```
#ifndef EDU WSU GRIDSTAT COMMAND CONSTANTS
                                                                                  // Error return codes, Note these HAVE to be NEGATIVE!
#define EDU WSU GRIDSTAT COMMAND CONSTANTS
                                                                                  const short ERROR CHANNEL FAILURE TO SR = -1;
                                                                                  const short ERROR CHANNEL OPEN = -2;
                                                                                  const short ERROR CHANNEL FAILURE TO PUBSUB = -3;
module edu
                                                                                  const short ERROR CHANNEL OPEN REMOTE = -4;
                                                                                  const short ERROR CHANNEL SENDING THREAD = -5;
module wsu
                                                                                  const short ERROR_COMM_INITIALIZATION = -6;
 module gridstat
                                                                                  const short ERROR COMM FAILURE TO SR = -7;
                                                                                  const short ERROR COMM FAILURE TO LEAF = -8;
                                                                                  const short ERROR COMM FAILURE TO BROKER = -9;
    module command
                                                                                  const short ERROR COMM FAILURE TO SUB = -10;
      const short ERROR SERVER COULD NOT START = -11;
      // An interface class that only contain constants to be used
                                                                                  const short ERROR SERVER DISCONNECT = -12;
      // for the entities to communicate with each other
                                                                                  const short ERROR SERVER SHUTDOWN = -13;
      interface CommConstants
                                                                                  const short ERROR TREAD START PROBLEM = -14;
        // Priority level
                                                                                  // Security violations
        const short PRIORITY ALERT = 1;
                                                                                  const short ERROR SECURITY VIOLATION = -15;
        const short PRIORITY HIGH = 2;
                                                                                  const short ERROR WRONG CLOUD = -16;
                                                                                  const short ERROR SR NOT REGISTERED = -17;
        const short PRIORITY MEDIUM HIGH = 3;
        const short PRIORITY MEDIUM = 4;
                                                                                  const short ERROR_COMM_LINK_NOT_REGISTERED = -18;
        const short PRIORITY MEDIUM LOW = 5;
        const short PRIORITY LOW = 6;
                                                                                  // Errors for publishers
                                                                                  const short ERROR PUB ALREADY REGISTERED = -20;
                                                                                  const short ERROR PUB NOT REGISTERED = -21;
        // Message Types
        const short STATIC TYPE = 0;
                                                                                  const short ERROR_PUB VARIABLE ALREADY REGISTERED = -22;
        const short DYNAMIC TYPE = 1;
                                                                                  const short ERROR_PUB_VARIABLE_NOT_REGISTERED = -23;
        const short COMPOUND TYPE = 2;
                                                                                  const short ERROR PUB QOS INTERVAL = -24;
                                                                                  const short ERROR PUB STILL PUBLICATIONS = -25;
        // Network status
                                                                                  const short ERROR PUB REREGISTER PUBLICATIONS = -26;
        const short TOCONNECT = 1;
        const short CONNECTED = 2;
                                                                                  // Errors for subscribers
        const short DISCONNECTED = 3;
                                                                                  const short ERROR SUB ALREADY REGISTERED = -30;
                                                                                  const short ERROR SUB NOT REGISTERED = -31;
        const short ERROR CONNECTING = 4;
        const short COMMUNICATION FAILED = 5;
                                                                                  const short ERROR SUB SUBSCRIPTION ALREADY REGISTERED = -32;
        const short COMMUNICATION FAILED IN CONNECT = 6;
                                                                                  const short ERROR SUB SUBSCRIPTION NOT REGISTERED = -33;
                                                                                  const short ERROR_SUB_VARIABLE_NOT_EXIST = -34;
        // The flag that is sent to a SR from its LeafQoSBroker
                                                                                  const short ERROR SUB LATENCY NOTSATISFIABLE = -35;
                                                                                  const short ERROR SUB REDUNDANCY NOTSATISFIABLE = -36;
        // when told to reconnect up to the LeafQoSManager
                                                                                  const short ERROR SUB INTERVAL NOTSATISFIABLE = -37;
        const short DO NOTHING = 0;
        const short DO FIRST TIME = 1;
                                                                                  const short ERROR SUB PUBLISHER ENDED = -38;
                                                                                  const short ERROR_SUB_NO PATH = -39;
        // Status types
                                                                                  const short ERROR SUB WRONG DATATYPE = -40;
                                                                                  const short ERROR SUB NO PATH ALLOCATED = -41;
        const short INT TYPE = 0;
        const short INT TYPE SIZE = 4;
                                                                                  const short ERROR SUB NO PUBLISHER CLOUD = -42;
        const short BOOLEAN TYPE = 1;
                                                                                  const short ERROR SUB NO PARENT AVAIL = -43;
                                                                                  const short ERROR_SUB_WRONG_PUB_NAME = -44;
        const short BOOLEAN TYPE SIZE = 1;
        const short FLOAT TYPE = 2;
                                                                                  const short ERROR SUB WRONG PUB NAME2 = -45;
        const short FLOAT TYPE SIZE = 4;
                                                                                  const short ERROR SUB WRONG SUB NAME = -46;
        const short USER DEFINED TYPE = 3;
                                                                                  const short ERROR SUB WRONG SUB NAME2 = -47;
        const short UNKNOWN TYPE = 9;
                                                                                  const short ERROR SUB NO EDGE OUT OF START = -48;
                                                                                  const short ERROR SUB NO EDGE OUT OF END = -49;
                                                                                  const short ERROR SUB WRONG HIERARCH NAME = -50;
        // Modes
                                                                                  const short ERROR SUB NOT IMPLEMENTED YET = -51;
        const unsigned long UNKNOWN MODE = 0;
        const unsigned long INITIAL MODE = 1;
                                                                                  const short ERROR SUB STILL PUBLICATIONS = -52;
        const unsigned long MAX MODES = 16;
                                                                                  const short ERROR SUB UNKNOWN GROUP = -53;
                                                                                  const short ERROR SUB ALREADY IN GROUP = -54;
        const unsigned long MODE MASK 0 = 0x0001;
                                                                                  const short ERROR SUB QOS ARGUMENTS = -55;
        const unsigned long MODE MASK 1 = 0x0002;
                                                                                  // Error for condensation creators
        const unsigned long MODE MASK 2 = 0x0004;
        const unsigned long MODE MASK 3 = 0x0008;
                                                                                  const short ERROR COND ALREADY REGISTERED = -60;
        const unsigned long MODE MASK 4 = 0x0010;
                                                                                  const short ERROR COND NOT REGISTERED = -61;
                                                                                  const short ERROR_COND_CONDFUN_ALREADY_REGISTERED = -62;
        const unsigned long MODE_MASK_5 = 0x0020;
        const unsigned long MODE_MASK_6 = 0x0040; const unsigned long MODE_MASK_7 = 0x0080;
                                                                                  const short ERROR_COND_CONDFUN_NOT REGISTERED = -63;
const short ERROR_COND_NO_PLACEMENT = -64;
        const unsigned long MODE MASK 8 = 0x0100;
                                                                                  const short ERROR COND CREATING = -65;
                                                                                  const short ERROR_COND_DESTROING = -66;
        const unsigned long MODE MASK 9 = 0x0200;
        const unsigned long MODE_MASK_10 = 0x0400;
        const unsigned long MODE_MASK_11 = 0x0800;
const unsigned long MODE_MASK_12 = 0x1000;
                                                                                  // Some common errors
                                                                                  const short ERROR INTERRUPTED EXCEPTION = -70;
        const unsigned long MODE MASK 13 = 0x2000;
                                                                                  const short ERROR EXCEPTION = -71;
                                                                                  const short ERROR UNKNOWNHOST EXCEPTION = -72;
        const unsigned long MODE MASK 14 = 0x4000;
        const unsigned long MODE_MASK 15 = 0x8000;
                                                                                  const short ERROR_ASSERT = -73;
                                                                                  const short ERROR_SUBSCRIPTION_PATH_NOT_PRESENT = -74;
const short ERROR_COMMAND_FAILED = -75;
        // Return codes of a successful command
        const short COMMAND OK = 0;
                                                                               };
        const short COMMAND OK LINK FAILURE = 1;
                                                                             };
        const short COMMAND_OK_LINK_FAILURE_NEW_CONNECTION = 2;
                                                                           };
        const short COMMAND OK PUBSUB RESTART FAILURE = 3;
                                                                          };
        const short COMMAND OK ESR RESTART FAILURE = 4;
                                                                          };
                                                                          #endif // define EDU WSU GRIDSTAT COMMAND CONSTANTS
```