

Gaudi
Object
Description
-
Cookbook

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Content

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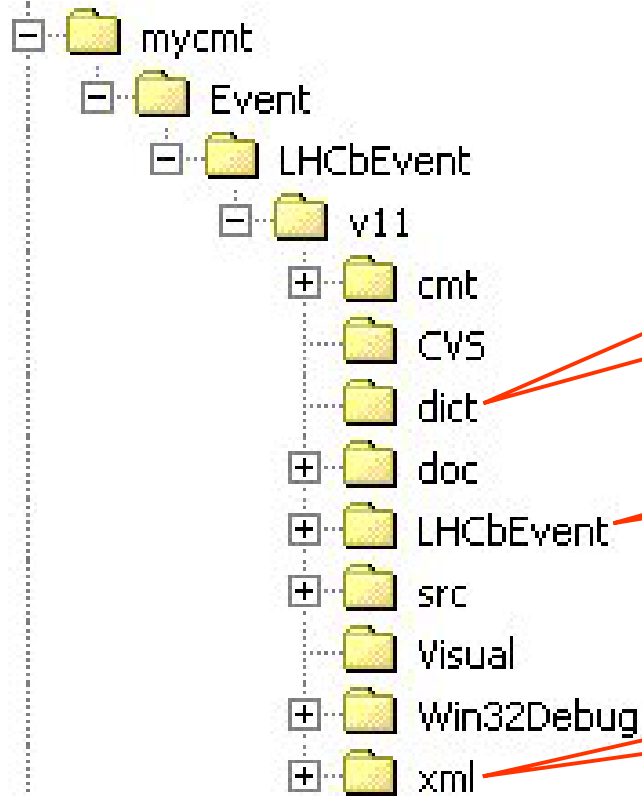


Modifications in Eventpackage

- *requirements-file* (e.g. *LHCbEvent*)
 - *General changes*
 - `use GaudiObjDesc v2`
 - *header-file production*
 - `document obj2doth LHCbEventObj2Doth ../xml/LHCbEvent.xml`
 - *dictionary-file production*
 - `document obj2dict LHCbEventObj2Dict -group=dict ../xml/LHCbEvent.xml`
 - `library LHCbEventDict -group=dict ../dict/*.cpp`
 - `macro LHCbEventDict_shlibflags "$(use_linkopts) $(libraryshr_linkopts)"`



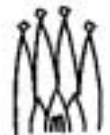
Package tree



cpp-files produced from XML
for dictionary-dll
(dir will be created for you)

header-files produced
from XML

XML source-file
(e.g. LHCbEvent.xml)



XML-Examples

```
<?xml version='1.0' encoding='UTF-8' ?>
<!DOCTYPE gdd SYSTEM "gdd.dtd">
<gdd>
  <package name='LHCbEvent'>
    <class name='MCEvent' author='Pavel Binko'
      id='200' desc='Stores essential info ..... '>
      <base name='DataObject' />
      <import name='algorithm' std='TRUE' />
      .....
    </class>
  </package>
</gdd>
```



XML-Examples

```
<constructor argList='const char* name'  
  desc='special constructor'>  
  <code>  DataObject::DataObject("MCEvent");  
  setVersion(2); m_lumi=0.0; </code>  
</constructor>
```

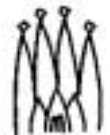
```
<destructor desc='Destructor'>  
  <code>  vector<SubMCEvent*>::iterator it;  
  for (it=m_subMCEvents.begin(); ..... </code>  
</destructor>
```



XML-Examples

```
<method type='bool' name='operator=='  
  argList='RandomNumberSeed t' desc='.....'>  
  <code> return(m_seed1==t.m_seed1);</code>  
</method>
```

```
<method name='results' desc='...'>  
  <arg type='std::string' name='name' />  
  <arg type='bool' name='tkr' inout='BOTH' />  
</method>
```



XML-Examples

```
<attribute type='double' name='lumi'  
  desc='Instantaneous luminosity used to ...' />  
<attribute name='subMCEvents' desc='.....'  
  type='std::vector<SubMCEvent*>' />
```

```
<relation name='originMCVertex'  
  type='MCVertex' clrMeth='FALSE' desc='...' />  
<relation name='decayMCVertices'  
  multiplicity='M' type='MCVertex' desc='...' />
```



Tips & Tricks

- *Use Sebastiens XML-Editor*
- *Use single quotes (') instead of double quotes (")*
 - *(C++ doesn't know about ')*
- *make files*
 - *header-files: make*
 - *dictionary-files: make dict*
 - *for reproducing files*
 - *touch the xml-file or*
 - *delete „<package>/<package>.obj2doth“ (for header-files)*
 - *delete „dict/<package>.obj2dict“ (for dictionary-files)*



Tips & Tricks

- *Order of elements has to be obeyed*
 - *Ordering of attributes not necessary*
- *“name“, “type“, “desc“, are required attributes*
 - *Parser will complain if you don't provide them*
- *Don't forget escaping of characters*
 - *< with > > with < & with &*
 - *' with ' “ with " (only for attributes)*
- *<desc> and <code> use PCData (text as is)*
 - *except character escaping for <, > and &*



Additional information

- *Documentation*
 - *<http://cern.ch/lhcb-comp/Frameworks/DataDictionary>*
- *Packages*
 - *GaudiObjDesc – v2*
 - *GaudiIntrospection – v2*
- *Packages compliant to GaudiObjDesc*
 - *Event/LHCbEvent – v12*
 - *Event/PhysEvent – v1r1*



Dictionary Source-File

```
[... include-files, class-definition with constructor,  
static instance of class ...]  
MCEvent_dict::MCEvent_dict() {  
    MetaClass* metaC = new MetaClass("MCEvent", "Stores  
essential information of the Monte Carlo event");  
    metaC->addSuperClass("DataObject");  
  
    new MetaField("lumi", "double", "Instantaneous luminosity  
used to ...", &((MCEvent*)0)->m_lumi, metaC);  
  
    MetaPropertyList* pl = new MetaPropertyList();  
    pl->setProperty("Author", "Pavel Binko");  
    pl->setProperty("ClassID", "200");  
    metaC->setPropertyList(pl);  
}
```

