

## **D1.1d - VISHNU Command-line interface specifications**



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	<i>TITLE :</i>  D1.1d - VISHNU Command-line interface specifications		
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# Chapter 1

## Document presentation

### 1.1 Document objectives

This document presents the detailed specifications of the VISHNU command line user interface. These specifications include the definition of all commands including administration commands.

### 1.2 Document structure

The document is divided into 4 parts corresponding to the 4 modules that compose the Vishnu system:

- UMS: Users Management System
- TMS: Tasks Management System
- FMS: Files Management System
- IMS: Information Management System

Each module corresponds to a chapter in the document, and each chapter contains the following sections:

- A first section describing the definition of all commands provided by the package.
- A second section describing the definition of all enumerated values used as command parameters.

### 1.3 References

- D1.1a : VISHNU General specifications

### 1.4 Glossary

- VISHNU admin: any user having the administrator privilege
-

## 1.5 Generic command definition format

This section presents the generic format used in the following chapters to describe the commands. It also details the environment variables required and the user options.

A commands is defined as follows:

### Access

Here is detailed the access level of the command line (i.e. the privilege required to use this command)

### Description

Here is detailed the purpose of the command line.

### Example of use

Here is detailed an example of the use of the command line which starts by optional arguments preceded by a short letter and the required arguments at the end.

myCommand -l acLogin -s sshKeyPath userId

### Parameters

The following table contains all the input arguments of the command with their type and description, their short letter for options and a required flag.

Parameter	Type	Option	Description	Required
userId	string		This is an example of a required argument	YES
acLogin	string	l	This is an example of an optional argument	NO
sshKeyPath	string	s	This is an example of an optional argument	NO

The following table contains the list of environment variables information, a required flag and a user option flag. When the user option flag is true, the environment variable can be defined as a user option stored in the database.

### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	This is an example of an environment variable	YES	NO

### Note:

For each command line the -h option can be used for help.

## 1.6 Environment variables and options

Here is detailed the way to use the user options which are stored in the database and environment variables in VISHNU.

---

**Example 1.1** Pseudo code

---

```
if (the option is provided in the command line) {
    optionValue = option
} else {
    if (an environment variable exists) {
        optionValue = EnVariable_Value

    } else {

        if (a value has been defined in the user configuration) {
            optionValue = user_Option
        }
        else {
            //The default value of the option defined by VISHNU admin is used
            optionValue = defaultValueOption
        }
    }
}
```

---



## Chapter 2

# Commands specification for User Management System (UMS)

### 2.1 Command definitions

#### 2.1.1 UMS connect

##### Access

This command line can be used by any VISHNU user

##### Description

The connect command line opens a session

##### Example of use

```
connect [-p closePolicy] [-d sessionInactivityDelay] [-s substituteUserId] userId
```

##### Parameters

Parameter	Type	Option	Description	Required
userId	string		userId represents the VISHNU user identifier	YES
password	string		password represents the password of the user, it is an interactive parameter	YES
closePolicy	SessionCloseType	p	is an option for closing session automatically	NO
sessionInactivityDelay	int	d	The sessionInactivityDelay is the maximum delay in seconds between two API commands when the CLOSE_ON_TIMEOUT option is set	NO
substituteUserId	string	s	is an option which allows an admin to open a session as if he/she was a specific user identified by his/her userId	NO

##### Environment variables

This command defines no environment variables.

#### 2.1.2 UMS reconnect

##### Access

This command line can be used by any VISHNU user

**Description**

The reconnect command line returns the sessionKey of a session in which the user was disconnected previously without closing it

**Example of use**

```
reconnect userId sessionId
```

**Parameters**

Parameter	Type	Option	Description	Required
userId	string		userId represents the VISHNU user identifier	YES
password	string		password represents the password of the user, it is an interactive parameter	YES
sessionId	string		sessionId is the identifier of the session defined in the database	YES

**Environment variables**

This command defines no environment variables.

**2.1.3 UMS addVishnuUser****Access**

This command line can be used by ADMIN users only

**Description**

The addVishnuUser command line adds a new VISHNU user

**Example of use**

```
addVishnuUser [-f firstname] [-l lastname] [-p privilege] [-m email] userId
```

**Parameters**

Parameter	Type	Option	Description	Required
userId	string		represents the VISHNU user identifier	YES
firstname	string	f	is the firstname of the user	NO
lastname	string	l	is the lastname of the user	NO
privilege	int	p	is the privilege of the user (admin or simple user)	NO
email	string	m	is the email of the user	NO

**Environment variables**

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the encrypted identifier of the session generated by VISHNU	YES	NO

**2.1.4 UMS updateUser****Access**

This command line can be used by ADMIN users only

**Description**

The updateUser command line updates the user information except the userId and the password

**Example of use**

```
updateUser [-f firstname ] [-l lastname ] [-p privilege ] [-m email ] userId
```

**Parameters**

Parameter	Type	Option	Description	Required
userId	string		represents the VISHNU user identifier of the user whose information will be updated	YES
firstname	string	f	represents the updated firstname of the user	NO
lastname	string	l	represents the updated lastname of the user	NO
privilege	string	p	represents the updated privilege of the user	NO
email	string	m	represents the updated email adress of the user	NO

**Environment variables**

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the encrypted identifier of the session generated by VISHNU	YES	NO

**2.1.5 UMS deleteUser****Access**

This command line can be used by ADMIN users only

**Description**

The deleteUser command line removes a user from VISHNU

**Example of use**

```
deleteUser userId
```

**Parameters**

Parameter	Type	Option	Description	Required
userId	string		userId represents the VISHNU user identifier of the user who will be deleted from VISHNU	YES

**Environment variables**

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the encrypted identifier of the session generated by VISHNU	YES	NO

**2.1.6 UMS close****Access**

This command line can be used by any VISHNU user

### Description

The close command line closes the session identified by the session key

### Example of use

```
close
```

### Parameters

This command defines no arguments.

### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the encrypted identifier of the session generated by VISHNU	YES	NO

## 2.1.7 UMS changePassword

### Access

This command line can be used by any VISHNU user

### Description

The changePassword command line changes the password

### Example of use

```
changePassword userId
```

### Parameters

Parameter	Type	Option	Description	Required
userId	string		userId represents the VISHNU user identifier	YES
password	string		password represents the password of the user, it is an interactive parameter	YES
passwordNew	string		passwordNew represents the new password of the user, it is an interactive parameter	YES

### Environment variables

This command defines no environment variables.

## 2.1.8 UMS resetPassword

### Access

This command line can be used by ADMIN users only

### Description

The resetPassword command line resets the password of a user

### Example of use

```
resetPassword userId
```

### Parameters

Parameter	Type	Option	Description	Required
userId	string		userId represents the VISHNU user identifier of the user whose password will be reset	YES

#### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the encrypted identifier of the session generated by VISHNU	YES	NO

### 2.1.9 UMS addLocalAccount

#### Access

This command line can be used by any VISHNU user

#### Description

The addLocalAccount command line adds a new local user configuration

#### Example of use

```
addLocalAccount [-l acLogin] [-s sshKeyPath] [-d homeDirectory] userId machineId
```

#### Parameters

Parameter	Type	Option	Description	Required
userId	string		The userId represents the VISHNU user identifier of the user of the local user configuration	YES
machineId	string		The MachineId represents the identifier of the machine associated to the local user configuration	YES
acLogin	string	l	accLogin represents the login of the user on the associated machine	NO
sshKeyPath	string	s	sshKeyPath is the path of the ssh key of the user on the associated machine	NO
homeDirectory	string	d	HomeDirectory is the path of the home directory of the user on the associated machine	NO

#### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the encrypted identifier of the session generated by VISHNU	YES	NO

### 2.1.10 UMS updateLocalAccount

#### Access

This command line can be used by any VISHNU user

#### Description

The updateLocalAccount command line updates a local user configuration

**Example of use**

```
updateLocalAccount [-l acLogin] [-s sshKeyPath] [-d homeDirectory] userId machineId
```

**Parameters**

Parameter	Type	Option	Description	Required
userId	string		The userId represents the VISHNU user identifier of the user of the local user configuration	YES
machineId	string		The MachineId represents the identifier of the machine associated to the local user configuration	YES
acLogin	string	l	accLogin represents the login of the user on the associated machine	NO
sshKeyPath	string	s	sshKeyPath is the path of the ssh key of the user on the associated machine	NO
homeDirectory	string	d	HomeDirectory is the path of the home directory of the user on the associated machine	NO

**Environment variables**

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the encrypted identifier of the session generated by VISHNU	YES	NO

**2.1.11 UMS deleteLocalAccount****Access**

This command line can be used by any VISHNU user

**Description**

The deleteLocalAccount command line removes a local user configuration (for a given user on a given machine) from VISHNU

**Example of use**

```
deleteLocalAccount userId machineId
```

**Parameters**

Parameter	Type	Option	Description	Required
userId	string		userId represents the VISHNU user identifier of the user whose local configuration will be deleted for the given machine	YES
machineId	string		machineId represents the identifier of the machine whose local configuration will be deleted for the given user	YES

**Environment variables**

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the encrypted identifier of the session generated by VISHNU	YES	NO

### 2.1.12 UMS saveConfiguration

#### Access

This command line can be used by ADMIN users only

#### Description

The saveConfiguration command line saves the configuration of VISHNU

#### Example of use

```
saveConfiguration filePath
```

#### Parameters

Parameter	Type	Option	Description	Required
filePath	string		The filePath is the path of the file in which the VISHNU configuration will be saved	YES

#### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the encrypted identifier of the session generated by VISHNU	YES	NO

### 2.1.13 UMS restoreConfiguration

#### Access

This command line can be used by ADMIN users only

#### Description

The restoreConfiguration command line restores the configuration of VISHNU

#### Example of use

```
restoreConfiguration filePath
```

#### Parameters

Parameter	Type	Option	Description	Required
filePath	string		The filePath is the path of the VISHNU configuration file	YES

#### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the encrypted identifier of the session generated by VISHNU	YES	NO

### 2.1.14 UMS addMachine

#### Access

This command line can be used by ADMIN users only

#### Description

The addMachine command line adds a new machine in VISHNU

#### Example of use

```
addMachine [-s site] [-t machineDescription] [-l language] name
```

#### Parameters

Parameter	Type	Option	Description	Required
name	string	n	represents the name of the machine	YES
site	string	s	represents the location of the machine	NO
machineDescription	string	t	represents the description of the machine	NO
language	string	l	represents the language in which the description of the machine has been done	NO

#### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the encrypted identifier of the session generated by VISHNU	YES	NO

### 2.1.15 UMS updateMachine

#### Access

This command line can be used by ADMIN users only

#### Description

The updateMachine command line updates machine description

#### Example of use

```
updateMachine [-n name] [-s site] [-t machineDescription] [-l language] machineId
```

#### Parameters

Parameter	Type	Option	Description	Required
machineId	string		represents the identifier of the machine	YES
name	string	n	represents the name of the machine	NO
site	string	s	represents the location of the machine	NO
machineDescription	string	t	represents the description of the machine	NO
language	string	l	represents the language in which the description of the machine has been done	NO

#### Environment variables



Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the encrypted identifier of the session generated by VISHNU	YES	NO

### 2.1.16 UMS deleteMachine

#### Access

This command line can be used by ADMIN users only

#### Description

The deleteMachine command line removes a machine from VISHNU

#### Example of use

```
deleteMachine machineId
```

#### Parameters

Parameter	Type	Option	Description	Required
machineId	string		machineId represents the identifier of the machine	YES

#### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the encrypted identifier of the session generated by VISHNU	YES	NO

### 2.1.17 UMS listLocalAccount

#### Access

This command line can be used by any VISHNU user

#### Description

The listLocalAccount command line lists the local user configurations

#### Example of use

```
listLocalAccount [-a] [-u userId ] [-i machineId ]
```

#### Parameters

Parameter	Type	Option	Description	Required
adminListOption	boolean	a	is an admin option for listing all local configurations of all users	NO
userId	string	u	is an admin option for listing the local configurations of a specific user	NO
machineId	string	i	is an option for listing local user configurations on a specific machine	NO

**Environment variables**

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the encrypted identifier of the session generated by VISHNU	YES	NO

**2.1.18 UMS listMachine****Access**

This command line can be used by any VISHNU user

**Description**

The listMachine command line lists the machines in which the local user configurations are defined for the given user

**Example of use**

```
listMachine [-u userId ] [-a] [-m machineId ]
```

**Parameters**

Parameter	Type	Option	Description	Required
userId	string	u	is an admin option for listing machines in which a specific user has a local configuration	NO
listAllmachine	boolean	a	is an option for listing all VISHNU machines	NO
machineId	string	m	is an option for listing information about a specific machine	NO

**Environment variables**

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the encrypted identifier of the session generated by VISHNU	YES	NO

**2.1.19 UMS listHistoryCmd****Access**

This command line can be used by any VISHNU user

**Description**

The listHistoryCmd command line lists the commands

**Example of use**

```
listHistoryCmd [-a] [-u userId ] [-i sessionId ] [-s startDateOption ] [-e endDateOption ]
```

**Parameters**

Parameter	Type	Option	Description	Required
adminListOption	boolean	a	is an admin option for listing all commands of all users	NO

Parameter	Type	Option	Description	Required
userId	string	u	is an admin option for listing commands launched by a specific user identified by his/her userId	NO
sessionId	string	i	lists all commands launched within a specific session	NO
startDateOption	long	s	allows the user to organize the commands listed by providing the start date (the UNIX timestamp of the start date is used)	NO
endDateOption	long	e	allows the user to organize the commands listed by providing the end date (the timestamp of the end date is used). By default, the end date is the current day	NO

#### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the encrypted identifier of the session generated by VISHNU	YES	NO

### 2.1.20 UMS listOptions

#### Access

This command line can be used by any VISHNU user

#### Description

The listOptions command line lists the options of the user

#### Example of use

```
listOptions [-a] [-u userId ] [-n optionName ]
```

#### Parameters

Parameter	Type	Option	Description	Required
listAllDeftValue	boolean	a	is an option for listing all default option values defined by VISHNU administrator	NO
userId	string	u	is an admin option for listing the options of a specific user	NO
optionName	string	n	allows the user to get the value of a specific option identified by its name	NO

#### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the identifier of the session generated by VISHNU	YES	NO

### 2.1.21 UMS listUsers

#### Access

This command line can be used by ADMIN users only

### Description

The listUsers command line lists VISHNU users

### Example of use

```
listUsers [-i userIdOption]
```

### Parameters

Parameter	Type	Option	Description	Required
userIdOption	string	i	allows an admin to get information about a specific user identified by his/her userId	NO

### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the identifier of the session generated by VISHNU	YES	NO

## 2.1.22 UMS listSessions

### Access

This command line can be used by any VISHNU user

### Description

The listSessions command line lists all sessions of the user

### Example of use

```
listSessions [-t sessionListOption] [-p sessionClosePolicy] [-d sessionInactivityDelay] [-m machineId] [-a] [-u userId] [-i sessionId] [-s startDateOption] [-e endDateOption]
```

### Parameters

Parameter	Type	Option	Description	Required
sessionListOption	SessionStateType	t	specifies the type of the sessions which will be listed (INACTIVE or ACTIVE)	NO
sessionClosePolicy	SessionCloseType	p	specifies the closure mode of the sessions which will be listed (CLOSE_ON_TIMEOUT or CLOSE_ON_DISCONNECT)	NO
sessionInactivityDelay	int	d	specifies the inactivity delay in seconds of the sessions which will be listed	NO
machineId	string	m	allows the user to list sessions opened on a specific machine	NO
adminListOption	boolean	a	is an admin option for listing all sessions of all users	NO
userId	string	u	is an admin option for listing sessions opened by a specific user	NO
sessionId	string	i	allows the user to list all commands launched within a specific session	NO
startDateOption	long	s	allows the user to organize the commands listed by providing the start date (the UNIX timestamp of the start date is used)	NO

Parameter	Type	Option	Description	Required
endDateOption	long	e	allows the user to organize the commands listed by providing the end date (the timestamp of the end date is used). By default, the end date is the current day	NO

#### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the encrypted identifier of the session generated by VISHNU	YES	NO

### 2.1.23 UMS configureDefaultOption

#### Access

This command line can be used by ADMIN users only

#### Description

The configureDefaultOption command line configures a default option value

#### Example of use

```
configureDefaultOption optionName value
```

#### Parameters

Parameter	Type	Option	Description	Required
optionName	string		represents the name of an option	YES
value	string		represents the value of an option	YES

#### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the encrypted identifier of the session generated by VISHNU	YES	NO

### 2.1.24 UMS configureOption

#### Access

This command line can be used by any VISHNU user

#### Description

The configureOption command line configures an option of the user

#### Example of use

```
configureOption optionName value
```

#### Parameters

Parameter	Type	Option	Description	Required
optionName	string		represents the name of an option	YES
value	string		represents the value of an option	YES

#### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the encrypted identifier of the session generated by VISHNU	YES	NO

## 2.2 Parameters definitions

#### Enumeration UMS::SessionCloseType Type

Name	Value
CLOSE_ON_TIMEOUT	0
CLOSE_ON_DISCONNECT	1

#### Enumeration UMS::SessionStateType Type

Name	Value
INACTIVE	0
ACTIVE	1

## Chapter 3

# Commands specification for Tasks Management System (TMS)

### 3.1 Command definitions

#### 3.1.1 TMS submitJob

##### Access

This command line can be used by any VISHNU user

##### Description

The submitJob command line submits job on a machine through the use of a script (scriptFilePath). The script is a shell script which will be executed by a command shell such as sh or csh

##### Example of use

```
submitJob [-n name ][-p priority ][-q queue ][-t wallTime ][-m memory ][-P nbCpu ][-N nbNodesAndC-  
puPerNode ][-o outPutPath ][-e errorPath ] machineId scriptFilePath
```

##### Parameters

Parameter	Type	Option	Description	Required
machineId	string		Is the id of the machine where the job must be submitted	YES
scriptFilePath	string		The path to the file containing the characteristics (job command, and batch scheduler directive required or optional) of the job to submit.	YES
name	string	n	Assigns a job name. The default is the path of job.	NO
priority	JobPriority	p	Assigns priority of the job.	NO
queue	string	q	Assigns the queue or class of the job.	NO
wallTime	int	t	The maximum wall-clock time during which the job can run.	NO
memory	int	m	Is the memory size that the job requires.	NO
nbCpu	int	P	The number of cpu that the job requires.	NO
nbNodesAndCpuPerNode	string	N	The number of nodes and processors per node.	NO
outPutPath	string	o	Assigns the path and file for job output.	NO
errorPath	string	e	Assigns the path and file for job error.	NO

##### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the identifier of the session generated by VISHNU	YES	NO

### 3.1.2 TMS getJobInfo

#### Access

This command line can be used by any VISHNU user

#### Description

The getJobInfo command line gets information on a job from its id

#### Example of use

```
getJobInfo machineId jobId
```

#### Parameters

Parameter	Type	Option	Description	Required
machineId	string		Machine hash key	YES
jobId	string		The id of the job	YES

#### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the identifier of the session generated by VISHNU	YES	NO

### 3.1.3 TMS getJobProgress

#### Access

This command line can be used by any VISHNU user

#### Description

The getJobProgress command line gets the progression status of jobs

#### Example of use

```
getJobProgress [-i jobId ] [-u jobOwner ] machineId
```

#### Parameters

Parameter	Type	Option	Description	Required
machineId	string		Is the id of the machine to get the jobs progression.	YES
jobId	string	i	Represents the id of the job that the user wants to see the progression of.	NO
jobOwner	string	u	Represents the owner of the job.	NO

#### Environment variables



Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the identifier of the session generated by VISHNU	YES	NO

### 3.1.4 TMS listQueues

#### Access

This command line can be used by any VISHNU user

#### Description

The listQueues command line gets queues information

#### Example of use

```
listQueues machineId
```

#### Parameters

Parameter	Type	Option	Description	Required
machineId	string		Machine hash key	YES

#### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the identifier of the session generated by VISHNU	YES	NO

### 3.1.5 TMS listJobs

#### Access

This command line can be used by any VISHNU user

#### Description

The listJobs command line gets a list of all submitted jobs

#### Example of use

```
listJobs [-i jobId ] [-P nbCpu ] [-d fromSubmitDate ] [-D toSubmitDate ] [-u owner ] [-s status ] [-p priority ] [-o outPutPath ] [-e errorPath ] [-q queue ] machineId
```

#### Parameters

Parameter	Type	Option	Description	Required
machineId	string		Machine hash key	YES
jobId	string	i	To list job which has this id.	NO
nbCpu	int	P	To list jobs which have this number of cpu.	NO
fromSubmitDate	long	d	List jobs submitted after this date (unix timestamp).	NO
toSubmitDate	long	D	List jobs submitted before this date (unix timestamp)	NO
owner	string	u	To list all jobs submitted by this owner.	NO
status	JobStatus	s	To list jobs which have this status.	NO

Parameter	Type	Option	Description	Required
priority	JobPriority	p	To list jobs which have this priority	NO
outPutPath	string	o	Gets the path and file for each job output.	NO
errorPath	string	e	Gets the path and file for each job error.	NO
queue	string	q	To list jobs which have this queue name.	NO

#### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the identifier of the session generated by VISHNU	YES	NO

### 3.1.6 TMS getJobOutPut

#### Access

This command line can be used by any VISHNU user

#### Description

The getJobOutPut command line gets outputPath and errorPath of a job from its id

#### Example of use

```
getJobOutPut machineId jobId
```

#### Parameters

Parameter	Type	Option	Description	Required
machineId	string		Machine hash key	YES
jobId	string		The Id of the job	YES

#### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the identifier of the session generated by VISHNU	YES	NO

### 3.1.7 TMS getAllJobsOutPut

#### Access

This command line can be used by any VISHNU user

#### Description

The getAllJobsOutPut command line dynamically gets outputPath and errorPath of completed jobs

#### Example of use

```
getAllJobsOutPut machineId
```

#### Parameters

Parameter	Type	Option	Description	Required
machineId	string		Machine hash key	YES

## Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the identifier of the session generated by VISHNU	YES	NO

### 3.1.8 TMS cancelJob

#### Access

This command line can be used by any VISHNU user

#### Description

The cancelJob command line cancels a job from its id

#### Example of use

```
cancelJob machineId jobId
```

#### Parameters

Parameter	Type	Option	Description	Required
machineId	string		Machine hash key	YES
jobId	string		The Id of the job	YES

## Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the identifier of the session generated by VISHNU	YES	NO

### 3.1.9 TMS setMachineEnv

#### Access

This command line can be used by ADMIN users only

#### Description

The setMachineEnv command line sets environment variables on a remote machine

#### Example of use

```
setMachineEnv machineId listEnv
```

#### Parameters

Parameter	Type	Option	Description	Required
machineId	string		Represents the machine id	YES
listEnv	string		Represents the list environnement variables	YES

## Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the identifier of the session generated by VISHNU	YES	NO

### 3.1.10 TMS setMachineRefreshPeriod

#### Access

This command line can be used by ADMIN users only

#### Description

The setMachineRefreshPeriod command line sets the refresh period of output and error files contents

#### Example of use

```
setMachineRefreshPeriod machineId value
```

#### Parameters

Parameter	Type	Option	Description	Required
machineId	string		The id of the machine	YES
value	int		Is the refresh interval value (in seconds)	YES

#### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the identifier of the session generated by VISHNU	YES	NO

## 3.2 Parameters definitions

#### Enumeration TMS::JobPriority Type

Name	Value
VERY_LOW	100
LOW	200
NORMAL	300
HIGH	400
VERY_HIGH	500

#### Enumeration TMS::JobStatus Type

Name	Value
RUNNING	0
WAITING	1
COMPLETED	2
CANCELED	3
HELD	4
QUEUED	5
FAILED	6
NOT_SUBMITTED	7

**Enumeration TMS::QueuePriority Type**

Name	Value
VERY_LOW	0
LOW	1
NORMAL	2
HIGH	3
VERY_HIGH	4

**Enumeration TMS::QueueStatus Type**

Name	Value
STARTED	0
RUNNING	1
NOT_STARTED	2
NOT_AVAILABLE	3

## Chapter 4

# Commands specification for Information Management System (IMS)

### 4.1 Command definitions

#### 4.1.1 IMS exportCommands

##### Access

This command line can be used by any VISHNU user

##### Description

The exportCommands command line exports all the commands made by a user during a session

##### Example of use

```
exportCommands oldSessionKey
```

##### Parameters

Parameter	Type	Option	Description	Required
oldSessionKey	string		The key of the session to export (session has ended)	YES

##### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The key of the session of the user that submits the command (current session key)	YES	NO

#### 4.1.2 IMS getMetricCurrentValue

##### Access

This command line can be used by any VISHNU user

##### Description

The getMetricCurrentValue command line retrieve the current value of a metric on a machine

### Example of use

```
getMetricCurrentValue machineId metricType
```

### Parameters

Parameter	Type	Option	Description	Required
machineId	string		The id of the machine	YES
metricType	MetricType		Type of metric	YES

### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The key of the session of the user that submits the command	YES	NO

## 4.1.3 IMS getMetricHistory

### Access

This command line can be used by any VISHNU user

### Description

The getMetricHistory command line retrieve the history of values of a metric on a machine

### Example of use

```
getMetricHistory machineId startTime endTime metricType
```

### Parameters

Parameter	Type	Option	Description	Required
machineId	string		The id of the machine	YES
startTime	long		Start time of metric history	YES
endTime	long		End time of metric history	YES
metricType	MetricType		Type of metric	YES

### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The key of the session of the user that submits the command	YES	NO

## 4.1.4 IMS getProcesses

### Access

This command line can be used by ADMIN users only

### Description

The getProcesses command line gets the list of the processes running over a front machine

### Example of use

```
getProcesses machineId
```

**Parameters**

Parameter	Type	Option	Description	Required
machineId	string		The id of the machine the user wants the running processes	YES

**Environment variables**

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The key of the session of the user that submits the command	YES	NO

**4.1.5 IMS setSystemInfo****Access**

This command line can be used by ADMIN users only

**Description**

The setSystemInfo command line updates the system information of a machine

**Example of use**

```
setSystemInfo [-m memory] [-d diskSpace]
```

**Parameters**

Parameter	Type	Option	Description	Required
machineId	string		The id of the machine	YES
memory	long	m	Amount of RAM memory available on the machine (in Bytes)	NO
diskSpace	long	d	Amount of disk space available on the machine (in Bytes)	NO

**Environment variables**

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The key of the session of the user that submits the command	YES	NO

**4.1.6 IMS setSystemThreshold****Access**

This command line can be used by ADMIN users only

**Description**

The setSystemThreshold command line sets a threshold on a machine of a system

**Example of use**

```
setSystemThreshold machineId thresholdType value
```

**Parameters**



Parameter	Type	Option	Description	Required
machineId	string		The id of the machine	YES
thresholdType	MetricType		The type of the metric to set	YES
value	double		The threshold value	YES

#### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The key of the session of the user that submits the command	YES	NO

### 4.1.7 IMS getSystemThreshold

#### Access

This command line can be used by ADMIN users only

#### Description

The getSystemThreshold command line gets a System threshold on a machine

#### Example of use

```
getSystemThreshold machineId type
```

#### Parameters

Parameter	Type	Option	Description	Required
machineId	string		The id of the machine	YES
type	MetricType		The threshold type desired	YES

#### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The key of the session of the user that submits the command	YES	NO

### 4.1.8 IMS defineUserIdentifier

#### Access

This command line can be used by ADMIN users only

#### Description

The defineUserIdentifier command line defines the shape of the identifiers automatically generated for the users

#### Example of use

```
defineUserIdentifier format
```

#### Parameters

Parameter	Type	Option	Description	Required
format	string		The new format to use	YES

**Environment variables**

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The key of the session of the user that submits the command	YES	NO

**4.1.9 IMS defineMachineIdentifier****Access**

This command line can be used by ADMIN users only

**Description**

The defineMachineIdentifier command line defines the shape of the identifiers automatically generated for the machines

**Example of use**

```
defineMachineIdentifier format
```

**Parameters**

Parameter	Type	Option	Description	Required
format	string		The new format to use	YES

**Environment variables**

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The key of the session of the user that submits the command	YES	NO

**4.1.10 IMS defineJobIdentifier****Access**

This command line can be used by ADMIN users only

**Description**

The defineJobIdentifier command line defines the shape of the identifiers automatically generated for the jobs

**Example of use**

```
defineJobIdentifier format
```

**Parameters**

Parameter	Type	Option	Description	Required
format	string		The new format to use	YES

**Environment variables**

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The key of the session of the user that submits the command	YES	NO

#### 4.1.11 IMS defineTransferIdentifier

##### Access

This command line can be used by ADMIN users only

##### Description

The defineTransferIdentifier command line defines the shape of the identifiers automatically generated for the file transfers

##### Example of use

```
defineTransferIdentifier format
```

##### Parameters

Parameter	Type	Option	Description	Required
format	string		The new format to use	YES

##### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The key of the session of the user that submits the command	YES	NO

#### 4.1.12 IMS loadShed

##### Access

This command line can be used by ADMIN users only

##### Description

The loadShed command line load sheds a machine

##### Example of use

```
loadShed machineId loadShedType
```

##### Parameters

Parameter	Type	Option	Description	Required
machineId	string		The id of the machine to stop	YES
loadShedType	<b>LoadShedType</b>		Selects a load shedding mode (SOFT: stops all services and they can be restarted, HARD: stops all services, they cannot be restarted)	YES

##### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The key of the session of the user that submits the command	YES	NO

#### 4.1.13 IMS setUpdateFrequency

##### Access

This command line can be used by ADMIN users only

##### Description

The setUpdateFrequency command line sets the update frequency of the IMS tables

##### Example of use

```
setUpdateFrequency freq
```

##### Parameters

Parameter	Type	Option	Description	Required
freq	int		Frequency the data are updated, in second	YES

##### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The key of the session of the user that submits the command	YES	NO

#### 4.1.14 IMS getUpdateFrequency

##### Access

This command line can be used by any VISHNU user

##### Description

The getUpdateFrequency command line gets the update frequency of the IMS database

##### Example of use

```
getUpdateFrequency
```

##### Parameters

This command defines no arguments.

##### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The key of the session of the user that submits the command	YES	NO

### 4.1.15 IMS restart

#### Access

This command line can be used by ADMIN users only

#### Description

The restart command line restarts the whole VISHNU infrastructure. Actions are saved and restarted from the beginning once the infrastructure has been restarted

#### Example of use

```
restart [-n componentName ] [-m machineId ] [-f file] type
```

#### Parameters

Parameter	Type	Option	Description	Required
type	RestartType		The type of restart	YES
componentName	string	n	If not restarting all, the name of the component to restart	NO
machineId	string	m	The id of the machine where the component is to be relaunched	NO
file	string	f	The config file to use to restart	NO

#### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The key of the session of the user that submits the command	YES	NO

## 4.2 Parameters definitions

#### Enumeration IMS::LoadShedType Type

Name	Value
SOFT	0
HARD	1

#### Enumeration IMS::MetricType Type

Name	Value
CPUNBR	0
CPUUSE	1
DISKSPACE	2
FREEDISKSPACE	3
MEMORY	4
FREEMEMORY	5

#### Enumeration IMS::RestartType Type

Name	Value
ALL	0
SED	1

Name	Value
AGENT	2
DAEMON	3

## Chapter 5

# Commands specification for File Management System (FMS)

### 5.1 Command definitions

#### 5.1.1 FMS createFile

##### Access

This command line can be used by any VISHNU user

##### Description

The createFile command line creates files on remote machines.

##### Example of use

```
createFile [-m mode] path
```

##### Parameters

Parameter	Type	Option	Description	Required
path	string		The file to create following the pattern [host:]file path	YES
mode	int	m	The file access permissions in octal numeral system	NO

##### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The session key	YES	NO

#### 5.1.2 FMS createDir

##### Access

This command line can be used by any VISHNU user

##### Description

The createDir command line creates directories on remote machines.

### Example of use

```
createDir [-m mode] path
```

### Parameters

Parameter	Type	Option	Description	Required
path	string		The directory to create following the pattern [host:]directory path	YES
mode	int	m	the new directories permission access in octal numeral system	NO

### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The session key	YES	NO

## 5.1.3 FMS removeFile

### Access

This command line can be used by any VISHNU user

### Description

The removeFile command line removes files from remote hosts.

### Example of use

```
removeFile path
```

### Parameters

Parameter	Type	Option	Description	Required
path	string		The file to remove following the pattern [host:]file path	YES

### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The session key	YES	NO

## 5.1.4 FMS removeDir

### Access

This command line can be used by any VISHNU user

### Description

The removeDir command line removes directories (and subdirectories ) from remote machines.

### Example of use

```
removeDir path
```

### Parameters



Parameter	Type	Option	Description	Required
path	string		The directory to remove following the pattern [host:]directory path	YES

#### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The session key	YES	NO

### 5.1.5 FMS chGrp

#### Access

This command line can be used by any VISHNU user

#### Description

The chGrp command line changes group owner of remote files/directories.

#### Example of use

```
chGrp path group
```

#### Parameters

Parameter	Type	Option	Description	Required
path	string		The file/directory following the pattern [host:]file path	YES
group	string		the new group owner of file/directory	YES

#### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The session key	YES	NO

### 5.1.6 FMS chMod

#### Access

This command line can be used by any VISHNU user

#### Description

The chMod command line changes access rights of remote files/directories.

#### Example of use

```
chMod path mode
```

#### Parameters

Parameter	Type	Option	Description	Required
path	string		The file/directory following the pattern [host:]file path	YES
mode	int		the access rights of file/directory in octal system.	YES

#### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The session key	YES	NO

### 5.1.7 FMS headOfFile

#### Access

This command line can be used by any VISHNU user

#### Description

The headOfFile command line displays a few first lines of files located on remote machines.

#### Example of use

```
headOfFile [-n nLine] path
```

#### Parameters

Parameter	Type	Option	Description	Required
path	string		The file following the pattern [host:]file path	YES
nLine	int	n	Number of lines to display	NO

#### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The session key	YES	NO

### 5.1.8 FMS tailOfFile

#### Access

This command line can be used by any VISHNU user

#### Description

The tailOfFile command line displays a few last lines of files located on remote machines

#### Example of use

```
tailOfFile [-n nLine] path
```

#### Parameters

Parameter	Type	Option	Description	Required
path	string		The file following the pattern [host:]file path	YES
nLine	int	n	number of lines to display	NO

#### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The session key	YES	NO

### 5.1.9 FMS contentOfFile

#### Access

This command line can be used by any VISHNU user

### Description

The contentOfFile command line displays content of files located on remote machines

### Example of use

```
contentOfFile path
```

### Parameters

Parameter	Type	Option	Description	Required
path	string		The file to display following the pattern [host:]file path	YES

### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The session key	YES	NO

## 5.1.10 FMS listDir

### Access

This command line can be used by any VISHNU user

### Description

The listDir command line displays the content of a remote directory.

### Example of use

```
listDir [-l] [-a] path
```

### Parameters

Parameter	Type	Option	Description	Required
path	string		The directory to list following the pattern [host:]directory path	YES
longFormat	boolean	l	It specifies the long display format (all available file informations)	NO
allFiles	boolean	a	Allows to display all files including hidden files	NO

### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The session key	YES	NO

## 5.1.11 FMS copyFile

### Access

This command line can be used by any VISHNU user

### Description

The copyFile command line executes a synchronous copy of file.

### Example of use

```
copyFile [-r] [-c trCommand ] src dest
```

**Parameters**

Parameter	Type	Option	Description	Required
src	string		The source file to copy following the pattern [host:]file path	YES
dest	string		The path of the destination file	YES
isRecursive	boolean	r	It specifies when the copy is recursive (case of directory) or not.	NO
trCommand	TransferCommand	c	the command to use to perform file transfer.	NO

**Environment variables**

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The session key	YES	NO
VISHNU_TRANSFER_CMD	trCommand	TransferCommand	the command to use to perform file transfer.	NO	YES

**5.1.12 FMS copyAsyncFile****Access**

This command line can be used by any VISHNU user

**Description**

The copyAsyncFile command line executes an asynchronous copy of file.

**Example of use**

```
copyAsyncFile [-r] [-c trCommand ] src dest
```

**Parameters**

Parameter	Type	Option	Description	Required
src	string		The source file to copy following the pattern [host:]file path	YES
dest	string		The path of the destination file	YES
isRecursive	boolean	r	It specifies when the copy is recursive (case of directory) or not.	NO
trCommand	TransferCommand	c	the command to use to perform file transfer.	NO

**Environment variables**

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The session key	YES	NO
VISHNU_TRANSFER_CMD	trCommand	TransferCommand	the command to use to perform file transfer.	NO	YES

**5.1.13 FMS moveFile****Access**

This command line can be used by any VISHNU user

**Description**

The moveFile command line executes a synchronous move of file.

**Example of use**

```
moveFile [-c trCommand ] src dest
```

**Parameters**

Parameter	Type	Option	Description	Required
src	string		The source file to move following the pattern [host:]file path	YES
dest	string		The path of the destination file	YES
trCommand	TransferCommand	c	the command to use to perform file transfer.	NO

**Environment variables**

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The session key	YES	NO
VISHNU_TRANSFER_CMD	trCommand	TransferCommand	the command to use to perform file transfer.	NO	YES

**5.1.14 FMS moveAsyncFile****Access**

This command line can be used by any VISHNU user

**Description**

The moveAsyncFile command line executes an asynchronous move of file.

**Example of use**

```
moveAsyncFile [-c trCommand ] src dest
```

**Parameters**

Parameter	Type	Option	Description	Required
src	string		The source file to move following the pattern [host:]file path	YES
dest	string		The path of the destination file	YES
trCommand	TransferCommand	c	the command to use to perform file transfer.	NO

**Environment variables**

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The session key	YES	NO
VISHNU_TRANSFER_CMD	trCommand	TransferCommand	the command to use to perform file transfer.	NO	YES

**5.1.15 FMS stopFileTransfer****Access**

This command line can be used by any VISHNU user

**Description**

The stopFileTransfer command line stops an execution of an set of file transfer.

**Example of use**

```
stopFileTransfer [-i transferId ] [-m fromMachineId ] [-u userId ]
```

**Parameters**

Parameter	Type	Option	Description	Required
transferId	string	i	a given transfer id	NO
fromMachineId	string	m	the machine that is the source of the file transfer	NO
userId	string	u	allows an admin to stop file transfers of a specific user	NO

**Environment variables**

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The session key	YES	NO

**5.1.16 FMS listFilesTransferStatus****Access**

This command line can be used by any VISHNU user

**Description**

The listFilesTransferStatus command line displays the status of all files transfer submitted by User.

**Example of use**

```
listFilesTransferStatus [-i transferId ] [-m fromMachineId ] [-u userId ]
```

**Parameters**

Parameter	Type	Option	Description	Required
transferId	string	i	a given transfer id	NO
fromMachineId	string	m	the machine that is the source of the file transfer	NO
userId	string	u	allows the admin to list file transfers initiated by a specific user	NO

**Environment variables**

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The session key	YES	NO

**5.1.17 FMS listFilesTransfer****Access**

This command line can be used by any VISHNU user

**Description**

The listFilesTransfer command line displays the history of all files transfers submitted by User.

**Example of use**

```
listFilesTransfer [-m fromMachineId ] [-u userId ] [-s status ]
```

## Parameters

Parameter	Type	Option	Description	Required
fromMachineId	string	m	the machine that is the source of the file transfer	NO
userId	string	u	allows the admin to list file transfers initiated by a specific user	NO
status	Status	s	the file transfer status	NO

## Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The session key	YES	NO

## 5.2 Parameters definitions

### Enumeration FMS::FileType Type

Name	Value
BLOCK	0
CHARACTER	1
DIRECTORY	2
SYMBOLICLINK	3
SCKT	4
FIFO	5
REGULAR	6

### Enumeration FMS::Status Type

Name	Value
INPROGRESS	0
COMPLETED	1
CANCELLED	2
FAILED	3

### Enumeration FMS::TransferCommand Type

Name	Value
SCP	0
RSYNC	1