 

# Application Programming Interface Specifications

Version 2021 3.0

## Overview

The California Department of Education has developed a set of application programming interface (API) services that allow local educational agency (LEA)-managed student information systems (SISs), parent portals, or both, to integrate with the Student Score Report (SSR) database. The API services will return an electronic version of the SSRs to the requesting applicants. A SIS will make the electronic score reports available to LEA users and parents or guardians via the parent portal.

Using the California Longitudinal Pupil Achievement Data System (CALPADS) daily enrollment data feed, the electronic score reporting service is updated daily with the latest enrollment information. Enrollment information is used to set SSR–access permissions for LEAs. For an LEA, the service makes available the SSRs of all students currently enrolled in the LEA, as well as historical SSRs regardless of a student’s testing location. Historical SSRs are also accessible to the last enrolled LEA for the administration year. The system will retain up to three years of historical SSRs.

## Assumptions

* New SIS deployment is provided for every customer (individual or multiple LEAs).
* Each SIS deployment uses credentials created by an LEA coordinator using the Test Operations Management System (TOMS) user interface.
* Identity Token is used to map to one or more LEA identities.
* LEA and school enrollment information drives SSR permissions.
* Permissions are updated daily via the CALPADS enrollment process.
* SIS does not persist SSR files locally.

## API Overview

The score report API returns one or more SSRs for a specific California Statewide Student Identifier (SSID). The score report API will return a response in JavaScript Object Notation (JSON) format that includes an array of report definitions containing score report type, year, and language, as well as a link to the PDF file. The PDF version of the SSR can be accessed via a temporary S3 link with an embedded access token that remains valid for 30 minutes. The requesting system may choose to embed a temporary score report link via a web browser inline frame, stream it to the client browser, or redirect the client browser using the temporary URL. The requesting system may choose to download the PDF files and stream them directly to the client machine (rewrite method).

## Security and Authentication

ETS follows the most stringent security policies to ensure that California student data is safe and secure. The score report API uses a standards-based OAuth 2.0 approach to authorize API access.

AWS service authentication is a two-step process. The first step is to create an authorization token by invoking an OAuth service hosted in the AWS Cloud. The token service will return a JSON Web Token (JWT). Once the JWT is issued, it is valid for a predetermined period of time and must be included as part of the AWS request header to request SSRs. The AWS custom authorizer validates the header token and authorizes access (refer to figure 1).

AWS authentification process.

Figure 1. AWS service authentication two-step process

## Get Authorization Token

Return the JWT containing authorization and the LEA identity. The authorization header should be constructed using the following steps:

1. Build a string of the form “username:api\_token” provided via the TOMS user interface.
2. Encode a Base64 string.
3. Supply an authorization header with content Basic followed by the encoded string.

* **URL**

/api/v1/token

* **Method:**

GET

* **Request** **Headers:**

Username and password in the request header using Basic HTTP Authentication headers

* **Data Params:**

None

* **Success Response:**
  + **Code:** 200
  + **Content Type:** application/json
  + **Content:** { token: "eyJraWQiOiJMT2tLV1hcL2EyQVJDeFA5TURWaUpSWjBuUnF3WVA1RWF3RlNQRzlsOVwvQms9IiwiYWxnIjoiUlMyNTYifQ.eyJzdWIiOiI4MDIwZGQwZS00OWZkLTQxN2YtYjhjNy02ZDRjN2VjY2M1OGQiLCJhdWQiOiIzNzhwa2lyOTZmdHJwbGlsNWhyNzk4ZjFzZSIsImVtYWlsX3ZlcmlmaWVkIjpmYWxzZSwiZXZlbnRfaWQiOiJkNDlhMzg5ZC1jMGY0LTExZTgtOGVkNS00YmEwOWM0ZTFkMDAiLCJ0b2tlbl91c2UiOiJpZCIsImF1dGhfdGltZSI6MTUzNzkwMTg0MCwiaXNzIjoiaHR0cHM6XC9cL2NvZ25pdG8taWRwLnVzLWVhc3QtMS5hbWF6b25hd3MuY29tXC91cy1lYXN0LTFfc2hqNzNnQ3ZLIiwiY29nbml0bzp1c2VybmFtZSI6ImpvaG5kb2UiLCJleHAiOjE1Mzc5MDU0NDAsImlhdCI6MTUzNzkwMTg0MCwiZW1haWwiOiJqb2huLmRvZUBldHMub3JnIn0.hl7dFOnh\_ymmdPvTC7MVyZfQHwUcsJJP7yeHC\_DzczZAnSM6PUI43VgX9ISIUZKPrfn74QGimtSM0zfYB5N7nyWRnIoQw\_Xtnx77UsQlu6qDDLczd1R9WylPPoBtqpu3ufuBSPsfq0awSOMnhfKuqS\_JFYdkKOVE9EfRpzGDj1J1jNLk8UnUvDMrZGrLA1VcoQXzDg1Qa4BaOkfM\_UdBa7qa2bdGo7VpqOCqz7PHbj-bKoIJpezEx0gj\_JoZn-QyprmMZzNyKR35Kj\_hQeP4R9dr\_cxeGMrfgq9tmpbUDMOO7PxepJ3BFabBNfvzl5bBYC9IuU38aqvGOTChkTKVLg"}
* **Error Response:**
  + **Code:** 401 UNAUTHORIZED   
    **Content:** { error : "You are not authorized to make this request" }
  + **Code:** 500 ERROR   
    **Content:** { error : "Internal error occurred" }
* **Sample Request:**

curl -X GET \

https:// https://xxx.ets.org/api/v1/token \

-H 'authorization: Basic amX98fvZTpUZXN0MTIzJA==' \

-H 'cache-control: no-cache' \

var settings = {

"async": true,

"crossDomain": true,

"url": "https://.../api/v1/token",

"method": "GET",

"headers": {

"authorization": "Basic amX98fvZTpUZXN0MTIzJA ==",

"cache-control": "no-cache",

}

}

$.ajax(settings).done(function (response) {

console.log(response);

});

## Get Score Report

Return JSON data containing the temporary use URL resource to download SSRs. Empty array is returned for SSIDs without any score reports. **Please note:** the grade parameter was intentionally left out of the parameter list. The grade is returned as part of the response for each score report.

* **URL**

/api/v1/students/{ssid}/score-reports?&type={type}&lang={lang}final={true}&year={year}

* **Method:**

GET

* **Authentication:**

OAuth token requested through California AWS using credentials requested through TOMS user interface

* **URL Params**

**Required:**

ssid=[integer] statewide student identifier assigned by CALPADS

**Optional:**

type=[alphanumeric] the type of student score report, specific types. Acceptable types are the California Assessment of Student Performance and Progress (**CAASPP**) and the California Spanish Assessment. The **CAASPP** includes English language arts/literacy and mathematics, the California Science Test (**CST or CAST**) type will include the science report only, and the CAA for Science (CAAS) type will include the science report for alternate assessment. English Language Proficiency Assessments for California (ELPAC) includes the Summative Assessment (ESA). The ELPAC Initial Assessment (EIA) is coming soon (refer to table 1).

lang=[alphanumeric] language code of SSR, if not specified, all SSRs returned.

year=[integer] administration year in YYYY format. If left blank, return all available SSRs across multiple administrations.

* **Data Params**

None

* **Success Response:**
  + - **Code:** 200
    - **Content Type:** application/json
    - **Content:** [

{

"type": "CAASPP",

"lang": "EN",

"year": 2018,

"grade":"04",

"url": "https://aws..../randomtoken.pdf"

}, {

"type": "CAASPP",

"lang": "ES",

"year": 2018,

"grade":"04",

"url": "https://aws..../randomtoken.pdf"

},{

"type": "STS",

"lang": "ES",

"year": 2018,

"grade":"04",

"url": "https://aws..../randomtoken.pdf"

}

]

* **Error Response:**
* **Code:** 404 NOT FOUND   
  **Content:** { error : "Student doesn’t exist" }
* **Code:** 400 BAD REQUEST   
  **Content:** { error : "Malformed parameter" }
* **Code:** 403 FORBIDDEN   
  **Content:** { error : "Student enrollment record does not match calling district" }
* **Code:** 401 UNAUTHORIZED   
  **Content:** { error : "You are unauthorized to make this request." }
* **Code:** 500 ERROR   
  **Content:** { error : "Internal error occurred" }
* **Sample Request:**

$.ajax({

url: "/api/v1/students/1234567890/score-reports",

dataType: "json",

type : "GET",

headers: {

"authorization":"eyJraWQiOiJMT2tLV1hcL2EyQVJDeFA5TURWaUpSWjBuUnF3WVA1RWF3RlNQRzlsOVwvQms9IiwiYWxnIjoiUlMyNTYifQ.eyJzdWIiOiI4MDIwZGQwZS00OWZkLTQxN2YtYjhjNy02ZDRjN2VjY2M1OGQiLCJhdWQiOiIzNzhwa2lyOTZmdHJwbGlsNWhyNzk4ZjFzZSIsImVtYWlsX3ZlcmlmaWVkIjpmYWxzZSwiZXZlbnRfaWQiOiJkNDlhMzg5ZC1jMGY0LTExZTgtOGVkNS00YmEwOWM0ZTFkMDAiLCJ0b2tlbl91c2UiOiJpZCIsImF1dGhfdGltZSI6MTUzNzkwMTg0MCwiaXNzIjoiaHR0cHM6XC9cL2NvZ25pdG8taWRwLnVzLWVhc3QtMS5hbWF6b25hd3MuY29tXC91cy1lYXN0LTFfc2hqNzNnQ3ZLIiwiY29nbml0bzp1c2VybmFtZSI6ImpvaG5kb2UiLCJleHAiOjE1Mzc5MDU0NDAsImlhdCI6MTUzNzkwMTg0MCwiZW1haWwiOiJqb2huLmRvZUBldHMub3JnIn0.hl7dFOnh\_ymmdPvTC7MVyZfQHwUcsJJP7yeHC\_DzczZAnSM6PUI43VgX9ISIUZKPrfn74QGimtSM0zfYB5N7nyWRnIoQw\_Xtnx77UsQlu6qDDLczd1R9WylPPoBtqpu3ufuBSPsfq0awSOMnhfKuqS\_JFYdkKOVE9EfRpzGDj1J1jNLk8UnUvDMrZGrLA1VcoQXzDg1Qa4BaOkfM\_UdBa7qa2bdGo7VpqOCqz7PHbj-bKoIJpezEx0gj\_JoZn-QyprmMZzNyKR35Kj\_hQeP4R9dr\_cxeGMrfgq9tmpbUDMOO7PxepJ3BFabBNfvzl5bBYC9IuU38aqvGOTChkTKVLg",

"cache-control": "no-cache",

}

success : function(r) {

console.log(r);

}

});

## Appendix 1: Score Report Types

**Table 1. Score Report Types**

| **Report Description** | **Report API Code** | **Comment** |
| --- | --- | --- |
| CAASPP for ELA and Mathematics Score Report (Smarter Balanced and California Alternate Assessments) | CAASPP | Applicable for all years |
| Standards-based Tests in Spanish (STS) | STS (2018 only) | Applicable for 2016, 2017 and 2018 |
| California Science Test Assessment Score Report | CST\* | Applicable from 2019 onward. Deprecated, use CAST instead |
| California Science Test Assessment Score Report | CAST | Applicable from 2019 onward |
| CA Spanish Assessment | CSA | Applicable from 2019 onward |
| California Alternate Assessment for Science | CAAS | Applicable from 2020 onward |
| ELPAC Summative Assessment Score Report | ESA | Applicable from 2018 onward |
| ELPAC Initial Assessment Score Report | EIA | Currently not available |
| Lexile/Quantile CAASPP Score Report | LEXQUAN | Available from 2021 onward |

**\*** Deprecated report code that will be completely removed in the future. API is backward compatible to return science reports when using either CST or CAST report type codes.

**Table 2. Report Language Types**

| Report Language Description | Language API Code | Comment |
| --- | --- | --- |
| English | EN | Applicable for all years |
| Spanish | ES | Applicable for all years |
| Vietnamese | VI | Applicable from 2019 onward |
| Mandarin | ZH | Applicable from 2019 onward |
| Filipino | FL | Applicable from 2019 onward |

## Appendix 2: Change Log

|  |  |  |
| --- | --- | --- |
| **Change(s)** | **Section(s)** | **Date** |
| New API code for California Science Test (CAST) | Appendix 1: Score Report Types | 3/20/21 |
| New API code for Lexile and Quantile report (LEXQUAN) | Appendix 1: Score Report Types | 3/20/21 |