

Software Architect - .NET Assignment_3

Preconditions

1. You should work on your local machine.
2. You may use Visual Studio 2010 to 2013.
3. You may use SQL Server 2008 to 2014 (Main or Express edition).

Requirements

Overall Objective

Create the architecture and design of a network based scheduler and monitoring system. Implement the system's services and applications.

Functional Specifications

The system allows network operations and admins to schedule commands to be executed on network machines.

- a. Create a web application that
 - i. lists clients that can be added, edited or removed
 - ii. lists client-commands that can be added, edited, removed, or manually triggered
 - iii. lists client-command-run-logs that can be displayed with all outputs and errors.
- b. Create a service that is responsible for
 - i. triggering scheduled execution of commands
 - ii. triggering manual execution of commands
 - iii. logging of all client command outputs and errors to the database
 - iv. logging of all client incidents/messages/errors received to the database
- c. Create a client that
 - i. executes commands pushed by the service as and when pushed
 - ii. captures command outputs and errors and uploads them to the service
 - iii. logs all incidents/messages/errors to the service

Technical Specifications

The following list of technical specifications should be adhered to:

- a. Create console applications or windows services for the service and client components.
- b. Create an ASP.NET web forms or MVC4+ web application.
- c. Use any version of Entity Framework.
- d. Use native ASP.NET controls or any open source controls library like Ajax Controls Toolkit for the web application.
- e. You should choose a mechanism to secure the applications and the services.
- f. Create a database with any required tables like
 - i. Client, ClientCommand, ClientCommandRun, ClientLog
- g. Apply input validations and constraints wherever necessary to create a stable application.
- h. Even if you are not able to complete all the tasks, try to achieve a working system.

Deliverables

Application Demo

Record the demonstration of the web application using [Wink](#) intermixed with the execution of service and client. Do not upload the video. Save it to your local machine.

Database script

Create manual steps and/or SQL script files to create the databases, their schema, stored procedures and any initial data you may use for testing.

Readme Document

Create a txt file with the following information

- a. Steps to install and configure any prerequisites for the development environment
- b. Steps to create and initialize the databases
- c. Steps to prepare the source code to build properly
- d. Any assumptions made and missing requirements that are not covered in the requirements
- e. Any feedback you wish to give about improving the assignment

Design Document

A doc file containing the following information and diagrams

- a. List of technologies and patterns used
- b. Explanation of the architecture/design implemented and the reasons of various choices
- c. Any diagrams including a component interaction, activity, sequence or class diagrams of the important components.

To be evaluated

1. The quality of the functional output and code
2. The architecture, design quality and completeness
3. Technologies applied
4. Extra validations and assumptions which are not described
5. Add missing requirements to the implementation, according to your experience

Delivery / What to submit

Please, read and follow this section carefully. Any delivery that does not follow this section will score much less or simply won't be evaluated.

Delivery for this assignment should consist of an archive named **<your_name> - Software Net Architect.zip** containing the following

- a. Source code/project including SQL scripts
- b. Wink recording, download version 2 from [Wink](#), render the video to swf format
- c. Readme.txt containing the instructions to configure and run the application, notes and feedback
- d. Design.doc with needed diagrams

Structure of the resulting zip file should be of the following format

<your_name> - Software Net Architect.zip
<your_name> - Software Net Architect.zip \Readme.txt
<your_name> - Software Net Architect.zip \Design.doc

<your_name> - Software Net Architect.zip \Wink\ <<< this folder should contain the wink recording
<your_name> - Software Net Architect.zip \Source\ <<< this folder should contain the complete source
code for the project(s)