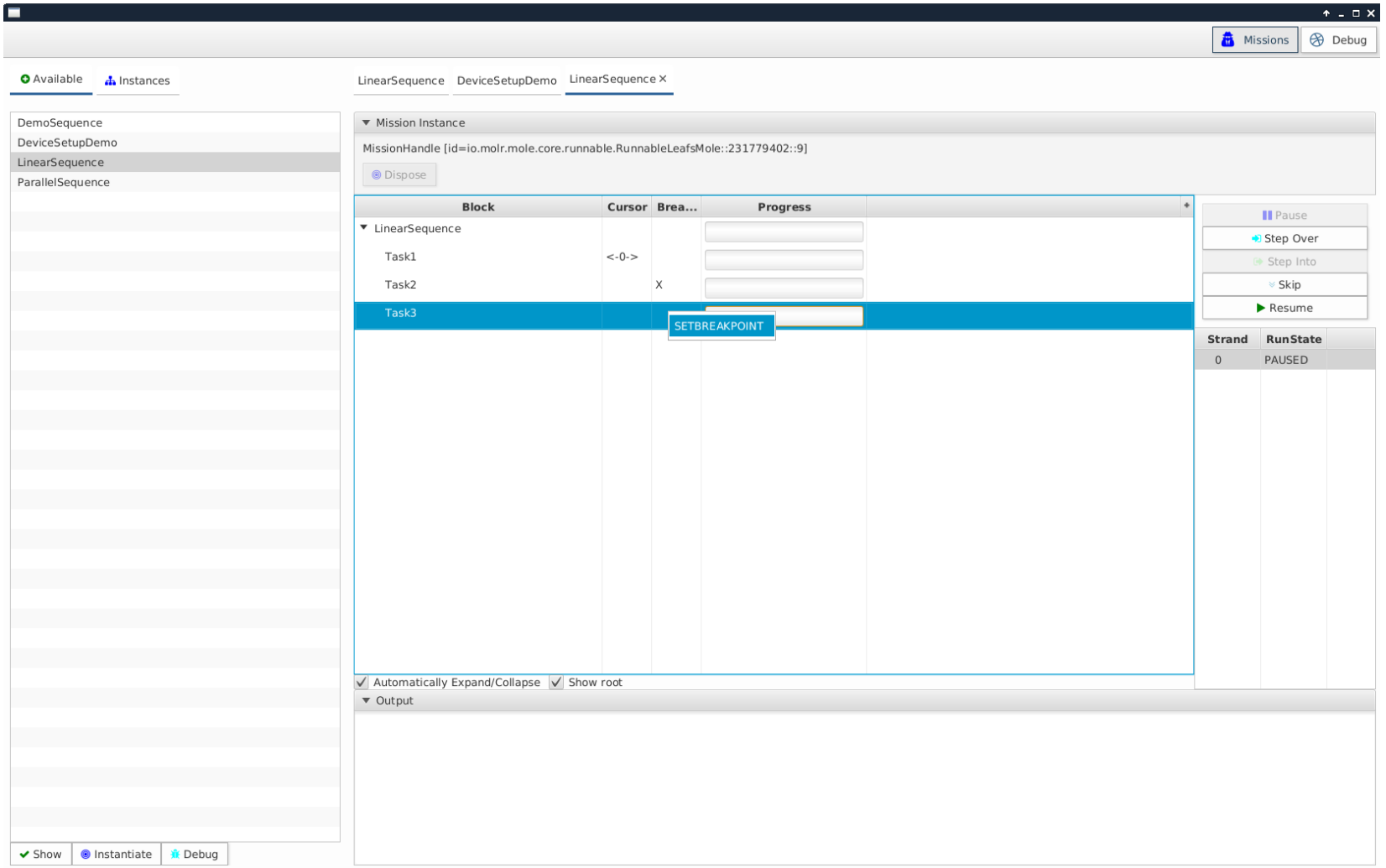
Linear Execution



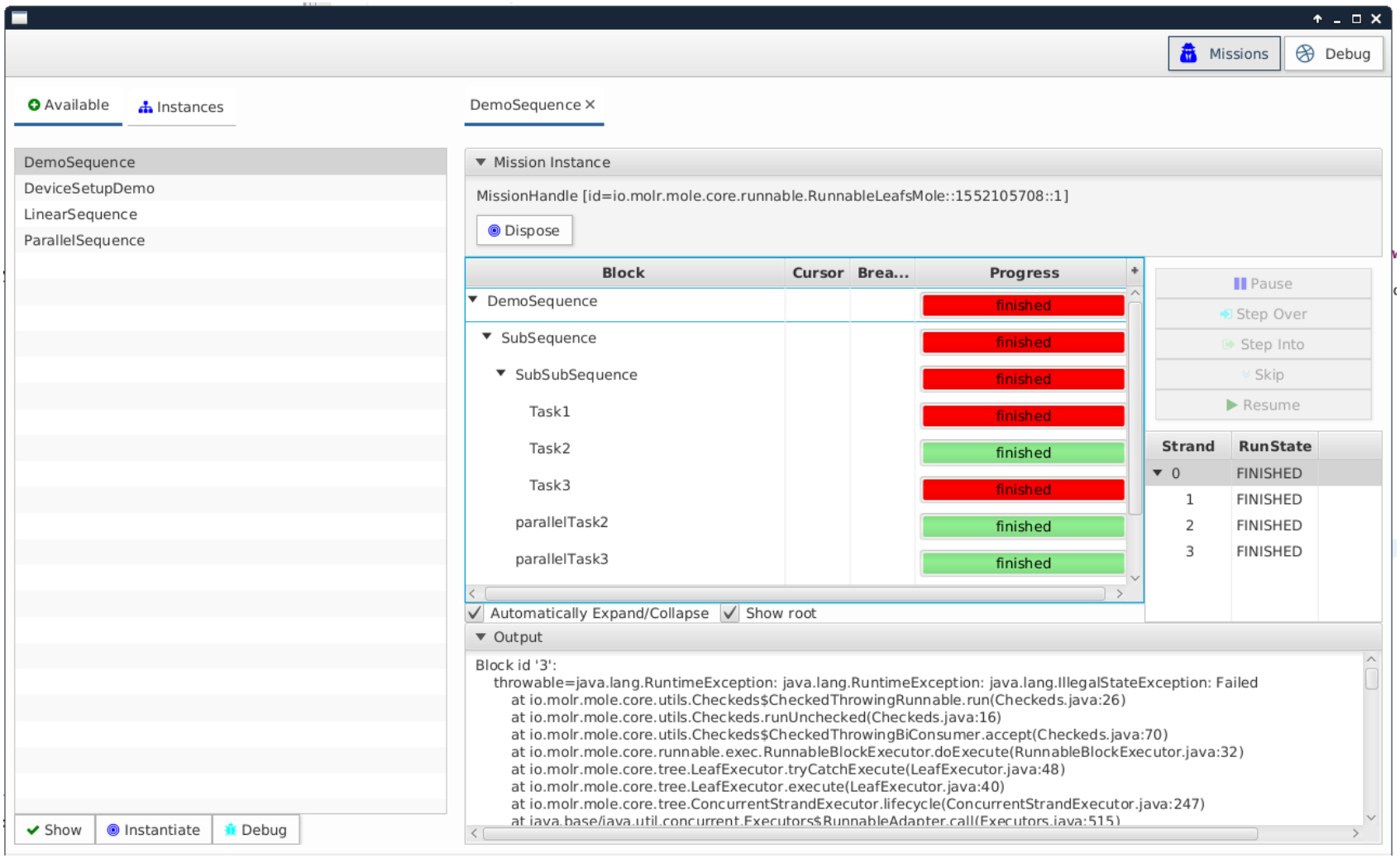
Parallel Execution



Breakpoints and Skipping



Result Monitoring



Future Work

- How to configure sequences in a user friendly way
  - Human readable/writable configurations (XML, GUI)
  - Reusability of configurations
- Locks
  - How to ensure that sequence execution operating on devices do not interfere with each other
- Access Control
  - Authorize execution of specified sequences to certain users only