OneRoster
Enrolling your SIS in Moodle

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What is OneRoster?

- A standards specification created by IMS
- For sharing class rosters between Student Information Systems (SIS) and any other System
- Can also share related data, including:
  - Course content (Resources)
  - Gradebook
Why is it important?

- Standardised way to quickly and easily synchronise key data with many common SIS vendors
- Heavily used across the world in K-12
- Complements other IMS Specifications
- Will influence the next generation framework, *Edu-API*, aimed at HE
OneRoster Architecture
OneRoster Architecture

- Two possible implementation pathways:
  - CSV
  - REST API
- Six certification areas:

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OneRoster and Moodle

- Implemented as *Rostering Consumer*
- Via an *Enrolment* plugin
- *Certified* as a *REST Rostering Consumer* against OneRoster 1.1
- Also supports OneRoster 1.0 (deprecated)
- Supports OAuth 1.0a and OAuth2.0
- Scheduled task to perform sync
Rostering

Consumer

- What is synchronised?
  - All users in the organisation
  - List of courses/classes
  - Student, and Teacher enrollments
    - Including start + end dates
  - Parent/Guardian relationships
Connections settings

**One Roster version**

*enrol_oneroster | oneroster_version*

Version 1.1 Default: Version 1.1

The version of the One Roster specification that the remote server meets.

**OAuth version**

*enrol_oneroster | oauth_version*

OAuth 2.0 Default: OAuth 2.0

The version of the OAuth authentication system that the remote server supports.

**Token URL**

*enrol_oneroster | token_url*

https://demo.aeries.net/aeries/token Default: Empty

The OAuth URL used to fetch an authentication token.

**One Roster Root URL**

*enrol_oneroster | root_url*

https://demo.aeries.net/aeries Default: Empty

The Root URL of the One Roster server.

**Authentication Client ID**

*enrol_oneroster | clientid*

1279e5c6b747b6d62b7c76db3a205 Default: Empty

The client id key used for authentication.

**Authentication Secret**

*enrol_oneroster | secret*

The secret key used for authentication.
Role mapping

You can choose which role to use when enrolling different types of users. If you do not choose a mapping, that user will not be enrolled in the course at all.

**One Roster Student**
- **enrol_oneroster**: Student
- **role_mapping_student**: Default: Student
  - A student at an organization.

**One Roster Teacher**
- **enrol_oneroster**: Teacher
- **role_mapping_teacher**: Default: Teacher
  - A Teacher at organization.

**One Roster Aide**
- **enrol_oneroster**: Student Aide
- **role_mapping_aide**: Default: Not mapped
  - Someone who provides appropriate aide to the user but NOT also one of the other roles.

**Proctor**
- **enrol_oneroster**: Manager
- **role_mapping_proctor**: Default: Not mapped
  - Exam proctor.

**One Roster Parent**
- **enrol_oneroster**: Parent
- **role_mapping_parent**: Default: Not mapped
  - Mother or father of the user.

**One Roster Guardian**
- **enrol_oneroster**: Parent
- **role_mapping.guardian**: Default: Not mapped
  - Guardian of the user and NOT the Mother or Father. May also be a Relative.

**One Roster Relative**
- **enrol_oneroster**: Parent
- **role_mapping_relative**: Default: Not mapped
  - A relative of the user and NOT the mother or Father. May also be a Guardian.
Data synchronisation

Schools to sync
enrol_oneroster | datasync_schools

- Eagle Unified School District
- Transfer School
- Holding Tank School TK
- Flex Soaring Eagle High School no ATT
- Flex Soaring Eagle High School with ATT
- X Eagle District School
- X NPS School
- X Private School
- **Golden Eagle Elementary School**
- Tawny Eagle YR Elementary School
- **Mark Elementary School**

Default: None

One Roster implementation often cover a number of Organisations, Districts, and Schools. You can choose which schools you choose to synchronise.
Execute scheduled task: Full sync of One Roster (enrol_on roster\task\full_sync)
... started 00:42:04. Current memory use 14.7MB.
Processing 14 schools
 Updating the user roster
         Updating existing user 0_pat_1 with id 18803 (PAT_1) 1599622626 < 1607381009
         Skipping update of existing user 0_pat_10 with id 18804 (PAT_10)
         Skipping update of existing user 0_pat_100 with id 18805 (PAT_100)
         Skipping update of existing user 0_pat_101 with id 18806 (PAT_101)
         Skipping update of existing user 0_pat_102 with id 18807 (PAT_102)
         Skipping update of existing user 0_pat_103 with id 18808 (PAT_103)
         Skipping update of existing user 0_pat_104 with id 18809 (PAT_104)
         Skipping update of existing user 0_pat_105 with id 18810 (PAT_105)
         Skipping update of existing user 0_pat_106 with id 18811 (PAT_106)
         Skipping update of existing user 0_pat_107 with id 18812 (PAT_107)
         Skipping update of existing user 0_pat_108 with id 18813 (PAT_108)
         Skipping update of existing user 0_pat_109 with id 18814 (PAT_109)
         Skipping update of existing user 0_pat_11 with id 18815 (PAT_11)
         Skipping update of existing user 0_pat_12 with id 18816 (PAT_12)
         Skipping update of existing user 0_pat_13 with id 18817 (PAT_13)
         Skipping update of existing user 0_pat_14 with id 18818 (PAT_14)
         Skipping update of existing user 0_pat_15 with id 18819 (PAT_15)
         Skipping update of existing user 0_pat_16 with id 18820 (PAT_16)
         Skipping update of existing user 0_pat_17 with id 18821 (PAT_17)
         Skipping update of existing user 0_pat_18 with id 18822 (PAT_18)
         Skipping update of existing user 0_pat_19 with id 18823 (PAT_19)
         Skipping update of existing user 0_pat_20 with id 18824 (PAT_20)
Enrolment details

Full name: Jaeden Fernandez
Course: Pre-Algebra
Enrolment method: One Roster
Status: Active
Enrolment starts: Monday, 6 July 2020, 1:00 am
Enrolment ends: Saturday, 31 July 2021, 1:00 am
Enrolment created: Friday, 4 September 2020, 2:37 am
Current Status

- Creates all users for organisations
  - Manual user authentication
- Synchronises all Rostering information
  - Courses
  - Enrolments
  - Parent/Child relationships
Current Status

- Released in Plugins Database
- Available as plugin on GitHub
- Certified with IMS Global
  - Self-certifying
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<th>Current Status</th>
<th>View it on the plugins database</th>
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<td></td>
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View it on GitHub

https://github.com/moodlehq/moodle-enrol_oneroster
= One Roster Version 1.1 Conformance Test Suite test runner

| Token server: | https://demo.aeries.net/aeries/token |
| Client Id:    | 1279e5c6b747b6d62b7c76db3a205d40eb7458e678a90493d537d5af6b953550 |
| Client Secret:| 68019dbf8d8ba82980dd148eccc3977ac0d7f1f040d444225874c88eb80b9c1a |

Authentication

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OAuth2: Send request with valid access token  Passed
  Token: 50ac4da6a85d21b72365fd5965011dd2
  Expiry: 1607420139
  Scope: https://purl.imsglobal.org/spec/or/v1p1/scope/roster.readonly

OAuth Features

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OAuth: Sign request with URL Parameters with space(s) in the value of a parameter  Passed

Rostering endpoints

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<th>Users</th>
<th>Passed</th>
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<td>User by id</td>
<td>Passed</td>
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<tr>
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<tr>
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<td>Passed</td>
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Current Limitations

- Only supports manual authentication
  - via password supplied by SIS
- No course hierarchy (categories)
  - Data not available in OneRoster spec
- No user groups created in course
  - Data not available in OneRoster spec
- No course rollover
  - No part of OneRoster spec
Future Plans

- Add to Moodle LMS Core
  - 3.11 or 4.0
- Add support for Gradebook
- Add support for alternative user auth
  - Needs real world feedback
- Support OneRoster 1.2
  - Not yet finalised
Current Status

Plugins database
https://moodle.org/plugins/enrol_oneroster

GitHub
https://github.com/moodlehq/moodle-enrol_oneroster