# TOMS Application Programming Interface Specifications

Version 2024 2.0

Updated June 2024

## 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 (SIS), 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. An SIS will make the electronic score reports available to LEA users or parents/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 permission SSR access for LEAs. The service makes SSRs available for all students currently enrolled in an LEA. Historical score reports are also available to the last enrolled LEA for the test administration year. The system retains historical score reports.

## Assumptions

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

## API Overview

The score report API returns one or many 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, a link to the PDF file, and—from the 2023–24 test administration onward—links to HTML files.

Each SSR file can be accessed via the provided 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 SSR files and stream them directly to the client machine (rewrite method).

## Security and Authentication

ETS is following the most stringent security policies to ensure that California student data is safe and secure. ETS is using 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 showing the user request to the service subscriber, and the service subscriber's request to the AWS Identity Management, the resulting authorization returned as a token to the service subscriber, which can be used to request a score report list and specific score report files from the store of AWS Electronic Score Reports

Figure 1. AWS service authentication two-step process

## Get Authorizing 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 TOMS user interface.
2. Encode 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 are included 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);

});

## Verify Authorizing Token

This process allows for verification of the identity token against the issuing authority. The authorization header should be constructed by supplying an authorization token issued as part of the Get Token API.

* **URL**

/api/v1/token/verify

* **Method:**

GET

* **Request** **Headers**

Authorization token

* **Data Params**

None

* **Success Response:**
  + - **Code:** 200  **Content:** [

{

"LEA": "001111111"

} ,

{

"LEA": "001111112"

} ,

{

"LEA": "001111113"

}

]

* **Error Response:**
* **Code:** 403 FORBIDDEN   
  **Content:** { error : "You are not authorized to make this request" }
* **Code:** 500 ERROR   
  **Content:** { error : "Internal error occurred" }
* **Sample Request:**

$.ajax({

url: "/api/v1/token/verify",

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);

}

});

## Get Score Report

Return JSON data containing the temporary use URL resource to download SSRs. An empty array is returned for SSIDs without any SSR(s). **Please note** that the grade parameter was intentionally left out of the parameter list; the grade is returned as part of the response for each SSR.

* **URL**

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

* **Method:**

GET

* **Authentication:**

OAuth token is requested through California AWS using credentials requested through the TOMS user interface.

* **URL Params**

**Required:**

ssid=[integer] statewide student identifier assigned by CALPADS

**Optional:**

type=[alphanumeric] the type of SSR. For valid type values, refer to table 1.

lang=[alphanumeric] language code of SSR, if not specified, all SSRs are 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": "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 Call:**

$.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);

}

});

## Get Score Report (V2)

Return JSON data containing the temporary-use URL resource to download or view all requested SSRs, defaulting to all formats. An empty array is returned for SSIDs without any SSR(s). **Please note** that the grade parameter was intentionally left off the parameter list. The grade is returned as part of the response for each SSR. This call is similar in behavior to the Get Score Report method, except that it supports multiple formats for SSRs. Formats are currently limited to PDF and HTML. Additional formats may be supported in the future by adding to the list of valid formats without requiring a change to the interface or a new endpoint.

* **URL**

/api/v2/students/{ssid}/score-reports?&type={type}&lang={lang}final={true}&year={year}&format={all}

* **Method:**

GET

* **Authentication:**

OAuth token is requested through California AWS using credentials requested through the TOMS user interface.

* + **URL Params**
  + **Required:**
  + ssid=[integer] Statewide Student Identifier assigned by CALPADS.
  + **Optional:**
  + type=[alphanumeric] the type of student score report. For valid type values, refer to table 1.
  + lang=[alphanumeric] language code of SSR; if not specified, all SSRs are returned.
  + year=[integer] administration year in YYYY format. If left blank, return all available SSRs across multiple administrations.
  + format=[string] Current acceptable values include PDF and HTML, and ALL (default).
* **Data Params**

None

* **Success Response:**
  + - **Code:** 200  **Content:** [

{

"type": "CAASPP",

"lang": "EN",

"year": 2024,

“format”: “PDF”,

“content area”: “ELA,MATH”,

"grade":"04",

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

}

,

{

"type": "CAASPP",

"lang": "EN",

"year": 2024,

“format”: “HTML”,

“content area”: “ELA”,

"grade":"04",

"url": "https://aws..../randomtoken1.html"

}

,

{

"type": "CAASPP",

"lang": "EN",

"year": 2024,

“format”: “HTML”,

“content area”: “MATH”,

"grade":"04",

"url": "https://aws..../randomtoken2.html"

}

]

* **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 Call:**

$.ajax({

url: "/api/v2/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

Table 1. Type Parameter Values

| **Report Description** | **Type** | **API Version** | **Comment** |
| --- | --- | --- | --- |
| CAASPP for ELA, mathematics, and science SSR (Smarter Balanced and California Alternate Assessments) | CAASPP | v1, v2 | Applicable for all years |
| Lexile/Quantile SSR | LEXQUAN | v1,v2 | Applicable until 2022–23 |
| California Science Test SSR | CAST,CST | v1,v2 | Applicable from 2018–19 onward |
| California Alternate Assessment for Science SSR | CAAS | v1,v2 | Applicable from 2019–20 onward |
| California Spanish Assessment SSR | CSA | v1, v2 | Applicable from 2018–19 onward |
| Standards-based Tests in Spanish (STS) SSR | STS (2018 only) | v1, v2 | Applicable for 2015–16, 2016–17, and 2017–18 |
| Initial ELPAC SSR | EIA | v1,v2 | Applicable from 2021–22 |
| Summative ELPAC SSR | ESA | v1,v2 | Applicable from 2017–18 onward |
| Initial Alternate ELPAC SSR | EIALT | v1, v2 | May be applicable from 2022–23 |
| Summative Alternate ELPAC SSR | ESALT | v1, v2 | Applicable from 2021–22 |

Table 2. Lang Parameter Values

| **Report Language Description** | **Lang** | **API Version** | **Comment** |
| --- | --- | --- | --- |
| English | EN | v1, v2 | Applicable for all years |
| Spanish | ES | v1, v2 | Applicable for all years |
| Vietnamese | VI | v1, v2 | Applicable from 2018–‍19 onward |
| Chinese (Traditional) | ZH | v1, v2 | Applicable from 2018–‍19 onward |
| Filipino | FL | v1, v2 | Applicable from 2018–‍19 onward |
| Korean | KR | v1, v2 | Applicable from 2022–‍23 onward |
| Arabic | AR | v1, v2 | Applicable from 2023–‍24 onward |

Table 3. Format Parameter Values

| **Format Description** | **Format** | **API Version** | **Comment** |
| --- | --- | --- | --- |
| HTML—Device-adaptive HTML | HTML, html | v2 | Applicable from 2023–‍24 onward |
| PDF | PDF, pdf | v2 | Applicable from 2023–‍24 onward |
| All formats | ALL, all | v2 | Applicable from 2023–‍24 onward |

Table 4. Content Area Parameter Values

| **Content Area Description** | **Content Area** | **API Version** | **Comment** |
| --- | --- | --- | --- |
| English language arts/literacy | ELA | v2 | Applicable from 2023–‍24 onward |
| Mathematics | MA | v2 | Applicable from 2023–‍24 onward |
| Science | SC | v2 | Applicable from 2023–‍24 onward |
| Reading/language arts | RLA | v2 | Applicable from 2023–‍24 onward |
| English language proficiency | EP | v2 | Applicable from 2023–‍24 onward |

Table 5 Final Parameter Values

| **Final Description** | **Final** | **API Version** | **Comment** |
| --- | --- | --- | --- |
| True—final report. | true | v1, v2 | Applicable for all years |
| False—not final report. | false | v1, v2 | Applicable for all years |