

gallery - Support #16152

Can't create art::Ptr<T> from gallery::Handle or gallery::ValidHandle

04/11/2017 12:15 PM - Corey Adams

Status:	Closed	Start date:	04/11/2017
Priority:	Normal	Due date:	
Assignee:	Marc Paterno	% Done:	0%
Category:		Estimated time:	0.00 hour
Target version:		Spent time:	4.00 hours
Scope:	Internal	SSI Package:	gallery
Experiment:	-		

Description

Hi again,

I am trying to make some larsoft code portable into gallery. I am stuck on what appears to be a missing piece from gallery that's available in full blown art.

The following code works in larsoft:

```
art::InputTag _input_tag(label);
art::Handle< std::vector<recob::Hit> > theHits;
evt.getByLabel(_input_tag, theHits);

if (!theHits.isValid())
{
    // mf::LogDebug("LArPandora") << " Failed to find hits... " << std::endl;
    return;
}
else
{
    // mf::LogDebug("LArPandora") << " Found: " << theHits->size() << " Hits " << std::endl;
}

for (unsigned int i = 0; i < theHits->size(); ++i)
{
    const art::Ptr<recob::Hit> hit(theHits, i);
    hitVector.push_back(hit);
}
```

But, when I port it to gallery (art::Handle -> gallery::Handle) it complains:

```
LArPandoraHelper.cxx:47:59: warning: unused parameter 'evt' [-Wunused-parameter]
void LArPandoraHelper::CollectWires(const gallery::Event &evt,
```

```
In file included from /data/products/larsoft/canvas/v1_05_01/include/canvas/Persistency/Common/Ass
ns.h:82:0,
```

```
from /data/products/larsoft/canvas/v1_05_01/include/canvas/Persistency/Common/det
ail/IPRHelper.h:7,
```

```
from /data/products/larsoft/canvas/v1_05_01/include/canvas/Persistency/Common/Fin
dManyP.h:124,
```

```
from LArPandoraHelper.cxx:14:
```

```
/data/products/larsoft/canvas/v1_05_01/include/canvas/Persistency/Common/Ptr.h: In instantiation o
f 'art::Ptr<T>::Ptr(const H&, art::Ptr<T>::key_type) [with H = gallery::Handle<std::vector<recob::
Wire> >; T = recob::Wire; art::Ptr<T>::key_type = long unsigned int]':
```

```
LArPandoraHelper.cxx:68:53: required from here
```

```
/data/products/larsoft/canvas/v1_05_01/include/canvas/Persistency/Common/Ptr.h:262:11: error: 'con
st class gallery::Handle<std::vector<recob::Wire> >' has no member named 'id'
```

```
key_(idx)
```

```
/data/products/larsoft/canvas/v1_05_01/include/canvas/Persistency/Common/Ptr.h: In instantiation o
f 'art::Ptr<T>::Ptr(const H&, art::Ptr<T>::key_type) [with H = gallery::Handle<std::vector<recob::
```

```
Hit> >; T = recob::Hit; art::Ptr<T>::key_type = long unsigned int]':  
LArPandoraHelper.cxx:96:50:   required from here  
/data/products/larsoft/canvas/v1_05_01/include/canvas/Persistency/Common/Ptr.h:262:11: error: 'const class gallery::Handle<std::vector<recob::Hit> >' has no member named 'id'
```

It appears the Handle (and ValidHandle, I tried that first) class in gallery is missing the id member. Is there a work around for this, or is this a bug that needs to be fixed?

Thanks!
Corey

History

#1 - 04/11/2017 12:18 PM - Kyle Knoepfel

- Description updated

#2 - 04/17/2017 11:26 AM - Kyle Knoepfel

- Status changed from New to Accepted

- Assignee set to Marc Paterno

This appears to be an omission from the gallery feature list. We will implement it. Estimated time to be determined.

#3 - 04/27/2017 02:55 PM - Marc Paterno

- Status changed from Accepted to Feedback

The reason that the *gallery* handle templates (both Handle and ValidHandle) do not allow for creation of *art::Ptr* objects is that neither have the metadata (the ProductID) necessary for the construction of a *Ptr*.

After analysis, adding this metadata to *gallery*'s handles would make reading of *art/ROOT* files in *gallery* significantly slower, and so we are disinclined to make this change.

If the consensus among the experiments is that the slowdown (our guess is a factor of two, but that is just a guess) is worthwhile, we could implement the necessary features.

As additional information, the CMS "FWLite" (to which *gallery* is related) does not support this, for the same reason as *gallery* does not: the speed hit is too great.

Please let us know if you wish to take up the issue among the experiments. If you wish, we could schedule time for you to present a case at an upcoming stakeholder meeting.

#4 - 06/06/2018 12:36 PM - Kyle Knoepfel

- Tracker changed from Bug to Support

- Status changed from Feedback to Closed

- SSI Package gallery added

Closed due to Marc's explanation in [#16152-3](#). If additional assistance is needed in determining a path forward for handling this type of use case, please open another issue.