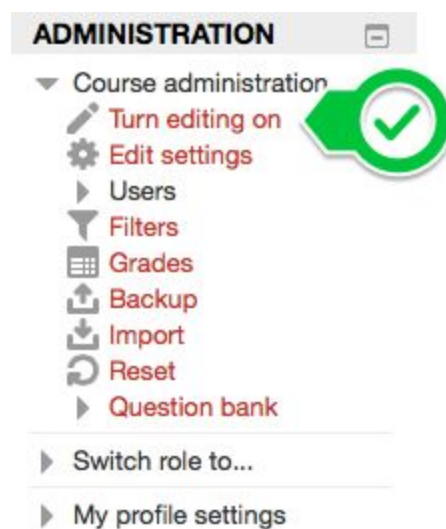


User Manual

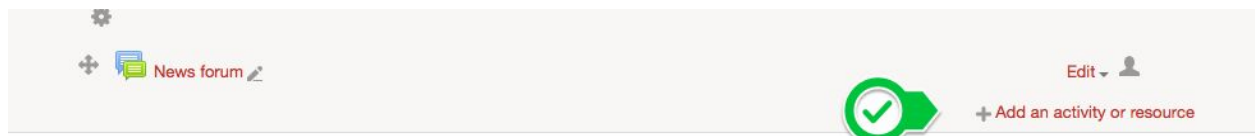
This document is intended as a user manual to show the flow and interaction between the Ruby on Rails app and the API where the tabu search solution is calculated.

Setup ISIS

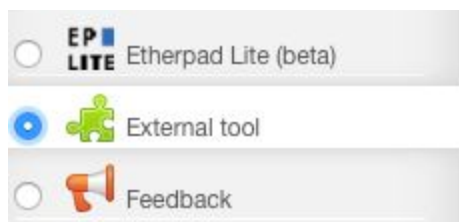
First we have to configure the ISIS course page to connect with the deployed solution. So enable editing mode on:



Once we are able to edit our courses content we need to add an activity so click on the add an activity or resource link.



This would take you to a modal popup where you need to select external tool.










To create an external tool activity, a tool provider which supports LTI (Learning Tools Interoperability) is required. A teacher can create an external tool activity or make use of a tool configured by the site administrator.

Then a form will appear where you need to enter the host where the RoR app is deployed plus the **/users** path. This is the entry point of the application which will submit a POST request and all the relevant information of the current user. Set the rest of the values as seen on the example:

Updating External tool in Live DEMO

▼ General

Activity name*	<input type="text" value="DOCKER -> runs on VPS"/>
External tool type 	<input type="text" value="Automatic, based on launch URL"/>   
Launch URL 	<input type="text" value="http://losp-3.snet.tu-berlin.de/users"/>  Tool configuration not found for this URL.
Launch container 	<input type="text" value="New window"/>

[Show more...](#)

Once all of this is setup you will get a link from the ISIS app to the RoR app. This will be used in two different flows the course creation by the teacher and the student registration. First we will cover the first scenario. Once a teacher clicks on the link he will be taken to the course's landing page. In here he will have the option to edit the course, start the distribution and to invalidate any registered student.

Edit Course

Here you are able to fill in the basic information regarding the course and add the configuration options that would be fed to the API. We suggest leaving the Advance options as defaults by the app unless you have a deep understanding of the Tabu search implementation.

Test course IoSP SS 2015

Changes you make on this page will **not** affect your ISIS course.

Name	Year	Semester
<input type="text" value="Test course IoSP SS 2015"/>	<input type="text" value="2015"/>	<input type="text" value="Sommer"/>

Description

Skills

Please specify what options the students have in choosing groups:

- ☒ **Enable topic preferences:** enable choosing specific groups.
- ☒ **Preferred partners:** enabling this allows students to specify their preferred team members.
- ☒ **Maximize diversity:** attempt to create very diverse groups. When disabled, groups will be as evenly skilled as possible.
- ☒ **Compulsory attendance:** adds support for a group of students that must be assigned to a group (i.e. not the waitinglist). Mandatory

studies can be specified in the box below.

Advanced options

These settings change the internal behaviour of the algorithm. Please see the documentation for details.

Iterations 105

Most of the options are self explanatory and you are allowed to add as many mandatory study fields and groups as you require. The only thing worth mentioning is the must keep option in the group form, this will indicate that this group cannot be dropped if the number of students does not fit the minimum students required.

Mandatory Study Fields

Please enter the names of all mandatory studies (students from these studies are guaranteed to have a spot). To add more than one mandatory study, click the "Add study field" button.

Students have to select their study from the list of mandatory studies, or select "Other" if their study is not a mandatory one.

X

ADD STUDY FIELD

Groups

Group 1

1

5

Must-keep ☒

Group description

Ruby

X

Once you have configured the course students would be able to enroll. If any student drops out or should not be fed to the API you have the ability to make his registration inactive in the course landing page by clicking the inactive button next to him.

Registered students:

Hans-Helge Burger - person1@example.com

INACTIVE

Franck Russel Kuipou - person2@example.com

INACTIVE

If all criteria are met we can proceed to run the distribution from this same page, you can still edit the advanced options or groups parameters after you have run the distribution to change the result of the distribution if the result is not satisfying. Each time the run distribution action is performed a new job is created and will display the resulting distribution. In the case you want to edit the selected result a link under the job id is provided, here you are able to swap students into different groups, also move them from a group to the waiting list. If any spots are left blank in the groups the API would be fed with the current json and will figure out the strongest candidate for those blank spots.

Student Registration

Once the student clicks on the link on ISIS it will be redirected to a registration form, it is very straightforward so we will only mention the options available. Here he will be able to rate his ability from 1 to 10 in each of the skills, if applicable choose one of the study fields provided, assign a weight to each topic, choose from a list of pre registered students, finally weigh the importance of preferred topics vs preferred partners.

Skills

Please rank yourself on the following topics, 1 having no experience and 10 being very experienced

Skills/rankings	1	2	3	4	5	6	7	8	9	10
Ruby	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
IT Project & Program Management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scrum	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Your study

Study field

Other ▾

Preferred topics

Please select the order of preference of the topics.

Group 1: 5



Preferred partners

If there is anyone you would like to work with, you can select them from this list to increase your chances of sharing a group.

Please select your preferred partners

Anyone missing? This list only shows students enrolled in this course. If your friends are missing from the list, you can check back later and add them.



Preferred topics 58 %

Preferred partners 42 %

