

Filling Out the Context Object Class

Following are the context object classes and their attributes. Only one instance of one of these may appear in any context product. Only the context objects that a data preparer is likely to use are listed. There are some additional objects used for PDS system maintenance. Your PDS consultant will advise you directly in the unlikely event you need to create context products for these.

NOTE: The *<title>* attribute found in the *<Identification_Area>* contains the official name of whatever it is the context object is describing. While *<title>* is always required, *<name>* is frequently optional. If you do supply a value for *<name>*, the value should be very close to, if not the same as, the *title* in the *Identification_Area*.

For additional explanation, see the [PDS4 Standards Reference](#), or contact your PDS node consultant.

Note that in the PDS4 master schema, all classes have capitalized names; attributes never do.

<Agency>

This is used to provide basic information about an agency, like NASA or ESA.

<name>

REQUIRED

This *must* be identical to either the value of the *<title>* or one of the *<alternate_title>* attributes listed in the *Identification_Area*.

<description>

REQUIRED

This is for a brief description of the agency named.

<Facility>

This class is used for facilities like a terrestrial labs and observatories. Although every field within it is optional (because different facilities have different known attributes), you should *never* send an empty *<Facility>* class to the Node for archiving.

<name>

OPTIONAL

This should be the same as or equivalent to the value of the *<title>* attribute in the *Identification_Area*.

<type>

OPTIONAL

This must be one of the two standard values *Laboratory* or *Observatory*. If you need a different value, contact your PDS consultant.

<address>

OPTIONAL

This is a text field to hold the address (mailing address, street address or both) of the facility.

<country>

OPTIONAL

This attribute is for the name of the country. It's not clear why this is here. If you use it, I suggest you use it for the full name of the country, with the intention of using it for searching out ground-based observatories and related data by country of origin.

<description>

OPTIONAL

This is a place for free-format text to provide additional relevant details about the facility.

<Instrument>

Use this for anything that can be reasonably considered to be an instrument, in the "taking data" sense.

<name>

OPTIONAL

This should be the same as or equivalent to the value of the *<title>* attribute in the *Identification_Area*.

<type>

REQUIRED

This must be one of the standard values listed in the [Standard Values Quick Reference](#). If the instrument you're describing corresponds to more than one of these values, you may repeat the *<type>* attribute.

<model_id>

OPTIONAL

If the instrument has a model number or the equivalent, it can be recorded here.

<naif_instrument_id>

OPTIONAL

If the instrument being described has a NAIF identification code, type it in here.

<serial_number>

OPTIONAL

If the instrument has a known serial number, this is the place for it.

<description>

REQUIRED

Free-format text description of the instrument.

<Instrument_Host>

This class is for describing the (space) hardware an *Instrument* is physically mounted on, to, or in. Practically speaking, this will generally be the spacecraft or vehicle (as opposed to a specific boom, platform, or dewar), at least in current usage.

Do not use this context object for ground-based things like telescopes and observatories that live on Earth - they have their own specific context objects.

<name>

OPTIONAL

This should be the same as or equivalent to the value of the <title> attribute in the *Identification_Area*.

<type>

REQUIRED

This must be one of the standard values **Lander**, **Rover**, or **Spacecraft** (or **Earth-Based**, but see the box following).

Note: These values don't correlate well to some cases, or sometimes when compared to each other. Use these rules (use them very roughly, if necessary):

- If it moves through space, it's a *Spacecraft*.
- If it is more-or-less permanently orbiting Earth, it's a *Spacecraft*.
- If it moves around on something other than Earth, it's a *Rover*.
- If it doesn't move and it's not on Earth, it's a *Lander*.
- If it's on Earth, in Earth, or returns to Earth between observing runs, you're probably using the wrong context object. Instead, use the appropriate ground-based context object, like *Telescope* or *Facility*. If there doesn't seem to be an appropriate ground-based context object, contact your archiving node.

<naif_host_id>

OPTIONAL

If the host has a NAIF identification code, this is the place to put it.

<serial_number>

OPTIONAL

If the host has a known serial number, it can be recorded here for posterity,

<description>

REQUIRED

This is a free-format text description of the instrument host.

<Investigation>

This class is for describing a mission, a coordinated observing campaign, or some other large-scale, organized (and typically funded to ensure archiveable results) effort to collect data.

<name>

OPTIONAL

This should be the same as or equivalent to the value of the *<title>* attribute in the *Identification_Area*.

<type>

REQUIRED

This must be one of the four standard values: **Individual Investigation, Mission, Observing Campaign, Other Investigation.**

<start_date>

REQUIRED

The date of the start of the investigation, in YYYY-MM-DD format.

<stop_date>

REQUIRED

The date of the end of the investigation, in YYYY-MM-DD format.

If this is not available for some reason (most often that the investigation isn't over yet), you can use the *nilreason* attribute, like this:

```
<stop_date xsi:nil="true" nil_reason="anticipated"/>
```

<description>

REQUIRED

This is a free-format text description of the investigation.

<Other>

Use this context class only if no other class is reasonably applicable.

<description>

REQUIRED

This free-form text should provide whatever key details about the context object are relevant to the archive. Best to be explicit about this if you're using the *Other* context object.

<Target>

Use this class when it is useful to define a target context object for an observational target. It provides a permanent hub for linking to additional description and information (via the *Reference_List*, primarily).

Target products should be created when such a hub is wanted/needed. For example, if the target is a piece of hardware, like a calibration lamp, with specific characteristics that can be/are described by associated document products in the archive (or published references outside the archive), a *Target* product can link the target name to those references via the *<Reference_List>* and could be very helpful to end users. *Target* products for half a million anonymous asteroids - not so much.

<name>

OPTIONAL

This should be the same as or equivalent to the value of the *<title>* attribute in the *Identification_Area*.

<type>

OPTIONAL

If present, the value must be one of the standard values from the list in the [Standard Values Quick Reference](#). If more than one of these types applies to the *Target*, you may repeat the *<type>* attribute.

<description>

REQUIRED This free-format text field must contain a description of the target itself.

<Telescope>

This class is designed for identifying and providing key details about terrestrial telescopes, fixed and roving.

<aperture>

REQUIRED

This attribute holds the diameter of the telescope aperture. You must specify a unit of length for this value. For example:

```
<aperture unit="m">1.3</aperture>
```

<telescope_longitude>

OPTIONAL

The East longitude of a permanent telescope mounting, in the range 0-360°. The value is a single floating-point number, and you will need to specify units for the value. For example:

```
<telescope_longitude unit="deg">123.4567</telescope_longitude>
```

<telescope_latitude>

OPTIONAL

North latitude of a permanent telescope mounting, in the range $\pm 90^\circ$. The value is a single floatingpoint value, and you will need to specify units for the value. For example:

```
<telescope_latitude unit="deg">-12.34567</telescope_latitude>
```

<telescope_altitude>

REQUIRED

This is the altitude of the telescope above sea level. You will have to specify units for this value:

```
<altitude unit="m">14000</altitude>
```

<coordinate_source>

OPTIONAL

This is a free-format text field used to indicate the source of the telescope coordinates, if any. If the coordinates are from a known definitive source (a USGS survey, for example), then definitely cite it here. If the source is unknown or not intended to be particularly accurate, you can omit this attribute entirely.

<description>

OPTIONAL

This is for a free-format text description of the telescope.

For telescopes that have no coordinates: If the telescope being described has no latitude, longitude, or altitude because it is a mobile telescope, please do include a *description* that contains at least the words "mobile telescope". Otherwise, please use the *description* text to explain as precisely as possible what sort of telescope this is and where it is permanently located, so that others may find its coordinates when needed.