

minishell

1

Generated by Doxygen 1.15.0

1 Minishell	1
1.1 Introduction	1
1.2 Features	1
1.3 Usage	1
2 Projet - Minishell	3
2.1 À propos	3
2.2 Compilation du projet	3
2.3 Documentation	3
2.4 Exigences techniques auxquelles nous avons répondu	3
2.4.1 Capacité d'exécuter des commandes simples	3
2.4.2 Capacité d'exécuter un sous-ensemble de plusieurs commandes	4
2.4.3 L'exécution built-in de certaines commandes	4
2.4.4 Le maintien d'un historique	4
2.4.5 Un mode de lancement "batch"	4
2.4.6 La prise en charge d'alias temporaires	5
2.5 Page de manuel linux	5
3 Directory Hierarchy	7
3.1 Directories	7
4 Data Structure Index	9
4.1 Data Structures	9
5 File Index	11
5.1 File List	11
6 Directory Documentation	13
6.1 include Directory Reference	13
6.2 src Directory Reference	13
7 Data Structure Documentation	15
7.1 Alias Struct Reference	15
7.1.1 Detailed Description	15
7.1.2 Field Documentation	15
7.1.2.1 command	15
7.1.2.2 name	15
7.2 BackgroundProcess Struct Reference	16
7.2.1 Detailed Description	16
7.2.2 Field Documentation	16
7.2.2.1 count	16
7.2.2.2 processes	16
7.3 Command Struct Reference	16
7.3.1 Detailed Description	17

7.3.2 Field Documentation	17
7.3.2.1 append_output	17
7.3.2.2 arg_count	17
7.3.2.3 args	17
7.3.2.4 command	17
7.3.2.5 heredoc_delimiter	17
7.3.2.6 input_redirect	17
7.3.2.7 length	17
7.3.2.8 output_redirect	17
7.4 Commands Struct Reference	18
7.4.1 Detailed Description	18
7.4.2 Field Documentation	18
7.4.2.1 command_count	18
7.4.2.2 commands	18
7.4.2.3 operators	18
7.5 Jobs Struct Reference	18
7.5.1 Detailed Description	19
7.5.2 Field Documentation	19
7.5.2.1 command	19
7.5.2.2 pid	19
8 File Documentation	21
8.1 include/aliases.h File Reference	21
8.1.1 Macro Definition Documentation	21
8.1.1.1 MAX_ALIASES	21
8.1.2 Function Documentation	22
8.1.2.1 add_alias()	22
8.1.2.2 free_aliases()	22
8.1.2.3 get_alias_command()	22
8.1.2.4 handle_alias()	22
8.1.2.5 handle_unalias()	23
8.1.2.6 is_alias()	23
8.1.2.7 list_aliases()	23
8.1.2.8 remove_alias()	23
8.2 aliases.h	24
8.3 include/batch.h File Reference	24
8.3.1 Macro Definition Documentation	24
8.3.1.1 MAX_ARGUMENTS	24
8.3.2 Function Documentation	25
8.3.2.1 handle_arguments()	25
8.4 batch.h	25
8.5 include/executor.h File Reference	25

8.5.1 Function Documentation	26
8.5.1.1 check_bg_processes()	26
8.5.1.2 create_child_process()	26
8.5.1.3 execute_command()	27
8.5.1.4 execute_commands()	27
8.5.1.5 execute_pipes()	27
8.5.1.6 handle_heredoc()	28
8.5.1.7 setup_redirections()	28
8.6 executor.h	28
8.7 include/history.h File Reference	29
8.7.1 Function Documentation	29
8.7.1.1 add_to_history()	29
8.7.1.2 handle_history()	29
8.8 history.h	29
8.9 include/internal_commands.h File Reference	30
8.9.1 Function Documentation	30
8.9.1.1 free_commands()	30
8.9.1.2 free_if_needed()	31
8.9.1.3 handle_cd()	31
8.9.1.4 handle_echo()	31
8.9.1.5 handle_exit()	31
8.9.1.6 handle_pwd()	32
8.9.2 Variable Documentation	32
8.9.2.1 work_dir	32
8.10 internal_commands.h	32
8.11 include/parser.h File Reference	32
8.11.1 Function Documentation	33
8.11.1.1 detect_operator()	33
8.11.1.2 parse_command()	33
8.11.1.3 split_line()	34
8.11.1.4 trim_whitespace()	34
8.12 parser.h	34
8.13 include/typedef.h File Reference	35
8.13.1 Macro Definition Documentation	35
8.13.1.1 BLUE	35
8.13.1.2 COLOR_RESET	35
8.13.1.3 GREEN	36
8.13.1.4 MAX_BG_PROCESSES	36
8.13.1.5 MAX_COMMANDS	36
8.13.2 Typedef Documentation	36
8.13.2.1 Alias	36
8.13.2.2 BackgroundProcess	36

8.13.2.3 Command	36
8.13.2.4 Commands	36
8.13.2.5 Jobs	36
8.14 typedef.h	37
8.15 README.md File Reference	37
8.16 src/aliases.c File Reference	37
8.17 src/batch.c File Reference	37
8.17.1 Detailed Description	38
8.17.2 Function Documentation	38
8.17.2.1 handle_arguments()	38
8.17.3 Variable Documentation	39
8.17.3.1 batch_command	39
8.17.3.2 bg_processes	39
8.17.3.3 minishell_options	39
8.18 src/executor.c File Reference	39
8.18.1 Detailed Description	40
8.18.2 Function Documentation	40
8.18.2.1 check_bg_processes()	40
8.18.2.2 create_child_process()	40
8.18.2.3 execute_command()	41
8.18.2.4 execute_commands()	41
8.18.2.5 execute_pipes()	41
8.18.2.6 handle_heredoc()	42
8.18.2.7 setup_redirections()	42
8.18.3 Variable Documentation	42
8.18.3.1 internal_cmds	42
8.18.3.2 internal_cmds_list	42
8.19 src/history.c File Reference	43
8.19.1 Detailed Description	43
8.19.2 Function Documentation	43
8.19.2.1 add_to_history()	43
8.19.2.2 handle_history()	44
8.20 src/internal_commands.c File Reference	44
8.20.1 Detailed Description	44
8.20.2 Function Documentation	45
8.20.2.1 free_commands()	45
8.20.2.2 free_if_needed()	45
8.20.2.3 handle_cd()	45
8.20.2.4 handle_echo()	45
8.20.2.5 handle_exit()	46
8.20.2.6 handle_pwd()	46
8.20.3 Variable Documentation	46

8.20.3.1 work_dir	46
8.21 src/main.c File Reference	46
8.21.1 Detailed Description	47
8.21.2 Function Documentation	47
8.21.2.1 main()	47
8.21.2.2 write_prompt()	47
8.21.3 Variable Documentation	47
8.21.3.1 bg_processes	47
8.21.3.2 parsed_commands	47
8.22 src/parser.c File Reference	47
8.22.1 Detailed Description	48
8.22.2 Function Documentation	48
8.22.2.1 detect_operator()	48
8.22.2.2 parse_command()	49
8.22.2.3 split_line()	49
8.22.2.4 trim_whitespace()	49
8.22.3 Variable Documentation	49
8.22.3.1 OPERATORS	49
8.22.3.2 REDIRECTORS	49
Index	51

Chapter 1

Minishell

1.1 Introduction

Welcome to the documentation of the Minishell project for EICNAM 2025.

1.2 Features

- [Command](#) parsing and execution
- [Alias](#) management
- Batch mode
- [Command history](#)
- Internal commands (cd, pwd, echo, etc.)

1.3 Usage

See the README for usage instructions.

Chapter 2

Projet - Minishell

2.1 À propos

Ce projet, toujours réalisé dans le cadre de notre module de systèmes avancés, est une version plus légère d'un shell, appelé minishell. Il réponds à la plupart des exigences techniques demandées dans le sujet, celles-ci étant expliquées ci-dessous (lien vers le sujet à l'appui).

2.2 Compilation du projet

Le projet se compile avec le fichier Makefile situé dans le même dossier, à l'aide de la commande `make`. Le fichier exécutable "minishell" se trouvera alors dans le sous-dossier `output/`, prêt à l'emploi.

2.3 Documentation

- [Documentation générée par doxygen **A REMPLIR QUAND ON AURA LES DONNEES**()]
- [PDF généré par doxygen **A REMPLIR QUAND ON AURA LES DONNEES**()]
- [Sujet du projet](#)
- [Page de manuel linux](#)

2.4 Exigences techniques auxquelles nous avons répondu

2.4.1 Capacité d'exécuter des commandes simples

Le minishell réalisé permet l'exécution de commandes simples.

Exemples :

- `ls -a`
- `ps`
- `ls -alF > file.txt`
- `ps aux | grep minishell`

2.4.2 Capacité d'exécuter un sous-ensemble de plusieurs commandes

La logique de différents opérateurs a été recréé, permettant l'accès aux :

- Opérateurs de contrôle
 - Le ET logique: &&
 - Le OU logique: ||
- Opérateurs de redirection de flux simples :
 - Le pipe: |
 - Les chevrons: < et >
 - Les chevrons doubles: << et >>
- Exécutions en arrière-plan
 - Symbole &

2.4.3 L'exécution built-in de certaines commandes

La logique des commandes suivantes a été réécrite :

- cd
- pwd
- exit
- echo

2.4.4 Le maintien d'un historique

Un fichier renseignant toutes les commandes rentrées dans le minishell est disponible sous `~/minishell_logs/command_history` à partir du moment où une commande est rentrée dans le terminal. La commande **history** a également été programmée, et permet la visualisation du fichier susmentionné dans le terminal.

2.4.5 Un mode de lancement "batch"

Un mode de lancement spécial "batch" a été réalisé, qui permet l'exécution de commandes par argument (qu'elles soient simples ou imbriquées avec des opérateurs).

Pour utiliser le mode batch, la syntaxe est la suivante :

- `./[path_to_minishell_executable] [OPTION] <command>`

Les différentes options possibles sont :

- `-c, --command <command>`: Execute the specified command and exit.
- `--help`: Display help message and exit.

2.4.6 La prise en charge d'alias temporaires

Une gestion des alias temporaires, donc disponibles durant une session du minishell, a été prévue (gestion et utilisation des alias dans les commandes lancées).

Les différentes actions possibles sur les alias sont les suivantes :

- La définition d'alias
 - alias [nom_alias]='[command]'
- L'affichage de la commande correspondante à un alias
 - alias [nom_alias]
- L'affichage de toutes les définitions d'alias
 - alias
- La suppression d'alias
 - unalias [nom_alias]
- La suppression de tous les alias
 - unalias -a

2.5 Page de manuel linux

Une page de manuel linux a été créée pour le minishell, et est disponible dans le dossier doc/ sous le nom minishell. Elle peut être consultée en utilisant la commande suivante dans un terminal :

```
man doc/minishell.1
```

Il est possible de l'ajouter au système de manuel linux en copiant le fichier minishell.1 dans le dossier /usr/share/man/man1/ (nécessite les droits administrateurs) :

```
sudo cp doc/minishell.1 /usr/share/man/man1/
```

Après cela, la page de manuel pourra être consultée avec la commande :

```
man minishell
```

Si vous ne souhaitez plus avoir accès à la page de manuel, il suffit de supprimer le fichier copié dans /usr/share/man/man1/ :

```
sudo rm /usr/share/man/man1/minishell.1
```


Chapter 3

Directory Hierarchy

3.1 Directories

include	13
aliases.h	21
batch.h	24
executor.h	25
history.h	29
internal_commands.h	30
parser.h	32
typedef.h	35
src	13
aliases.c	37
batch.c	37
executor.c	39
history.c	43
internal_commands.c	44
main.c	46
parser.c	47

Chapter 4

Data Structure Index

4.1 Data Structures

Here are the data structures with brief descriptions:

Alias	15
BackgroundProcess	16
Command	16
Commands	18
Jobs	18

Chapter 5

File Index

5.1 File List

Here is a list of all files with brief descriptions:

include/aliases.h	Implementation of alias handling for the minishell	21
include/batch.h	Handles batch mode execution for the minishell	24
include/executor.h	Implementation of command execution for the minishell	25
include/history.h	Implementation of command history handling for the minishell	29
include/internal_commands.h	Implementation of internal commands for the minishell	30
include/parser.h	Main entry point for the minishell application	32
include/typedef.h	Implementation of the command line parser for the minishell	35
src/aliases.c	Implementation of alias handling for the minishell	37
src/batch.c	Handles batch mode execution for the minishell	37
src/executor.c	Implementation of command execution for the minishell	39
src/history.c	Implementation of command history handling for the minishell	43
src/internal_commands.c	Implementation of internal commands for the minishell	44
src/main.c	Main entry point for the minishell application	46
src/parser.c	Implementation of the command line parser for the minishell	47

Chapter 6

Directory Documentation

6.1 include Directory Reference

Files

- file `aliases.h`
- file `batch.h`
- file `executor.h`
- file `history.h`
- file `internal_commands.h`
- file `parser.h`
- file `typedef.h`

6.2 src Directory Reference

Directory dependency graph for src:

Files

- file `aliases.c`
Implementation of alias handling for the minishell.
- file `batch.c`
Handles batch mode execution for the minishell.
- file `executor.c`
Implementation of command execution for the minishell.
- file `history.c`
Implementation of command history handling for the minishell.
- file `internal_commands.c`
Implementation of internal commands for the minishell.
- file `main.c`
Main entry point for the minishell application.
- file `parser.c`
Implementation of the command line parser for the minishell.

Chapter 7

Data Structure Documentation

7.1 Alias Struct Reference

```
#include <typedef.h>
```

Data Fields

- char * [name](#)
- char * [command](#)

7.1.1 Detailed Description

Structure for alias management

7.1.2 Field Documentation

7.1.2.1 [command](#)

```
char* Alias::command
```

7.1.2.2 [name](#)

```
char* Alias::name
```

The documentation for this struct was generated from the following file:

- [include/typedef.h](#)

7.2 BackgroundProcess Struct Reference

```
#include <typedef.h>
```

Collaboration diagram for BackgroundProcess:

Data Fields

- int `count`
- `Jobs processes [MAX_BG_PROCESSES]`

7.2.1 Detailed Description

Structure to manage background processes

7.2.2 Field Documentation

7.2.2.1 `count`

```
int BackgroundProcess::count
```

7.2.2.2 `processes`

```
Jobs BackgroundProcess::processes [MAX_BG_PROCESSES]
```

The documentation for this struct was generated from the following file:

- include/typedef.h

7.3 Command Struct Reference

```
#include <typedef.h>
```

Data Fields

- char * `command`
- `size_t length`
- char ** `args`
- int `arg_count`
- char * `input_redirect`
- char * `output_redirect`
- char * `heredoc_delimiter`
- bool `append_output`

7.3.1 Detailed Description

Structure to hold a single command and its details

7.3.2 Field Documentation

7.3.2.1 append_output

```
bool Command::append_output
```

7.3.2.2 arg_count

```
int Command::arg_count
```

7.3.2.3 args

```
char** Command::args
```

7.3.2.4 command

```
char* Command::command
```

7.3.2.5 heredoc_delimiter

```
char* Command::heredoc_delimiter
```

7.3.2.6 input_redirect

```
char* Command::input_redirect
```

7.3.2.7 length

```
size_t Command::length
```

7.3.2.8 output_redirect

```
char* Command::output_redirect
```

The documentation for this struct was generated from the following file:

- [include/typedef.h](#)

7.4 Commands Struct Reference

```
#include <typedef.h>
```

Collaboration diagram for Commands:

Data Fields

- Command commands [MAX_COMMANDS]
- char * operators [MAX_COMMANDS]
- int command_count

7.4.1 Detailed Description

Structure to hold multiple commands and their operators

7.4.2 Field Documentation

7.4.2.1 command_count

```
int Commands::command_count
```

7.4.2.2 commands

```
Command Commands::commands [MAX_COMMANDS]
```

7.4.2.3 operators

```
char* Commands::operators [MAX_COMMANDS]
```

The documentation for this struct was generated from the following file:

- include/typedef.h

7.5 Jobs Struct Reference

```
#include <typedef.h>
```

Data Fields

- pid_t pid
- char * command

7.5.1 Detailed Description

Structure to hold background job details

7.5.2 Field Documentation

7.5.2.1 command

```
char* Jobs::command
```

7.5.2.2 pid

```
pid_t Jobs::pid
```

The documentation for this struct was generated from the following file:

- [include/typedef.h](#)

Chapter 8

File Documentation

8.1 include/aliases.h File Reference

```
#include "typedef.h"
#include <limits.h>
```

Include dependency graph for aliases.h: This graph shows which files directly or indirectly include this file:

Macros

- #define MAX_ALIASES 20

Functions

- void `handle_alias` (char **args)
Handles the alias command and its various functionalities.
- void `handle_unalias` (char **args)
Handles the unalias command and its various functionalities.
- void `add_alias` (Alias new_alias)
Adds a new alias to the alias list.
- void `remove_alias` (const char *name)
Removes an alias from the alias list from its name.
- int `is_alias` (const char *name)
Checks if a given name corresponds to an existing alias.
- void `list_aliases` ()
Lists all currently defined aliases. Used when the alias command is called without arguments.
- void `free_aliases` ()
Frees all allocated memory for aliases and resets the alias count.
- char * `get_alias_command` (const char *name)
Retrieves the command associated with a given alias name.

8.1.1 Macro Definition Documentation

8.1.1.1 MAX_ALIASES

```
#define MAX_ALIASES 20
```

8.1.2 Function Documentation

8.1.2.1 add_alias()

```
void add_alias (
    Alias new_alias)
```

Adds a new alias to the alias list.

Parameters

<i>new_alias</i>	The Alias struct containing the name and command of the new alias.
------------------	--

8.1.2.2 free_aliases()

```
void free_aliases ()
```

Frees all allocated memory for aliases and resets the alias count.

8.1.2.3 get_alias_command()

```
char * get_alias_command (
    const char * name)
```

Retrieves the command associated with a given alias name.

Parameters

<i>name</i>	The name of the alias.
-------------	------------------------

Returns

The command string if the alias exists, NULL otherwise.

8.1.2.4 handle_alias()

```
void handle_alias (
    char ** args)
```

Handles the alias command and its various functionalities.

Parameters

<i>args</i>	The different arguments passed to the alias command.
-------------	--

8.1.2.5 handle_unalias()

```
void handle_unalias (
    char ** args)
```

Handles the unalias command and its various functionalities.

Parameters

<i>args</i>	The different arguments passed to the unalias command (an alias name or -a).
-------------	--

8.1.2.6 is_alias()

```
int is_alias (
    const char * name)
```

Checks if a given name corresponds to an existing alias.

Parameters

<i>name</i>	The name to check.
-------------	--------------------

Returns

EXIT_SUCCESS if the name is an alias, EXIT_FAILURE otherwise.

8.1.2.7 list_aliases()

```
void list_aliases ()
```

Lists all currently defined aliases. Used when the alias command is called without arguments.

8.1.2.8 remove_alias()

```
void remove_alias (
    const char * name)
```

Removes an alias from the alias list from its name.

Parameters

<i>name</i>	The name of the alias to remove.
-------------	----------------------------------

8.2 aliases.h

[Go to the documentation of this file.](#)

```
00001 #ifndef ALIASES_H
00002 #define ALIASES_H
00003
00004 #include "typedef.h"
00005 #include <limits.h>
00006
00007 #define MAX_ALIASES 20
00008
00013 void handle_alias(char **args);
00014
00019 void handle_unalias(char **args);
00020
00025 void add_alias(Alias new_alias);
00026
00031 void remove_alias(const char *name);
00032
00038 int is_alias(const char *name);
00039
00044 void list_aliases();
00045
00049 void free_aliases();
00050
00056 char* get_alias_command(const char *name);
00057
00058 #endif // ALIASES_H
```

8.3 include/batch.h File Reference

```
#include "typedef.h"
#include "internal_commands.h"
#include "parser.h"
#include "executor.h"
```

Include dependency graph for batch.h: This graph shows which files directly or indirectly include this file:

Macros

- [#define MAX_ARGUMENTS 3](#)

Functions

- [int handle_arguments \(int argc, const char *argv\[\]\)](#)
Handles command-line arguments for batch mode. Possible options are:

8.3.1 Macro Definition Documentation

8.3.1.1 MAX_ARGUMENTS

```
#define MAX_ARGUMENTS 3
```

8.3.2 Function Documentation

8.3.2.1 handle_arguments()

```
int handle_arguments (
    int argc,
    const char * argv[ ])
```

Handles command-line arguments for batch mode. Possible options are:

- -c, --command <command>: Execute the specified command and exit.
- --help: Display help message and exit.

Parameters

<i>argc</i>	Argument count.
<i>argv</i>	Argument vector.

Returns

Returns EXIT_SUCCESS or EXIT_FAILURE.

8.4 batch.h

[Go to the documentation of this file.](#)

```
00001 #ifndef BATCH_H
00002 #define BATCH_H
00003
00004 #include "typedef.h"
00005 #include "internal_commands.h"
00006 #include "parser.h"
00007 #include "executor.h"
00008
00009 #define MAX_ARGUMENTS 3
00010
00020 int handle_arguments(int argc, const char *argv[]);
00021
00022 #endif // BATCH_H
```

8.5 include/executor.h File Reference

```
#include "typedef.h"
#include "internal_commands.h"
#include "aliases.h"
#include "history.h"
```

Include dependency graph for executor.h: This graph shows which files directly or indirectly include this file:

Functions

- int `execute_command (Command *command, bool is_background)`
Executes a single command, checking for internal commands first.
- void `execute_commands (Commands *commands, BackgroundProcess *bg_processes)`
Executes a series of commands with their associated operators.
- int `create_child_process (Command *command, bool is_background)`
Creates a child process to execute a command.
- void `check_bg_processes (BackgroundProcess *bg_processes)`
Checks the status of background processes and cleans up finished ones.
- int `execute_pipes (Commands *commands, int start_index, int end_index)`
Executes a series of piped commands.
- int `setup_redirections (Command *command)`
Sets up input and output redirections for a command.
- int `handle_heredoc (Command *command)`
Handles here-document (heredoc) input for a command.

8.5.1 Function Documentation

8.5.1.1 `check_bg_processes()`

```
void check_bg_processes (
    BackgroundProcess * bg_processes)
```

Checks the status of background processes and cleans up finished ones.

Parameters

<code>bg_processes</code>	Pointer to the <code>BackgroundProcess</code> struct managing background jobs.
---------------------------	--

8.5.1.2 `create_child_process()`

```
int create_child_process (
    Command * command,
    bool is_background)
```

Creates a child process to execute a command.

Parameters

<code>command</code>	Pointer to the <code>Command</code> struct to execute.
<code>is_background</code>	Boolean indicating if the command should run in the background.

Returns

Exit status of the command execution.

8.5.1.3 execute_command()

```
int execute_command (
    Command * command,
    bool is_background)
```

Executes a single command, checking for internal commands first.

Parameters

<i>command</i>	Pointer to the Command struct to execute.
<i>is_background</i>	Boolean indicating if the command should run in the background.

Returns

Exit status of the command execution.

8.5.1.4 execute_commands()

```
void execute_commands (
    Commands * commands,
    BackgroundProcess * bg_processes)
```

Executes a series of commands with their associated operators.

Parameters

<i>commands</i>	Pointer to the Commands struct containing commands and operators.
-----------------	---

8.5.1.5 execute_pipes()

```
int execute_pipes (
    Commands * commands,
    int start_index,
    int end_index)
```

Executes a series of piped commands.

Parameters

<i>commands</i>	Pointer to the Commands struct containing commands and operators.
<i>start_index</i>	Index of the first command in the pipe sequence.
<i>end_index</i>	Index of the last command in the pipe sequence.

Returns

Exit status of the last command in the pipe sequence.

8.5.1.6 handle_heredoc()

```
int handle_heredoc (
    Command * command)
```

Handles here-document (heredoc) input for a command.

Parameters

<i>command</i>	Pointer to the Command struct containing the heredoc delimiter.
----------------	---

Returns

0 on success, -1 on failure.

8.5.1.7 setup_redirections()

```
int setup_redirections (
    Command * command)
```

Sets up input and output redirections for a command.

Parameters

<i>command</i>	Pointer to the Command struct to set up redirections for.
----------------	---

Returns

0 on success, -1 on failure.

8.6 executor.h

[Go to the documentation of this file.](#)

```
00001 #ifndef EXECUTOR_H
00002 #define EXECUTOR_H
00003
00004 #include "typedef.h"
00005 #include "internal_commands.h"
00006 #include "aliases.h"
00007 #include "history.h"
00008
00015 int execute_command(Command* command, bool is_background);
00016
00021 void execute_commands(Commands* commands, BackgroundProcess* bg_processes);
00022
00029 int create_child_process(Command* command, bool is_background);
00030
00035 void check_bg_processes(BackgroundProcess* bg_processes);
00036
00044 int execute_pipes(Commands* commands, int start_index, int end_index);
00045
00051 int setup_redirections(Command* command);
00052
00058 int handle_heredoc(Command* command);
00059
00060 #endif // EXECUTOR_H
```

8.7 include/history.h File Reference

```
#include "typedef.h"
```

Include dependency graph for history.h: This graph shows which files directly or indirectly include this file:

Functions

- void [handle_history](#) (char **args)
Built-in history command handler. Handles displaying the command history to the user.
- void [add_to_history](#) (char *command_line)
Handles writing inputted commands in history file (~minishell_logs/command_history).

8.7.1 Function Documentation

8.7.1.1 add_to_history()

```
void add_to_history (
    char * command_line)
```

Handles writing inputted commands in history file (~minishell_logs/command_history).

Parameters

<i>command_line</i>	The entire command line that needs to be added in the history file.
---------------------	---

8.7.1.2 handle_history()

```
void handle_history (
    char ** args)
```

Built-in history command handler. Handles displaying the command history to the user.

Parameters

<i>args</i>	voided
-------------	--------

8.8 history.h

[Go to the documentation of this file.](#)

```
00001 #ifndef HISTORY_H
00002 #define HISTORY_H
00003
00004 #include "typedef.h"
00005
00011 void handle_history(char** args);
00012
00017 void add_to_history(char* command_line);
00018
00019 #endif // HISTORY_H
```

8.9 include/internal_commands.h File Reference

```
#include "typedef.h"
#include "aliases.h"
```

Include dependency graph for internal_commands.h: This graph shows which files directly or indirectly include this file:

Functions

- void [handle_cd](#) (char **args)
Built-in cd command handler.
- void [handle_pwd](#) (char **args)
Built-in pwd command handler.
- void [handle_echo](#) (char **args)
Built-in echo command handler.
- void [handle_exit](#) ([Commands](#) *commands)
Built-in exit command handler. Exits the shell after freeing necessary resources.
- void [free_if_needed](#) (void *to_free)
Frees memory if the pointer is not NULL.
- void [free_commands](#) ([Commands](#) *commands)
Frees all allocated memory in the [Commands](#) struct.

Variables

- char * [work_dir](#)

8.9.1 Function Documentation

8.9.1.1 [free_commands\(\)](#)

```
void free_commands (
    Commands * commands)
```

Frees all allocated memory in the [Commands](#) struct.

Parameters

<code>commands</code>	Pointer to the Commands struct to free.
-----------------------	---

8.9.1.2 free_if_needed()

```
void free_if_needed (
    void * to_free)
```

Frees memory if the pointer is not NULL.

Parameters

<i>to_free</i>	Pointer to the memory to free.
----------------	--------------------------------

8.9.1.3 handle_cd()

```
void handle_cd (
    char ** args)
```

Built-in cd command handler.

Parameters

<i>args</i>	Command arguments, handles correctly changing directories, and specific cases like "cd ~".
-------------	--

8.9.1.4 handle_echo()

```
void handle_echo (
    char ** args)
```

Built-in echo command handler.

Parameters

<i>args</i>	Command arguments to echo back to the user.
-------------	---

8.9.1.5 handle_exit()

```
void handle_exit (
    Commands * commands)
```

Built-in exit command handler. Exits the shell after freeing necessary resources.

Parameters

<i>commands</i>	Pointer to the Commands struct containing commands and operators.
-----------------	---

8.9.1.6 handle_pwd()

```
void handle_pwd (
    char ** args)
```

Built-in pwd command handler.

Parameters

<i>args</i>	voided
-------------	--------

8.9.2 Variable Documentation

8.9.2.1 work_dir

```
char* work_dir [extern]
```

The path to the current workdir

8.10 internal_commands.h

[Go to the documentation of this file.](#)

```
00001 #ifndef INTERNAL_COMMANDS_H
00002 #define INTERNAL_COMMANDS_H
00003
00004 #include "typedef.h"
00005 #include "aliases.h"
00006
00007 extern char *work_dir;
00008
00013 void handle_cd(char** args);
00014
00019 void handle_pwd(char** args);
00020
00025 void handle_echo(char** args);
00026
00032 void handle_exit(Commands* commands);
00033
00038 void free_if_needed(void* to_free);
00039
00044 void free_commands(Commands* commands);
00045
00046 #endif // INTERNAL_COMMANDS_H
```

8.11 include/parser.h File Reference

```
#include "typedef.h"
#include "internal_commands.h"
```

Include dependency graph for parser.h: This graph shows which files directly or indirectly include this file:

Functions

- int `detect_operator` (const char **p*, const char ***op_found*)
Detects if the current position in the input line matches any known operator.
- char * `trim_whitespace` (const char **line*)
Trims leading and trailing whitespace from a given line.
- void `split_line` (const char **line*, `Commands` **commands*)
Splits the input line into commands and operators, populating the `Commands` struct.
- void `parse_command` (`Command` **command*)
Parses a command string into its arguments and populates the `Command` struct.

8.11.1 Function Documentation

8.11.1.1 `detect_operator()`

```
int detect_operator (
    const char * p,
    const char ** op_found)
```

Detects if the current position in the input line matches any known operator.

Parameters

<i>p</i>	Pointer to the current position in the input line.
<i>op_found</i>	Pointer to store the found operator string.

Returns

Length of the detected operator, or 0 if none found.

8.11.1.2 `parse_command()`

```
void parse_command (
    Command * command)
```

Parses a command string into its arguments and populates the `Command` struct.

Parameters

<i>command</i>	Pointer to the <code>Command</code> struct to populate.
----------------	---

8.11.1.3 `split_line()`

```
void split_line (
    const char * line,
    Commands * commands)
```

Splits the input line into commands and operators, populating the `Commands` struct.

Parameters

<i>line</i>	Pointer to the input line.
<i>commands</i>	Pointer to the <code>Commands</code> struct to populate.

8.11.1.4 `trim_whitespace()`

```
char * trim_whitespace (
    const char * line)
```

Trims leading and trailing whitespace from a given line.

Parameters

<i>line</i>	Pointer to the input line.
-------------	----------------------------

Returns

Newly allocated string with trimmed whitespace.

8.12 parser.h

[Go to the documentation of this file.](#)

```
00001 #ifndef PARSER_H
00002 #define PARSER_H
00003
00004 #include "typedef.h"
00005 #include "internal_commands.h"
00006
00013 int detect_operator(const char* p, const char** op_found);
00014
00020 char* trim_whitespace(const char* line);
00021
00027 void split_line(const char* line, Commands *commands);
00028
00033 void parse_command(Command* command);
00034
00035 #endif // PARSER_H
```

8.13 include/typedef.h File Reference

```
#include <string.h>
#include <stdbool.h>
#include <unistd.h>
#include <stdio.h>
#include <stdlib.h>
#include <sys/wait.h>
#include <fcntl.h>
#include <errno.h>
#include <sys/stat.h>
#include <sys/types.h>
```

Include dependency graph for typedef.h: This graph shows which files directly or indirectly include this file:

Data Structures

- struct [Command](#)
- struct [Commands](#)
- struct [Jobs](#)
- struct [BackgroundProcess](#)
- struct [Alias](#)

Macros

- #define [MAX_COMMANDS](#) 3
- #define [MAX_BG_PROCESSES](#) 10
- #define [GREEN](#) "\033[1;32m"
- #define [BLUE](#) "\033[1;34m"
- #define [COLOR_RESET](#) "\033[0m"

Typedefs

- typedef struct Command [Command](#)
- typedef struct Commands [Commands](#)
- typedef struct Jobs [Jobs](#)
- typedef struct BackgroundProcess [BackgroundProcess](#)
- typedef struct Alias [Alias](#)

8.13.1 Macro Definition Documentation

8.13.1.1 BLUE

```
#define BLUE "\033[1;34m"
```

8.13.1.2 COLOR_RESET

```
#define COLOR_RESET "\033[0m"
```

8.13.1.3 GREEN

```
#define GREEN "\033[1;32m"
```

8.13.1.4 MAX_BG_PROCESSES

```
#define MAX_BG_PROCESSES 10
```

8.13.1.5 MAX_COMMANDS

```
#define MAX_COMMANDS 3
```

8.13.2 Typedef Documentation

8.13.2.1 Alias

```
typedef struct Alias Alias
```

Structure for alias management

8.13.2.2 BackgroundProcess

```
typedef struct BackgroundProcess BackgroundProcess
```

Structure to manage background processes

8.13.2.3 Command

```
typedef struct Command Command
```

Structure to hold a single command and its details

8.13.2.4 Commands

```
typedef struct Commands Commands
```

Structure to hold multiple commands and their operators

8.13.2.5 Jobs

```
typedef struct Jobs Jobs
```

Structure to hold background job details

8.14 typedef.h

[Go to the documentation of this file.](#)

```

00001 #ifndef TYPEDEF_H
00002 #define TYPEDEF_H
00003
00004
00021 #include <string.h>
00022 #include <stdbool.h>
00023 #include <unistd.h>
00024 #include <stdio.h>
00025 #include <stdlib.h>
00026 #include <sys/wait.h>
00027 #include <fcntl.h>
00028 #include <errno.h>
00029 #include <sys/stat.h>
00030 #include <sys/types.h>
00031
00032 #define MAX_COMMANDS      3
00033 #define MAX_BG_PROCESSES  10
00034
00035 #define GREEN           "\033[1;32m"
00036 #define BLUE            "\033[1;34m"
00037 #define COLOR_RESET     "\033[0m"
00038
00040 typedef struct Command {
00041     char*   command;          // Original command string
00042     size_t  length;          // Length of the command string
00043     char**  args;            // Argument list
00044     int     arg_count;        // Number of arguments related to the command
00045     char*   input_redirect;  // file for <
00046     char*   output_redirect; // file for > or »
00047     char*   heredoc_delimiter; // delimiter for «
00048     bool    append_output;   // true for », false for >
00049 } Command;
00050
00052 typedef struct Commands {
00053     Command commands[MAX_COMMANDS]; // Array of parsed commands
00054     char*   operators[MAX_COMMANDS]; // Operators between commands
00055     int     command_count;         // Number of commands parsed
00056 } Commands;
00057
00059 typedef struct Jobs {
00060     pid_t   pid;              // Process ID
00061     char*   command;          // Command string
00062 } Jobs;
00063
00065 typedef struct BackgroundProcess {
00066     int     count;            // Number of background processes
00067     Jobs   processes[MAX_BG_PROCESSES]; // Array of background processes
00068 } BackgroundProcess;
00069
00071 typedef struct Alias {
00072     char*   name;             // Alias name
00073     char*   command;          // Command string
00074 } Alias;
00075
00076 #endif // TYPEDEF_H

```

8.15 README.md File Reference

8.16 src/aliases.c File Reference

Implementation of alias handling for the minishell.

```
#include "../include/aliases.h"
Include dependency graph for aliases.c:
```

8.17 src/batch.c File Reference

Handles batch mode execution for the minishell.

```
#include "../include/batch.h"
Include dependency graph for batch.c:
```

Functions

- int `handle_arguments` (int argc, const char *argv[])

Handles command-line arguments for batch mode. Possible options are:

Variables

- const char * `minishell_options` [] = {"-c", "--command", "--help", NULL}
- `Commands batch_command`
- `BackgroundProcess bg_processes`

8.17.1 Detailed Description

Handles batch mode execution for the minishell.

Author

BRENNER Quentin, NEAGELY Jeannot

Date

2025-2026

8.17.2 Function Documentation

8.17.2.1 `handle_arguments()`

```
int handle_arguments (
    int argc,
    const char * argv[ ])
```

Handles command-line arguments for batch mode. Possible options are:

- -c, --command <command>: Execute the specified command and exit.
- --help: Display help message and exit.

Parameters

<code>argc</code>	Argument count.
<code>argv</code>	Argument vector.

Returns

Returns EXIT_SUCCESS or EXIT_FAILURE.

8.17.3 Variable Documentation

8.17.3.1 batch_command

`Commands` `batch_command`

The command to be run

8.17.3.2 bg_processes

`BackgroundProcess` `bg_processes` [extern]

8.17.3.3 minishell_options

`const char* minishell_options[] = {"-c", "--command", "--help", NULL}`

List of possible options to use for batch mode

8.18 src/executor.c File Reference

Implementation of command execution for the minishell.

`#include "../include/executor.h"`

Include dependency graph for executor.c:

Functions

- int `create_child_process (Command *command, bool is_background)`
Creates a child process to execute a command.
- void `execute_commands (Commands *commands, BackgroundProcess *bg_processes)`
Executes a series of commands with their associated operators.
- int `execute_command (Command *command, bool is_background)`
Executes a single command, checking for internal commands first.
- void `check_bg_processes (BackgroundProcess *bg_processes)`
Checks the status of background processes and cleans up finished ones.
- int `execute_pipes (Commands *commands, int start_index, int end_index)`
Executes a series of piped commands.
- int `setup_redirections (Command *command)`
Sets up input and output redirections for a command.
- int `handle_heredoc (Command *command)`
Handles here-document (heredoc) input for a command.

Variables

- const char * `internal_cmds_list [] = {"cd", "pwd", "echo", "history", "alias", "unalias", NULL}`
- void(* `internal_cmds [](char **)`) = `{&handle_cd, &handle_pwd, &handle_echo, &handle_history, &handle_alias, &handle_unalias, NULL}`

8.18.1 Detailed Description

Implementation of command execution for the minishell.

Author

BRENNER Quentin, NEAGELY Jeannot

Date

2025-2026

8.18.2 Function Documentation

8.18.2.1 check_bg_processes()

```
void check_bg_processes (
    BackgroundProcess * bg_processes)
```

Checks the status of background processes and cleans up finished ones.

Parameters

<i>bg_processes</i>	Pointer to the BackgroundProcess struct managing background jobs.
---------------------	---

8.18.2.2 create_child_process()

```
int create_child_process (
    Command * command,
    bool is_background)
```

Creates a child process to execute a command.

Parameters

<i>command</i>	Pointer to the Command struct to execute.
<i>is_background</i>	Boolean indicating if the command should run in the background.

Returns

Exit status of the command execution.

8.18.2.3 execute_command()

```
int execute_command (
    Command * command,
    bool is_background)
```

Executes a single command, checking for internal commands first.

Parameters

<i>command</i>	Pointer to the Command struct to execute.
<i>is_background</i>	Boolean indicating if the command should run in the background.

Returns

Exit status of the command execution.

8.18.2.4 execute_commands()

```
void execute_commands (
    Commands * commands,
    BackgroundProcess * bg_processes)
```

Executes a series of commands with their associated operators.

Parameters

<i>commands</i>	Pointer to the Commands struct containing commands and operators.
-----------------	---

8.18.2.5 execute_pipes()

```
int execute_pipes (
    Commands * commands,
    int start_index,
    int end_index)
```

Executes a series of piped commands.

Parameters

<i>commands</i>	Pointer to the Commands struct containing commands and operators.
<i>start_index</i>	Index of the first command in the pipe sequence.
<i>end_index</i>	Index of the last command in the pipe sequence.

Returns

Exit status of the last command in the pipe sequence.

8.18.2.6 handle_heredoc()

```
int handle_heredoc (
    Command * command)
```

Handles here-document (heredoc) input for a command.

Parameters

<i>command</i>	Pointer to the Command struct containing the heredoc delimiter.
----------------	---

Returns

0 on success, -1 on failure.

8.18.2.7 setup_redirections()

```
int setup_redirections (
    Command * command)
```

Sets up input and output redirections for a command.

Parameters

<i>command</i>	Pointer to the Command struct to set up redirections for.
----------------	---

Returns

0 on success, -1 on failure.

8.18.3 Variable Documentation

8.18.3.1 internal_cmds

```
void(* internal_cmds[ ]) (char **)
    char ** ) = {&handle_cd, &handle_pwd, &handle_echo, &handle_history, &handle_alias,
&handle_unalias, NULL}
```

List of pointers to internal command functions

8.18.3.2 internal_cmds_list

```
const char* internal_cmds_list[] = {"cd", "pwd", "echo", "history", "alias", "unalias", NULL}
```

List of internal commands

8.19 src/history.c File Reference

Implementation of command history handling for the minishell.

```
#include "../include/history.h"
Include dependency graph for history.c:
```

Functions

- void **handle_history** (char **args)
Built-in history command handler. Handles displaying the command history to the user.
- void **add_to_history** (char *command_line)
Handles writing inputted commands in history file (~minishell_logs/command_history).

8.19.1 Detailed Description

Implementation of command history handling for the minishell.

Author

BRENNER Quentin, NEAGELY Jeannot

Date

2025-2026

8.19.2 Function Documentation

8.19.2.1 add_to_history()

```
void add_to_history (
    char * command_line)
```

Handles writing inputted commands in history file (~minishell_logs/command_history).

Parameters

<i>command_line</i>	The entire command line that needs to be added in the history file.
---------------------	---

8.19.2.2 handle_history()

```
void handle_history (
    char ** args)
```

Built-in history command handler. Handles displaying the command history to the user.

Parameters

args	voided
------	--------

8.20 src/internal_commands.c File Reference

Implementation of internal commands for the minishell.

```
#include "../include/internal_commands.h"
```

Include dependency graph for internal_commands.c:

Functions

- void [handle_exit \(Commands *commands\)](#)
Built-in exit command handler. Exits the shell after freeing necessary resources.
- void [handle_pwd \(char **args\)](#)
Built-in pwd command handler.
- void [handle_cd \(char **args\)](#)
Built-in cd command handler.
- void [handle_echo \(char **args\)](#)
Built-in echo command handler.
- void [free_if_needed \(void *to_free\)](#)
Frees memory if the pointer is not NULL.
- void [free_commands \(Commands *commands\)](#)
Frees all allocated memory in the [Commands](#) struct.

Variables

- char * [work_dir](#)

8.20.1 Detailed Description

Implementation of internal commands for the minishell.

Author

BRENNER Quentin, NEAGELY Jeannot

Date

2025-2026

8.20.2 Function Documentation

8.20.2.1 free_commands()

```
void free_commands (
    Commands * commands)
```

Frees all allocated memory in the [Commands](#) struct.

Parameters

<i>commands</i>	Pointer to the Commands struct to free.
-----------------	---

8.20.2.2 free_if_needed()

```
void free_if_needed (
    void * to_free)
```

Frees memory if the pointer is not NULL.

Parameters

<i>to_free</i>	Pointer to the memory to free.
----------------	--------------------------------

8.20.2.3 handle_cd()

```
void handle_cd (
    char ** args)
```

Built-in cd command handler.

Parameters

<i>args</i>	Command arguments, handles correctly changing directories, and specific cases like "cd ~".
-------------	--

8.20.2.4 handle_echo()

```
void handle_echo (
    char ** args)
```

Built-in echo command handler.

Parameters

<i>args</i>	Command arguments to echo back to the user.
-------------	---

8.20.2.5 handle_exit()

```
void handle_exit (
    Commands * commands)
```

Built-in exit command handler. Exits the shell after freeing necessary resources.

Parameters

<i>commands</i>	Pointer to the Commands struct containing commands and operators.
-----------------	---

8.20.2.6 handle_pwd()

```
void handle_pwd (
    char ** args)
```

Built-in pwd command handler.

Parameters

<i>args</i>	voided
-------------	--------

8.20.3 Variable Documentation

8.20.3.1 work_dir

```
char* work_dir
```

The path to the current workdir

8.21 src/main.c File Reference

Main entry point for the minishell application.

```
#include "../include/typedef.h"
#include "../include/parser.h"
#include "../include/internal_commands.h"
#include "../include/executor.h"
#include "../include/batch.h"
Include dependency graph for main.c:
```

Functions

- void [write_prompt](#) (bool is_compact)
- int [main](#) (int argc, const char *argv[])

Variables

- `Commands parsed_commands`
- `BackgroundProcess bg_processes = { .count = 0 }`

8.21.1 Detailed Description

Main entry point for the minishell application.

Author

BRENNER Quentin, NEAGELY Jeannot

Date

2025-2026

8.21.2 Function Documentation

8.21.2.1 main()

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

8.21.2.2 write_prompt()

```
void write_prompt (
    bool is_compact)
```

8.21.3 Variable Documentation

8.21.3.1 bg_processes

```
BackgroundProcess bg_processes = { .count = 0 }
```

8.21.3.2 parsed_commands

```
Commands parsed_commands
```

8.22 src/parser.c File Reference

Implementation of the command line parser for the minishell.

```
#include "../include/parser.h"
Include dependency graph for parser.c:
```

Functions

- int `detect_operator` (const char **p*, const char ***op_found*)
Detects if the current position in the input line matches any known operator.
- char * `trim_whitespace` (const char **line*)
Trims leading and trailing whitespace from a given line.
- void `split_line` (const char **line*, `Commands` **commands*)
Splits the input line into commands and operators, populating the `Commands` struct.
- void `parse_command` (`Command` **command*)
Parses a command string into its arguments and populates the `Command` struct.

Variables

- const char * `OPERATORS` [] = {"&&", "||", "&", "|", ";", NULL}
- const char * `REDIRECTORS` [] = {"<<", ">>", "<", ">", NULL}

8.22.1 Detailed Description

Implementation of the command line parser for the minishell.

Author

BRENNER Quentin, NEAGELY Jeannot

Date

2025-2026

8.22.2 Function Documentation

8.22.2.1 `detect_operator()`

```
int detect_operator (
    const char * p,
    const char ** op_found)
```

Detects if the current position in the input line matches any known operator.

Parameters

<i>p</i>	Pointer to the current position in the input line.
<i>op_found</i>	Pointer to store the found operator string.

Returns

Length of the detected operator, or 0 if none found.

8.22.2.2 parse_command()

```
void parse_command (
    Command * command)
```

Parses a command string into its arguments and populates the [Command](#) struct.

Parameters

<i>command</i>	Pointer to the Command struct to populate.
----------------	--

8.22.2.3 split_line()

```
void split_line (
    const char * line,
    Commands * commands)
```

Splits the input line into commands and operators, populating the [Commands](#) struct.

Parameters

<i>line</i>	Pointer to the input line.
<i>commands</i>	Pointer to the Commands struct to populate.

8.22.2.4 trim_whitespace()

```
char * trim_whitespace (
    const char * line)
```

Trims leading and trailing whitespace from a given line.

Parameters

<i>line</i>	Pointer to the input line.
-------------	----------------------------

Returns

Newly allocated string with trimmed whitespace.

8.22.3 Variable Documentation

8.22.3.1 OPERATORS

```
const char* OPERATORS[ ] = {"&&", "||", "&", "|", ";", NULL}
```

8.22.3.2 REDIRECTORS

```
const char* REDIRECTORS[ ] = {"<<", ">>", "<", ">", NULL}
```


Index

add_alias
 aliases.h, 22

add_to_history
 history.c, 43
 history.h, 29

Alias, 15
 command, 15
 name, 15
 typedef.h, 36

aliases.h
 add_alias, 22
 free_aliases, 22
 get_alias_command, 22
 handle_alias, 22
 handle_unalias, 22
 is_alias, 23
 list_aliases, 23
 MAX_ALIASES, 21
 remove_alias, 23

append_output
 Command, 17

arg_count
 Command, 17

args
 Command, 17

BackgroundProcess, 16
 count, 16
 processes, 16
 typedef.h, 36

batch.c
 batch_command, 39
 bg_processes, 39
 handle_arguments, 38
 minishell_options, 39

batch.h
 handle_arguments, 25
 MAX_ARGUMENTS, 24

batch_command
 batch.c, 39

bg_processes
 batch.c, 39
 main.c, 47

BLUE
 typedef.h, 35

check_bg_processes
 executor.c, 40
 executor.h, 26

COLOR_RESET

 typedef.h, 35

Command, 16
 append_output, 17
 arg_count, 17
 args, 17
 command, 17
 heredoc_delimiter, 17
 input_redirect, 17
 length, 17
 output_redirect, 17
 typedef.h, 36

command
 Alias, 15
 Command, 17
 Jobs, 19

command_count
 Commands, 18

Commands, 18
 command_count, 18
 commands, 18
 operators, 18
 typedef.h, 36

commands
 Commands, 18

count
 BackgroundProcess, 16

create_child_process
 executor.c, 40
 executor.h, 26

detect_operator
 parser.c, 48
 parser.h, 33

execute_command
 executor.c, 40
 executor.h, 26

execute_commands
 executor.c, 41
 executor.h, 27

execute_pipes
 executor.c, 41
 executor.h, 27

executor.c
 check_bg_processes, 40
 create_child_process, 40
 execute_command, 40
 execute_commands, 41
 execute_pipes, 41
 handle_heredoc, 41

internal_cmds, 42
 internal_cmds_list, 42
 setup_redirections, 42
executor.h
 check_bg_processes, 26
 create_child_process, 26
 execute_command, 26
 execute_commands, 27
 execute_pipes, 27
 handle_heredoc, 27
 setup_redirections, 28

free_aliases
 aliases.h, 22

free_commands
 internal_commands.c, 45
 internal_commands.h, 30

free_if_needed
 internal_commands.c, 45
 internal_commands.h, 30

get_alias_command
 aliases.h, 22

GREEN
 typedef.h, 35

handle_alias
 aliases.h, 22

handle_arguments
 batch.c, 38
 batch.h, 25

handle_cd
 internal_commands.c, 45
 internal_commands.h, 31

handle_echo
 internal_commands.c, 45
 internal_commands.h, 31

handle_exit
 internal_commands.c, 45
 internal_commands.h, 31

handle_heredoc
 executor.c, 41
 executor.h, 27

handle_history
 history.c, 43
 history.h, 29

handle_pwd
 internal_commands.c, 46
 internal_commands.h, 31

handle_unalias
 aliases.h, 22

heredoc_delimiter
 Command, 17

history.c
 add_to_history, 43
 handle_history, 43

history.h
 add_to_history, 29
 handle_history, 29

 include Directory Reference, 13
 include/aliases.h, 21, 24
 include/batch.h, 24, 25
 include/executor.h, 25, 28
 include/history.h, 29
 include/internal_commands.h, 30, 32
 include/parser.h, 32, 34
 include/typedef.h, 35, 37
 input_redirect
 Command, 17
internal_cmds
 executor.c, 42

internal_cmds_list
 executor.c, 42

internal_commands.c
 free_commands, 45
 free_if_needed, 45
 handle_cd, 45
 handle_echo, 45
 handle_exit, 45
 handle_pwd, 46
 work_dir, 46

internal_commands.h
 free_commands, 30
 free_if_needed, 30
 handle_cd, 31
 handle_echo, 31
 handle_exit, 31
 handle_pwd, 31
 work_dir, 32

is_alias
 aliases.h, 23

Jobs, 18
 command, 19
 pid, 19
 typedef.h, 36

length
 Command, 17

list_aliases
 aliases.h, 23

main
 main.c, 47

main.c
 bg_processes, 47
 main, 47
 parsed_commands, 47
 write_prompt, 47

MAX_ALIASES
 aliases.h, 21

MAX_ARGUMENTS
 batch.h, 24

MAX_BG_PROCESSES
 typedef.h, 36

MAX_COMMANDS
 typedef.h, 36

Minishell, 1

minishell_options
batch.c, 39

name
Alias, 15

OPERATORS
parser.c, 49

operators
Commands, 18

output_redirect
Command, 17

parse_command
parser.c, 48
parser.h, 33

parsed_commands
main.c, 47

parser.c
detect_operator, 48
OPERATORS, 49
parse_command, 48
REDIRECTORS, 49
split_line, 49
trim_whitespace, 49

parser.h
detect_operator, 33
parse_command, 33
split_line, 33
trim_whitespace, 34

pid
Jobs, 19

processes
BackgroundProcess, 16

Projet - Minishell, 3

README.md, 37

REDIRECTORS
parser.c, 49

remove_alias
aliases.h, 23

setup_redirections
executor.c, 42
executor.h, 28

split_line
parser.c, 49
parser.h, 33

src Directory Reference, 13

src/aliases.c, 37

src/batch.c, 37

src/executor.c, 39

src/history.c, 43

src/internal_commands.c, 44

src/main.c, 46

src/parser.c, 47

trim_whitespace
parser.c, 49
parser.h, 34

typedef.h
Alias, 36
BackgroundProcess, 36
BLUE, 35
COLOR_RESET, 35
Command, 36
Commands, 36
GREEN, 35
Jobs, 36
MAX_BG_PROCESSES, 36
MAX_COMMANDS, 36

work_dir
internal_commands.c, 46
internal_commands.h, 32

write_prompt
main.c, 47