



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. Competitors will have **three hours** to complete as many tasks as possible and free to perform the required tasks with all the skills they have using the tools on their machine.

Bring Your Own Device

Competitors will use their own devices for the competition and Internet usage is not restricted. Any communication about the competition tasks, or the exchange of the tasks or solutions, as well as the usage of GitHub Copilot, ChatGPT, or any other generative AI is **strictly prohibited** and will result in disqualification of all involved parties from the current and future competitions.

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 around 2 weeks before the competition, allowing all competitors to get familiar and verify the setup.

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
- PHP with Composer if PHP is used by the competitor (optional)
- Newest version of Google Chrome
- Editor/IDE of choice

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

For all tasks, competitors can execute automated tests (e.g. unit tests 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 the regional competition 2023 to get an impression of how the competition could look like. The topics are subject to change.

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 JavaScript up to ECMAScript 2023.

- Object-oriented JavaScript programming.
- Scope & closures.
- Usage of a framework.

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 up to HTML5.

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


CSS

Good knowledge in writing stylesheets up to CSS3.

- 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.