

**bamc**  
**User Guide**  
December 2017

***Abstract***

*This is a quick **bamc** (and related tools) user guide.*

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## Change log

Date	Vers.	Changes	Author	Approval
01 OCT 2016	0.1	<ul style="list-style-type: none"><li>• First draft</li></ul>	POV	
12 DEC 2017	0.2	<ul style="list-style-type: none"><li>• Second draft</li></ul>	LBO	

## Document status

As of DD of Month, YYYY this document as been approved and is applicable.

For modifications, please contact :

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## Introduction

**bamc** is a command line tool provided by CAPE. By using this tool you will be able to quickly design exams that comply with EPFL's multiple choice exams templates.

**bamc** also provides you with a simple and flexible way to organize your exams and pool of questions from semester to semester, over the years.

## Installation

### Requirements

To install **bamc**, you need to have the following piece of software installed:

- **AMC (auto-multiple-choice)**
- **git**
- **dos2unix, realpath**
- **php, php-ldap, php-mbstring**

Most if not all of those tools/utilities are available from your system's package management system (linux: **apt-get, yum, emerge**, etc. OS X: **port**).

### Preparing the disk and environment

In your user's directory (~), create if needed the following directory:

1. One for your personal commands/binaries: **~/bin**

Make sure the path to your binaries directory (e.g. **~/bin**) is in the **PATH** variable in your environment; check:

```
echo $PATH
```

if **~/bin** (or its complete path, e.g. **/home/user/bin**) is not in the ':' separated list of directories in your **PATH** environment variable, add a line in your shell configuration. For bash shell, put the following line in your **~/ .bashrc** configuration file:

```
export PATH=$PATH:~/bin
```

## Installing bamc

In your home directory (~), run the following command to get the source code:

```
cd ~  
git clone https://c4science.ch/diffusion/1066/AMC-CAPE.git
```

You now have a copy of the software on your disk, in the directory ~/AMC-CAPE. This directory contains the software, LaTeX templates, samples and some other tools.

Now, install the programs (this will make them accessible from the command line by creating a link in your binaries directory).

```
cd ~/AMC-CAPE/install  
./install_bins.sh
```

Answer the questions ; once the installation is complete, you can check the commands that have been installed:

```
cd ~/bin  
ls -l
```

You should then see the following commands in your ~/bin directory:

```
bamc -> ~/AMC-CAPE/bin/bamc  
check-scipers -> ~/AMC-CAPE/local/epfl/check-scipers  
pdf-add-blanks -> ~/AMC-CAPE/local/pdf/pdf-add-blanks  
sel -> ~/AMC-CAPE/local/epfl/sel
```

## Description of the commands

### bamc

This is the main tool to generate AMC projects.

```
USAGE: bamc [-p|--params p1=v1,p2=v2,...] [-o|--only item1,item2,...] action1  
[action2...]
```

Parameters:

-----

debug	(GENERAL)	print debugging messages
force	(GENERAL)	do not ask for user confirmation
workspace w	(GENERAL)	name a specific workspace
exam e	(GENERAL)	name a specific exam within the workspace

Items:

-----

item1	(GENERAL)	items are the existing exams (as printed by the 'list' action)
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Actions:

-----

sanity-checks	(GENERAL)	check system
init	(WORKSPACE)	create a new workspace in the current directory
add-exam	(EXAMS)	add a new exam in the current workspace
list	(EXAMS)	print list of exams in the current workspace
clean	(PROJECTS)	remove project and output directories
project	(PROJECTS)	(re)build the AMC project(s)
check	(PROJECTS)	check the generated AMC project compiles
check-questions	(PROJECTS)	check LaTeX syntax of the questions
students	(PDF)	build students list
blank	(PDF)	build a blank (anonymous) exam
catalog	(PDF)	build a catalog of questions
sample	(PDF)	build a sample (4 exams) exam
exam	(PDF)	build PDF exam
exam-summary	(PDF)	print a summary of the generated exams

e.g. 1: `bamc --params workspace=~/.AMC_Workspace init`

this command will create a workspace named "AMC\_Workspace" in home directory.

e.g. 2: `bamc clean project -p debug -o toto1,toto2`

this command will clean and build project for exams toto1 and toto2, and printing debug

messages. Output :

```
DEBUG : DIR_WORKSPACE is /home/lbonivento/CryptEPFL/AMC/bamc-workspaces/bamc-workshop/workshop_20170404
DEBUG :End of command line parsing. ACTIONS: 'clean project' | ITEMS: 'toto1,toto2'
| PARAMS: 'debug'
DEBUG : Calling action 'clean' => 'action_clean' on item(s) 'toto1 toto2'
* Cleaning 'toto1' Confirmation requested:
Clean project and outputs for exam 'toto1' ?
Press Y(es) to confirm or ENTER to cancel. >>> y
Confirmed.
* Cleaning 'toto2' Confirmation requested:
Clean project and outputs for exam 'toto2' ?
Press Y(es) to confirm or ENTER to cancel. >>> y
Confirmed.
DEBUG : Calling action 'project' => 'action_project' on item(s) 'toto1 toto2'
DEBUG : DIR_EXAM_TEMPLATE is /home/lbonivento/AMC-CAPE/data/templates/math
* Building project for exam 'toto1'
* Building project for exam 'toto2'
```

```
e.g. 3:  bamc add-exam -p exam=toto1
```

this command will create an exam "toto1" in the current workspace

```
e.g. 4:  bamc clean project catalog blank exam -o toto1
```

this command will clean and build project for exam toto1, bulid the catalog, a blank and exam pdfs. Output :

```
* Cleaning 'toto1'
Confirmation requested:
Clean project and outputs for exam 'toto1' ?
Press Y(es) to confirm or ENTER to cancel. >>> y
Confirmed.
* Building project for exam 'toto1'
* Running AMC/catalog on project 'toto1'
* Running AMC/exam on project 'toto1'
* [toto1]: 104 page(s) - 4+9 student(s) (8 p/s).
```

## sel

This tool (search EPFL LDAP) is used to search the EPFL LDAP (i.e. Directory) to find information on students, professor or anyone in the directory.

```
USAGE: sel [parameters (see below)]
```

```
Search parameters (one of):
```

```
-g|--givenname "given name to search"  
-n|--name "surname to search"  
-s|--sciper sciper
```

```
Other parameters:
```

```
--hostname ldap.epfl.ch (for LDAP)  
--port 389 (for LDAP)  
-t|--type student|staff (type of entries to retrieve)  
-l|--limit 50 (maximum number of entries to retrieve)
```

```
Help:
```

```
-h|--help
```

```
e.g.: sel --sciper 253705
```

```
e.g.: sel --hostname localhost --port 1389 --name "valles"
```

## Sample output:

```
found:1  
sex:M  
sciper:253705  
email:pierre-olivier.valles@epfl.ch  
surname:Vallès  
givenname:Pierre-Olivier  
name:Vallès Pierre-Olivier  
type:staff  
where:CAPE  
where_1:Centre d'appui à l'enseignement  
title:Informaticien
```



## check-scipers

This tool is used to check a list of students with scipers (typically a students list for an exam). The goal is a check every student and to format the name correctly.

### USAGE: check-scipers

```
[--hostname ldap.epfl.ch --port 389] (LDAP hostname and port)
[--iformat "SCIPER,NAME"] (input CSV format)
--ifile "input_file.csv" (input file)
[--iseparator ","] (CSV separator used in input file and -iformat)
[--oformat "ID,SCIPER,NAME,SECTION,EMAIL,STATUS"] (output CSV format)
[--oseparator ","] (CSV separator used in output file and -oformat)
[-h|--help]
```

Sample file from IS-Academia (**a1.csv**) :

```
257357,Abuelseoud Passente Hani Ibrahim,CGC
259924,Ahmed Sugulle Sadia,CGC
260635,Aurand Laetitia Ludivine,CGC
```

Let's run the '**check-scipers**' command on this file:

```
check-scipers --iformat "SCIPER,NAME,SECTION" --ifile a1.csv --iseparator ","
```

This will produce the following output:

```
ID,SCIPER,NAME,SECTION,EMAIL,STATUS
1,257357,Abuelseoud Passente,CGC,passente.abuelseoud@epfl.ch,OK
2,259924,Ahmed Sugulle Sadia,CGC,sadia.ahmedsugulle@epfl.ch,OK
3,260635,Aurand Laetitia,CGC,laetitia.aurand@epfl.ch,OK
```

This output has the correct format for **bamc's auto-multiple-choice** projects. Also, the name have been checked (secondary first names have been removed).



### Notes on text files format:

The files (including students lists) used in BAMC/AMC projects must use the following settings:

- UTF-8 encoding (or plain ASCII)
- UNIX end-of-line

Please, check you text editor to configure this properly.

Use the 'file' command to check the encoding of your files :

```
# file a1.csv
text/plain; charset=utf-8
```

If you see some exotic End-Of-Line like "CR" (mac) or "CRLF" (dos) in the output, use **mac2unix** or **dos2unix** commands to convert the file to UNIX EOL.