# Introduction

Axe is a web-based assessment system in programming technologies.

Tech stack: asp.net core + JavaScript (and JavaScript frameworks) + relational database

# System purpose

System can be useful

* for applicants/candidates to test their knowledge in required technologies
* for interns to prepare for internal exams
* for employees to prepare for certification

# Data model and functionality

Assessment tasks (tests) are available for multiple technologies (C#, JavaScript, SQL). There can be multiple test in each technology (e.g. “C# language comprehensive test”, “C# 6.0 new features”, “C# 7.0 new features”).

## Test question types

* with a single answer
* with multiple answers
* with user input (single-line, multiline answer)
* with priority/execution order selection

## Test process

Questions may include images, code blocks ( /\* todo: implement code highlight \*/). When user is working on a test he/she can switch between questions (optionally: force consecutive execution). Tests can be performed with/without time limitations. System can generate tests with a random questions set from existing questions base.

Tests and questions are created by examiners. Examiners can monitor active (running) tests.

## Test results

Users test attempts are displayed in their profiles (complete list sorted by date/score, list with best attempts in each technology). Profiles also include exam dates and scores information.

# Points of interest

* registration/auth implementation
* functionality separated by roles
* extensive usage of client-side JavaScript (question editor, test execution, test monitor for examiner)
* web api with some statistics (e.g. list of user who passed certain exams, exam count for examiners )