# Hands-on 1: Introduction to Kepler

Shweta Purawat

Opening and Running a Workflow

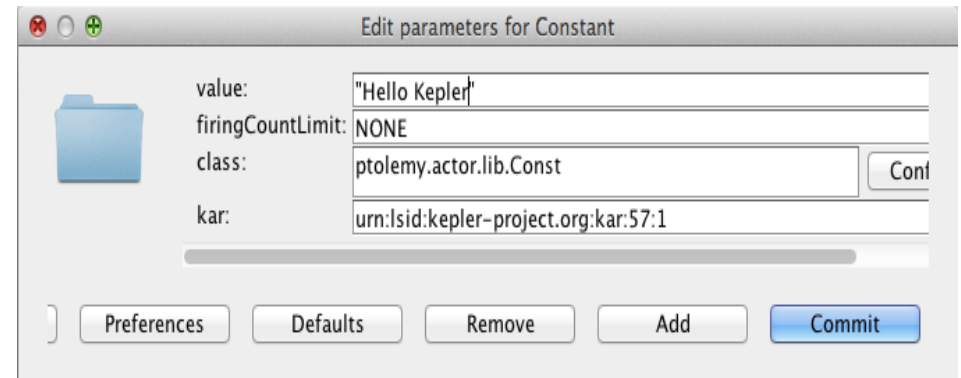**Goal:** Open, Edit and run an existing workflow

- Start Kepler GUI

- Open the desired workflow: In Components, Data Access, and Outline area, go to Demos->Getting-started->00StatisticalSummary.xml

- Two options to run a workflow:
    - PLAY BUTTON in the toolbar ▶
    - RUNTIME WINDOW from the run menu (Workflow ->Runtime Window) and run it (go).

Editing an Existing Scientific Workflow

- Open the desired workflow: In Components, Data Access, and Outline area, go to Demos->Getting-started->04-HelloWorld.xml

  And run the existing workflow.

- Edit input actor value: Double click the first input constant actor and edit input value
  - Value: "Hello Kepler"
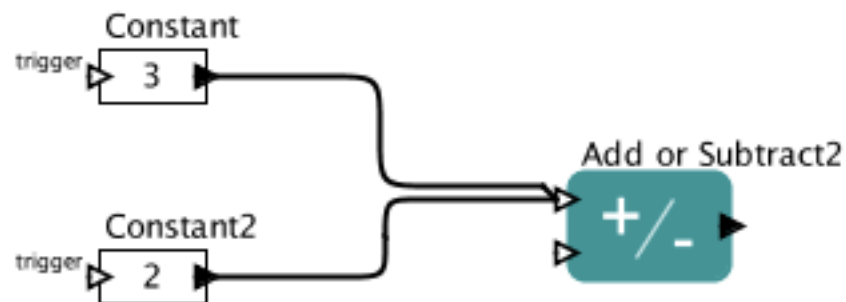
Create a "Simple Addition" Workflow

Goal: To build simple addition workflow in Kepler.

- Open a new blank workflow canvas
  - *From toolbar:*
    File ->New Workflow->Blank
- Add Constant Input actors
  - *In the Components tab, search for "Constant" and drag the Constant actor onto the Workflow canvas.*
  - *Repeat for second input Constant actor.*
- Configure Inputs: Double click the Constant actors to configure
  - *Value: 3 and click Commit.*
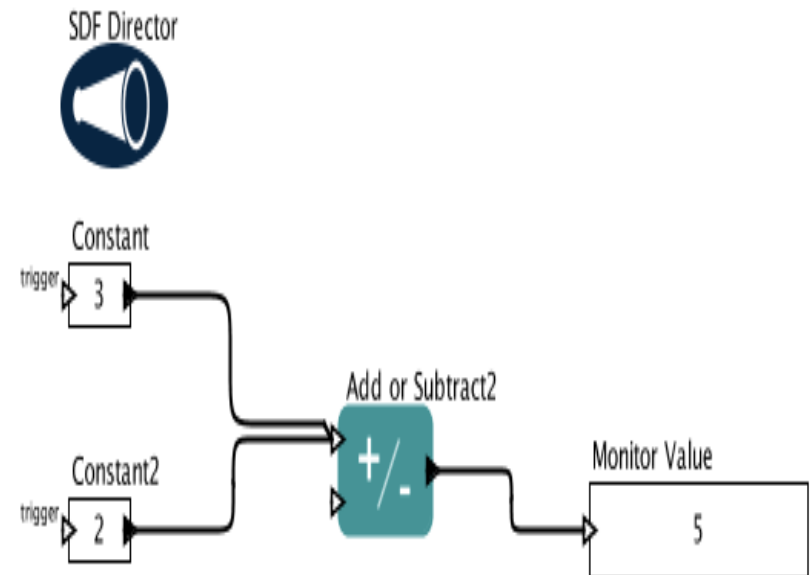 - *Repeat for the other one Value:2*

Continue: Simple Addition workflow

- Add/Subtract Actor:
    - *In the Components tab, **search** for "Add" select the Add or Subtract actor found under "Data Operation -> Mathematical Operation -> Arithmetic Operation."*
    - *Drag the actor to the Workflow canvas.*
- Connect the output ports of the *Constant* actors to the "add" input port of the *Add and Subtract* actor (the top port, the bottom one is "subtract" port).

Continue: Simple Addition workflow

- Add Output actor
  - *In the Components tab, **search** for "Monitor Value" and select the Monitor Value actor found under "Textual Output."*
  - *Drag the Monitor Value actor to the Workflow canvas.*
- Connect the output port of the *Add and Subtract* actor to the input port of the *Monitor Value* actor.
- Add Director
  - *In the Components and Data Access area, search for SDF Director.*
  - *Drag the SDF **Director** to the top of the Workflow canvas.*
- Save as "SimpleAddSubtract"
- Run

Batch-mode Execution

- Command to run "workflow.xml" in batch mode
- Nomenclature for arguments:

  – top-level workflow parameter: parameter name (param1)
  – parameters associated with actor: actorName.parameterName (actor1.param2)

```
./kepler.sh -runwf -nogui –param1 value1 –
actor1.param2 value2 /PathToWF/workflow.xml
```

More Information on Kepler

- https://kepler-project.org/users/documentation

- http://www.biokepler.org/userguide