Server

1

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Contents

Chapter 1

File Index

1.1 File List

Here is a list of all files with brief descriptions:

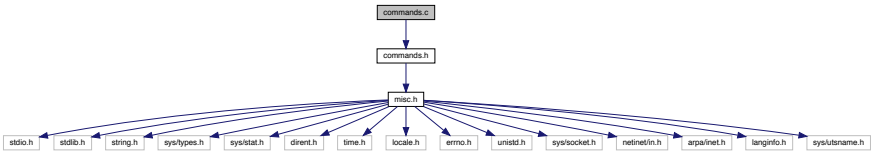
Chapter 2

File Documentation

2.1 commands.c File Reference

```
#include "commands.h"
```

Include dependency graph for commands.c:



Functions

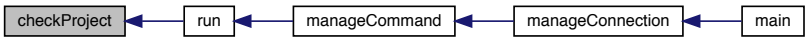
- int checkProject (char directory[DEFAULT_BUFLEN])
- void getSourceFiles (char directory[DEFAULT_BUFLEN], char cfiles[MAX_ARGS][DEFAULT_BUFLEN], int ∗cNum)
- void getList (char directory[DEFAULT_BUFLEN], char files[ ][DEFAULT_BUFLEN], int ∗num, int longlist, int programlist)
- int put (V_SOCKET clientSocket, char args[MAX_ARGS][DEFAULT_BUFLEN], int argsCount)
- int get (V_SOCKET clientSocket, char args[MAX_ARGS][DEFAULT_BUFLEN], int argsCount)
- int run (V_SOCKET clientSocket, char args[MAX_ARGS][DEFAULT_BUFLEN], int argsCount)
- int lst (V_SOCKET clientSocket, char args[MAX_ARGS][DEFAULT_BUFLEN], int argsCount)
- int sys (V_SOCKET clientSocket, char args[MAX_ARGS][DEFAULT_BUFLEN], int argsCount)

2.1.1 Function Documentation

2.1.1.1 checkProject()

```
int checkProject (
            char directory[DEFAULT_BUFLEN] )
```

Scans through the given directory to determine if the program need recompiling. It does this by checking dates on .c files and executables. Returns 1 if needs compiling 0 otherwise. Here is the caller graph for this function:



2.1.1.2 get()

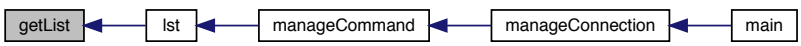
```
int get (
            V_SOCKET clientSocket,
            char args[MAX_ARGS][DEFAULT_BUFLEN],
            int argsCount )
```

Validates command then returns contents of file requested.

2.1.1.3 getList()

```
void getList (
            char directory[DEFAULT_BUFLEN],
            char files[][DEFAULT_BUFLEN],
            int * num,
            int longlist,
            int programlist )
```

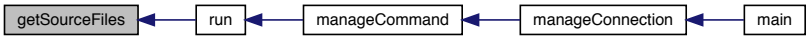
Gets a list of files from give directory. If programlist == 1 will print files inside otherwise just directoies. If longlist == 1 then more details will be stored. Here is the caller graph for this function:



2.1.1.4 getSourceFiles()

```
void getSourceFiles (
            char directory[DEFAULT_BUFLEN],
            char cfiles[MAX_ARGS][DEFAULT_BUFLEN],
            int * cNum )
```

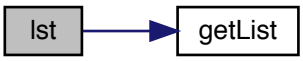
Scans a directory and stores file paths and number of files in the given pointers. Here is the caller graph for this function:



2.1.1.5 lst()

```
int lst (
            V_SOCKET clientSocket,
            char args[MAX_ARGS][DEFAULT_BUFLEN],
            int argsCount )
```

Validates command then sends a list of files or program. if -l will send more details. Here is the call graph for this function:



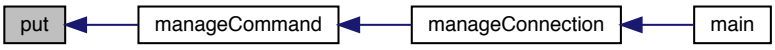
Here is the caller graph for this function:

2.1.1.6 put()

```
int put (
            V_SOCKET clientSocket,
            char args[MAX_ARGS][DEFAULT_BUFLEN],
            int argsCount )
```

Validates put command args are correct.

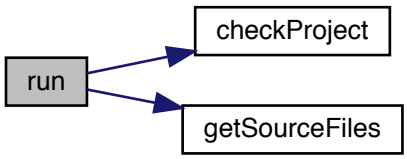
Then checks if -f is specified to see if overwriting is okay. It then sends a message to the client saying it ready for files. it then reads in all files and stores them under program directory. Here is the caller graph for this function:



2.1.1.7 run()

```
int run (
            V_SOCKET clientSocket,
            char args[MAX_ARGS][DEFAULT_BUFLEN],
            int argsCount )
```

Determines if file needs to be recompiled. Then compiles if needed if any errors it returns the contents of the error message. Here is the call graph for this function:



Here is the caller graph for this function:

2.1.1.8 sys()

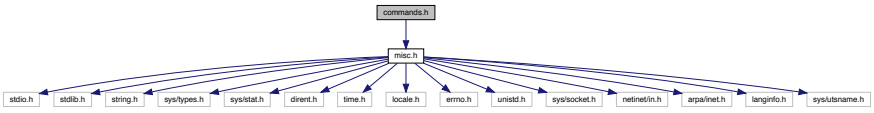
```
int sys (
            V_SOCKET clientSocket,
            char args[MAX_ARGS][DEFAULT_BUFLEN],
            int argsCount )
```

Sends details of the server host. Here is the caller graph for this function:

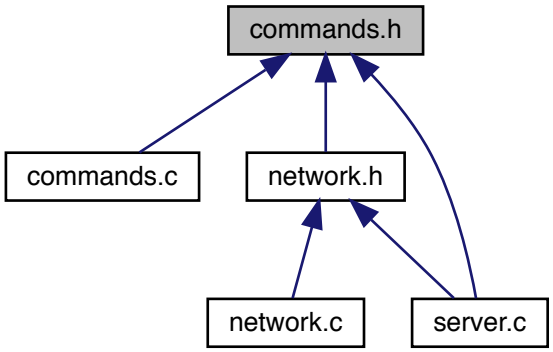
2.2 commands.h File Reference

```
#include "misc.h"
```

Include dependency graph for commands.h:



This graph shows which files directly or indirectly include this file:



Functions

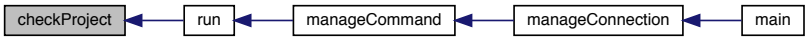
- int checkProject (char directory[DEFAULT_BUFLEN])
- void getSourceFiles (char directory[DEFAULT_BUFLEN], char cfiles[MAX_ARGS][DEFAULT_BUFLEN], int *cNum)
- void getList (char directory[DEFAULT_BUFLEN], char files[ ][DEFAULT_BUFLEN], int *num, int longlist, int programlist)
- int put (V_SOCKET clientSocket, char args[MAX_ARGS][DEFAULT_BUFLEN], int argsCount)
- int get (V_SOCKET clientSocket, char args[MAX_ARGS][DEFAULT_BUFLEN], int argsCount)
- int run (V_SOCKET clientSocket, char args[MAX_ARGS][DEFAULT_BUFLEN], int argsCount)
- int lst (V_SOCKET clientSocket, char args[MAX_ARGS][DEFAULT_BUFLEN], int argsCount)
- int sys (V_SOCKET clientSocket, char args[MAX_ARGS][DEFAULT_BUFLEN], int argsCount)

2.2.1 Function Documentation

2.2.1.1 checkProject()

```
int checkProject (
            char directory[DEFAULT_BUFLEN] )
```

Scans through the given directory to determine if the program need recompiling. It does this by checking dates on .c files and executables. Returns 1 if needs compiling 0 otherwise. Here is the caller graph for this function:



2.2.1.2 get()

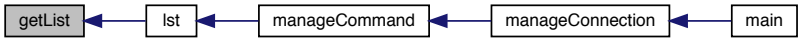
```
int get (
            V_SOCKET clientSocket,
            char args[MAX_ARGS][DEFAULT_BUFLEN],
            int argsCount )
```

Validates command then returns contents of file requested.

2.2.1.3 getList()

```
void getList (
            char directory[DEFAULT_BUFLEN],
            char files[][DEFAULT_BUFLEN],
            int * num,
            int longlist,
            int programlist )
```

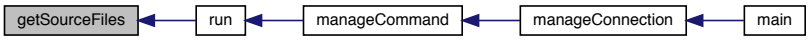
Gets a list of files from give directory. If programlist == 1 will print files inside otherwise just directoies. If longlist == 1 then more details will be stored. Here is the caller graph for this function:



2.2.1.4 getSourceFiles()

```
void getSourceFiles (
            char directory[DEFAULT_BUFLEN],
            char cfiles[MAX_ARGS][DEFAULT_BUFLEN],
            int * cNum )
```

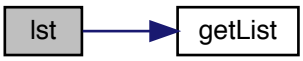
Scans a directory and stores file paths and number of files in the given pointers. Here is the caller graph for this function:



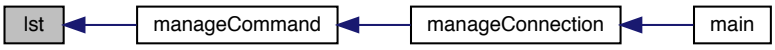
2.2.1.5 lst()

```
int lst (
            V_SOCKET clientSocket,
            char args[MAX_ARGS][DEFAULT_BUFLEN],
            int argsCount )
```

Validates command then sends a list of files or program. if -l will send more details. Here is the call graph for this function:



Here is the caller graph for this function:

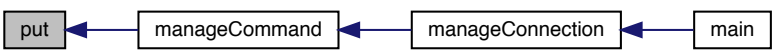


2.2.1.6 put()

```
int put (
            V_SOCKET clientSocket,
            char args[MAX_ARGS][DEFAULT_BUFLEN],
            int argsCount )
```

Validates put command args are correct.

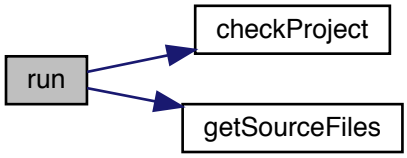
Then checks if -f is specified to see if overwriting is okay. It then sends a message to the client saying it ready for files. it then reads in all files and stores them under program directory. Here is the caller graph for this function:



2.2.1.7 run()

```
int run (
            V_SOCKET clientSocket,
            char args[MAX_ARGS][DEFAULT_BUFLEN],
            int argsCount )
```

Determines if file needs to be recompiled. Then compiles if needed if any errors it returns the contents of the error message. Here is the call graph for this function:



Here is the caller graph for this function:

2.2.1.8 sys()

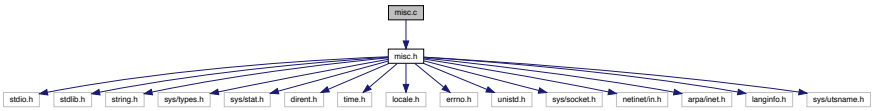
```
int sys (
            V_SOCKET clientSocket,
            char args[MAX_ARGS][DEFAULT_BUFLEN],
            int argsCount )
```

Sends details of the server host. Here is the caller graph for this function:

2.3 misc.c File Reference

```
#include "misc.h"
```

Include dependency graph for misc.c:



Functions

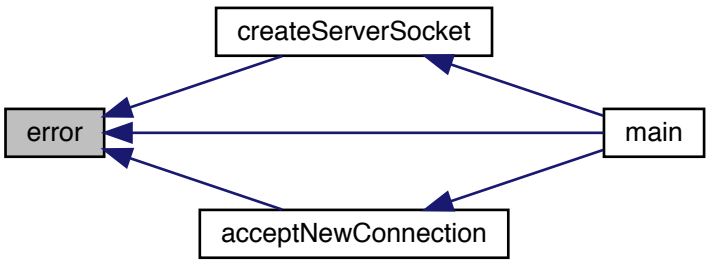
- void error (const char *msg)
- void ZombieKill (int sig)

2.3.1 Function Documentation

2.3.1.1 error()

```
void error (
            const char * msg )
```

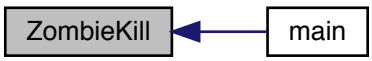
Prints error then closes the program. Here is the caller graph for this function:



2.3.1.2 ZombieKill()

```
void ZombieKill (
            int sig )
```

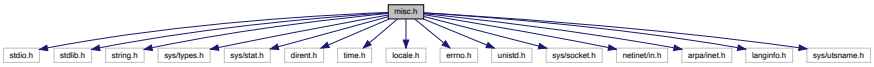
If any zombie signals it is then killed asap. Here is the caller graph for this function:



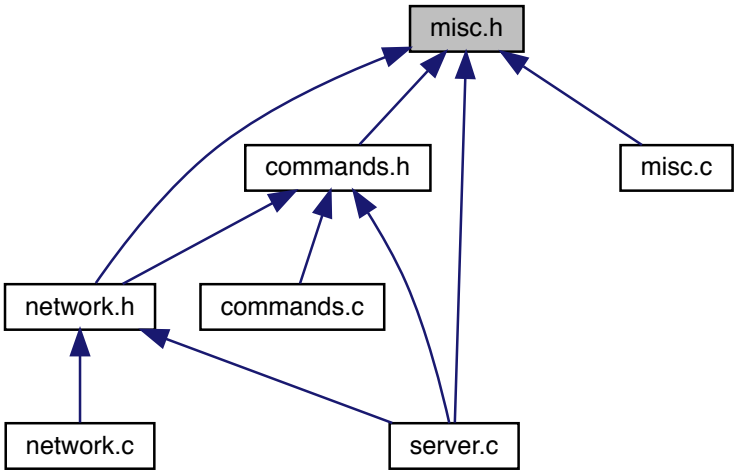
2.4 misc.h File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <sys/types.h>
#include <sys/stat.h>
#include <dirent.h>
#include <time.h>
#include <locale.h>
#include <errno.h>
#include <unistd.h>
#include <sys/socket.h>
#include <netinet/in.h>
#include <arpa/inet.h>
#include <langinfo.h>
#include <sys/utsname.h>
```

Include dependency graph for misc.h:



This graph shows which files directly or indirectly include this file:



Macros

- #define DEFAULT_BUFLEN 1024
- #define MAX_ARGS 10
- #define V_SOCKET int
- #define INVALID_SOCKET -1

Functions

- void error (const char *msg)
- void ZombieKill (int sig)

2.4.1 Macro Definition Documentation

2.4.1.1 DEFAULT_BUFLEN

```
#define DEFAULT_BUFLEN 1024
```

2.4.1.2 INVALID_SOCKET

```
#define INVALID_SOCKET -1
```

2.4.1.3 MAX_ARGS

```
#define MAX_ARGS 10
```

2.4.1.4 V_SOCKET

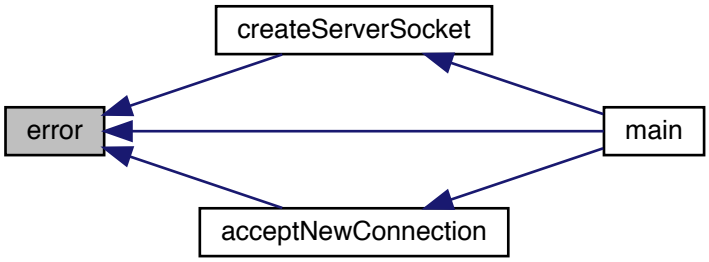
```
#define V_SOCKET int
```

2.4.2 Function Documentation

2.4.2.1 error()

```
void error (
            const char * msg )
```

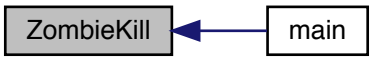
Prints error then closes the program. Here is the caller graph for this function:



2.4.2.2 ZombieKill()

```
void ZombieKill (
            int sig )
```

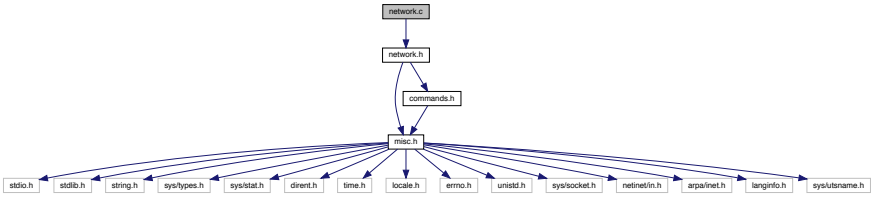
If any zombie signals it is then killed asap. Here is the caller graph for this function:



2.5 network.c File Reference

```
#include "network.h"
```

Include dependency graph for network.c:



Functions

- V_SOCKET createServerSocket (int portNum)
- V_SOCKET acceptNewConnection (V_SOCKET sockfd)
- void manageConnection (V_SOCKET clientSocket)
- int manageCommand (V_SOCKET clientSocket, char buffer[DEFAULT_BUFLEN])

2.5.1 Function Documentation

2.5.1.1 acceptNewConnection()

```
V_SOCKET acceptNewConnection (
            V_SOCKET sockfd )
```

Accepts a connection. For both windows and unix. Here is the call graph for this function:

Here is the caller graph for this function:

2.5.1.2 createServerSocket()

```
V_SOCKET createServerSocket (
            int portNum )
```

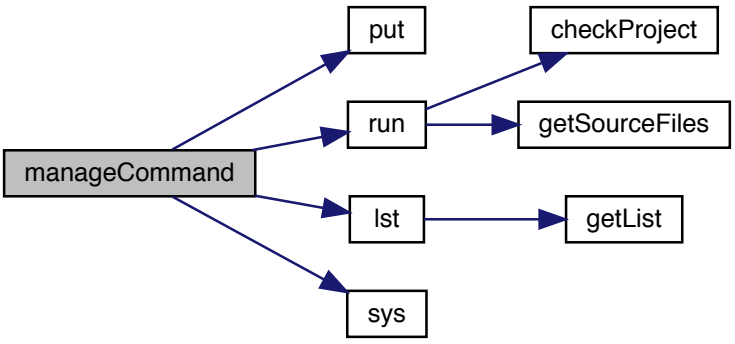
Creates a socket. For both windows and unix. Here is the call graph for this function:

Here is the caller graph for this function:

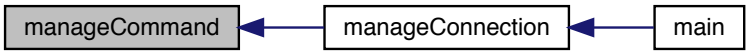
2.5.1.3 manageCommand()

```
int manageCommand (
            V_SOCKET clientSocket,
            char buffer[DEFAULT_BUFLEN] )
```

Turns raw string into command and args then calls appropriate function. Here is the call graph for this function:



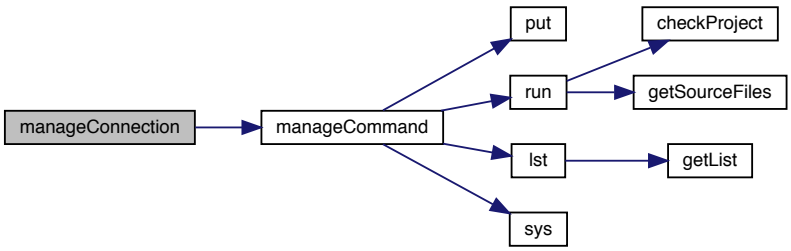
Here is the caller graph for this function:



2.5.1.4 manageConnection()

```
void manageConnection (
            V_SOCKET clientSocket )
```

Receives first command from client then calls manageCommand with the message. Here is the call graph for this function:

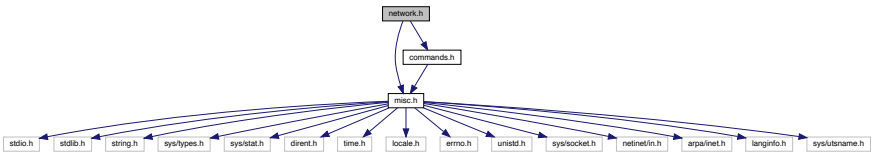


Here is the caller graph for this function:

2.6 network.h File Reference

```
#include "misc.h"
#include "commands.h"
```

Include dependency graph for network.h:



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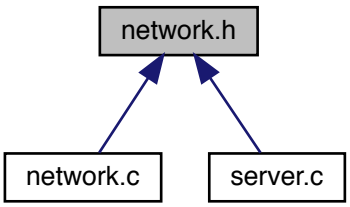

Functions

- V_SOCKET createServerSocket (int portNum)
- V_SOCKET acceptNewConnection (V_SOCKET sockfd)
- void manageConnection (V_SOCKET clientSocket)
- int manageCommand (V_SOCKET clientSocket, char buffer[DEFAULT_BUFLEN])

2.6.1 Function Documentation

2.6.1.1 acceptNewConnection()

```
V_SOCKET acceptNewConnection (
            V_SOCKET sockfd )
```

Accepts a connection. For both windows and unix. Here is the call graph for this function:

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2.6.1.2 createServerSocket()

```
V_SOCKET createServerSocket (
             int portNum )
```

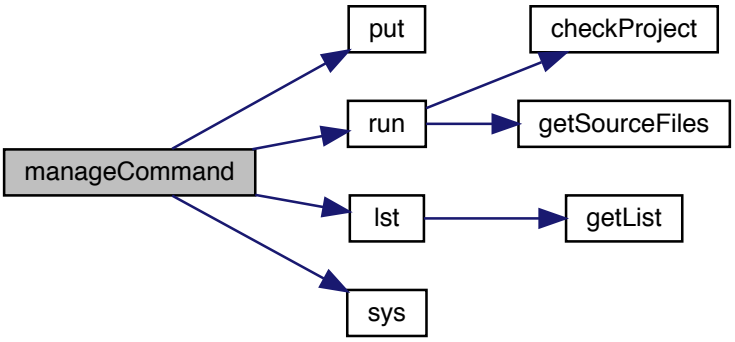
Creates a socket. For both windows and unix. Here is the call graph for this function:

Here is the caller graph for this function:

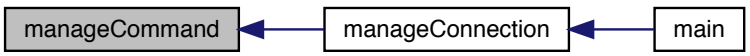
2.6.1.3 manageCommand()

```
int manageCommand (
            V_SOCKET clientSocket,
            char buffer[DEFAULT_BUFLEN] )
```

Turns raw string into command and args then calls appropriate function. Here is the call graph for this function:



Here is the caller graph for this function:

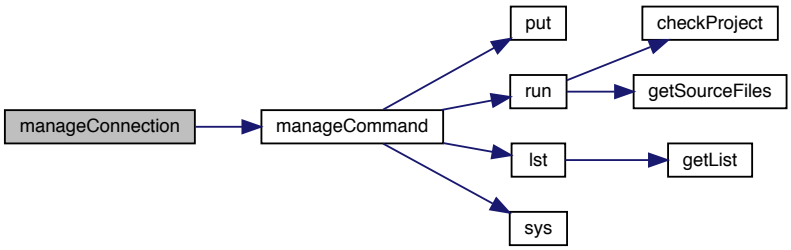


2.6.1.4 manageConnection()

```
void manageConnection (
            V_SOCKET clientSocket )
```

Receives first command from client then calls manageCommand with the message. Here is the call graph for this

function:

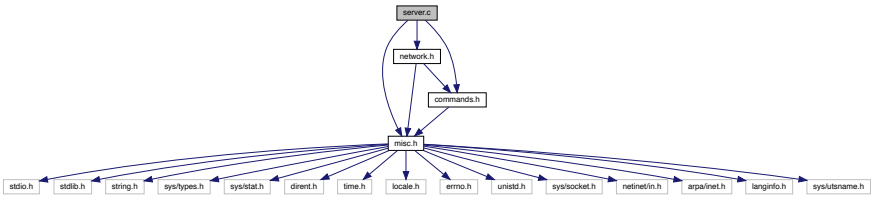


Here is the caller graph for this function:

2.7 server.c File Reference

```
#include "misc.h"
#include "network.h"
#include "commands.h"
```

Include dependency graph for server.c:



Macros

- #define PORT 80

Functions

- int main (int argc, char ∗argv[ ])

2.7.1 Macro Definition Documentation

2.7.1.1 PORT

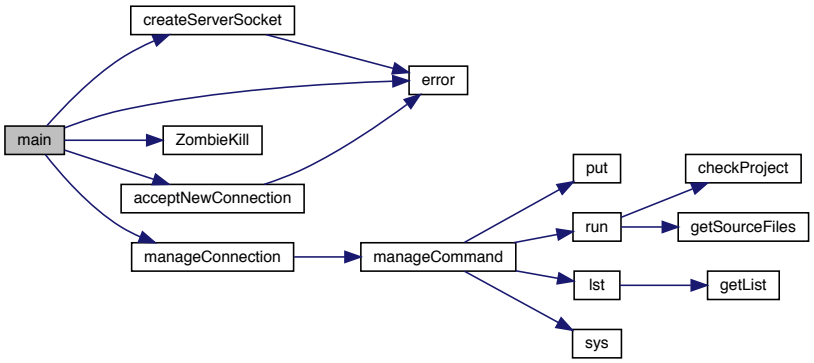
```
#define PORT 80
```

2.7.2 Function Documentation

2.7.2.1 main()

```
int main (
            int argc,
            char * argv[] )
```

Loops accepting connection then forks and runs manageCommand. Here is the call graph for this function:



2.8 winchild.c File Reference

Index