Syntax specification

Moodle High Level Script Engine

Syntax basics

The MoodleScript syntax aims to be simple, so we will avoid excess of formal syntactical forms and will prefer a keyword based language that results in naturally readable statements.

A moodle command is basically composed by keyword, arguments, variables and parameter lists. A command always starts with a verb (ADD, REMOVE, ENROL, BACKUP, etc.) and follows with an alternance of keywords and arguments, forming a readable sentence. Some commands may accept an argument list, f.e. to provide a set of attributes to an object to create, or giving conditional clauses for an object destruction.

The common form of a MoodleScript command is:

```
VERB KEYWORD1{1,n} [ [arg1]{0,n} KEYWORD1{0,n} ]{0,n}
```

A command that accepts an argument list as last parameters is of the form:

```
VERB KEYWORD1{1,n} [ [arg1]{0,n} KEYWORD1{0,n} ]{0,n} HAVING
key1: value1
[key2: value2]
...
[keyn: valuen]
```

Only one single argument list can be given for a single command.

Keywords

Keywords are reserved words that have a special syntactic meaning when present at some location in the command. Keywords are ALWAYS UPPERCASE.

Keywords are:

Verbs (always first command word)

Verbs are single tokens (one word) and must designate an action (e.g ADD or REMOVE)

Accepted verbs:

```
ADD, REMOVE, ENROL, BACKUP, MOVE
```

Object types

Object typenames designate a class of objects to administrate. They can be single words or multiple words (in a set of known expression).

```
COURSE, CATEGORY, ENROL METHOD, USER, COHORT, BLOCK, MODULE, etc.
```

Context articulations

context articulations are small words that tell what is the use of an argument, in order to provide naturzal readability of the script command.

```
IN, FOR, TO, IF EXISTS, IF NOT EXISTS
```

Arguments and variables

Arguments are usually moodle object identifiers, terminal values or eventually global variables, for finding or setting values. the nature of the argument will vary across the syntax, and refers usually to the most common or trivial object type that is expected in the syntax.

F.E., for en enrolment syntax:

```
ENROL id:33 IN id:3 AS shortname:student USING manual
```

shows 4 attributes that are naturally refering to (successively) a user, a course, a role and an enrol method.

In case the expression have some possible ambiguity, additional keywords will be used to discriminate possible cases.

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Last update: **2026/01/13 08:58**