

12 ModuleInstanceDescriptors

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What	Required	Description	schema location
ModuleInstanceDescriptors.xml	yes	Definition of instances of modules	https://fewsdocs.deltares.nl/schemas/version1.0/moduleInstanceDescriptors.xsd

Each module configured in DELFT-FEWS must be registered in the ModuleInstanceDescriptors configuration. This is required to identify the module to DELFT-FEWS (the name is free format), but is also required to define the type of module through reference to the moduleDescriptors defined (see system configuration).

When available on the file system, the name of the XML file for configuring the ModuleInstanceDescriptors is for example:

ModuleInstanceDescriptors 1.00 default.xml

ModuleInstanceDescriptors Fixed file name for the ModuleInstanceDescriptors configuration

1.00 Version number

default Flag to indicate the version is the default configuration (otherwise omitted).

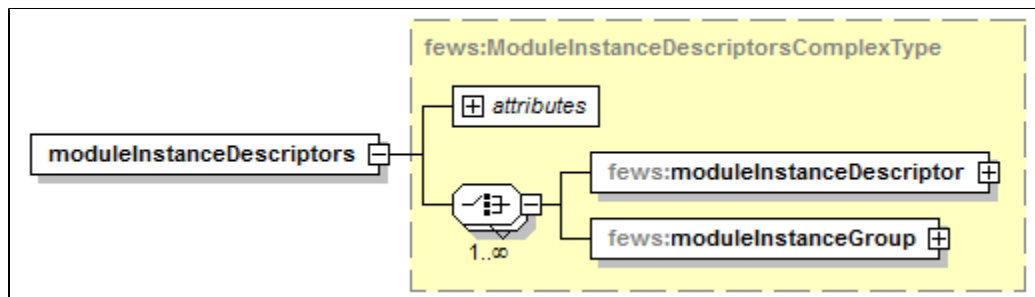


Figure : Root elements of the ModuleInstanceDescriptors configuration

ModuleInstanceDescriptors

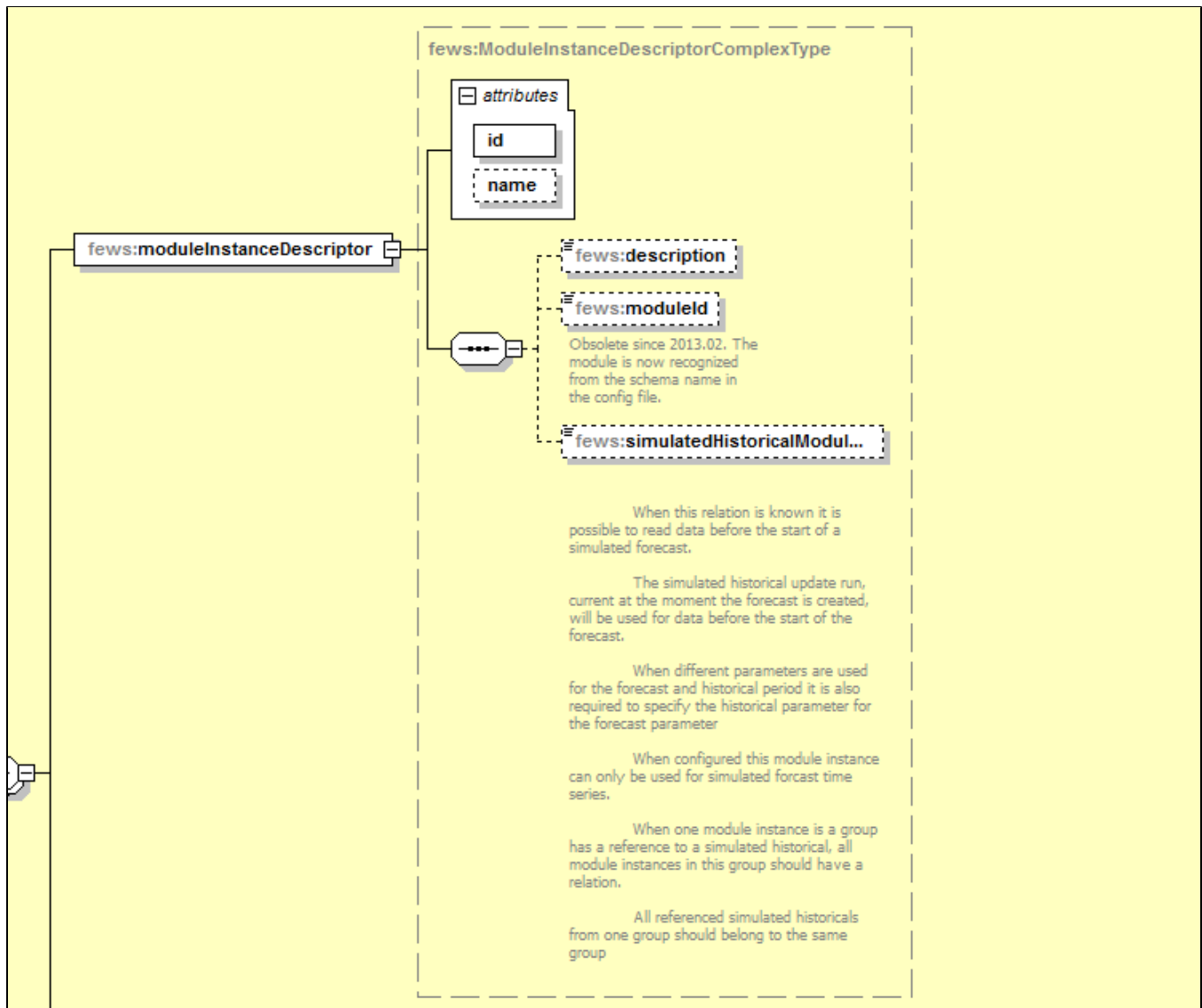
ModuleInstanceDescriptors contains two elements,

- moduleInstanceDescriptor, and
- moduleInstanceGroup.

Each of these two elements can be repeated and can be in any order.

ModuleInstanceDescriptor

One of the element of the ModuleInstanceDescriptors. For each module there is one ModuleInstanceDescriptor.



Attributes;

- **Id:** Id of the Module Instance. This Id must be unique. Normally a string is used that gives some understanding of the role of the module (e.g. *SpatialInterpolationPrecipitation*).
- **name:** Optional name for the module. Used for reference purposes only.

description

Optional description. Used for reference purposed only.

updateModuleRunTimesOnCompletion

Since 2021.01. When true run time statistics in ModuleRunTimes Table are updated for this module instance when the module instance is completed. These run times make it possible to predict when data becomes available the next time the workflow is executed

moduleId

Reference to the ModuleDescriptors defined in the SystemConfiguration to identify the type of module. Since Delft-FEWS Version 2013.02 this element is optional. The Module type is recognized from the Module Config file.

simulatedHistoricalModuleInstanceId

When given the relation is made between the module and (simulated historical) Module Instance given here.

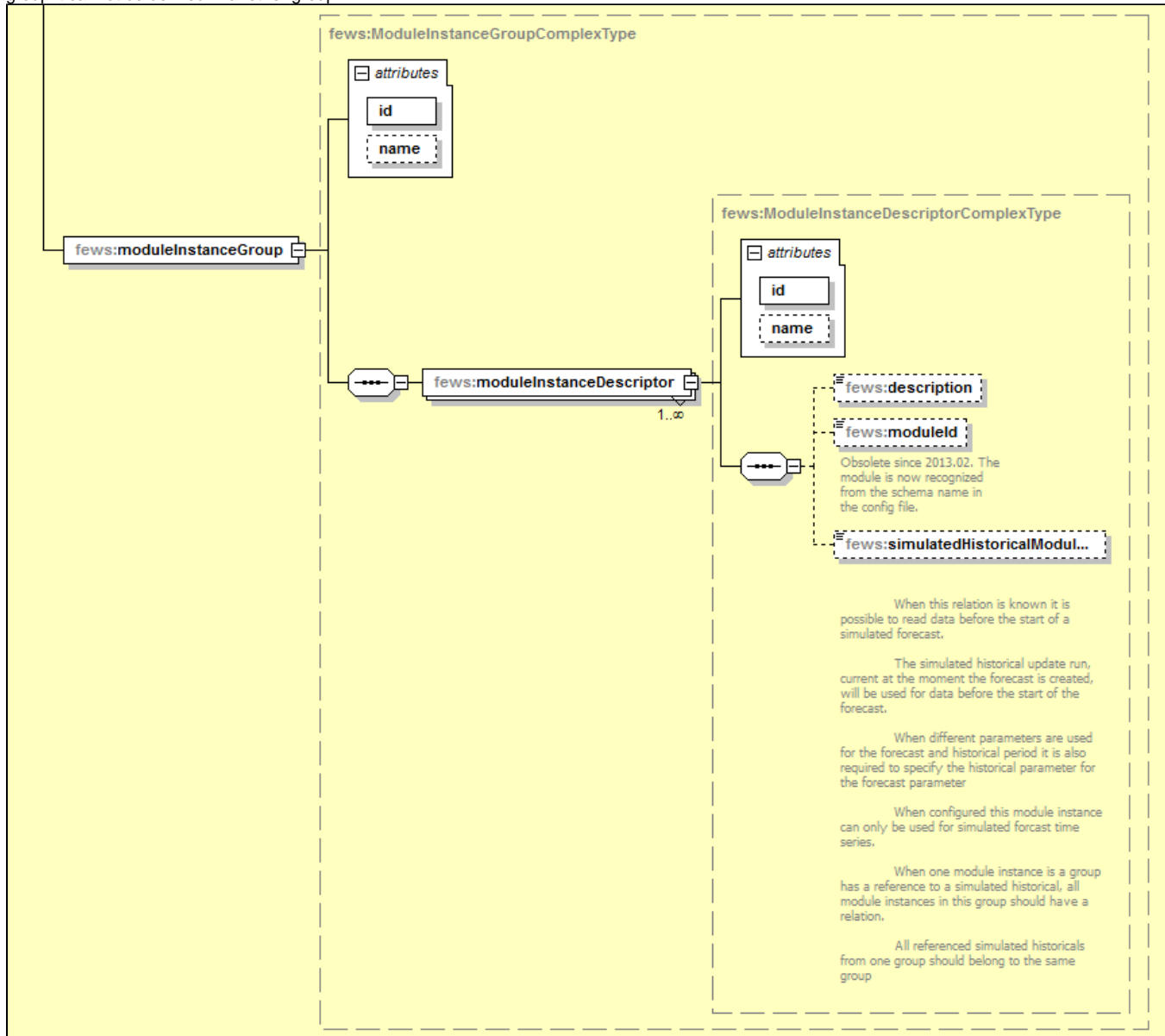
The simulated historical update run, current at the moment the forecast is created, will be used for data before the start of the forecast.

When different parameters are used for the forecast and historical period it is also required to specify the historical parameter for the forecast parameter

When configured this module instance can only be used for simulated forecast time series.

ModuleInstancegroup

Another element of the ModuleInstanceDescriptors. Here you group all modules under a common ModuleInstance. When a Module is defined in one group it cannot be defined in another group.



Attributes;

- `Id`: Id of the Module Instance group. This Id must be unique. Normally a string is used that gives some understanding of the role of the module (e.g. *SpatialInterpolationPrecipitation*).
- `name`: Optional name for the module group. Used for reference purposes only.

moduleinstanceDescriptor

One of the element is the ModuleInstanceDescriptors, as defined earlier. All instances of Modules defined here need not be defined again as individual moduleInstance. Each group can have multiple modules instances.

However following points to be taken into considerations when defining moduleInstances under a single group.

- If one module instance in a group has a reference to a simulated historical, all module instances in the group should have a reference to a simulated historical module.
- All referenced simulated historical moduleinstances should also belong to the same group.
- The ModuleInstancegroup for Historical and Forecast should match i.e. each module instance defined in historical (updatestates) module instance group should match on one-to-one basis with the forecast modules instance group. This means that no modulesinstances such as export, import should be added to module instance group.


```

<?xml version="1.0" encoding="UTF-8"?>
<moduleInstanceDescriptors xmlns="http://www.wldelft.nl/fews" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
                        xsi:schemaLocation="http://www.wldelft.nl/fews https://fewsdocs.deltares.nl/schemas
/version1.0/moduleInstanceDescriptors.xsd" version="1.0">
  <moduleInstanceDescriptorsCsvFile>
    <file>moduleInstanceDescriptors.csv</file>
    <id>%moduleInstanceId%</id>
    <name>%moduleInstanceName%</name>
    <description>%description%</description>
    <group>%groupId%</group>
    <groupName>%groupName%</groupName>
    <updateModuleRunTimesOnCompletion>%updateModuleRunTimesOnCompletion%</updateModuleRunTimesOnCompletion>
    <simulatedHistoricalModuleInstanceId>%simulatedHistoricalModuleInstanceId%<
/simulatedHistoricalModuleInstanceId>
    <waterCoachExternalForecastDelayHours>%waterCoachExternalForecastDelayMinutes%/60<
/waterCoachExternalForecastDelayHours>
    <timeZoneOffset>+01:00</timeZoneOffset>
    <dateTimePattern>yyyyMMdd HH:mm</dateTimePattern>
    <attribute id="test">
      <text>%test%</text>
    </attribute>
    <attribute id="DESC">
      <text>%description%</text>
    </attribute>
    <attributeFile>
      <csvFile>moduleInstanceDescriptors_attributes.csv</csvFile>
      <id>%ID%</id>
      <attribute id="EXTERNAL_ID">
        <text>%EXTERNAL_ID%</text>
      </attribute>
    </attributeFile>
  </moduleInstanceDescriptorsCsvFile>
</moduleInstanceDescriptors>

```

ModuleInstanceDescriptors.csv located in MapLayerFiles config directory can be as simple as:

```

ID, test
import, a
sobek, b
archive, c

```

ModuleInstanceDescriptors_attributes.csv located in MapLayerFiles config directory

```

ID, EXTERNAL_ID
import, A
sobek, B
archive, C

```