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# ACTIONX

Programming in the eclipse .DATA file

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-

```
ACTIONX
```

```
WWCT_ACTION '*' '*' /
```

```
WWCT '*' > 0.8 AND /  
Mnth > 'MAR' AND /  
YEAR > 2025 /
```

```
/
```

```
WELOPEN
```

```
'?' 'SHUT' /
```

```
/
```

```
WELOPEN
```

```
'A3' 'OPEN' /
```

```
/
```

```
ENDACTIO
```

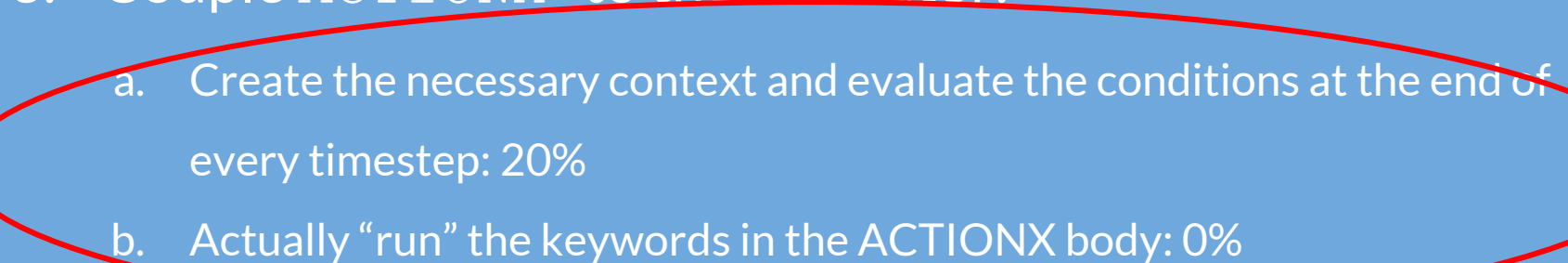
Action metadata

Condition

What to do - normal  
keywords.

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# ACTIONX in OPM

1. Internalizing the input: 100%
  2. Evaluate the condition: 90%
  3. Couple ACTIONX to the simulator:
    - a. Create the necessary context and evaluate the conditions at the end of every timestep: 20%
    - b. Actually “run” the keywords in the ACTIONX body: 0%
- 
-

An elephant is shown in profile, using its trunk to grasp the tail of a crocodile. The crocodile is lying on the ground, and the elephant's trunk is wrapped around its tail. The background is a dry, reddish-brown dirt area with some sparse green vegetation.

opm-simulators

```
Opm::Schedule{ ... }
```

ewoms

# The new simulator: msim

```
EclipseState state;

msim msim(state);

msim.well_rate("WELL1", data::Rates::opt::oil, oil_prod);

msim.well_rate("WELL1", data::Rates::opt::wat, water_prod);

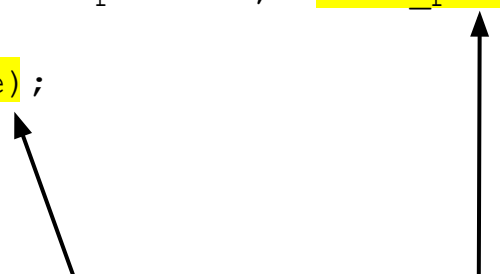
msim.solution("PRESSURE", pressure);

{
    Schedule sched;

    EclipseIO io;

    msim.run(sched, io);
}
```

Function pointers - used as callbacks from the mock simulator.



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# PYACTION?

```
PYACTION
```

```
if state["WWCT:OP_1"] > 0.75:  
    schedule.wells["OP_1"].close()  
    schedule.wells["OP_2"].open()
```

```
/
```

```
PYACTION
```

```
if mat_bal_error > 1e-6:  
    change_cpr()
```

```
/
```

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# Something very different - --ecl-strict-parsing

1. The `ParseContext` class has a new error handling mode:  
`DELAYED_EXIT1`.
2. All errors are collected, and then written to `stderr` before exit.

```
bash% flow --ecl-strict-parsing=true NORNE.DATA
```

```
Errors:
```

```
  PARSE_RANDOM_SLASH: Extra '/' detected at: "/home/hove/work/OPM/opm-tests/norne/NORNE_ATW2013.DATA":632  
  SUMMARY_UNHANDLED_KEYWORD: OPM/flow does not support region to region summary keywords - RGFT is ignored.  
  SUMMARY_UNHANDLED_KEYWORD: OPM/flow does not support region to region summary keywords - RWFT is ignored.  
  SUMMARY_UNHANDLED_KEYWORD: Summary keywords of type: NETWORK_VAR is not supported. Keyword: NLINERS is ignored
```