

# .NET BACKUP SYSTEM

## Technology to use:

- .NET 7
- SQL Server
- EntityFramework – LINQ
- SignalR

## Keyword for the project:

- Agent = Program installed in the local server
- Cloud = API hosted in Azure

## Project description:

As a user I want to setup several database backups for my local servers installed in different locations. For that I need an agent to be installed on each local server and a Cloud API to setup the local servers and check the existing backups.

## Cloud Project

- .NET 7 API
- SignalR to create a HUB for the agents
- EntityFramework + Identity JWT for authentication
- User Controller
- Agent Controller + Method to check which agents are online
- Agent's backup configurations controller
- Agent's backup Controller

In this Project you need to setup an API with Authorization to control who has access to the resources.

## Via signalR you will:

- communicate to the agent which backup configuration has been setup
- check if the agent has connection or not

## In the DB you will:

- store the users
- store the agents that you have
- store the backup configuration for each agent
- store the backup history

## The backup configuration will allow:

- Setup Configuration name
- Setup database name to be used for backup
- Setup daily backup

- Setup bi-weekly backup
- Setup 1 month backup
- Clean tables from the database before doing the backup ( some times event tables are over 3GB and the backup without that table can be resized to 10MB)
- Option to send the backup to the Cloud and store it locally in the CLOUD
- Store last x backups locally in the Agent

The agent data to be stored in the Cloud:

- Agent name
- Agent connection key for SignalR ( can be a GUID to be setup in the agent )

The backup history to be stored in the cloud:

- Agent name + id
- Backup name
- Backup size
- Backup date
- Column showing if the backup is available to download or not ( for backups stored in the cloud)

### Agent Project

- .NET 7 Console App
- SignalR to join Cloud Hub
- EntityFramework + Linq
- Database to store historical backups
- Database or Json file to store backup configuration

In this project you need to run cron tasks “scheduled tasks” based on the backup configuration to create database backups following the configuration sent by the CLOUD.

The backups setup for cloud storage needs to be sent to the cloud.

When a backup is done you need to send to the CLOUD the backup details to store the backup info ( date, size, name, agent )

With signalR you will send to the Cloud when it is requested an Ok for the checkOnline.

With signalR you will receive the BackupConfiguration from the cloud

The backups will be stored locally in a “Backups” folder and the name of the backups needs to include the date and the database that was requested for backup.