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manTree Root Trees & Analysis Framework

Important: For 2012 analysis with D3PDs see SFrameD3PD.

Introduction

The manTree package contains a set of classes for storing physics objects for final analysis. It can be used outside of athena, for example in SFrame. The code is in [svn](#) and the html descriptions of the classes can be found [here](#). This page covers the release 17 version of the code, for release 16 please see ManTreeRel16. The recommended way to compile the package is to follow the instructions below.

Analysis Framework

In order to do a complete analysis, there are a set of packages provided by ATLAS for applying common prescriptions. These packages are made available through the TopRootCore package and we interface to these packages using the topUtils package.

First Time Setup

The following instructions should be followed to setup up & compile sframe, manTree and the common analysis packages:

Commands to be entered into the terminal start with '>'

Export CERN_USER variable:

```
> export CERN_USER=yourcernlplususername
```

Setup root core (note this also sets up root v5.28.00):

```
> source /nfs/software/AtlasSoftware/RootCore/Root_v528_Rel17_ICHEP12/RootCore/scripts/setup.sh
```

Export SVNMAN variable:

```
> export SVNMAN=svn+ssh://$CERN_USER@svn.cern.ch/repos/atlasinst/Institutes/Manchester
```

Go to a directory where you want to work from:

```
> cd somedir
```

Check out sframe:

```
> svn co https://sframe.svn.sourceforge.net/svnroot/sframe/SFrame/tags/SFrame-03-04-23 SFrameArea
```

```
> cd SFrameArea
```

Patch sframe:

```
> patch core/include/SCycleBaseNTuple.icc /afs/hep.man.ac.uk/g/atlas/SFramePatches/16June11/SCycl
```

Build sframe:

```
> source ./setup.sh
```

```
> make
```

Check out manTree packages:

```
> svn co $SVNMAN/SFrame/manTree/trunk manTree
```

```
> svn co $SVNMAN/SFrame/SFToolInterfaces/tags/SFToolInterfaces-00-00-01 SFToolInterfaces
```

```
> svn co $SVNMAN/SFrame/manTreeSFrameBase/trunk manTreeSFrameBase
```

```
> svn co $SVNMAN/SFrame/topUtils/branches/topUtils-01-02-06-branch topUtils
```

```
> svn co $SVNMAN/SFrame/exampleManTreeCycle/trunk exampleManTreeCycle
```

Build manTree packages:

```
> cd manTree
```

```
> make
```

```
> cd ../manTreeSFrameBase
```

```
> make
```

```
> cd ../topUtils
```

```
> make
```

```
> cd ../exampleManTreeCycle
```

```
> make
```

Make a soft link to the RootCore par file (needed for proof running):

```
cd $SFRAME_LIB_PATH
```

```
ln -s $ROOTCOREDIR/./RootCore.par .
```

Setup for Each Session

Each time you start a new terminal and want to work on the analysis you need to do the following steps:

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Go to your sframe directory:

```
> cd pathto/SFrameArea
```

Export CERN_USER variable:

```
> export CERN_USER=yourcernlplususername
```

Setup root core (also sets up root v5.28):

```
> source /nfs/software/AtlasSoftware/RootCore/Root_v528_Rel17_ICHEP12/RootCore/scripts/setup.sh
```

setup sframe:

```
> source ./setup.sh
```

It's probably most convenient to put these commands into a script to save typing them in each time.

Running the Example Cycle

There is an example sframe cycle in `exampleManTreeCycle`. It can be run with the following (don't forget the setup commands):

```
> cd $SFRAME_DIR
```

```
> cd exampleManTreeCycle
```

```
> sframe_main config/TestCycle_config.xml
```

Making manTrees

Instructions for making manTrees are at [ManTreeMaking](#).

manTree Samples

A list of currently available samples can be found at [ManTreeSamples](#).

-- MarkOwen - 16-Sep-2011

This topic: [AtlasSandbox](#) > [ManTree](#)

Topic revision: r40 - 2012-07-11 - MarkOwen



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