ARTIS Live

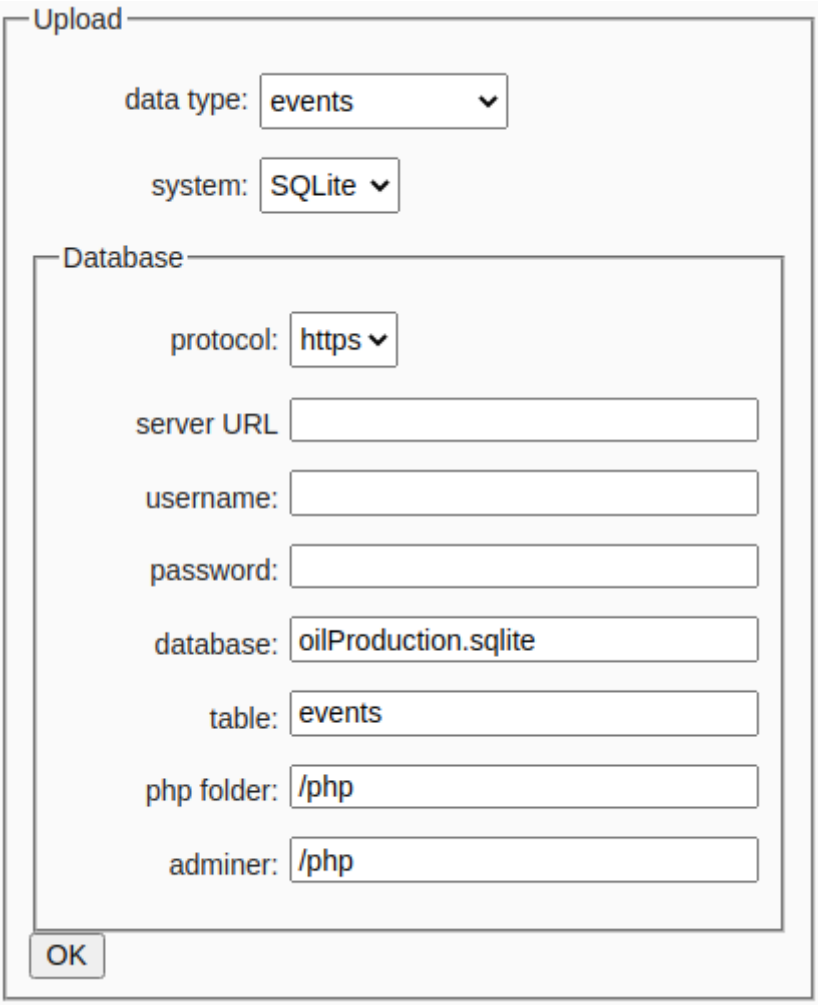
Here, you can see some features of ARTIS Live at work on the oil & gas example project. The project has collected its own historical downtime data in an SQLite database. ARTIS Live

- uploads the historical downtime data, on the observation period from 1 Nov 2019 till 5 Dec 2020, from the database
- reports the achieved production availability on that period,
- makes new estimates of some MTTF and MTTR parameters, and
- makes a forecast for the remaining hours of 2020

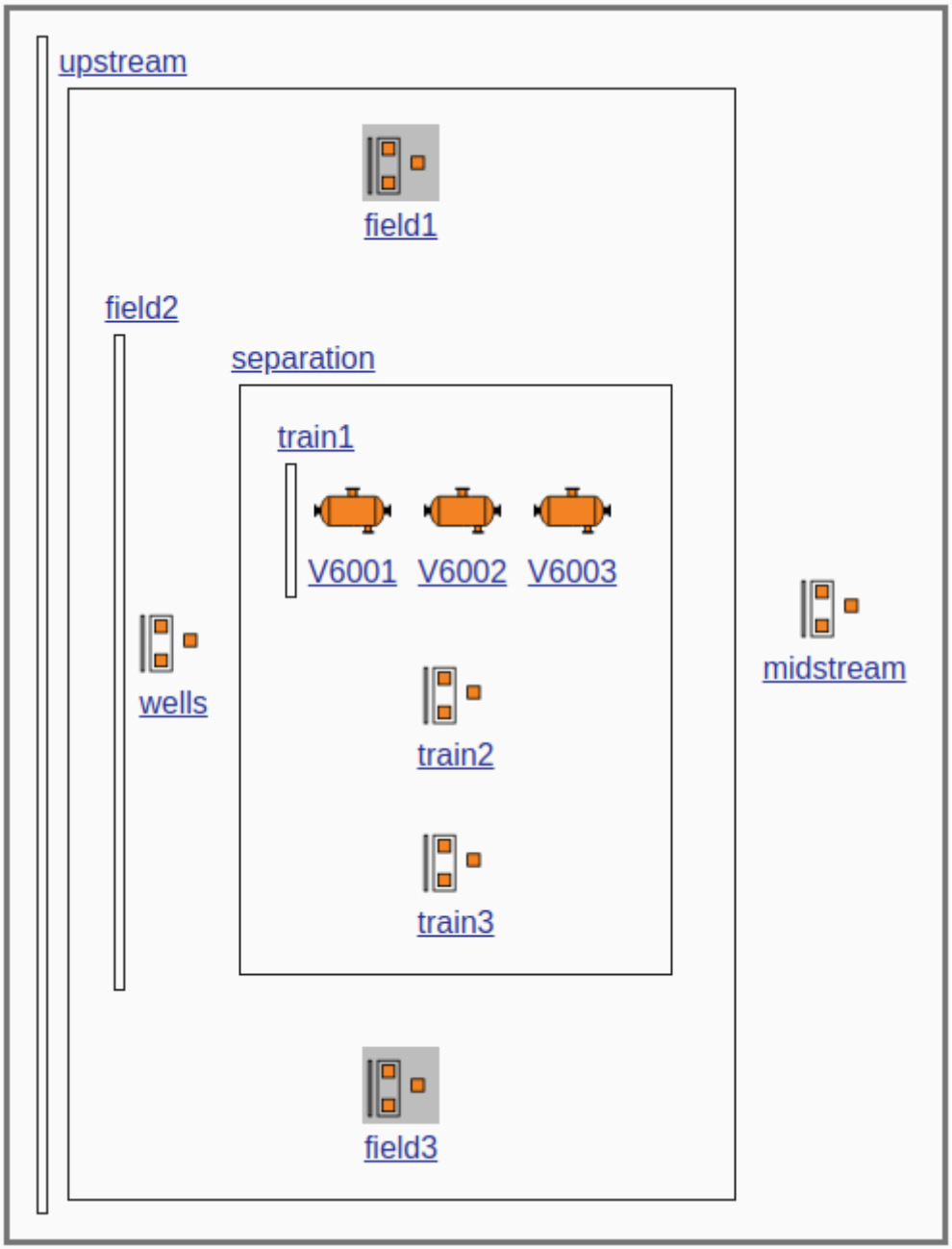
To follow this example, you can visit oilProduction.html.

Upload past events

1. Ctrl+U, data-upload, with the exact input shown below



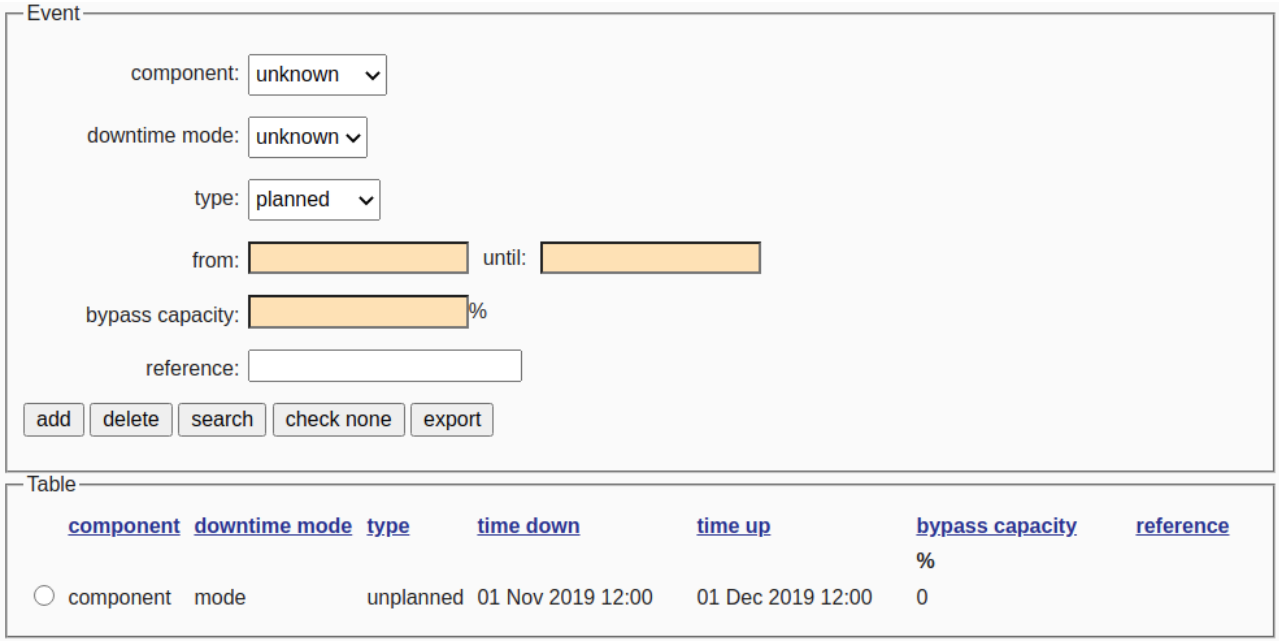
2. Click on the OK button, Only Once, this connects to the sqlite database on the ARTIS server with a query to upload the events table from the database into the model
3. In the diagram, click on upstream - field2 - separation - train 1



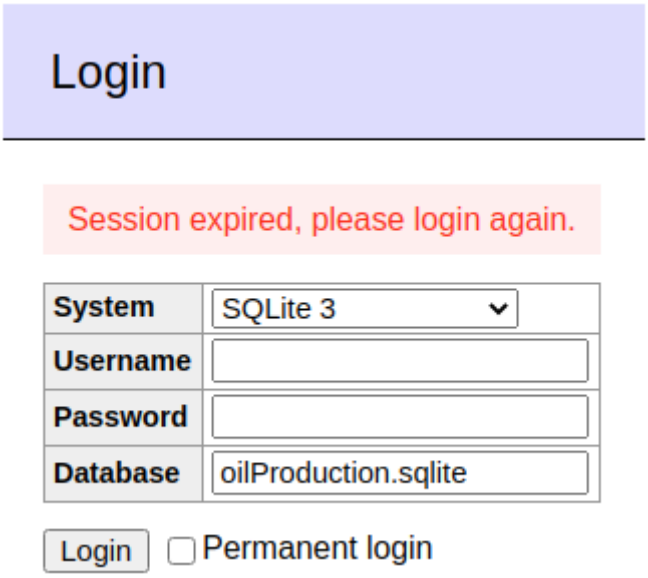
The groups and items that are down at the current time, in this example that is on 5 Dec 2020 at 00:00, have a grey background.

4. click on the V6001 icon, this shows the item form with the V6001 input

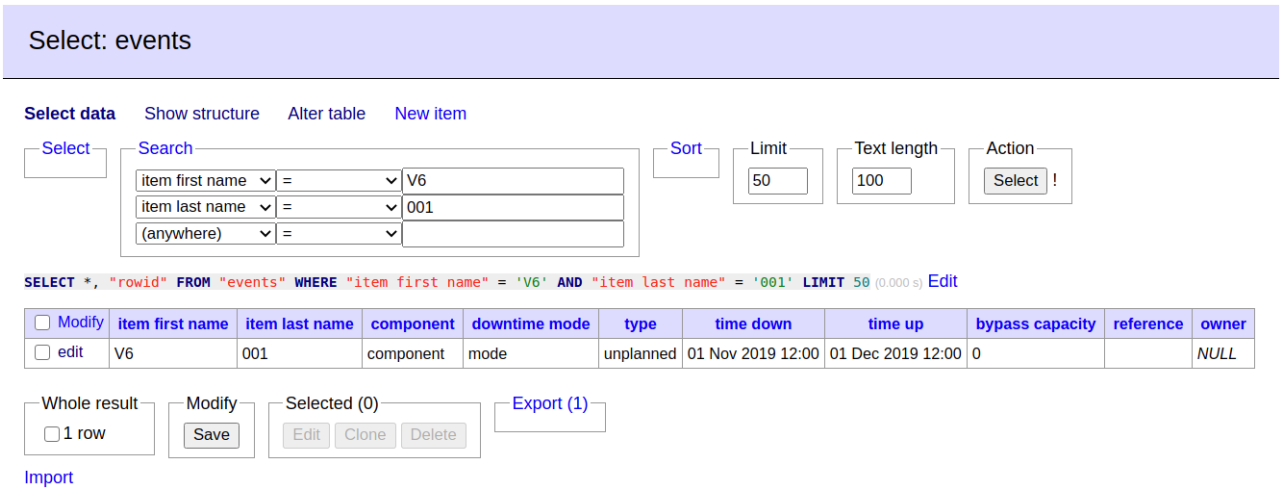
5. click on the events button, this shows the event form and the event table of V6001, with 1 unplanned event



6. click on the search button, this connects to the sqlite database on the ARTIS server with a query for the events of V6001



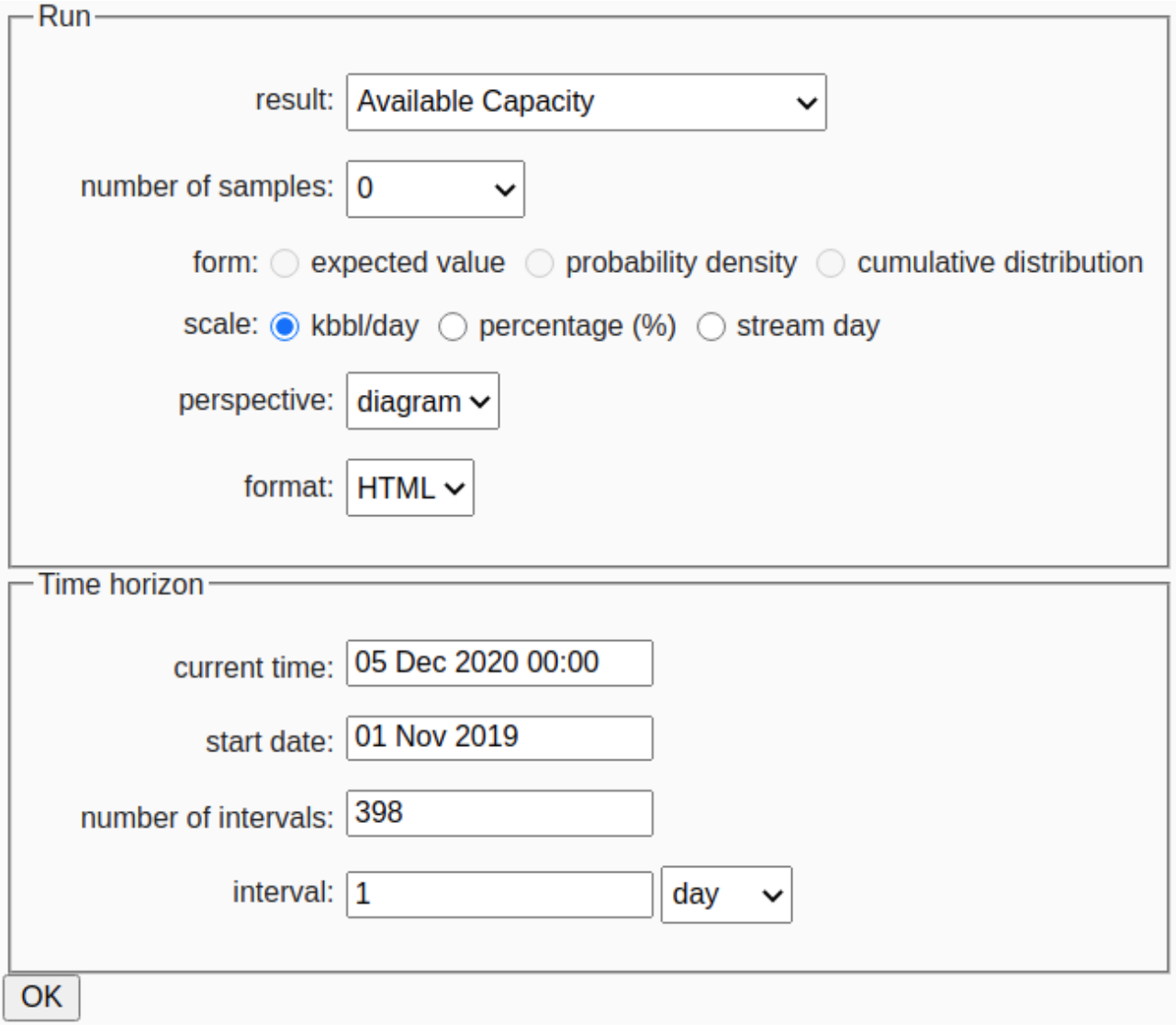
7. leave the username and password fields empty and click on the Login button, this opens a new browser tab with a view on the database table that shows the V6001 event



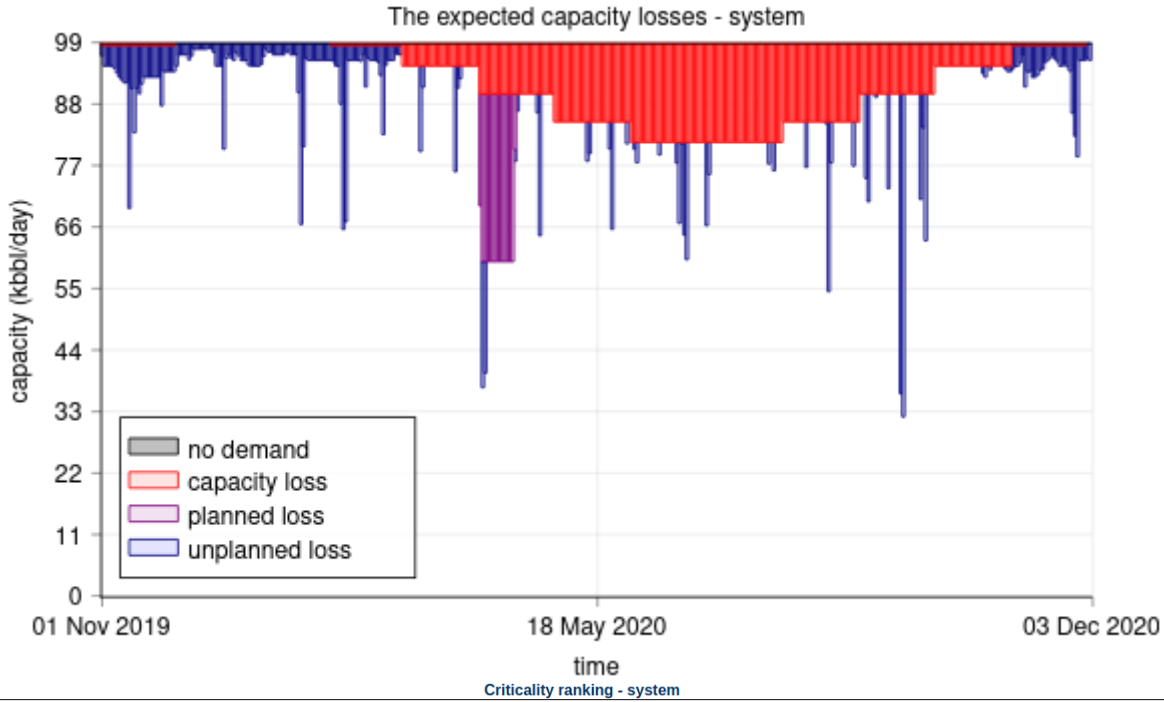
When you have seen this, you can close the new browser tab and revert to the model.

Report the production availability on the observation period

1. update the run form as shown below



2. click on the OK button and then on the Submit button, wait for the results.zip download to arrive (a few seconds)
3. save results.zip in your download folder and unzip it
4. open results.html to see the impact of the seasonal capacity swings and the planned and unplanned events



Criticality ranking - system

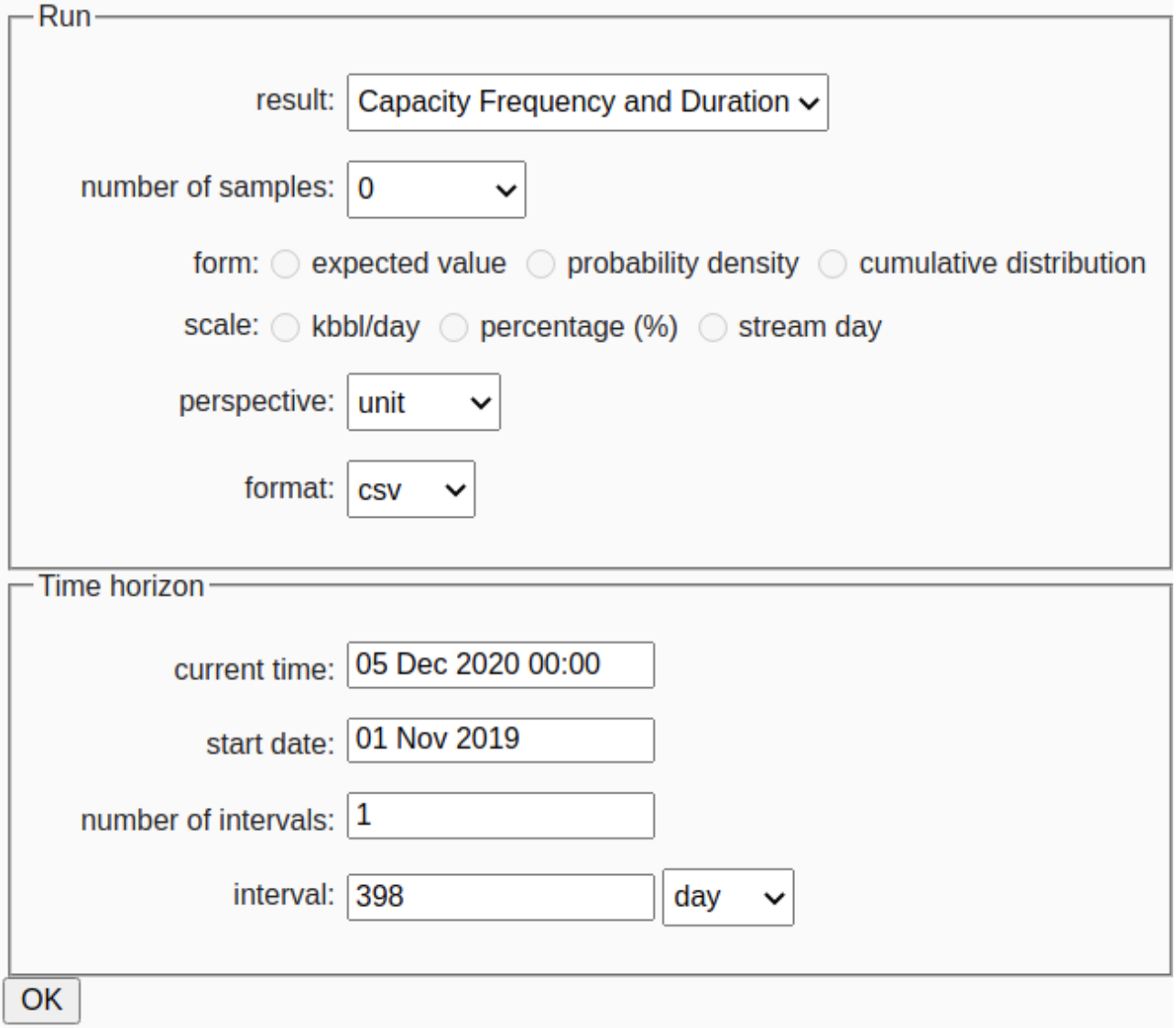
state of loss	maximum capacity kbbl/day	fraction of time	impact kbbl/day	availability loss kbbl/day	availability loss %
G11001	92.1	0.0322	30	1	1.0
V12001	92.1	0.00311	90	0.3	0.3
G11001	92.1	0.00706	32.9	0.2	0.3
+ (G11001 G12001)	92.1	0.00355	60	0.2	0.2
G12001	92.1	0.00441	32.3	0.1	0.2
+ (+ (well027 well018) well092)	92.1	0.0243	3	0.1	0.1
+ (well071 + (well031 + (well028 well029)))	92.1	0.0139	4	0.1	0.1
+ (⊥ (⊥ (V6002 V6001) V6003) well042)	92.1	0.014	4.7	0.1	0.1
+ (+ (⊥ (⊥ (V6002 V6001) V6003) well042) well090)	92.1	0.0185	5.7	0.1	0.1
+ (+ (⊥ (⊥ (V6002 V6001) V6003) + (well023 well018)) + (well090 well103))	92.1	0.00698	7.7	0.1	0.1
G10001	92.1	0.00424	27.1	0.1	0.1
G10001	92.1	0.00249	28.3	0.1	0.1
K10002	92.1	0.00213	28.3	0.1	0.1
D12001	92.1	0.0025	30	0.1	0.1
K10001	92.1	0.00241	30	0.1	0.1
K12003	92.1	0.00248	31.7	0.1	0.1
	92.1	0.00182	32.9	0.1	0.1
K11003	92.1	0.00185	32.9	0.1	0.1
⊥ (⊥ (V6002 V6001) V6003)	92.1	0.0129	3.7	0	0.1
K11003	92.1	0.00182	27.1	0	0.1
G12001	92.1	0.00161	30	0	0.1
G12001	92.1	0.00145	32.9	0	0.1

The criticality ranking shows

1. The largest production availability loss is from the planned downtime of the G10001, G11001, G12001 gas turbines.
2. The second largest impact arises from well downtime.
3. Treater V12001 had an unplanned event of about 1 day.

Report the average lifetime and downtime on the observation period

1. With the focus on the diagram, Ctrl+A, select all
2. Ctrl+R, run form (don't change any input)



3. click on the OK button and then on the Submit button, wait for the results download to arrive (a few seconds)
4. save artis.csv in your download folder
5. open artis.csv to review the average lifetime and downtime of the units, based on the uploaded events only
    1. Column H shows the mean lifetime.
    2. Column J shows the mean downtime.

Since the observation time is only a year, most units have seen only a few events. Only the wells have seen enough events to update their MTTF and MTTR.

This example is reproduced in the ARTIS Live example.