

JSON Scoreboard 2016

From ICPC-Contest Control Standard

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Introduction

This page describes an API for providing a scoreboard of an (ICPC) contest. It is based on the more encompassing [Draft CCS REST interface](#). The API described on this page is planned for use in the ICPC 2016 World Finals.

General design principles

The interface is implemented as a HTTP REST interface that outputs information in [JSON](#) format. The specific base URL will be dependent on the server (main CCS or CDS) providing the service and will be indicated as `baseurl`. None of the calls in the current specification take arguments.

Access to (parts of) the API is optionally controlled by HTTP authentication. This provides a standard and flexible method, while the user one authenticates as can be used for fine-grained access control to specific bits.

Interface specification

GET baseurl/problems

Lists problems in the current contest.

Returns a JSON array, with each element an object describing a problem, with the following elements:

Name	Type	Required?	Description
id	integer	yes	numeric identifier, determines order of problems
label	string	yes	label of the problem in the contest, typically a single capitalized letter; for WF2016: label for id 1='A', label for id 2='B', etc.
short_name	string	yes	brief name of the problem (restrict to, say, 10 characters?)
name	string	yes	name of the problem

rgb	string	no	hexadecimal RGB value of problem color as specified in HTML hexadecimal colors , e.g. '#AC00FF' or '#fff'
color	string	no	human readable color description associated to the RGB value

Example

Request:

```
GET http://example.com/problems
```

Returned data:

```
[{"id":1,"label":"A","short_name":"asteroids","name":"Asteroid
Rangers","rgb":"#00f","color":"blue"},
 {"id":2,"label":"B","short_name":"bottles","name":"Curvy Little
Bottles","rgb":"#808080","color":"gray"},
  ...
]
```

GET baseurl/teams

Lists all teams.

Returns a JSON array, with each element an object describing a team, with the following elements:

Name	Type	Required?	Description
id	integer	yes for WF2015	team identifier; seat number in the World Finals
name	string	yes	name of the team
affiliation	string	yes for WF	name of university or other entity that team is affiliated to (may be same as name at WFs)
nationality	string	yes for WF	ISO 3-letter code of the team's nationality
group	string	yes for WF	group this team is part of (in ICPC WFs these are the super-regions, such as Europe)

Example

Request:

```
GET http://example.com/teams
```

Returned data:

```
[{"id":42,"name":"Shanghai
Tigers","nationality":"CHN","affiliation":"Shanghai Jiao Tong
University","group":"Asia"},
 {"id":11,"name":"CMU1","nationality":"USA","affiliation":"Carnegie Mellon
University","group":"North America"},
  ...
]
```

Note that in the World Finals, the team name will be set to the university affiliation.

GET baseurl/scoreboard

Provides the scoreboard of the current contest.

Returns a JSON array where each element is an object that represents a row for one team. The array is sorted according to rank and alphabetical on team name within identically ranked teams. Each row object contains:

Name	Type	Required?	Description
rank	integer	yes	rank of this team, 1-based and duplicate in case of ties
team	integer	yes	identifier of the team as in teams API call .
score	object	yes	object (for possible extension to other scoring methods) containing integer elements "num_solved" and "total_time"
problems	array	yes	array of problems with scoring data sorted on problem id, see below for the specification of each element

Each problem element within the scoreboard consists of:

Name	Type	Required?	Description
label	string	yes	label of the problem as in problems API call .
num_judged	integer	yes	number of judged submissions (including possibly a final correct one)
num_pending	integer	yes	number of pending submissions (either queued or due to freeze)
solved	boolean	yes	whether the team solved this problem
time	integer	yes	present if solved, minutes into the contest when solved by team
first_to_solve	boolean	yes	present if solved, indicates whether this team was the first to solve this problem

Example

Request:

```
GET http://example.com/scoreboard
```

Returned data:

```
[{"rank":1,"team":42,"score":{"num_solved":3,"total_time":340},
  "problems":[
    {"label":"A","num_judged":3,"num_pending":1,"solved":false},
    {"label":"B","num_judged":1,"num_pending":0,"solved":true,"time":20,"first_to_solve":true},
    {"label":"C","num_judged":2,"num_pending":0,"solved":true,"time":55,"first_to_solve":false},
    {"label":"D","num_judged":0,"num_pending":0,"solved":false},
    {"label":"E","num_judged":3,"num_pending":0,"solved":true,"time":205,"first_to_solve":false}
  ]},
  ...
```

]

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