Scoreline.com API

Imagine you work with Scoreline.com, an online service aiming to be the premier provider of rich statistics for the sporting world. Scoreline have a vision to record and report statistics for every event on the sporting calendar. They’ve built a following of sporting clubs which use Scoreline’s apps to track key statistics and results for their respective competitions.

It’s time for Scoreline to expand. They’re building a public API which will be used by Scoreline apps and other third parties to submit and retrieve results and statistics for a variety of different sports.

Please outline a design for a public API that supports at least the following operations:

* ●  Submit results data for a variety of different sports.
* ●  Retrieve results data for the different sports.

Consider the following:

* ●  The results data for different sports varies a lot (compare team sports and individual

sports, for example). We’d like to see how your design caters to these differences.

* ●  It’s useful to retrieve a summary or list of results according to a set of filters. We’d like to

see how your API supports search parameters and/or other ways to retrieve results.

* ●  You may design the API as RESTful endpoints, JSON or XML web services, SDK class interfaces, UML interfaces or any other suitable approach. Include samples of the input

and output data.

We’re interested in the choices you make about functionality and data. Please document any important assumptions you make along the way. Pick sports that you know well, be creative and surprise us.

To be truly successful an API must be treated the same as any software product and it must support not only business strategies but primarily focus on the customer-developer experience whilst ensuring a suitable revenue stream.  
To satisfy developers the API must be intuitive, fast and reliable with valuable and trustworthy data. Part os the DX (developer experience) is based on the 3:30:3 rule, which breaks down to these three simple rules.

1. The API purpose should be understood within 3 seconds.

2. The endpoint should be identifiable within 30 seconds.

3. The developer should be able to create and account and make a call within 3 minutes.

Other important DX considerations include, but not limited to, a sandbox environment for testing, and a developer portal. The portal should show explicitly all API methods, parameters and responses, as well input and output formats should be articulated alongside authorisation requirements, such as an API Key and how to receive it and lastly terms agreement.

In addition we should be ensuring that there is provision for troubleshooting support via a forum, status page and if possible a console for technical support.

Naturally including social media support, email, blog and a newsletter option would add to the overall experience.  
  
However, despite some significant requirements we will be soley focused on the various methods available.

When designing the API a great deal of research was undertaken to fully understand the critical data needs and wants of the potential end-users, as such a certain amount of familiarity was presumed to pre exist, where the familiarity did not exist it was modelled from other similar services.

Most responses will be available in XML and JSON, we will provide examples of some sports in both XML and JSON.

End users will need to register for an API key and details such as Application name and function and contact details will be required. For public access there are usage limits preset according to the data being used, alternatively there are paid tiers for heavy use and for when real-time data requirements become important. A payment schedule if available upon registration.

All access is via SSL and where it is detected that access has originated from non-SSL there will be a hard error provided, thus ensuring encrypted communications.

If a developer is to use the sandbox environment then each sport will be selectable from a droplist from which a list of methods will be exposed. Each method will have the parameters, values, data type and a description, allowing for a quick test and an understanding of what is required if making the API call via HTTP.

As an example we will use the following sports and represent the Request URI, Request Headers, Response Status Code and naturally the response data ( JOSN or XML). In saying this JSON will be pushed as the optimum output.

Ascertaining what resources to enable I took the widely used approach of stating the vaious resources as NOUNS, and as such there are a lot of resources covered off which is beyond the scope of this particular introduction document.

Examples of resources used butnot covered in this document include but not limited to events, tickets, users, groups etc.

All resources support versions to enable backward compatibility and reducing the risk that changes will impact end users.

Not all resources fully support CRUD and the reason is so that we protect certain implementation details and can ensure that valuable data has integrity through governance.

Filtering is supported through query params.  
  
Sorting is provided at certain resources where it makes sense to do so.

Filed Limiting is supported via query params applied with a value of a csv string of required output fields, thus allowing end users to optimise their bandwidth usage.

In addition we will support common resource aliases.

HATEOAS is not currently supported

Example resources are specifically selected sports:

Rugby League

Nascar Racing

1. Rugby League  
Methods:

Season Timetable

Statistics by Match  
Ladder Standings

Teams Listing

Season Timetable

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Method | Name | Endpoint | Description | Rate Limits |
| GET | Season Timetable | Ver3/:year/season:format | Obtain timetable for season given the year and response data type | 3000 p/d |
| Parameters | Values | Data Type | Description | |
| :year | 2016 | num | Season year | |
| :format | json/xml | String | Output format | |
| Request Headers | | | | |
| X-Originating-Ip: 101.176.192.70 | | | | |
| Request URI | | | | |
| http://api.scoreline.com.au/ver3/rugby/2016/schedule.json?api\_key=nde7czs79qkhyvrx8bd8j48n | | | | |
| Response Status | | | | |
| 200 OK | | | | |
| Response Headers | | | | |
| Accept-Ranges: bytes | | | | |
| Cache-Control: public, must-revalidate, max-age=2 | | | | |
| Content-Type: application/json | | | | |
| Date: Sun, 17 Jul 2016 04:16:46 GMT | | | | |
| Etag: "7b98b5d55a39491c52eff40ed67e31e9" | | | | |
| Last-Modified: Fri, 15 Apr 2016 00:27:25 GMT | | | | |
| X-Rate-Limit-Limit: 3000 | | | | |
| X-Rate-Limit-Remaining: 2798 | | | | |
| Response Body | | | | |
| {  "id": "627d64e0-74ee-43d4-8710-203ba3026170",  "number": 8,  "games": [{  "id": "f0efe768-4125-4756-ad86-4214512432e1",  "scheduled": "2016-10-28T00:25:00+00:00",  "home": "eels",  "away": "sharks",  "status": "scheduled",  "venue": {  "id": "5295c1b7-c85c-49cb-9569-1707c65324e5",  "name": "ANZ Stadium",  "city": "Homebush",  "state": "NSW",  "capacity": 83500,  "surface": "grass",  "type": "outdoor",  "zip": "2140",  "address": "Edwin Flack Ave, Sydney Olympic Park NSW 2127",  "website": "www.anzstadium.com.au"  },  "broadcast": {  "network": "NINE",  }  }],  "bye\_week": ["storm", "broncos"]  } | | | | |

Statistics by Match

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Method | Name | Endpoint | Description | Rate Limits |
| GET | Season Timetable | Ver3/:year/season:format | Obtain timetable for season given the year and response data type | 3000 p/d |
| Parameters | Values | Data Type | Description | |
| :year | 2016 | num | Season year | |
| :format | json/xml | String | Output format | |
| Request Headers | | | | |
| X-Originating-Ip: 101.176.192.70 | | | | |
| Request URI | | | | |
| http://api.scoreline.com.au/ver3/rugby/2016/schedule.json?api\_key=nde7czs79qkhyvrx8bd8j48n | | | | |
| Response Status | | | | |
| 200 OK | | | | |
| Response Headers | | | | |
| Accept-Ranges: bytes | | | | |
| Cache-Control: public, must-revalidate, max-age=2 | | | | |
| Content-Type: application/json | | | | |
| Date: Sun, 17 Jul 2016 04:16:46 GMT | | | | |
| Etag: "7b98b5d55a39491c52eff40ed67e31e9" | | | | |
| Last-Modified: Fri, 15 Apr 2016 00:27:25 GMT | | | | |
| Server: nginx | | | | |
| Content-Length: 7158 | | | | |
| X-Rate-Limit-Limit: 3000 | | | | |
| X-Rate-Limit-Remaining: 2798 | | | | |
| X-Rate-Limit-Reset: 16545 | | | | |
| Response Body | | | | |
| {  "id": "627d64e0-74ee-43d4-8710-203ba3026170",  "number": 8,  "games": [{  "id": "f0efe768-4125-4756-ad86-4214512432e1",  "scheduled": "2016-10-28T00:25:00+00:00",  "home": "eels",  "away": "sharks",  "status": "scheduled",  "venue": {  "id": "5295c1b7-c85c-49cb-9569-1707c65324e5",  "country": "AUST",  "name": "ANZ Stadium",  "city": "Homebush",  "state": "NSW",  "capacity": 83500,  "surface": "grass",  "field\_size": "170m x 128m",  "field\_shape": "oval",  "type": "outdoor",  "zip": "2140",  "address": "Edwin Flack Ave, Sydney Olympic Park NSW 2127",  "website": "www.anzstadium.com.au"  },  "broadcast": {  "network": "NINE",  }  }],  "bye\_week": ["storm", "broncos"]  } | | | | |

Ladder Standings

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Method | Name | Endpoint | Description | Rate Limits |
| GET | Season Timetable | Ver3/:year/season:format | Obtain timetable for season given the year and response data type | 3000 p/d |
| Parameters | Values | Data Type | Description | |
| :year | 2016 | num | Season year | |
| :format | json/xml | String | Output format | |
| Request Headers | | | | |
| X-Originating-Ip: 101.176.192.70 | | | | |
| Request URI | | | | |
| http://api.scoreline.com.au/ver3/rugby/2016/schedule.json?api\_key=nde7czs79qkhyvrx8bd8j48n | | | | |
| Response Status | | | | |
| 200 OK | | | | |
| Response Headers | | | | |
| Accept-Ranges: bytes | | | | |
| Cache-Control: public, must-revalidate, max-age=2 | | | | |
| Content-Type: application/json | | | | |
| Date: Sun, 17 Jul 2016 04:16:46 GMT | | | | |
| Etag: "7b98b5d55a39491c52eff40ed67e31e9" | | | | |
| Last-Modified: Fri, 15 Apr 2016 00:27:25 GMT | | | | |
| Server: nginx | | | | |
| Content-Length: 7158 | | | | |
| X-Rate-Limit-Limit: 3000 | | | | |
| X-Rate-Limit-Remaining: 2798 | | | | |
| X-Rate-Limit-Reset: 16545 | | | | |
| Response Body | | | | |
| {  "id": "627d64e0-74ee-43d4-8710-203ba3026170",  "number": 8,  "games": [{  "id": "f0efe768-4125-4756-ad86-4214512432e1",  "scheduled": "2016-10-28T00:25:00+00:00",  "home": "eels",  "away": "sharks",  "status": "scheduled",  "venue": {  "id": "5295c1b7-c85c-49cb-9569-1707c65324e5",  "country": "AUST",  "name": "ANZ Stadium",  "city": "Homebush",  "state": "NSW",  "capacity": 83500,  "surface": "grass",  "field\_size": "170m x 128m",  "field\_shape": "oval",  "type": "outdoor",  "zip": "2140",  "address": "Edwin Flack Ave, Sydney Olympic Park NSW 2127",  "website": "www.anzstadium.com.au"  },  "broadcast": {  "network": "NINE",  }  }],  "bye\_week": ["storm", "broncos"]  } | | | | |

Teams Listing

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Method | Name | Endpoint | Description | Rate Limits |
| GET | Season Timetable | Ver3/:year/season:format | Obtain timetable for season given the year and response data type | 3000 p/d |
| Parameters | Values | Data Type | Description | |
| :year | 2016 | num | Season year | |
| :format | json/xml | String | Output format | |
| Request Headers | | | | |
| X-Originating-Ip: 101.176.192.70 | | | | |
| Request URI | | | | |
| http://api.scoreline.com.au/ver3/rugby/2016/schedule.json?api\_key=nde7czs79qkhyvrx8bd8j48n | | | | |
| Response Status | | | | |
| 200 OK | | | | |
| Response Headers | | | | |
| Accept-Ranges: bytes | | | | |
| Cache-Control: public, must-revalidate, max-age=2 | | | | |
| Content-Type: application/json | | | | |
| Date: Sun, 17 Jul 2016 04:16:46 GMT | | | | |
| Etag: "7b98b5d55a39491c52eff40ed67e31e9" | | | | |
| Last-Modified: Fri, 15 Apr 2016 00:27:25 GMT | | | | |
| Server: nginx | | | | |
| Content-Length: 7158 | | | | |
| X-Rate-Limit-Limit: 3000 | | | | |
| X-Rate-Limit-Remaining: 2798 | | | | |
| X-Rate-Limit-Reset: 16545 | | | | |
| Response Body | | | | |
| {  "id": "627d64e0-74ee-43d4-8710-203ba3026170",  "number": 8,  "games": [{  "id": "f0efe768-4125-4756-ad86-4214512432e1",  "scheduled": "2016-10-28T00:25:00+00:00",  "home": "eels",  "away": "sharks",  "status": "scheduled",  "venue": {  "id": "5295c1b7-c85c-49cb-9569-1707c65324e5",  "country": "AUST",  "name": "ANZ Stadium",  "city": "Homebush",  "state": "NSW",  "capacity": 83500,  "surface": "grass",  "field\_size": "170m x 128m",  "field\_shape": "oval",  "type": "outdoor",  "zip": "2140",  "address": "Edwin Flack Ave, Sydney Olympic Park NSW 2127",  "website": "www.anzstadium.com.au"  },  "broadcast": {  "network": "NINE",  }  }],  "bye\_week": ["storm", "broncos"]  } | | | | |

1. Nascar Racing  
Methods:

Season Timetable

Statistics by Match  
Ladder Standings

Teams Listing

Season Timetable

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Method | Name | Endpoint | Description | Rate Limits |
| GET | Season Timetable | Ver3/:year/season:format | Obtain timetable for season given the year and response data type | 3000 p/d |
| Parameters | Values | Data Type | Description | |
| :year | 2016 | num | Season year | |
| :format | json/xml | String | Output format | |
| Request Headers | | | | |
| X-Originating-Ip: 101.176.192.70 | | | | |
| Request URI | | | | |
| http://api.scoreline.com.au/ver3/rugby/2016/schedule.json?api\_key=nde7czs79qkhyvrx8bd8j48n | | | | |
| Response Status | | | | |
| 200 OK | | | | |
| Response Headers | | | | |
| Accept-Ranges: bytes | | | | |
| Cache-Control: public, must-revalidate, max-age=2 | | | | |
| Content-Type: application/json | | | | |
| Date: Sun, 17 Jul 2016 04:16:46 GMT | | | | |
| Etag: "7b98b5d55a39491c52eff40ed67e31e9" | | | | |
| Last-Modified: Fri, 15 Apr 2016 00:27:25 GMT | | | | |
| X-Rate-Limit-Limit: 3000 | | | | |
| X-Rate-Limit-Remaining: 2798 | | | | |
| Response Body | | | | |
| {  "id": "627d64e0-74ee-43d4-8710-203ba3026170",  "number": 8,  "games": [{  "id": "f0efe768-4125-4756-ad86-4214512432e1",  "scheduled": "2016-10-28T00:25:00+00:00",  "home": "eels",  "away": "sharks",  "status": "scheduled",  "venue": {  "id": "5295c1b7-c85c-49cb-9569-1707c65324e5",  "name": "ANZ Stadium",  "city": "Homebush",  "state": "NSW",  "capacity": 83500,  "surface": "grass",  "type": "outdoor",  "zip": "2140",  "address": "Edwin Flack Ave, Sydney Olympic Park NSW 2127",  "website": "www.anzstadium.com.au"  },  "broadcast": {  "network": "NINE",  }  }],  "bye\_week": ["storm", "broncos"]  } | | | | |

Statistics by Match

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Method | Name | Endpoint | Description | Rate Limits |
| GET | Season Timetable | Ver3/:year/season:format | Obtain timetable for season given the year and response data type | 3000 p/d |
| Parameters | Values | Data Type | Description | |
| :year | 2016 | num | Season year | |
| :format | json/xml | String | Output format | |
| Request Headers | | | | |
| X-Originating-Ip: 101.176.192.70 | | | | |
| Request URI | | | | |
| http://api.scoreline.com.au/ver3/rugby/2016/schedule.json?api\_key=nde7czs79qkhyvrx8bd8j48n | | | | |
| Response Status | | | | |
| 200 OK | | | | |
| Response Headers | | | | |
| Accept-Ranges: bytes | | | | |
| Cache-Control: public, must-revalidate, max-age=2 | | | | |
| Content-Type: application/json | | | | |
| Date: Sun, 17 Jul 2016 04:16:46 GMT | | | | |
| Etag: "7b98b5d55a39491c52eff40ed67e31e9" | | | | |
| Last-Modified: Fri, 15 Apr 2016 00:27:25 GMT | | | | |
| Server: nginx | | | | |
| Content-Length: 7158 | | | | |
| X-Rate-Limit-Limit: 3000 | | | | |
| X-Rate-Limit-Remaining: 2798 | | | | |
| X-Rate-Limit-Reset: 16545 | | | | |
| Response Body | | | | |
| {  "id": "627d64e0-74ee-43d4-8710-203ba3026170",  "number": 8,  "games": [{  "id": "f0efe768-4125-4756-ad86-4214512432e1",  "scheduled": "2016-10-28T00:25:00+00:00",  "home": "eels",  "away": "sharks",  "status": "scheduled",  "venue": {  "id": "5295c1b7-c85c-49cb-9569-1707c65324e5",  "country": "AUST",  "name": "ANZ Stadium",  "city": "Homebush",  "state": "NSW",  "capacity": 83500,  "surface": "grass",  "field\_size": "170m x 128m",  "field\_shape": "oval",  "type": "outdoor",  "zip": "2140",  "address": "Edwin Flack Ave, Sydney Olympic Park NSW 2127",  "website": "www.anzstadium.com.au"  },  "broadcast": {  "network": "NINE",  }  }],  "bye\_week": ["storm", "broncos"]  } | | | | |