



Doxygen: Presentation Outline

- ▶ **[Mark] What is it?**
- ▶ **[Mark] Why and How do we use it?**
- ▶ **[Mark] How you (yes you!) can use it**
- ▶ **[Steve] A guided tour of the Doxywizard GUI**
- ▶ **[Steve] Maintenance and Distribution of Doxygen documentation**

**Whenever you add code to any JEDI Repo, please document it with
Doxygen**

Documenting C++ source code

```
// -----  
/!* \brief Example function  
*  
* \details **myfunction()** takes a and b as arguments and miraculously creates c.  
* I could add many more details here if I chose to do so. I can even make a list:  
* * item 1  
* * item 2  
* * item 3  
*  
* \param[in] a this is one input parameter  
* \param[in] b this is another  
* \param[out] c and this is the output  
*  
* \author L. Skywalker (JCSDA)  
*  
* \date A long, long, time ago: Created  
*  
* \warning This isn't a real function!  
*  
*/  
void myfunction(int& a, int& b, double& c) {  
    [...]
```

Documenting F90 source code

```
!! _____  
!> \brief Example function  
!!  
!! \details **myfunction() takes a and b as arguments and miraculously creates c.  
!! I could add many more details here if I chose to do so. I can even make a list:  
!! * item 1  
!! * item 2  
!! * item 3  
!!  
!! \author L. Skywalker (JCSDA)  
!!  
!! \date A long, long, time ago: Created  
!!  
!! \warning This isn't a real function!  
!!  
subroutine myfunction(a, b, c)  
  integer, intent(in)      :: a !< this is one input parameter  
  integer, intent(in)      :: b !< this is another  
  real(kind=kind_rea), intent(out) :: c !< and this is the output  
  [...]
```

Some commands you might find useful

- ▶ `\brief`
- ▶ `\details`
- ▶ `\param`
- ▶ `\return`
- ▶ `\author`
- ▶ `\date`
- ▶ `\note`
- ▶ `\attention`
- ▶ `\warning`
- ▶ `\bug`
- ▶ `\class <name> [<header-file>]`
- ▶ `\mainpage`
- ▶ `\f$... \f$` (inline formula)
- ▶ `\f[... \f]` (formula block)
- ▶ `\em` (or `* ... *`)
- ▶ `\sa` (see also)
- ▶ `\typedef`
- ▶ `\todo`
- ▶ `\version`
- ▶ `\namespace`
- ▶ `\memberof`
- ▶ `\image`
- ▶ `\var`
- ▶ `\throws` (exception description)

Many more described here:

<https://www.stack.nl/~dimitri/doxygen/manual/commands.html>

For more information



JEDI Doxygen page

https://jointcenterforsatellitedataassimilation-jedi-docs.readthedocs-hosted.com/en/latest/developer/developer_tools/doxygen.html

Doxygen Users Manual

<http://www.stack.nl/~dimitri/doxygen/manual/index.html>

Installation? Already installed in the JEDI singularity container

Binaries available for download on:

<http://www.stack.nl/~dimitri/doxygen/download.html>

Or, on a Mac:

brew install doxygen