Regional Championship 2025

Web Technologies

ICT Berufsbildung
Formation professionnelle
Formazione professionale

General Description

Introduction

This document describes the ICT Regional Competition in the category Web Technologies.

The competition is divided into three to five completely independent tasks, but may share a common theme. Competitors will have **three hours** to complete as many tasks as possible. The tasks are designed to test the skills of the competitors in the field of web technologies.

Bring Your Own Device

Competitors will use their own devices for the competition and Internet usage is not restricted.

We acknowledge that AI tools are now commonly used in the industry, but the competition is designed to test the skills of the competitors as individuals without the use of such tools. Therefore, other humans or generative AI (such as OpenAI ChatGPT, Google Gemini, GitHub Copilot, Jetbrains AI Assistant, Claude, etc.) are **strictly prohibited** to be involved in any way in the creation of the competitor's submission. We are looking in to ways to allow the use of these tools in future competitions, but not in the regional championship 2025 of web technologies.

A competition environment management tool with instructions based on Docker will be provided to competitors to download, decrypt, solve and submit the tasks. A test setup will be provided ahead of the competition, allowing all competitors to get familiar and verify the setup. Competitors can check it out at Competition Manager . The tool is subject to change, and competitors are encouraged to check the repository for updates before the competition.

> **Pro Tip:** Competitors that made themselves familiar with the competition environment and prepared their device will have a good chance to solve the tasks of the new regional championship.

The following **software is required** and has to be installed on the competitor's device:

- Docker with the Docker compose plugin
- Node.js LTS with NPM
- Newest version of Google Chrome
- Editor/IDE of choice
- PHP with Composer if PHP is used by the competitor (optional)

Rules

To perform the tasks, the following rules apply:

- The use of any communication is prohibited (mobile, tablet, chats, etc.).
- No use of any generative AI (GitHub Copilot, ChatGPT, etc.).
- No external storage can be used (USB, memory card, etc.).
- No audio devices (headset, headphones, etc.) must be used.

> For details about fairness etc., see the General Information for ICT championships.

Rating

For each task, a marking scheme is provided that competitors can check to see if they have done all the required work. At the competition, competitors shall check the marking scheme and set their own priorities — to avoid losing too much time working on less weighted tasks.

> **Automated tests and rating**
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> For all tasks, competitors can execute automated tests (e.g. unit tests, integration, or end-to-end tests). Instructions will be given in the tasks on how to execute them. These tests are then also used to rate competitor's work. If a test runs successfully on their machine, they will get the corresponding points, provided that they did not manipulate the tests in any way.

One More Thing

> It is advised that competitors carefully and fully read through the assignment and study the provided content for the competition, before starting to work on any of the tasks.

Competitors will probably not have enough time to complete all the formal and technical criteria of the tasks. In this case, competitors have to decide on the task priority in order to gain as many points as possible with their skills.

Example Competition Tasks

On www.ict-berufsbildung.ch competitors will find the tasks from a past regional competition to get an impression of how the competition could look like. The topics are subject to change.

> **Pro Tip:** Competitors that solved the tasks from the past competitions will have a good chance to solve the tasks of the new regional championship. The tasks are similar in complexity and scope.

Tested Skills

The following skills can be tested during the competition:

General

Very good knowledge in programming methods, paradigms, and code understanding.

- Object-oriented programming.
- Procedural programming.
- Usage of different data formats (CSV, XML, JSON).
- Reading documentations.
- Understanding existing code.

Frontend Development

Very good knowledge in writing modern JavaScript.

- Object-oriented JavaScript programming.
- Scope & closures.

Backend Development

Very good knowledge in **one** of the available backend languages / runtimes:

- PHP
- Node.js

> Competitors are free to choose PHP or Node.js to use for backend development. All backend tasks can be equally solved in both.

SQL

Basic knowledge in writing SQL queries.

HTML

Good knowledge in writing HTML.

- Basic HTML usage.
- Knowledge of HTML tags and attributes and their meaning.
- Usability and accessibility.

CSS

Good knowledge in writing stylesheets.

- Basic CSS usage.
- Understanding of selectors.
- Pseudo-classes.
- Usage of media queries.
- Inheritance.
- Animations.

Regex

Basic knowledge in writing regex expressions.

> ⓘ Since the tasks of the competition change annually, not all skills can be checked equally.