**+ CHỌN DOXYGEN LÀM TOOL TẠO CODE DOCUMENTS.**

Link: [www.doxygen.org](http://www.doxygen.org)

+ Cách sử dụng:

++Cài tool

++Viết comment trước mỗi class và function

**Một số Yêu cầu về Documenting khi viết Code**

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| **Things needed to documenting** | **Requirement** | **Notes** |
| Class | Brief Desciption  Desctiption  Author |  |
| Function |  |  |
| Parameter |  |  |

**Một số ví dụ về cách documenting và Output của Doxygen**

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| **Make Detailed description:** |
| /\*!  ... text ...  \*/ |
| /\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*//\*\*  \* ... text  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/ |

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| **Make Brief description**  This command ends at the end of a paragraph, so the detailed description follows after an empty line. |
| /\*! \brief Brief description.  \* Brief description continued.  \* [một dòng trắng]  \* Detailed description starts here.  \*/ |

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| **Ví dụ Documenting cho một Class**  **Theo kiểu comment để trước mỗi class, function, param** |
| /\*\*  /\*\*  \* A test class. A more elaborate class description.  \*/  class Test  {  public:  /\*\*  \* An enum.  \* More detailed enum description.  \*/  enum TEnum {  TVal1, /\*\*< enum value TVal1. \*/  TVal2, /\*\*< enum value TVal2. \*/  TVal3 /\*\*< enum value TVal3. \*/  }  \*enumPtr, /\*\*< enum pointer. Details. \*/  enumVar; /\*\*< enum variable. Details. \*/  /\*\*  \* A constructor.  \* A more elaborate description of the constructor.  \*/  Test();  /\*\*  \* A destructor.  \* A more elaborate description of the destructor.  \*/  ~Test();  /\*\*  \* a normal member taking two arguments and returning an integer value.  \* @param a an integer argument.  \* @param s a constant character pointer.  \* @see Test()  \* @see ~Test()  \* @see testMeToo()  \* @see publicVar()  \* @return The test results  \*/  int testMe(int a,const char \*s);  /\*\*  \* A pure virtual member.  \* @see testMe()  \* @param c1 the first argument.  \* @param c2 the second argument.  \*/  virtual void testMeToo(char c1,char c2) = 0;  /\*\*  \* a public variable.  \* Details.  \*/  int publicVar;  /\*\*  \* a function variable.  \* Details.  \*/  int (\*handler)(int a,int b);  }; |
| Xuất ra HTML như sau:  <http://www.stack.nl/~dimitri/doxygen/manual/examples/jdstyle/html/class_test.html> |

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| **Ví dụ Documenting cho một class**  **Theo kiểu comment tổng hợp để riêng, phải dùng các Structural Comment để định nghĩa**  [**http://www.stack.nl/~dimitri/doxygen/manual/commands.html**](http://www.stack.nl/~dimitri/doxygen/manual/commands.html)  **(Khuyên không nên dùng vì gây trùng lắp thông tin)** |
| /\*! \file structcmd.h  \brief A Documented file.  Details.  \*/  /\*! \def MAX(a,b)  \brief A macro that returns the maximum of \a a and \a b.  Details.  \*/  /\*! \var typedef unsigned int UINT32  \brief A type definition for a .  Details.  \*/  /\*! \var int errno  \brief Contains the last error code.  \warning Not thread safe!  \*/  /\*! \fn int open(const char \*pathname,int flags)  \brief Opens a file descriptor.  \param pathname The name of the descriptor.  \param flags Opening flags.  \*/  /\*! \fn int close(int fd)  \brief Closes the file descriptor \a fd.  \param fd The descriptor to close.  \*/  /\*! \fn size\_t write(int fd,const char \*buf, size\_t count)  \brief Writes \a count bytes from \a buf to the filedescriptor \a fd.  \param fd The descriptor to write to.  \param buf The data buffer to write.  \param count The number of bytes to write.  \*/  /\*! \fn int read(int fd,char \*buf,size\_t count)  \brief Read bytes from a file descriptor.  \param fd The descriptor to read from.  \param buf The buffer to read into.  \param count The number of bytes to read.  \*/  #define MAX(a,b) (((a)>(b))?(a):(b))  typedef unsigned int UINT32;  int errno;  int open(const char \*,int);  int close(int);  size\_t write(int,const char \*, size\_t);  int read(int,char \*,size\_t); |

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| **Ví dụ khác về mô tả một function** |
| **class Test**  **{**  **public:**  **const char \*member(char,int) throw(std::out\_of\_range);**  **};**  **const char \*Test::member(char c,int n) throw(std::out\_of\_range) {}**  /\*! @class Test  \* @brief Test class.  \*  \* Details about Test.  \*/  /\*! @fn const char \*Test::member(char c,int n)  \* @brief A member function.  \* @param c a character.  \* @param n an integer.  \* @exception std::out\_of\_range parameter is out of range.  \* @return a character pointer.  \*/  HTML Link: <http://www.stack.nl/~dimitri/doxygen/manual/examples/func/html/class_test.html#a45b6a232a4499f8ce37062eab5451570> |

**Tra cứu Mô tả parameter:**

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| /\*!  \* Copies bytes from a source memory area to a destination memory area,  \* where both areas may not overlap.  \* @param[out] dest The memory area to copy to.  \* @param[in] src The memory area to copy from.  \* @param[in] n The number of bytes to copy  \*/  void memcpy(void \*dest, const void \*src, size\_t n); |