

API Technical Specification

Overview

An API (Application Programming Interface) is a mechanism for two software systems to interact.  The LearningZen API allows your system to access the data stored inside LearningZen.  It provides mechanisms to manage your portal as well as ways to get course and student data for your portal.

Abbreviations

* LZ = LearningZen
* TP = Third-Party (user of the LZ API)

**Authentication**

LearningZen supports two methods of authentication:

* Secret Token: A secret token that is passed with each API call that identifies the caller. You can choose an API token or LearningZen can assign one to you.
* Single-Use, Time-Based Token: An initial handshake sequence produces a single-use token that can be used for only one subsequent API method call. The token must be used within one hour of being verified. The handshake works as follows:
	+ Make a GET to https://[YOUR PORTAL].learningzen.com/api/wake?token=[TOKEN] where the token is a previously unused token generated by the TP system.
	+ LZ will verify the token via a GET to the TP API: http://[TP-API]/verify?token=[TOKEN]
	+ If LZ receives verification from the TP that the token is valid, and if the token has not been previously used in an LZ method call, LZ will respond with a success to the initial /wake method call.
	+ Detailed information about the handshake can be found in the API Methods section below. To use this authentication method, the TP must implement the /verify method and provide LZ with the base URL for their API.

**Testing Environment**

LearningZen has a test environment that, once configured for your portal, is available for integration testing. Please substitute **lztest.com** for **learningzen.com** in all API calls described in this document.

**Calling a Method**

LZ supports multiple ways to call API methods. API users can make method calls either by making a GET and passing URL parameters or by POSTing XML.

Via GET

Make a GET to:

https://[YOUR PORTAL].learningzen.com/api/[API METHOD]?token=abcdef123456&[METHOD-SPECIFIC PARAMETERS]

The response:

<?xml version=”1.0” encoding=”UTF-8” ?>

<response>

 <success>1</success>

 [ANY API METHOD-SPECIFIC ELEMENTS]

</response>

By POSTing XML

Make a POST to:

https://[YOUR PORTAL].learningzen.com/api/[API METHOD]

The POST should contain:

<?xml version=”1.0” encoding=”UTF-8” ?>

<request>

 <token>abcdef123456</token>

 <sourceIP>127.0.0.1</sourceIP>

 <portalHost>thirdpartysandbox</portalHost>

 [ANY API METHOD-SPECIFIC ELEMENTS]

</request>

The response:

<?xml version=”1.0” encoding=”UTF-8” ?>

<response>

 <success>1</success>

 [ANY API METHOD-SPECIFIC ELEMENTS]

</response>

Data Format

Data Requirements

Each request initiated by LearningZen will contain common elements.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Type** | **Optional** | **Notes** |
| token | string | N | The security/session token passed for each request, this can be a single-use, time-based token or a secret token, depending on which method of authentication is used. |
| sourceIP | IP address | Y | The IP address of the originating user |
| portalHost | string | Y (if using portal-specific URL) | The LearningZen portal hostname |

Responses from the LearningZen API will also contain common elements.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Type** | **Optional** | **Notes** |
| success | bit | N | “1” if the request was successful; “0” if it failed. |
| Message | string | Y | Additional information, usually when success is “0”. Child of “messages” element. More than one message possible. |

Data Format

When calling an API method, the request can be POSTed as XML or the parameters can be passed as URL parameters. Responses are always XML. Following is an example of the common elements sent as XML when a TP initiates a request.

<?xml version=”1.0” encoding=”UTF-8” ?>

<request>

 <token>U38Neqk0lqz4Cx</token>

 <sourceIP>127.0.0.1</sourceIP>

 <portalHost>sandbox</portalHost>

</request>

The response from the LZ API with only the common elements would be formatted as follows:

<?xml version=”1.0” encoding=”UTF-8” ?>

<response>

 <success>1</success>

<messages>

 <message>Success</message>

 <message>Additional message</message>

 </messages>

</response>

API Methods

Method names are case-insensitive. When calling via GET, URL parameters are case-insensitive.

wake

Only used with the Single-Use, Time-Based Token Authentication method. Registers a single-use, time-based token to be used in a subsequent LZ API call. The given token will be verified via a GET to the TP API: **https://[TP-API]/verify?token=[TOKEN].**  If LZ receives verification from the TP that the token is valid, and if the token has not been previously used in an LZ method call, LZ will respond with a success. The response from the /verify call should look like this:

<?xml version=”1.0” encoding=”UTF-8” ?>

<response>

 <success>1</success>

 <validToken>1</validToken>

 <token>[TOKEN]</token>

</response>

**URL example:** https://[YOUR PORTAL].learningzen.com/api/wake

**Restrictions:** Token must not be null or greater than 256 characters. Token must be alphanumeric, and contain no special characters other than dash (-) and underscore (\_).

**Request example:**

 **Via URL Parameters:**

/wake?token=abcdef123456

 **Via POST:**

<?xml version=”1.0” encoding=”UTF-8” ?>

<request>

 <token>abcdef123456</token>

 <sourceIP>127.0.0.1</sourceIP>

 <portalHost>thirdpartysandbox</portalHost>

</request>

**Response example:**

<?xml version=”1.0” encoding=”UTF-8” ?>

<response>

 <success>1</success>

 <validToken>1</validToken>

 <token>abcdef123456</token>

</response>

|  |  |  |
| --- | --- | --- |
| **Name** | **Type** | **Notes** |
| validToken | bit | 1 (yes) or 0 (no) |
| token | string | The token specified in the request |

deleteUser

The user will be marked as inactive in LearningZen. This will remove the user from all portal data and reporting.

**URL example:** https://[YOUR PORTAL].learningzen.com/api/deleteUser

**Restrictions:** Token andAccountId must not be null or greater than 256 characters, must be alphanumeric, and contain no special characters other than dash (-) and underscore (\_).

**Request example:**

**Via URL Parameters:**

/deleteUser?token=abcdef123456&accountID=54321

 **Via POST:**

<?xml version=”1.0” encoding=”UTF-8” ?>

<request>

 <token>abcdef123456</token>

 <sourceIP>127.0.0.1</sourceIP>

 <portalHost>thirdpartysandbox</portalHost>

 <accountID>54321</accountID>

</request>

|  |  |  |
| --- | --- | --- |
| **Name** | **Type** | **Notes** |
| accountID | string | Student ID used by the TP to identify the student. This value may be used in future API method calls to identify the student. |

**Response example:**

<?xml version=”1.0” encoding=”UTF-8” ?>

<response>

 <success>1</success>

</response>

reactivateUser

The user will be marked as active in LearningZen (after previously being deleted).

**URL example:** https://[YOUR PORTAL].learningzen.com/api/reactivateUser

**Restrictions:** Token and AccountId must not be null or greater than 256 characters, must be alphanumeric, and contain no special characters other than dash (-) and underscore (\_).

**Request example:**

 **Via URL Parameters:**

/reactivateUser?token=abcdef123456&accountID=54321

 **Via POST:**

<?xml version=”1.0” encoding=”UTF-8” ?>

<request>

 <token>abcdef123456</token>

 <sourceIP>127.0.0.1</sourceIP>

 <portalHost>thirdpartysandbox</portalHost>

 <accountID>54321</accountID>

</request>

|  |  |  |
| --- | --- | --- |
| **Name** | **Type** | **Notes** |
| accountID | string | Student ID used by the TP to identify the student. This value may be used in future API method calls to identify the student. |

**Response example:**

<?xml version=”1.0” encoding=”UTF-8” ?>

<response>

 <success>1</success>

</response>

courseCompletions

Returns information about completed courses. Passing an accountID will return all completed courses for that student. Passing a courseID will show all completed courses for all students who completed the given course. Passing both courseID and accountID will show completions of one course by one student. Passing lastDate and lastTime will filter out any course completions that occurred before the give date/time. All parameters are optional. If accountID is specified, the <accountID> element will not appear in the response.

**URL example:** https://[YOUR PORTAL].learningzen.com/api/courseCompletions

**Restrictions:** Token andAccountId must not be null or greater than 256 characters, must be alphanumeric, and contain no special characters other than dash (-) and underscore (\_).

**Request example:**

 **Via URL Parameters:**

/courseCompletions?token=abcdef123456&accountID=54321

 **Via POST:**

<?xml version=”1.0” encoding=”UTF-8” ?>

<request>

 <token>abcdef123456</token>

 <sourceIP>127.0.0.1</sourceIP>

 <portalHost>thirdpartysandbox</portalHost>

 <accountID>54321</accountID>

</request>

|  |  |  |
| --- | --- | --- |
| **Name** | **Type** | **Notes** |
| accountID | String | Student ID used by the TP to identify the student. This value may be used in future API method calls to identify the student. |
| courseID | int | LearningZen internal course identifier |
| lastDate | date | Return course completions since this date. Format yyyymmdd.  |
| lastTime | time | Return course completions since this time. Format HHmmssSSS, where SSS is optional. Time must be in Coordinated Universal Time (UTC). |

**Response example:**

<?xml version=”1.0” encoding=”UTF-8” ?>

<response>

 <success>1</success>

 <courses>

 <course>

 <courseID>80</courseID>

 <title>Food Handling Safety</title>

 <completionStatus>Passed</completionStatus>

 <completionDate>4/8/2010 5:19:49 PM</completionDate>

 <scorePercent>100</scorePercent>

 </course>

 <course>

 <courseId>473</courseId>

 <title>New Hire Training</title>

 <completionStatus>Failed</completionStatus>

 <completionDate>9/8/2010 8:14:23 AM</completionDate>

 <scorePercent>66.6666666666667</scorePercent>

 </course>

 </courses>

</response>

|  |  |  |
| --- | --- | --- |
| **Name** | **Type** | **Notes** |
| accountID | string | Student ID used by the TP to identify the student. This value may be used in future API method calls to identify the student. This element won’t be returned if accountID was specified in the request. |
| courseID | int | LearningZen internal course identifier |
| title | string | Course title |
| completionStatus | string | Passed or Failed |
| completionDate | datetime | Date/time of course completion |
| scorePercent | double | Percentage of questions answered correctly. “n/a” if there was no exam for the course. |

courseInfo

Returns information about all the courses in the portal

**URL example:** https://[YOUR PORTAL].learningzen.com/api/courseInfo

**Restrictions:** Token must not be null or greater than 256 characters. Token must be alphanumeric, and contain no special characters other than dash (-) and underscore (\_).

**Request example:**

 **Via URL Parameters:**

/courseInfo?token=abcdef123456

 **Via POST:**

<?xml version=”1.0” encoding=”UTF-8” ?>

<request>

 <token>abcdef123456</token>

 <sourceIP>127.0.0.1</sourceIP>

 <portalHost>thirdpartysandbox</portalHost>

</request>

**Response example:**

<?xml version=”1.0” encoding=”UTF-8” ?>

<response>

 <success>1</success>

 <courses>

 <course>

 <courseID>80</courseID>

 <courseName>Food Handling Safety</courseName>

 <description>This course cites the United States Department of Agriculture's standards on Food Safety and Inspection Services. The material in this course will cover the basics of food handling safety including; properly cleaning, avoiding cross-contamination, cooking temperatures, and refrigeration. The six video series that is presented throughout the course was created by the Idaho Central Health Department. In total, the videos will not take more than 30 minutes of viewing time.</description>

 <ceuCredits>2.75</ceuCredits>

 <cost>10.00</cost>

 <timeReqd>Less than one hour</timeReqd>

 <status>Active</status>

 <category>Public Health</category>

 </course>

 </courses>

</response>

|  |  |  |
| --- | --- | --- |
| **Name** | **Type** | **Notes** |
| courseID | int | LearningZen internal course identifier |
| courseName | string | Course name |
| description | string | Non-HTML description of course |
| ceuCredits | double | Number of credits |
| cost | double | Cost of the course in US dollars |
| timeReqd | string | Possible values: Less than 30 minutes, Less than one hour, Four hours or less, Less than eight hours, More than eight hours |
| status | string | Possible values: Incomplete, Under Review, Active, Archived, Deleted, Taken Offline by Author |
| category | string | Course Category |

registerUser

Registers a new user at LearningZen in the given portal.

**URL example:** https://[YOUR PORTAL].learningzen.com/api/registerUser

**Restrictions:** Token &AccountId must not be null or greater than 256 characters. Token must be alphanumeric, and contain no special characters other than dash (-) and underscore (\_).

**Request example:**

 **Via URL Parameters:**

/registerUser?token=abcdef123456&userGroups=Group+One,Group+Two&managerGroups=Group+Three&isPortalAdmin=0&isAuthor=0&isManager=0&firstName=John&lastName=Doe&emailAddress=john@doe.com&timeZoneName=Eastern+Standard+Time&accountID=678

 **Via POST:**

<?xml version=”1.0” encoding=”UTF-8” ?>

<request>

 <token>abcdef123456</token>

 <sourceIP>127.0.0.1</sourceIP>

 <portalHost>thirdpartysandbox</portalHost>

 <userGroups>Group One,Group Two</userGroups>

 <managerGroups>Group Three</managerGroups>

 <isPortalAdmin>0</isPortalAdmin>

 <isAuthor>0</isAuthor>

 <isManager>0</isManager>

 <firstName>John</firstName>

 <lastName>Doe</lastName>

 <emailAddress>john@doe.com</emailAddress>

 <timeZoneName>Eastern Standard Time</timeZoneName>

 <accountID>678</accountID>

 <newPassword>password</newPassword>

</request>

|  |  |  |
| --- | --- | --- |
| **Name** | **Type** | **Notes** |
| userGroups | string list | Comma separated list of groups to which the user belongs. LearningZen will automatically update the user’s membership in the portal groups specified, removing the user from all groups not included in the list. Groups that do not exist will be ignored. |
| managerGroups | string list | Comma separated list of groups for which the user is a manager. Functionality is otherwise the same as for the userGroups element. Only applicable if isManager below is “1”. |
| isPortalAdmin | bit | If “1”, LearningZen will update the user’s access rights to be a portal administrator. If “0”, LearningZen will remove any administrative rights for the user. |
| isAuthor | bit | If “1”, LearningZen will add the user to the list of portal authors. If the portal is already at the maximum number of portal authors, this request will be ignored. If “0”, LearningZen will remove the user from the list of portal authors. |
| isManager | bit | If “1”, LearningZen will add the user to the list of portal managers. If “0”, LearningZen will remove the user from the list of portal managers. |
| firstName | string | User’s first name. |
| lastName | string | User’s last name. |
| emailAddress | string | User’s email address. Used in LearningZen as the account login. |
| timeZoneName | string | Possible values: Pacific Standard Time, Mountain Standard Time, Central Standard Time, Eastern Standard Time |
| accountID | string | Student ID used by the TP to identify the student. This value may be used in future API method calls to identify the student. |
| newPassword | string | Student password for logon. If left blank, the system will provide a random password. |

**Response example:**

<?xml version=”1.0” encoding=”UTF-8” ?>

<response>

 <success>1</success>

 <accountID>789</accountID>

 <accountID>678</accountID>

</response>

|  |  |  |
| --- | --- | --- |
| **Name** | **Type** | **Notes** |
| accountID | string | Student ID used by the TP to identify the student. This value may be used in future API method calls to identify the student. |

updateUser

Updates a user at LearningZen in the given portal.

**URL example:** https://[YOUR PORTAL].learningzen.com/api/registerUser

**Restrictions:** Token &AccountId must not be null or greater than 256 characters. Token must be alphanumeric, and contain no special characters other than dash (-) and underscore (\_).

**Request example:**

 **Via URL Parameters:**

/updateUser?token=abcdef123456&userGroups=Group+One,Group+Two&managerGroups=Group+Three&isPortalAdmin=0&isAuthor=0&isManager=0&firstName=John&lastName=Doe&emailAddress=john@doe.com&timeZoneName=Eastern+Standard+Time&accountID=678&newPassword=password

 **Via POST:**

<?xml version=”1.0” encoding=”UTF-8” ?>

<request>

 <token>abcdef123456</token>

 <sourceIP>127.0.0.1</sourceIP>

 <portalHost>thirdpartysandbox</portalHost>

 <userGroups>Group One,Group Two</userGroups>

 <managerGroups>Group Three</managerGroups>

 <isPortalAdmin>0</isPortalAdmin>

 <isAuthor>0</isAuthor>

 <isManager>0</isManager>

 <firstName>John</firstName>

 <lastName>Doe</lastName>

 <emailAddress>john@doe.com</emailAddress>

 <timeZoneName>Eastern Standard Time</timeZoneName>

 <accountID>678</accountID>

<newPassword>password</newPassword>

<oldPassword>oldpassword</oldPassword>

</request>

|  |  |  |
| --- | --- | --- |
| **Name** | **Type** | **Notes** |
| userGroups | string list | Comma separated list of groups to which the user belongs. LearningZen will automatically update the user’s membership in the portal groups specified, removing the user from all groups not included in the list. Groups that do not exist will be ignored. |
| managerGroups | string list | Comma separated list of groups for which the user is a manager. Functionality is otherwise the same as for the userGroups element. Only applicable if isManager below is “1”. |
| isPortalAdmin | bit | If “1”, LearningZen will update the user’s access rights to be a portal administrator. If “0”, LearningZen will remove any administrative rights for the user. |
| isAuthor | bit | If “1”, LearningZen will add the user to the list of portal authors. If the portal is already at the maximum number of portal authors, this request will be ignored. If “0”, LearningZen will remove the user from the list of portal authors. |
| isManager | bit | If “1”, LearningZen will add the user to the list of portal managers. If “0”, LearningZen will remove the user from the list of portal managers. |
| firstName | string | User’s first name. |
| lastName | string | User’s last name. |
| emailAddress | string | User’s email address. Used in LearningZen as the account login. |
| timeZoneName | string | Possible values: Pacific Standard Time, Mountain Standard Time, Central Standard Time, Eastern Standard Time |
| accountID | string | Student ID used by the TP to identify the student. This value may be used in future API method calls to identify the student. |
| newPassword | String | Password to set for user logon. If either this or the old password is left blank, the user’s password will not update. |
| oldPassword | String | This is the user’s old password. If they are updating their current password, they will need to provide the old Learning Zen password. |

**Response example:**

<?xml version=”1.0” encoding=”UTF-8” ?>

<response>

 <success>1</success>

 <accountID>678</accountID>

</response>

|  |  |  |
| --- | --- | --- |
| **Name** | **Type** | **Notes** |
| accountID | string | Student ID used by the TP to identify the student. This value may be used in future API method calls to identify the student. |

isRegistered

Check to see if a user is registered within LearningZen.

**URL example:** https://[YOUR PORTAL].learningzen.com/api/isRegistered

**Request example:**

 **Via URL Parameters:**

/isRegistered?token=abcdef123456&accountID=54321

 **Via POST:**

<?xml version=”1.0” encoding=”UTF-8” ?>

<request>

 <token>abcdef123456</token>

 <sourceIP>127.0.0.1</sourceIP>

 <portalHost>thirdpartysandbox</portalHost>

 <accountID>54321</accountID>

</request>

|  |  |  |
| --- | --- | --- |
| **Name** | **Type** | **Notes** |
| accountID | string | Student ID used by the TP to identify the student. This value may be used in future API method calls to identify the student. |

**Response example:**

<?xml version=”1.0” encoding=”UTF-8” ?>

<response>

 <success>1</success>

 <accountID>54321</accountID>

</response>

|  |  |  |
| --- | --- | --- |
| **Name** | **Type** | **Notes** |
| accountID | string | Student ID used by the TP to identify the student. This value may be used in future API method calls to identify the student. |

**Notes:**

* A success value of 1 indicates that the call completed with no errors.
* A success value of 0 indicates that an unexpected error has occurred.
* If the student indicated by the supplied accountID is already known to LZ, the accountID will be populated with the original account ID. If the student is not known to LZ, the accountID tag will be present, but empty.

takeCourse

Automatically log a registered user into the specified course

**URL example:** https://[YOUR PORTAL].learningzen.com/api/takeCourse

**Via URL Parameters:**

/takeCourse?accountId=123456&courseId=4321&return=/portal/courses

|  |  |  |
| --- | --- | --- |
| **Name** | **Type** | **Notes** |
| accountId | string | Student ID used by the TP to identify the student. This value may be used in future API method calls to identify the student. In this method, the accountId has been encrypted by the TP. |
| courseId | int | LearningZen internal course identifier |
| return | string | Partial URL to be appended to a separate, configurable value provided by the portal. Users are returned to this combined URL when exiting the course. |

After LZ receives the API request, it will attempt to verify the encrypted accountId through an API call to the TP; ://[TP-API]/verifyAccountGuid?token=[accountId]. The TP will decrypt the accountId, determine its authenticity, and respond to LZ with the decrypted accountId as in the following examples:

<?xml version="1.0" encoding="UTF-8"?>

 <response>

 <success>1</success>

 <accountId>1234</accountId>

 <token>4B320DBC16968CA8</token>

 </response>

<?xml version="1.0" encoding="UTF-8"?>

 <response>

 <success>0</success>

 <message>The provided accountId could not be verified.</message>

 <token> A3320DBC16968CA9</token>

 </response>

|  |  |  |
| --- | --- | --- |
| **Name** | **Type** | **Notes** |
| success | bit | “1” if the request was successful and the token is valid; “0” if it failed for any reason. |
| message | string | Additional information, usually when success is “0” |
| accountId | int | The decoded TRS user ID |
| token | string | The token (GUID) parameter from the request |

**Notes:**

If the response returns successfully, the user will be logged in presented with the specified course. In the event that a problem occurred, the user will be redirected to the specified return URL, with any errors represented by a message parameter, as in the following example:

http://[TP-API]/userReturn?message=User%20Authentication%20Failed

registerCourse

Places a course inside a registered user’s bookshelf.

**Request example:**

**Via URL Parameters:**

/registerCourse?token=[TOKEN]&accountId=123456&emailAddress=john@doe.com&courseId=4321

 **Via POST:**

<?xml version=”1.0” encoding=”UTF-8” ?>

<request>

 <token>abcdef123456</token>

 <sourceIP>127.0.0.1</sourceIP>

 <portalHost>thirdpartysandbox</portalHost>

 <accountID>54321</accountID>

 <courseID>4321</courseID>

</request>

|  |  |  |
| --- | --- | --- |
| **Name** | **Type** | **Notes** |
| accountId | string | Student ID used by the TP to identify the student. This value may be used in future API method calls to identify the student. In this method, the accountId has been encrypted by the TP. |
| courseId | int | LearningZen internal course identifier |
| emailAddress | string | User’s LearningZen account email address. In the event of a non TP identification token, pass in the user’s LearningZen registration email address. |

**Response example:**

<?xml version=”1.0” encoding=”UTF-8” ?>

<response>

 <success>1</success>

 <accountID>54321</accountID>

 <courseID>4321</courseID>

</response>

|  |  |  |
| --- | --- | --- |
| **Name** | **Type** | **Notes** |
| accountID | string | Either student ID used by the TP to identify the student, or for non SSO users, the LearningZen email address. This value may be used in future API method calls to identify the student. |
| courseID | Int | LearningZen internal course identifier. |

**Notes:**

* A success value of 1 indicates that the call completed with no errors.
* A success value of 0 indicates that an unexpected error has occurred. If there is an error that occurs, the response will contain a message indicating the error.