

IceCube Software

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Overview of IceCube Software

IceCube uses *meta-projects* - simply a list of links to projects.

The Big 3 :

- offline-software - core software (icetray, dataclasses, etc...)
- simulation - offline + simulation projects + shared projects.
- reconstruction - offline + reconstruction projects + shared projects.


Other meta-projects

- EHE - Specific for GZK searches
- jeb - Online filtering (a.k.a. PnF "Processing and Filtering")

Documentation : <http://software.icecube.wisc.edu/documentation>

Browsing the Repository (<http://code.icecube.wisc.edu>)

Browsing the repository



The screenshot shows the IceCube Trac system homepage. At the top is the IceCube logo and a search bar. Below the logo is a navigation bar with tabs: Wiki, Timeline, Roadmap, Browse Source, View Tickets, New Ticket, Search, Admin, and Ticket Graph. The 'Wiki' tab is selected. The main content area has a heading 'Welcome to the IceCube Trac system' and a subheading 'Welcome to the IceCube Software Repository. From this page, you may:'. Below this is a list of links: 'Browse source code with Trac', 'Peruse the change log of various files and directories', 'View diffs of entire changesets', and 'View the other projects hosted here'. An arrow points from the text 'Browsing the repository' to the first link. Below the list is a paragraph 'or if you are distracted and confused by this functionality,' followed by a link 'Browse source code with simple SVN'. Then, a paragraph states 'Please make sure your name and email address are properly set for your account on the Settings Page.' and another paragraph says 'If you have any problems, requests for new features, or other comments, please send them to svn_admin (at) icecube.umd.edu'. The page is divided into sections: 'Documentation' with a link to 'http://software.icecube.wisc.edu/', 'Discussion' with links to 'Slack' and 'IceCube-SPNO team', and 'Testing' with links to 'Build results' and 'builds.icecube.wisc.edu/buildslaves'.

code.icecube.wisc.edu

ICECUBE

logged in as olivas | Logout | Preferences | Help/Guide | About Trac

Wiki | Timeline | Roadmap | Browse Source | View Tickets | New Ticket | Search | Admin | Ticket Graph

wiki: WikiStart | Start Page | Index | History

Welcome to the IceCube Trac system

Welcome to the IceCube Software Repository. From this page, you may:

- [Browse source code with Trac](#)
- [Peruse the change log of various files and directories](#)
- [View diffs of entire changesets](#)
- [View the other projects hosted here](#)

or if you are distracted and confused by this functionality,

- [Browse source code with simple SVN](#)

Please make sure your name and email address are properly set for your account on the [Settings Page](#). This will allow us to correspond with you regarding feature requests and bug reports, and enables you to retrieve your password email should you need to. And please, use an email account from an IceCube institution.

If you have any problems, requests for new features, or other comments, please send them to [svn_admin \(at\) icecube.umd.edu](mailto:svn_admin@icecube.umd.edu)

Documentation

Documentation has its own dedicated site at <http://software.icecube.wisc.edu/>.

Discussion

Please join us for software related discussions on [Slack](#). You can find us in the [IceCube-SPNO team](#) in the channel, [#icecube](#). If you've never used Slack before, please see the [IceCube wiki page about Slack](#).

Testing

We build and test on various platforms. [Build results](#) are available. If you desire a new automated build/test platform, please, email us at [svn_admin \(at\) icecube.umd.edu](mailto:svn_admin@icecube.umd.edu). List of bots is <http://builds.icecube.wisc.edu/buildslaves>.

Making a meta-project

I want to make a new slim meta-project for this bootcamp.
Let's branch and make a new meta-project...

```
> export SVN=http://code.icecube.wisc.edu/  
> export SVN_EDITOR='emacs -nw'
```

Branching:

```
> svn cp $SVN/svn/meta-projects/offline-software/trunk  
$SVN/svn/sandbox/olivas/madison-bootcamp-2016
```

Subversion (svn) Basics

Checking out code from the repository

setup:

- > `mkdir -p $HOME/i3/software/madison-bootcamp-2016`
- > `cd $HOME/i3/software/madison-bootcamp-2016`

checkout:

- > `svn co $SVN/svn/sandbox/olivas/madison-bootcamp-2016 src`

Subversion (svn) Basics

Editing the properties

propedit:

```
> cd $HOME/i3/software/madison-bootcamp-2016/src  
> svn pe svn:externals .
```

Subversion (svn) Basics

Committing our changes

commit:

- > `svn ci -m "updated externals to include new packages"`
- > `svn update`

Subversion (svn) Basics

Building

setup:

```
> mkdir $HOME/i3/software/bootcamp-madison-2016/build  
> cd $HOME/i3/software/bootcamp-madison-2016/build  
> cmake ../src
```

Third-party tools

- cvmfs
- system
- homebrew
- ports

Subversion (svn) Basics

Building

to build:

- > make
- > make test-bins
- > make docs (or just 'html')
- > etc...

Trac

The screenshot shows the IceCube Trac system homepage. The browser address bar displays `code.icecube.wisc.edu`. The page features the IceCube logo and a navigation bar with links like [WikiStart](#), [Start Page](#), [Index](#), and [History](#). A secondary navigation bar includes [Wild](#), [Timeline](#), [Roadmap](#), [Browse Source](#), [View Tickets](#), [New Ticket](#), [Search](#), [Admin](#), and [Ticket Graph](#). The main content area is titled "Welcome to the IceCube Trac system" and contains several sections with links and instructions.

IGNORE →

- [Browse source code with Trac](#)
- [Peruse the change log of various files and directories](#)
- [View diffs of entire changesets](#)
- [View the other projects hosted here](#)

Simple View →

- [Browse source code with simple SVN](#)

Documentation → **Documentation**
Documentation has its own dedicated site at <http://software.icecube.wisc.edu/>.

Join slack → **Discussion**
Please join us for software related discussions on [Slack](#). You can find us in the [IceCube-SPNO team](#) in the channel, [#icecube](#). If you've never used Slack before, please see the [IceCube wiki page about Slack](#).

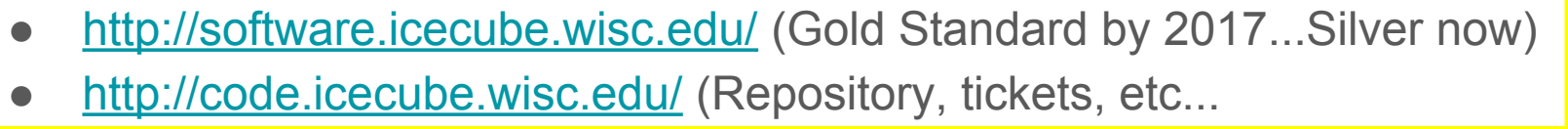

Test Resources → **Testing**
We build and test on various platforms. [Build results](#) are available. If you desire a new automated build/test platform, please, email us at svn_admin@icecube.umd.edu. List of bots is <http://builds.icecube.wisc.edu/buildslaves>.

Getting Help

If you only take two links away from this talk **BOOKMARK THESE TWO LINKS**

slack : https://wiki.icecube.wisc.edu/index.php/Join_us_on_Slack

Documentation

- 
- 
- <http://software.icecube.wisc.edu/> (Gold Standard by 2017...Silver now)
 - <http://code.icecube.wisc.edu/> (Repository, tickets, etc...)
 - How you can help get us to Gold...please, please, please **complain** about bad documentation.
 - <http://wiki.icecube.wisc.edu/> - Where documentation goes to die.
 - https://wiki.icecube.wisc.edu/index.php/Intro_To_IceCube

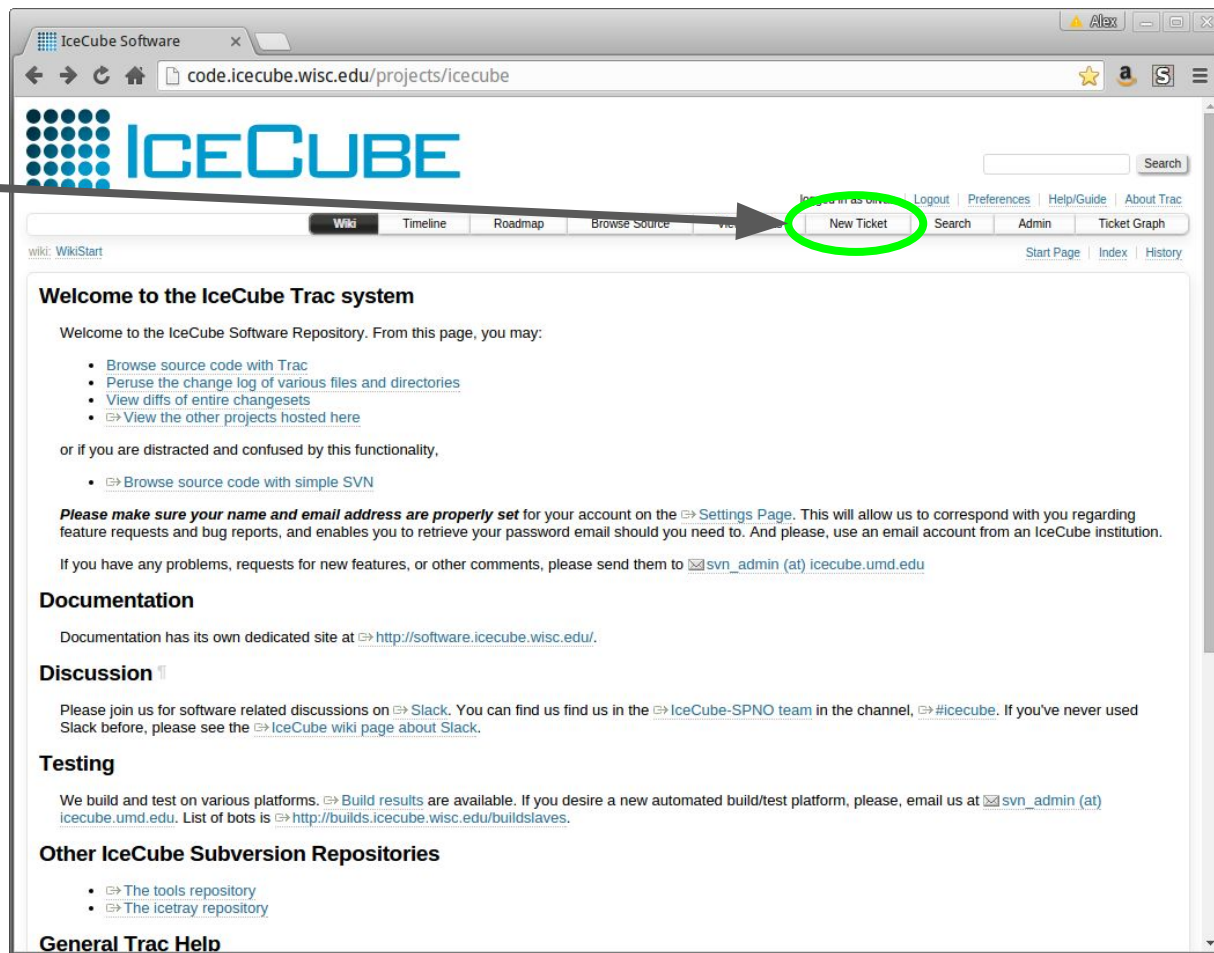
Ticketing System : **We can't fix problems we don't know about.**

Submitting Tickets : <http://code.icecube.wisc.edu>

Creating a new ticket

Only hard and fast rule :
**DO NOT SUBMIT A
TICKET AS USER
'icecube'!!!**

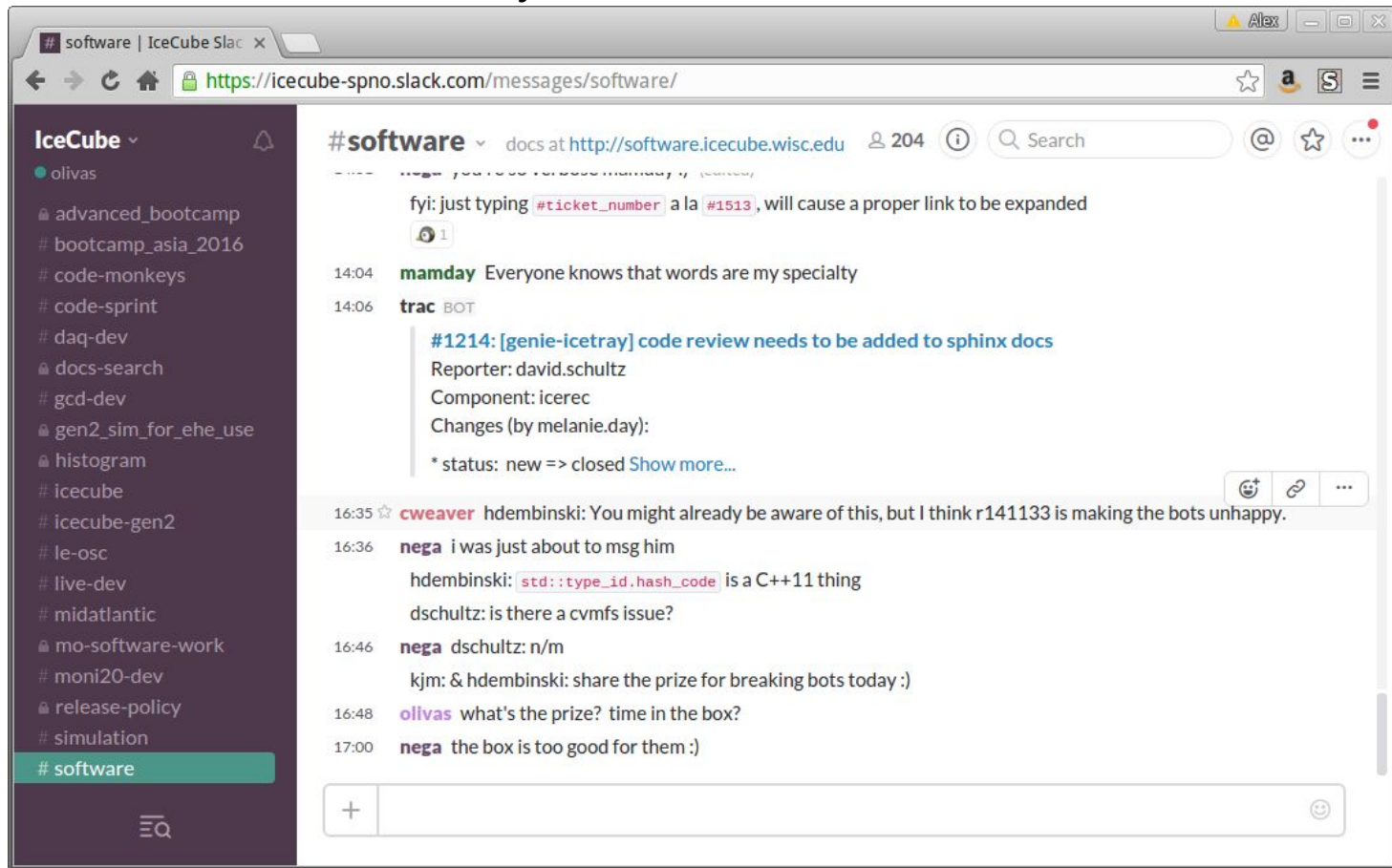
We can't follow up with the submitter to get more details about the problem, which we often need to do.



The screenshot shows a web browser window with the URL `code.icecube.wisc.edu/projects/icecube`. The page features the IceCube logo and a navigation bar with links like 'Wiki', 'Timeline', 'Roadmap', 'Browse Source', and 'New Ticket'. The 'New Ticket' button is circled in green, and a black arrow points from the text 'Creating a new ticket' to it. Below the navigation bar, the page content includes a 'Welcome to the IceCube Trac system' section with a list of links: 'Browse source code with Trac', 'Peruse the change log of various files and directories', 'View diffs of entire changesets', and 'View the other projects hosted here'. There is also a 'Documentation' section with a link to `http://software.icecube.wisc.edu/`, a 'Discussion' section with a link to `#icecube` on Slack, and a 'Testing' section with a link to `http://builds.icecube.wisc.edu/buildslaves`. The page also mentions 'Other IceCube Subversion Repositories' and 'General Trac Help'.

slack

Even experts have to rely on other experts.
Slack is your friend.



Exercise : Using Parasitic meta-projects

Exercise #1) Find the documentation for parasitic meta-projects.

Exercise #2) Create a parasitic meta-project.

Exercise #3) Add the following project and re-build.

http://code.icecube.wisc.edu/svn/sandbox/olivas/bootcamp_project