



SCORM 1.2 Final Edition

Method	LMS Mandatory (m) Optional (o)	Parameters	Return Value
LMSInitialize	m	function (“”)	“true”, “false”
LMSFinish	m	function (“”)	“true”, “false”
LMSCommit	m	function (“”)	“true”, “false”
LMSGetValue	m	function(data_model_element)	Data value as string
LMSSetValue	m	function(data_model_element, value)	“true”, “false”
LMSGetLastError	m	function (“”)	Error code as string
LMSGetErrorString	m	function(error_code)	Error description as string
LMSGetDiagnostic	m	function(error_code)	Error description as string

- * data_model_element = any element from the chart below
- * value = any valid value for the associated data_model_element
- * error_code = the return value from LMSGetLastError

Data Model Element	Data Type	LMS Mandatory (m) Optional (o)	Details
cmi.core._children	CMString255	m	Used to determine which data model elements are supported by the LMS. SCORM 1.2 did not require that the LMS support all data model elements
cmi.core.student_id	CMIdentifier	m	Unique system identifier for each student.
cmi.core.student_name	CMString255	m	Last name, first name, middle initial. Spaces in the name must be preserved.
cmi.core.lesson_location	CMString255	m	Used to store the position where the student left off in the SCO. Used for bookmarking.
cmi.core.credit	CMVocabulary(Credit) "credit", "no-credit"	m	Used by the LMS to indicate whether this SCO is being taken for credit.
cmi.core.lesson_status	CMVocabulary(Status) "passed", "failed", "completed", "incomplete", "browsed", "not attempted"	m	The current status of the SCO.

cmi.core.entry	CMIVocabulary(Entry) “ab-initio”, “resume”, “”	m	Indicates whether the student has entered the SCO before.
cmi.core.score._children	CMIStrng255	m	Used to determine the supported elements. Note: cmi.score.raw is the only mandatory child.
cmi.core.score.raw	CMIDecimal or CMIBlank	m	Indication of the performance of the student during his last attempt on the SCO. This score may be determined and calculated in any manner that makes sense to the designer.
cmi.core.score.min	CMIDecimal or CMIBlank	o	The minimum score the student could have achieved.
cmi.core.score.max	CMIDecimal or CMIBlank	o	The maximum score or total number that the student could have achieved.
cmi.core.total_time	CMITimespan	m	Accumulated time of all the student’s sessions in the SCO.
cmi.core.lesson_mode	CMIVocabulary(Mode) “browse”, “normal”, “review”	o	Identifies the SCO behavior desired after launch.
cmi.core.exit	CMIVocabulary(Exit) “time-out”,	m	An indication of how or why the student left the SCO.

	“suspend”, “logout”, “”		
cmi.core.session_time	CMITimespan	m	This is the amount of time in hours, minutes, and seconds that the student has spent in the SCO at the time they leave. This represents the time from the beginning of the session to the end of a single use of the SCO.
cmi.suspend_data	CMIStrng4096	m	Unique information generated by the SCO during previous uses that is needed for the current use. This is normally data that is created by the SCO and stored by the LMS to pass back to the SCO the next time the SCO is run.
cmi.launch_data	CMIStrng4096	m	Unique information generates at the SCO’s creation that is needed for every use. Without this information, a SCO may not execute.
cmi.comments	CMIStrng4096	o	Freeform feedback from the SCO. Used to allow the SCO to send comments to the LMS about the SCO. Could be used to collect student entered comments.
cmi.comments_from_lms	CMIStrng4096	o	This element represents

			comments that would come from the LMS. Used to allow the SCO to see any comments relates to the SCO that originated in the LMS.
cmi.objectives	N/A	o	Identifies how the student has performed on individual objectives covered in the SCO.
cmi.objectives._children	CMString255	o	The children keyword is used to determine all of the elements in the cmi.objectives category that are supported by the LMS.
cmi.objectives._count	CMInteger	o	The count keyword is used to determine the current number of records in the cmi.objectives list.
cmi.objectives.n.id	CMIdentifier	o	An internally, developer defined, SCO specific identifier for an objective.
cmi.objectives.n.score	N/A	o	An objective can contain an associated score.
cmi.objectives.n.score_children	CMString255	o	The children keyword is used to determine all of the elements in the cmi.objectives.n.score category that are supported by the LMS.
cmi.objectives.n.score.raw	CMDecimal or	o	Numerical representation of

	CMIBlank		the student performance after each attempt on the objective. May be uncompressed raw score.
cmi.objectives.n.score.max	CMIDecimal or CMIBlank	o	The maximum score or total number that the student could have achieved on the objective.
cmi.objectives.n.score.min	CMIDecimal or CMIBlank	o	The minimum score that the student could have achieved on the objective.
cmi.objectives.n.status	CMIVocabulary(Status) “passed”, “completed”, “failed”, “incomplete”, “browsed”, “not attempted”	o	The status of the SCO’s objective obtained by the student after each attempt to master the SCO’s objective.
cmi.student_data	N/A	o	Information to support customization of a SCO based on the student’s performance.
cmi.student_data._children	CMIStrng255	o	The children keyword is used to determine all of the elements in the student_data category that are supported by the LMS.
cmi.student_data.mastery_score	CMIDecimal	o	The passing score, as determined outside the SCO. When the SCO score is greater than or equal to the

			mastery score, the student is considered to have passed, or mastered the content.
cmi.student_data.max_time_allowed	CMITimespan	o	The amount of time the student is allowed to have in the current attempt on the SCO.
cmi.student_data.time_limit_action	CMIVocabulary(Time Limit Action) “exit, message”, “exit, no message”, “continue, message”, “continue, no message”	o	Tells the SCO what to do when the max_time_allowed is exceeded.
cmi.student_preferences	N/A	o	Selected options that are appropriate for the subsequent SCO's.
cmi.student_preferences._children	CMString255	o	The children keyword is used to determine all of the elements in the student_preference category that are supported by the LMS.
cmi.student_preferences.audio	CMInteger	o	Audio may be turned off, or its volume controlled. The element indicates whether the audio is turned off, or on.
cmi.student_preferences.language	CMString255	o	For SCO's with multi-lingual capability, this element should be used to identify in what language the

			information should be delivered.
cmi.student_preferences.speed	CMInteger	o	SCO's may sometimes be difficult to understand because of the pace. This element controls the pace of the content delivery.
cmi.student_preferences.text	CMInteger	o	In a SCO designed for audio, it may be possible to turn off the audio, and view the audio content in a text window. Used by the SCO to both set and obtain from the LMS text preferences of the student.
cmi.interactions	N/A	o	An interaction is a recognized and recordable input or group of inputs from the student to the computer.
cmi.interactions._children	CMString255	o	The children keyword is used to determine all of the elements in the cmi.interactions category that are supported by the LMS.
cmi.interactions._count	CMInteger	o	The count keyword is used to determine the current number of records in the cmi.interactions list. Used to determine the number of interactions stored by the LMS.
cmi.interactions.n.id	CMIdentifier	o	Unique identifier for an

			interaction.
cmi.interactions.n.objectives	N/A	o	Identifies how the student has performed on individual objectives covered in the interactions.
cmi.interactions.n.objectives._count	CMInteger	o	The count keyword is used to determine the current number of records in the cmi.interactions objectives id list.
cmi.interactions.n.objectives.n.id	CMIdentifier	o	Developer created identifier for an objective. Used to identify the objective that the interaction is for.
cmi.interactions.n.time	CMTime	o	Identification of when the student interaction was completed.
cmi.interactions.n.type	CMIVocabulary (Interaction) “true-false”, “choice”, “fill-in”, “matching”, “performance”, “sequencing”, “likert”, “numeric”	o	Indication of which category of interaction is recorded. The type of interaction determines how the interaction responses should be interpreted.
cmi.interactions.n.correct_responses	N/A	o	Indicates the correct responses for the interactions.

cmi.interactions.n.correct_responses._count	CMInteger	o	The count keyword is used to determine the current number of records in the cmi.interactions correct responses list.
cmi.interactions.n.correct_responses.n.pattern	CMIFeedback	o	Description of possible student responses to the interaction. There may be more than one correct response, and some responses may be more correct than others.
cmi.interactions.n.weighting	CMIDecimal	o	Interactions vary in importance. The weighting factor which is used to identify the relative importance of one interaction compared to another.
cmi.interactions.n.student_response	CMIFeedback	o	Description of possible responses to the interaction. There may be more than one correct response, and some responses may be more correct than others.
cmi.interactions.n.result	CMIVocabulary (Result) “correct”, “wrong”, “unanticipated”, “neutral”, “X.X” – (CMIDecimal)	o	How the system judges the described response.

cmi.interactions.n.latency	CMITimespan	o	The time the presentation of the stimulus to the completion of the measurable response.
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Data Type	Description	Data Model Element
CMIBlank	An empty string (“”).	cmi.core.score.raw
CMIBoolean	A vocabulary of two words (“true”, “false”).	
CMIDecimal	A number that may have a decimal point. If not preceded by minus sign, the number is presumed positive. Examples: (“2”, “2.2”, and “-2.2”).	cmi.interactions..n.weighting
CMIFeedback	A structured description of a student response in an interaction. The structure and contents of the feedback depends upon the type of interaction.	cmi.interactions.n.student_response
CMIIentifier	An alphanumeric group of characters with no white space or unprintable characters in it. Maximum of 255 characters.	cmi.objectives.n.id
CMIIinteger	An integer number from 0 to 65536.	cmi.objectives._count
CMISInteger	A signed integer number from -32768 to +32768.	cmi.student_data_preferences.text
CMISString255	A set of ASCII characters with a maximum length of 255 characters.	cmi.interactions._children
CMISString4096	A set of ASCII characters with a maximum length of 4096 characters.	cmi.comments
CMITime	A chronological point in a 24 hour clock. Identified in hours, minutes, and	cmi.interactions.n.time

	seconds in the format: HH:MM:SS.SS.	
CMITimespan	A length of time in hours, minutes, and seconds shown in the following numerical format: HHHH:MM:SS.SS.	cmi.core.session_time
CMIVocabulary	Used to attach specific vocabularies within context in a schema. Single letter and abbreviation may not be used in API communication.	cmi.core.exit