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# sim-exe

## Documentation

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## 1 Quick starting guide

### 1.1 Description of the tool

sim-exe is a configurable command interpreter which abstracts the complexity of using various low level functions into simple and comprehensive commands. This version embeds:

BASIC : Fundamental commands to use the interpreter.

MAPS : Commands to use simulator MAPS.

The interpreter embeds hints, auto-completion and linux pipe features. Warning: MAPS is not compatible with pipe for now.

## 1.2 First steps

Once the interpreter is launched, the symbol `>` is displayed meaning that the interpreter is ready to accept commands. When you start to write a command, the tool suggests a command that matches one existing (also called a hint). You can use the tab key to auto-complete the command. Arguments required are displayed inside quotes `<>`. They must not be typed when you provide your arguments.

For example, if you want to display all implemented commands, you can use:

```
list_commands
```

The standard output is the terminal itself.

You are now ready to use the interpreter. If you want to quit, just type:

```
quit
```

## 2 List of commands

### 2.1 Interface

#### quit

##### Description

Quit the interpreter.

#### system <cmd>

##### Arguments

|     | type   | format       | description         |
|-----|--------|--------------|---------------------|
| cmd | string | alphanumeric | command description |

##### Description

Run the command <cmd> in the shell.

#### list\_commands

##### Description

List all available commands.

## 2.2 MAPS interface

### configuration

#### Description

Display the current configuration of MAPS.

### make

#### Arguments

|        | type   | format       | description     |
|--------|--------|--------------|-----------------|
| folder | string | alphanumeric | Firmware folder |

#### Description

Compile the firmware in the folder firmware/<folder>/.

### clean

#### Arguments

|        | type   | format       | description     |
|--------|--------|--------------|-----------------|
| folder | string | alphanumeric | Firmware folder |

#### Description

Clean compiled firmware in the folder firmware/<folder>/.

### dump

#### Arguments

|              | type    | format       | description            |
|--------------|---------|--------------|------------------------|
| folder       | string  | alphanumeric | Firmware folder        |
| function     | string  | alphanumeric | Function name          |
| instructions | integer | decimal      | Number of instructions |

#### Description

Display <instructions> instructions of function <function> dumped from firmware in the folder firmware/<folder>/.

## load

### Arguments

|        | type   | format       | description     |
|--------|--------|--------------|-----------------|
| folder | string | alphanumeric | Firmware folder |

### Description

Set the current firmware used by MAPS by the one in the folder firmware/<folder>/.

## pipeline\_leakage

### Arguments

|        | type   | format       | description                       |
|--------|--------|--------------|-----------------------------------|
| yes/no | string | alphanumeric | Configuration of pipeline leakage |

### Description

Enable (yes) or disable (no) pipeline leakage tracking.

## masking

### Arguments

|        | type   | format       | description              |
|--------|--------|--------------|--------------------------|
| yes/no | string | alphanumeric | Configuration of masking |

### Description

Enable (yes) or disable (no) masking.

## test\_stream\_cipher

### Description

Test if the stream cipher is correctly implemented. Accept both masked and unmasked inputs.

## t\_test

**Description**

Run t-test security assessment.