

## **VISHNU D1.0 - Command line interface specifications**



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**REVISION HISTORY**

NUMBER	DATE	DESCRIPTION	NAME
0	05/01/2011	Formatting example	B.Isnard

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# Chapitre 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. ###FIXME###

### 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 data types used ###FIXME###

### 1.3 References

TODO - ajouter ref. vers les specs générales

### 1.4 Glossary

### 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 of the command line for any VISHNU user or only for admin.

#### Description

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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 start 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. The user option flag means that this parameter is a user option that can be define as an environment variable.

### Environment variables

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

## Chapitre 2

# Commands specification for User Management System (UMS)

### 2.1 Command definitions

#### 2.1.1 connect

##### Access

This function can be used by any Vishnu user.

##### Description

The connect() function 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 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 he/she was a specific user identified by his/her userId	NO

##### Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_CLOSE_POLICY	closePolicy	SessionCloseType	is an option for closing session automatically	NO	YES



### 2.1.2 reconnect

#### Access

This function can be used by any Vishnu user.

#### Description

The reconnect() function 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

Name	Parameter	Type	Description	Required	User option
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### 2.1.3 createUser

#### Access

This function can be used by ADMIN users only

#### Description

The createUser() function adds a new user

#### Example of use

```
createUser -w password -f firstname -l lastname -p privilege -m email -s passwordState userId
```

#### Parameters

Parameter	Type	Option	Description	Required
userId	string		represents the VISHNU user identifier	YES
password	string	w	is the password of the user. At the beginning, an admin can give a temporary password or it is automatically generated by the System.	NO
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
passwordState	int	s	is the state of the password which allows the System to inform the user to change his/her password	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

#### 2.1.4 updateUser

##### Access

This function can be used by ADMIN users only

##### Description

The updateUser() function updates the user information except the userId and 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	YES
firstname	string	f	updates the firstname of the user	NO
lastname	string	l	updates the lastname of the user	NO
privilege	string	p	updates the privilege of the user	NO
email	string	m	updates the email adress of the user	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

#### 2.1.5 deleteUser

##### Access

This function can be used by ADMIN users only

##### Description

The deleteUser() function removes a user

##### 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 identifier of the session generated by VISHNU	YES	NO

### 2.1.6 close

#### Access

This function can be used by any Vishnu user.

#### Description

The close() function closes the session identified by the session key

#### Example of use

close

#### Parameters

Parameter	Type	Option	Description	Required
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#### 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

### 2.1.7 changePassword

#### Access

This function can be used by any Vishnu user.

#### Description

The changePassword() function 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

Name	Parameter	Type	Description	Required	User option
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### 2.1.8 resetPassword

#### Access

This function can be used by ADMIN users only

#### Description

The resetPassword() function 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
passwordReset	string		passwordReset represents the new value of the password to be reset, it is an interactive parameter	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

### 2.1.9 createLocalAccount

#### Access

This function can be used by any Vishnu user.

#### Description

The createLocalAccount() function adds a new local user configuration

#### Example of use

```
createLocalAccount -l acLogin -s sshKeyPath -h HomeDirectory userId machineId
```

#### Parameters

Parameter	Type	Option	Description	Required
userId	string		The userId represents the login 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	h	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 identifier of the session generated by VISHNU	YES	NO

### 2.1.10 updateLocalAccount

#### Access

This function can be used by any Vishnu user.

#### Description

The updateLocalAccount() function updates a local user configuration

#### Example of use

```
updateLocalAccount -l acLogin -s sshKeyPath -h HomeDirectory userId machineId
```

#### Parameters

Parameter	Type	Option	Description	Required
userId	string		The userId represents the login 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	h	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 identifier of the session generated by VISHNU	YES	NO

### 2.1.11 deleteLocalAccount

#### Access

This function can be used by any Vishnu user.

#### Description

The deleteLocalAccount() function removes a local user configuration (for a given user on a given machine)

#### 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 identifier of the session generated by VISHNU	YES	NO

### 2.1.12 saveConfiguration

#### Access

This function can be used by ADMIN users only

#### Description

The saveConfiguration() function saves the configuration of VISHNU

#### Example of use

saveConfiguration

#### Parameters

Parameter	Type	Option	Description	Required
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#### 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

### 2.1.13 restoreConfiguration

#### Access

This function can be used by ADMIN users only

#### Description

The restoreConfiguration() function restores the configuration of VISHNU

#### Example of use

restoreConfiguration -d descConf

#### Parameters

Parameter	Type	Option	Description	Required
descConf	string	d	represents the description of the configuration	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

**2.1.14 createMachine****Access**

This function can be used by ADMIN users only

**Description**

The createMachine() function adds a new machine

**Example of use**

```
createMachine -n name -s site -d totalDiskSpace -m totalMemory -t machineDescription 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
totalDiskSpace	string	d	represents the total disk space of the machine	NO
totalMemory	string	m	represents the total memory of the machine	NO
machineDescription	string	t	represents the description of the machine	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

**2.1.15 deleteMachine****Access**

This function can be used by ADMIN users only

**Description**

The deleteMachine() function removes a machine

**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 identifier of the session generated by VISHNU	YES	NO

**2.1.16 listLocalAccount****Access**

This function can be used by any Vishnu user.

**Description**

The listLocalAccount() function 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 identifier of the session generated by VISHNU	YES	NO

**2.1.17 listMachine****Access**

This function can be used by any Vishnu user.

**Description**

The listMachine() function lists the machines in which 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
ListAllOption	boolean	a	is an admin option for listing all machine defined in the database	NO



Parameter	Type	Option	Description	Required
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 identifier of the session generated by VISHNU	YES	NO

### 2.1.18 listHistoryCmd

#### Access

This function can be used by any Vishnu user.

#### Description

The listHistoryCmd() function 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
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 identifier of the session generated by VISHNU	YES	NO

### 2.1.19 listOptions

#### Access

This function can be used by any Vishnu user.

#### Description

The listOptions() function lists the options

**Example of use**

listOptions -u userId -n optionName

**Parameters**

Parameter	Type	Option	Description	Required
userId	string	u	is an admin option for listing information about a specific user identified by his/her userId	NO
optionName	string	n	allows the user to list 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

**2.1.20 listUsers****Access**

This function can be used by ADMIN users only

**Description**

The listUsers() function lists users

**Example of use**

listUsers -i userIdOption

**Parameters**

Parameter	Type	Option	Description	Required
userIdOption	string	i	allows an admin to list one 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

**2.1.21 listSessions****Access**

This function can be used by any Vishnu user.

**Description**

The listSessions() function lists sessions

**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	SessionListOptionType	t	is an option which precise the type of session listed (ACTIVE_SESSION, INACTIVE_SESSION or ALL_SESSION)	NO
sessionClosePolicy	SessionCloseType	p	is an option for closing session automatically (CLOSE_ON_TIMEOUT or CLOSE_ON_DISCONNECT)	NO
sessionInactivityDelay	int	d	The sessionInactivityDelay is the maximum delay between two API commands when the CLOSE_ON_TIMEOUT option is set	NO
machineId	string	m	allows a 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 information about a specific user identified by his/her userId	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
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 identifier of the session generated by VISHNU	YES	NO

## 2.1.22 configureOption

### Access

This function can be used by any Vishnu user.

### Description

The configureOption() function configures an option

### 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 identifier of the session generated by VISHNU	YES	NO

**2.1.23 configureDefaultOption****Access**

This function can be used by ADMIN users only

**Description**

The configureDefaultOption() function 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 identifier of the session generated by VISHNU	YES	NO

**2.2 Parameters definitions****SessionCloseType Enumeration Type**

Name	Value
CLOSE_ON_DISCONNECT	0
CLOSE_ON_TIMEOUT	1

**SessionListOptionType Enumeration Type**

Name	Value
ACTIVE_SESSION	0
INACTIVE_SESSION	1
ALL_SESSION	2

## Chapitre 3

# Commands specification for Tasks Management System (TMS)

### 3.1 Command definitions

#### 3.1.1 submitJob

##### Access

This function can be used by any Vishnu user.

##### Description

The submitJob() function submits job on a machine through the use of a script (job\_cmd\_path). The script is a shell script which will be executed by a command shell such as sh or csh. The object opt parameter of this function allows the user to specify job characteristics options. Also the user can options in the script file.

##### Example of use

```
submitJob -n Name -null priority -null queue -null wallTime -null memory -null nbCpu -null nbNodesAndCpuPerNode -null OutPutPath -null ErrorPath sessionKey machineId scriptFilePath
```

##### Parameters

Parameter	Type	Option	Description	Required
sessionKey	string		The sessionKey is the identifier of the session generated by VISHNU	YES
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 name of job path.	NO
priority	JobPriority		Assigns priority of the job.	NO
queue	string		Assigns the queue or class of the job.	NO
wallTime	int		The maximum wall-clock time during which the job can run.	NO
memory	int		The size of memory that the job will use.	NO
nbCpu	int		The number of cpu that the job will use.	NO
nbNodesAndCpuPerNode	int		The number of nodes and processors per node.	NO
OutPutPath	string		Assigns the path and file for job output.	NO
ErrorPath	string		Assigns the path and file for job error.	NO

## Environment variables

Name	Parameter	Type	Description	Required	User option
------	-----------	------	-------------	----------	-------------

### 3.1.2 listJobs

#### Access

This function can be used by any Vishnu user.

#### Description

The listJobs() function gets a list of all submitted jobs

#### Example of use

listJobs -null JobId -null nbCpu -null fromSubmitDate -null toSubmitDate -null owner -null status -null priority -null OutPutPath -null ErrorPath -null queue sessionKey machineId

#### Parameters

Parameter	Type	Option	Description	Required
sessionKey	string		The sessionKey is the identifier of the session generated by VISHNU	YES
machineId	string		Machine hash key	YES
JobId	string		To list job which has this id.	NO
nbCpu	int		To list jobs which have this number of cpu.	NO
fromSubmitDate	long		List jobs submitted after this date (unix timestamp).	NO
toSubmitDate	long		List jobs submitted before this date (unix timestamp)	NO
owner	string		To list all jobs submitted by this owner.	NO
status	JobStatus		To list jobs which have this status.	NO
priority	JobPriority		To list jobs which have this priority	NO
OutPutPath	string		Gets the path and file for each job output.	NO
ErrorPath	string		Gets the path and file for each job error.	NO
queue	string		To list jobs which have this queue name.	NO

## Environment variables

Name	Parameter	Type	Description	Required	User option
------	-----------	------	-------------	----------	-------------

### 3.1.3 getJobInfo

#### Access

This function can be used by any Vishnu user.

#### Description

The getJobInfo() function gets information on a job from its Id

#### Example of use

getJobInfo sessionKey machineId jobId

#### Parameters

Parameter	Type	Option	Description	Required
sessionKey	string		The sessionKey is the identifier of the session generated by VISHNU	YES
machineId	string		Machine hash key	YES
jobId	string		The id of the job	YES

#### Environment variables

Name	Parameter	Type	Description	Required	User option
------	-----------	------	-------------	----------	-------------

### 3.1.4 cancelJob

#### Access

This function can be used by any Vishnu user.

#### Description

The cancelJob() function cancels a job from it Id

#### Example of use

cancelJob sessionKey machineId jobId

#### Parameters

Parameter	Type	Option	Description	Required
sessionKey	string		The sessionKey is the identifier of the session generated by VISHNU	YES
machineId	string		Machine hash key	YES
jobId	string		The Id of the job	YES

#### Environment variables

Name	Parameter	Type	Description	Required	User option
------	-----------	------	-------------	----------	-------------

### 3.1.5 getJobOutPut

#### Access

This function can be used by any Vishnu user.

#### Description

The getJobOutPut() function gets outputPath and errorPath of a job from it Id

#### Example of use

getJobOutPut sessionKey machineId jobId

#### Parameters

Parameter	Type	Option	Description	Required
sessionKey	string		The sessionKey is the identifier of the session generated by VISHNU	YES
machineId	string		Machine hash key	YES
jobId	string		The Id of the job	YES

## Environment variables

Name	Parameter	Type	Description	Required	User option
------	-----------	------	-------------	----------	-------------

### 3.1.6 getAllJobsOutPut

#### Access

This function can be used by any Vishnu user.

#### Description

The getAllJobsOutPut() function gets outputPath and errorPath of completed jobs dynamically

#### Example of use

getAllJobsOutPut sessionKey machineId

#### Parameters

Parameter	Type	Option	Description	Required
sessionKey	string		The sessionKey is the identifier of the session generated by VISHNU	YES
machineId	string		Machine hash key	YES

## Environment variables

Name	Parameter	Type	Description	Required	User option
------	-----------	------	-------------	----------	-------------

### 3.1.7 listQueues

#### Access

This function can be used by any Vishnu user.

#### Description

The listQueues() function gets queues information

#### Example of use

listQueues sessionKey machineId

#### Parameters

Parameter	Type	Option	Description	Required
sessionKey	string		The sessionKey is the identifier of the session generated by VISHNU	YES
machineId	string		Machine hash key	YES

## Environment variables

Name	Parameter	Type	Description	Required	User option
------	-----------	------	-------------	----------	-------------

### 3.1.8 setMachineEnv

#### Access



This function can be used by ADMIN users only

### Description

The setMachineEnv() function sets environment variables on a remote machine

### Example of use

setMachineEnv sessionKey machineId listEnv

### Parameters

Parameter	Type	Option	Description	Required
sessionKey	string		The sessionKey is the identifier of the session generated by VISHNU	YES
machineId	string		Represents the machine id	YES
listEnv	string		Represents the list environment variables	YES

### Environment variables

Name	Parameter	Type	Description	Required	User option
------	-----------	------	-------------	----------	-------------

## 3.1.9 setMachineRefreshPeriod

### Access

This function can be used by ADMIN users only

### Description

The setMachineRefreshPeriod() function sets the refresh period of output and error file content

### Example of use

setMachineRefreshPeriod sessionKey machineId value

### Parameters

Parameter	Type	Option	Description	Required
sessionKey	string		The sessionKey is the identifier of the session generated by VISHNU	YES
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
------	-----------	------	-------------	----------	-------------

## 3.1.10 getJobProgress

### Access

This function can be used by any Vishnu user.

### Description

The getJobProgress() function get the progression status of jobs.

### Example of use

getJobProgress -null jobId -null jobOwner sessionKey machineId

## Parameters

Parameter	Type	Option	Description	Required
sessionKey	string		The sessionKey is the identifier of the session generated by VISHNU	YES
machineId	string		Is the id of the machine to get the jobs progression.	YES
jobId	string		Represents the id of the job that the user wants to see its progression.	NO
jobOwner	string		Represents the owner of the job.	NO

## Environment variables

Name	Parameter	Type	Description	Required	User option
------	-----------	------	-------------	----------	-------------

## 3.2 Parameters definitions

### JobPriority Enumeration Type

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

### JobStatus Enumeration Type

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

## Chapitre 4

# Commands specification for Information Management System (IMS)

### 4.1 Command definitions

#### 4.1.1 getUpdateFrequency

##### Access

This function can be used by any Vishnu user.

##### Description

The getUpdateFrequency() function gets the update frequency of the IMS database

##### Example of use

```
getUpdateFrequency
```

##### Parameters

Parameter	Type	Option	Description	Required
-----------	------	--------	-------------	----------

##### 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

#### 4.1.2 export

##### Access

This function can be used by any Vishnu user.

##### Description

The export() function exports all the commands made by a user during a session

##### Example of use

```
export oldSessionKey exportType
```

**Parameters**

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

**4.1.3 replay****Access**

This function can be used by any Vishnu user.

**Description**

The replay() function replays a script of VISHNU commands

**Example of use**

replay filename type

**Parameters**

Parameter	Type	Option	Description	Required
filename	string		A file containing the commands to replay	YES
type	ExportType		The type of the script to execute (python, shell)	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 getMetricVal****Access**

This function can be used by any Vishnu user.

**Description**

The getMetricVal() function gets data from a metric

**Example of use**

getMetricVal machineId startTime endTime metricType

**Parameters**

Parameter	Type	Option	Description	Required
machineId	string		The id of the machine	YES
startTime	long		The start time to look for the metric	YES
endTime	long		The end time to search	YES
metricType	<b>MetricType</b>		The metric types	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 getCurrentData

#### Access

This function can be used by any Vishnu user.

#### Description

The getCurrentData() function gets data corresponding to the datatype on a machine

#### Example of use

getCurrentData machineId dataType

#### Parameters

Parameter	Type	Option	Description	Required
machineId	string		The id of the machine the user wants the total diskSpace	YES
dataType	<b>MetricType</b>		The type of data the user wants to get	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

### 4.1.6 getProcesses

#### Access

This function can be used by ADMIN users only

#### Description

The getProcesses() function 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

### 4.1.7 setSystemThreshold

#### Access

This function can be used by ADMIN users only

#### Description

The setSystemThreshold() function sets a threshold on a machine of a system

#### Example of use

setSystemThreshold machineId treshholdType value

#### Parameters

Parameter	Type	Option	Description	Required
machineId	string		The id of the machine the user wants to set the treshhold over	YES
treshholdType	<b>MetricType</b>		The type of the metric to set	YES
value	double		The treshhold 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

### 4.1.8 getSystemThreshold

#### Access

This function can be used by ADMIN users only

#### Description

The getSystemThreshold() function 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 the user wants to get the treshold over	YES
type	<b>MetricType</b>		The treshold 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

### 4.1.9 defineUserIdentifier

#### Access

This function can be used by ADMIN users only

#### Description

The defineUserIdentifier() function 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

### 4.1.10 defineMachineIdentifier

#### Access

This function can be used by ADMIN users only

#### Description

The defineMachineIdentifier() function 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

**4.1.11 defineJobIdentifier****Access**

This function can be used by ADMIN users only

**Description**

The defineJobIdentifier() function 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

**4.1.12 defineTransferIdentifier****Access**

This function can be used by ADMIN users only

**Description**

The defineTransferIdentifier() function 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

#### 4.1.13 loadShed

##### Access

This function can be used by ADMIN users only

##### Description

The loadShed() function loads shed a machine, 2 modes are available, soft or hard. Soft flushes the machine, hard stops the machine

##### Example of use

loadShed machineId loadShedType

##### Parameters

Parameter	Type	Option	Description	Required
machineId	string		The id of the machine to stop	YES
loadShedType	LoadShedType		Type of load shedding	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 setUpdateFrequency

##### Access

This function can be used by ADMIN users only

##### Description

The setUpdateFrequency() function 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

#### 4.1.15 restart

##### Access

This function can be used by ADMIN users only

##### Description

The restart() function 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 type

##### Parameters

Parameter	Type	Option	Description	Required
type	RestartType	t	The type of restart desired	YES
componentName	string	n	If not restarting all, the name of the component 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

#### 4.1.16 updateMachine

##### Access

This function can be used by ADMIN users only

##### Description

The updateMachine() function updates the machines information in the database (description, diskspace or memory)

##### Example of use

updateMachine -l lang machineId CompoMachine

##### Parameters

Parameter	Type	Option	Description	Required
machineId	string		The id of the machine to update	YES
CompoMachine	CompoMachine		A description of the type of component to change	YES
lang	string	l	For machine description, the language used	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

### ExportType Enumeration Type

Name	Value
PYTHON	0
SHELL	1

### MetricType Enumeration Type

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

### LoadShedType Enumeration Type

Name	Value
SOFT	0
HARD	1

### RestartType Enumeration Type

Name	Value
ALL	0
SED	1
AGENT	2
DAEMON	3
MACHINE	4

### CompoMachine Enumeration Type

Name	Value
DESC	0
DISKSPACE	1
RAM	2

## Chapitre 5

# API specification for File Management System (FMS)

### 5.1 Command definitions

#### 5.1.1 createFile

##### Access

This function can be used by any Vishnu user.

##### Description

The createFile() function creates files on remote machines.

##### Example of use

```
createFile -m mode machineId sessionKey - listOfStrings
```

##### Parameters

Parameter	Type	Option	Description	Required
machineId	string		The machine identifier	YES
sessionKey	string		The session identifier	YES
listOfStrings	string	TO DO	TO DO	NO
mode	long	m	the file access permissions.	NO

##### Environment variables

Name	Parameter	Type	Description	Required	User option
------	-----------	------	-------------	----------	-------------

#### 5.1.2 createDir

##### Access

This function can be used by any Vishnu user.

##### Description

The createDir() function creates directories on remote machines.

##### Example of use

createDir -m mode machineId sessionKey - listOfStrings

#### Parameters

Parameter	Type	Option	Description	Required
machineId	string		The machine identifier	YES
sessionKey	string		The session identifier	YES
listOfStrings	string	TO DO	TO DO	NO
mode	long	m	the new directories permission access.	NO

#### Environment variables

Name	Parameter	Type	Description	Required	User option
------	-----------	------	-------------	----------	----------------

### 5.1.3 removeFile

#### Access

This function can be used by any Vishnu user.

#### Description

The removeFile() function removes files from remote hosts.

#### Example of use

removeFile machineId sessionKey - listOfStrings

#### Parameters

Parameter	Type	Option	Description	Required
machineId	string		The machine identifier	YES
sessionKey	string		The session id	YES
listOfStrings	string	TO DO	TO DO	NO

#### Environment variables

Name	Parameter	Type	Description	Required	User option
------	-----------	------	-------------	----------	----------------

### 5.1.4 removeDir

#### Access

This function can be used by any Vishnu user.

#### Description

The removeDir() function removes a directory from a remote machine

#### Example of use

removeDir machineId sessionKey - listOfStrings

#### Parameters

Parameter	Type	Option	Description	Required
machineId	string		The machine identifier	YES

Parameter	Type	Option	Description	Required
sessionKey	string		The session id	YES
listOfStrings	string	TO DO	TO DO	NO

#### Environment variables

Name	Parameter	Type	Description	Required	User option
------	-----------	------	-------------	----------	-------------

### 5.1.5 headOfFile

#### Access

This function can be used by any Vishnu user.

#### Description

The headOfFile() function displays a few first lines of file located on a remote machine

#### Example of use

```
headOfFile -n nLine machineId sessionKey - listOfStrings
```

#### Parameters

Parameter	Type	Option	Description	Required
machineId	string		The machine identifier	YES
sessionKey	string		The session id	YES
listOfStrings	string	TO DO	TO DO	NO
nLine	int	n	number of lines to display	NO

#### Environment variables

Name	Parameter	Type	Description	Required	User option
------	-----------	------	-------------	----------	-------------

### 5.1.6 tailOfFile

#### Access

This function can be used by any Vishnu user.

#### Description

The tailOfFile() function displays a few last lines of file located on a remote machine

#### Example of use

```
tailOfFile -n nLine machineId sessionKey - listOfStrings
```

#### Parameters

Parameter	Type	Option	Description	Required
machineId	string		The machine identifier	YES
sessionKey	string		The session id	YES
listOfStrings	string	TO DO	TO DO	NO
nLine	int	n	number of lines to display	NO

**Environment variables**

Name	Parameter	Type	Description	Required	User option
------	-----------	------	-------------	----------	-------------

**5.1.7 chGrpOfFile****Access**

This function can be used by any Vishnu user.

**Description**

The chGrpOfFile() function changes group owner of a remote file.

**Example of use**

chGrpOfFile machineId sessionKey - listOfStrings group

**Parameters**

Parameter	Type	Option	Description	Required
machineId	string		The machine identifier	YES
sessionKey	string		The session id	YES
listOfStrings	string	TO DO	TO DO	NO
group	string		the new group owner of file	YES

**Environment variables**

Name	Parameter	Type	Description	Required	User option
------	-----------	------	-------------	----------	-------------

**5.1.8 chModOfFile****Access**

This function can be used by any Vishnu user.

**Description**

The chModOfFile() function changes a acces rights of a remote file.

**Example of use**

chModOfFile machineId sessionKey - listOfStrings mode

**Parameters**

Parameter	Type	Option	Description	Required
machineId	string		The machine identifier	YES
sessionKey	string		The session id	YES
listOfStrings	string	TO DO	TO DO	NO
mode	long		the access rigths of a file	YES

**Environment variables**

Name	Parameter	Type	Description	Required	User option
------	-----------	------	-------------	----------	-------------

### 5.1.9 listDir

#### Access

This function can be used by any Vishnu user.

#### Description

The listDir() function displays the contents of remote directory.

#### Example of use

listDir machineId sessionKey - listOfStrings

#### Parameters

Parameter	Type	Option	Description	Required
machineId	string		The machine identifier	YES
sessionKey	string		The session id	YES
listOfStrings	string	TO DO	TO DO	NO

#### Environment variables

Name	Parameter	Type	Description	Required	User option
------	-----------	------	-------------	----------	----------------

### 5.1.10 copyFile

#### Access

This function can be used by any Vishnu user.

#### Description

The copyFile() function executes a synchronous copy of file.

#### Example of use

copyFile - listOfStrings machineId sessionKey - listOfStrings dest

#### Parameters

Parameter	Type	Option	Description	Required
machineId	string		The machine identifier	YES
sessionKey	string		The session identifier	YES
listOfStrings	string	TO DO	TO DO	NO
dest	string		The path of the destination file	YES
listOfStrings	string	TO DO	TO DO	NO

#### Environment variables

Name	Parameter	Type	Description	Required	User option
------	-----------	------	-------------	----------	----------------

### 5.1.11 copyAsyncFile

#### Access



This function can be used by any Vishnu user.

### Description

The copyAsyncFile() function executes an asynchronous copy of file.

### Example of use

copyAsyncFile machineId sessionKey - listOfStrings dest

### Parameters

Parameter	Type	Option	Description	Required
machineId	string		The machine identifier	YES
sessionKey	string		The session identifier	YES
listOfStrings	string	TO DO	TO DO	NO
dest	string		The path of the destination file	YES

### Environment variables

Name	Parameter	Type	Description	Required	User option
------	-----------	------	-------------	----------	-------------

## 5.1.12 moveFile

### Access

This function can be used by any Vishnu user.

### Description

The moveFile() function executes a synchronous move of file.

### Example of use

moveFile machineId sessionKey - listOfStrings dest

### Parameters

Parameter	Type	Option	Description	Required
machineId	string		The machine identifier	YES
sessionKey	string		The session identifier	YES
listOfStrings	string	TO DO	TO DO	NO
dest	string		The path of the destination file	YES

### Environment variables

Name	Parameter	Type	Description	Required	User option
------	-----------	------	-------------	----------	-------------

## 5.1.13 moveAsyncFile

### Access

This function can be used by any Vishnu user.

### Description

The moveAsyncFile() function executes an asynchronous move of file.

**Example of use**

moveAsyncFile machineId sessionKey - listOfStrings dest

**Parameters**

Parameter	Type	Option	Description	Required
machineId	string		The machine identifier	YES
sessionKey	string		The session identifier	YES
listOfStrings	string	TO DO	TO DO	NO
dest	string		The path of the destination file	YES

**Environment variables**

Name	Parameter	Type	Description	Required	User option
------	-----------	------	-------------	----------	-------------

**5.1.14 stopFileTransfer****Access**

This function can be used by any Vishnu user.

**Description**

The stopFileTransfer() function stops an execution of an set of file transfer.

**Example of use**

stopFileTransfer machineId sessionKey - listOfLongs

**Parameters**

Parameter	Type	Option	Description	Required
machineId	string		The machine identifier	YES
sessionKey	string		The session identifier	YES
listOfLongs	long	TO DO	TO DO	NO

**Environment variables**

Name	Parameter	Type	Description	Required	User option
------	-----------	------	-------------	----------	-------------

**5.1.15 stopAllFileTransfer****Access**

This function can be used by any Vishnu user.

**Description**

The stopAllFileTransfer() function stops all file transfer in a session.

**Example of use**

stopAllFileTransfer machineId sessionKey

**Parameters**

Parameter	Type	Option	Description	Required
machineId	string		The machine identifier	YES
sessionKey	string		The session identifier	YES

#### Environment variables

Name	Parameter	Type	Description	Required	User option
------	-----------	------	-------------	----------	-------------

### 5.1.16 stopAllUsersFileTransfer

#### Access

This function can be used by ADMIN users only

#### Description

The stopAllUsersFileTransfer() function stops all users file transfer.

#### Example of use

stopAllUsersFileTransfer machineId sessionKey

#### Parameters

Parameter	Type	Option	Description	Required
machineId	string		The machine identifier	YES
sessionKey	string		The session identifier	YES

#### Environment variables

Name	Parameter	Type	Description	Required	User option
------	-----------	------	-------------	----------	-------------

### 5.1.17 getFileTransferStatus

#### Access

This function can be used by any Vishnu user.

#### Description

The getFileTransferStatus() function gives the status of a list of file transfer.

#### Example of use

getFileTransferStatus machineId sessionKey - listOfLongs

#### Parameters

Parameter	Type	Option	Description	Required
machineId	string		The machine identifier	YES
sessionKey	string		The session identifier	YES
listOfLongs	long	TO DO	TO DO	NO

#### Environment variables

Name	Parameter	Type	Description	Required	User option
------	-----------	------	-------------	----------	-------------

### 5.1.18 listFilesTransferStatus

#### Access

This function can be used by any Vishnu user.

#### Description

The listFilesTransferStatus() function displays the status of all files transfer submitted by User.

#### Example of use

listFilesTransferStatus machineId sessionKey

#### Parameters

Parameter	Type	Option	Description	Required
machineId	string		The machine identifier	YES
sessionKey	string		The session id	YES

#### Environment variables

Name	Parameter	Type	Description	Required	User option
------	-----------	------	-------------	----------	-------------

### 5.1.19 listAllUsersFilesTransferStatus

#### Access

This function can be used by ADMIN users only

#### Description

The listAllUsersFilesTransferStatus() function displays the status of all files transfer submitted by User.

#### Example of use

listAllUsersFilesTransferStatus machineId sessionKey

#### Parameters

Parameter	Type	Option	Description	Required
machineId	string		The machine identifier	YES
sessionKey	string		The session id	YES

#### Environment variables

Name	Parameter	Type	Description	Required	User option
------	-----------	------	-------------	----------	-------------

### 5.1.20 DisplayFilesTransferHistory

#### Access

This function can be used by any Vishnu user.

#### Description

The DisplayFilesTransferHistory() function displays the history of all files transfer submitted by User.

#### Example of use

DisplayFilesTransferHistory machineId sessionKey - listOfLongs

#### Parameters

Parameter	Type	Option	Description	Required
machineId	string		The machine identifier	YES
sessionKey	string		The session id	YES
listOfLongs	long	TO DO	TO DO	NO

#### Environment variables

Name	Parameter	Type	Description	Required	User option
------	-----------	------	-------------	----------	-------------

### 5.1.21 DisplayAllUsersFilesTransferHistory

#### Access

This function can be used by ADMIN users only

#### Description

The DisplayAllUsersFilesTransferHistory() function displays the history of all files transfer submitted by all Users.

#### Example of use

DisplayAllUsersFilesTransferHistory machineId sessionKey

#### Parameters

Parameter	Type	Option	Description	Required
machineId	string		The machine identifier	YES
sessionKey	string		The session id	YES

#### Environment variables

Name	Parameter	Type	Description	Required	User option
------	-----------	------	-------------	----------	-------------

### 5.1.22 GetFilesInfo

#### Access

This function can be used by any Vishnu user.

#### Description

The GetFilesInfo() function displays the information of files.

#### Example of use

GetFilesInfo machineId sessionKey

#### Parameters

Parameter	Type	Option	Description	Required
machineId	string		The machine identifier	YES
sessionKey	string		The session id	YES

Environment variables

Name	Parameter	Type	Description	Required	User option
------	-----------	------	-------------	----------	-------------

5.2 Parameters definitions