**Performance optimization task**

The goal of the test task is to optimize **StackOverflowSurvey** application and make it fast. During optimization process, you should learn performance bottlenecks analysis, performance tuning techniques, memory usage investigation and database queries improvement.

Particularly the following results must be achieved

1. Upload **5 files** (from stack-overflow-developer-survey-2017.zip) with StackOverflow survey results for 2017 year should not take more than **2 minutes**.
2. Display results by clicking on “**Refresh**” button shout be within **2 seconds.**

During performance optimization process, you will use different tools for analysis. The **Performance optimization report** must be created in order to demonstrate your work process. Please find the template below.

Please note that the final performance results **must be measured by other training participants**. So collaborate and help each other.

**Performance optimization report**

1. Filled table with performance **optimization process** results

|  |  |  |
| --- | --- | --- |
| Iteration # | Upload (seconds) | Refresh (seconds) |
| 1 |  |  |
| …. |  |  |
| N |  |  |
| Reviewer 1 |  |  |
| Reviewer 2 |  |  |

Two other training participants **must fill the last two rows**. So when you are ready with performance improvements, then please ask other people from the training group to download your branch and measure the final performance results on their computers.

1. Screenshots of the application with **improved performance results** – one for upload and one for refresh page.
2. Screenshot of **Performance Monitor** usage for bottlenecks identification.
3. Screenshot of **Performance Profiler (VS, ANTS or dotTrace)** usage with problem identification.
4. Screenshot of **Memory Profiler (VS, ANTS or dotMemory)** usage with problem identification.
5. Screenshot of **SQL Profiler** usage with problem identification.
6. Screenshot of **Query Plan Analysis** usage.

**How to launch the test application**

**1.** Create a new **Branch (**your **name-surname)** in the repository <https://gitlab/sigma-internal-courses/performance-optimization> and clone it.

**2.** Open **StackOverflowSurvey.Web.sln** in the Visual Studio.

**3**. Press **F5** to build and start the application in the Debug mode. Make sure it is working. Please note that **NodeJS** must be installed on your computer.

**4.** Configure a new **Web Site** on your local **IIS** server.

**5.** Work with this **Web Site** during performance optimization.