Introduction

La branche livrable-1 contient la première version fonctionnelle d'EasySave, conformément au cahier des charges de ProSoft.

Cette version initie le développement d'une application console en .NET Core pour la gestion de travaux de sauvegarde.

Prérequis

1. Installation process

- Clonez la branche livrable-1 et ouvrez le projet avec Visual Studio 2022.
- Veillez à avoir .NET Core 6.X installé.

2. Software dependencies

- .NET Core 6.X
- Visual Studio 2022

3. Latest releases

Veuillez consulter l'onglet des releases pour accéder à la dernière version du livrable 1 (Pipelines -> Releases) :

https://dev.azure.com/faikmehmeti/G4-FISA-24/_release?_a=releases&view=mine&definitionId=1 ⧉

Build and Test

- Un pull request vers la branche develop-livrable-1 entraîne automatiquement un processus de build et de tests (tests unitaires uniquement).
- Un pull request vers la branche livrable-1 entraîne automatiquement un processus d'intégration continue, allant du build, aux tests, jusqu'à la publication d'une release.

Ces processus sont consultables via les pipelines : https://dev.azure.com/faikmehmeti/G4-FISA-24/_build ⧉

NOTES : Un seul agent pourra gérer l'éxécution d'une unique pipeline, le paralélisme n'est pas possible.

Contribute

Pour contribuer à cette branche, voici le processus à suivre et les nommages à respecter :

Depuis Boards (Menu latéral)

1. Dans backlogs :

     - Ajout d'un User Story (Fonctionnalité) -> Button (New Work Item) -> Title: description ...
     - Ajout d'une tache fixbug -> Button (New Work Item) -> Title: description...
2. Dans boards (Tableau Kanban) :

     - Mettre à jour l'état de la tache -> Boards (Tableau KanBan : To Do, Doing, Done)
     - Active (Fonctionnalité en cours de dév), Closed (Fonctionnalité fini).
     - Ne pas mettre la card sur l'état résolved pour garder une trace, sinon elle disparait.
3. Work items :

     - Aller : sur la tache que vous voulez effectuer
     - Pour associer : une branche à la tace : create a branch
     - Nom de la branche : feature/NumTache-description-courte ou fixbug/NumTache-description-courte
     - Based on : Toujours tirer la branche depuis develop-livrable-1
4. Push/Pull Request/Merge Conflicts on Develop :

     - Lors du push, notif : Create a pull request
     - Into : develop-livrable-1
     - Mettre une description détaillée
     - Attente du merge conflicts + Pipeline Build & Test
     - Complete PR -> Complete merge
5. Une fois la PR mergée sur Azure Devops, mettre à jour la branche livrable-1 si tout fonctionne

- En local :

     - git checkout develop-livrable-1
     - git pull origin develop-livrable-1 (Pour récup les PR mergées)
     - Tester sur l'application si tout marche

Depuis Repos (Menu latéral)

- Sur azure devops :

     - Créer une nouvelle PR (onglet Pull requests) avec cette fois into livrable-1
     - Attente du merge conflicts + Pipeline Build & Test & Push Release
     - !!! Atention lors du merge validé décocher supprimer cette branche !!!

Namespace EasySave.Views

Classes

[BaseView](#)
Vue de l'application

[ConsoleExtention](#)
Console extension class adds additional display functionality

[JobView](#)
Vue en rapport avec les jobs

[LangueView](#)
Vue des langues

[View](#)
Vue principale (Menu)

EasySave 1.0 Release Notes
14-02-2024

We are delighted to announce the launch of EasySave 1.0, a backup application designed to meet the needs of professional users.

This first release provides a series of features designed to simplify the management of your backups.

Main features

- Interactive menu

As soon as you start EasySave, you'll be guided by a simplified interactive menu, designed to make it easy to access and manage your backups.

```
---------------------------------------------------------------------------------------------------
                                     --- EasySave ---
---------------------------------------------------------------------------------------------------
               CTRL+C => Clear the console | CTRL+V => Paste the current clipboard text
===================================================================================================

0 - Select language
1 - List jobs
2 - Load a Jobs configuration
3 - Create a job
4 - Delete a job
5 - Run jobs
6 - Exit

Please enter your choice : |
```

This user-friendly interface lets you navigate easily between the application's various functions, making the user experience fluid and straightforward.

With options clearly laid out, you can quickly configure, run and manage your backup tasks, ensuring efficient, personalized use of EasySave right from the start.

Multilingual support

EasySave is available to both English- and French-speaking users, with a simple, intuitive command-line user interface.

```
                                         Language
---------------------------------------------------------------------------------------------------
1 - fr
2 - en-US

Please enter your choice : 1
You have selected :  1

Vous avez choisi le français.
```

- View list of backup jobs

Easily access a list of all your backup jobs, including full configuration information.

```
                                              JobManager
Name :                    Type :                  Source directory :              Target directory :

0 - job1                  COMPLET                 C:\\Users\\faikm\\O...ve\\Bureau\\2023_2024      C:\\Users\\faikm\\OneDrive\\Bureau
1 - job2                  DIFFERENTIEL            C:\\Users\\faikm\\O...ve\\Bureau\\2023_2024      C:\\Users\\faikm\\OneDrive\\Bureau
```

- Customize backup job configuration file

You can import an existing configuration file for your backup jobs, or restore the default file originally assigned.

- Manage multiple backup jobs

Configure up to five backup jobs, customizable by name, source directory, target directory and backup mode (full or differential).

```
                                              Job creation

Name: job2
You have selected :  job2


Source directory

You have selected :  C:\Users\faikm\OneDrive\Bureau\2023_2024


Target directory

You have selected :  C:\Users\faikm\OneDrive\Bureau


Possible backup types:
0 — COMPLET
1 — DIFFERENTIEL

Please enter your choice : 1
You have selected :  1


Job JobManager saved

Job created
```

- Full and differential backup

Full: Copies all your files on each run, guaranteeing complete restoration.

Differential: Copies only files that have changed since the last backup.

- Flexible deletion of backup jobs

In a similar way, the deletion of backup jobs in EasySave uses the same selection principle.

By specifying "2-4,6", users can delete jobs 2 to 4 and job 6 quickly and easily. This feature ensures convenient, straightforward management of your backup plan, enabling you to keep your configuration up to date with little effort.

```
                                                    Deleting jobs
━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━
                                                     JobManager
─────────────────────────────────────────────────────────────────────────────────────────────────
Name :                      Source directory :                         Target directory :

0 - job1                    C:\\Users\\faikm\\OneDrive\\Bureau\\2023_2024       C:\\Users\\faikm\\OneDrive\\Bureau

0 - Input format :
1 - For a single index, (for example : 2).
2 - For multiple indexes, (for example : 2,4,6).
3 - For a range of indexes, (for example : 1-3).
4 - To combine indexes and intervals, (for exemple : 1-3,5).


Please enter your choice :  0
You have selected :  0                                .


Please confirm : (y/n) :  y
You have selected :  y


Job JobManager saved

The selected jobs have been deleted.
```

- Customized execution of backup jobs

EasySave makes the selection of backup jobs extremely flexible, giving users the ability to choose precisely which backups to run.

For example, by entering "1-3.5", the system will run jobs 1-3 and job 5 in a single operation.

This simplified method allows you to select ranges of tasks (such as "1-3") and add individual tasks (such as "5") by separating them with commas, making it easy to customize your backups.

```
                                                     JobManager
─────────────────────────────────────────────────────────────────────────────────────────────────
Name :                          Source directory :                    Target directory :

0 - job2                        C:\\Users\\faikm\\OneDrive\\Bureau\\2023_2024 C:\\Users\\faikm\\OneDrive\\Bureau
1 - job1                        C:\\Users\\faikm\\OneDrive\\Bureau\\2023_2024 C:\\Users\\faikm\\OneDrive\\Bureau

0 - Input format :
1 - For a single index, (for example : 2).
2 - For multiple indexes, (for example : 2,4,6).
3 - For a range of indexes, (for example : 1-3).
4 - To combine indexes and intervals, (for exemple : 1-3,5).


Please enter your choice :  1
You have selected :  1


Please confirm : (y/n) :  y
You have selected :  y
```

- Extended backup location support

Compatible with various types of storage, including local, external and network drives.

- Daily logging

Detailed monitoring of backup operations is recorded daily in a log file in JSON format. This file includes information such as timestamp, job name, source and target file paths, file size and transfer duration.

- Real-time monitoring

A status file in JSON format, updated in real time, lets you track the progress of your backups. It displays the number of files remaining to be backed up, as well as their total size.

In addition to being able to view the progress of your backups in this file, you also have the option of tracking the progress of backup tasks directly on the application as these tasks are executed.

- File configuration and location

Locations for log and status files have been optimized to work reliably on customer servers, avoiding standard local paths and making JSON files easier to access and read.

Easy Save

Introduction

livrable 1 contains the first functional version of EasySave, as specified by ProSoft.

This version initiates the development of a .NET Core console application for managing backup tasks.

Prerequisites

1. Installation process

- Clone the livrable-1 branch and open the project with Visual Studio 2022.
- Make sure you have installed .NET Core 6.0.

2. Software dependencies

- .NET Core 6.0
- Visual Studio 2022

Execute Easy Save

Windows

Run EasySave.exe in directory `../G4-FISA-24/EasySave-G4-FISA-24/EasySave/bin/Debug/net6.0/EasySave.exe`.

Linux

Run `./EasySave` after publishing from visual studio.

Publishing EasySave
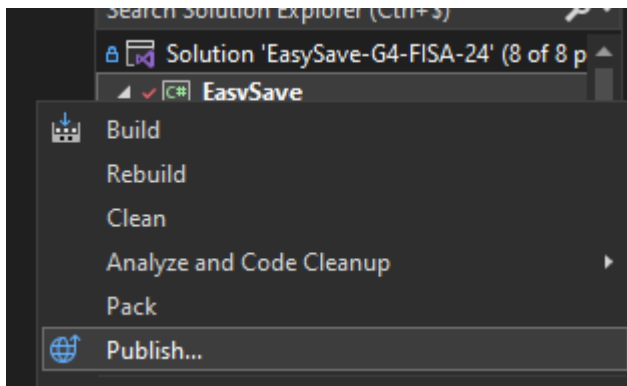
You need to specify the 'Target runtime' according to the operating system.
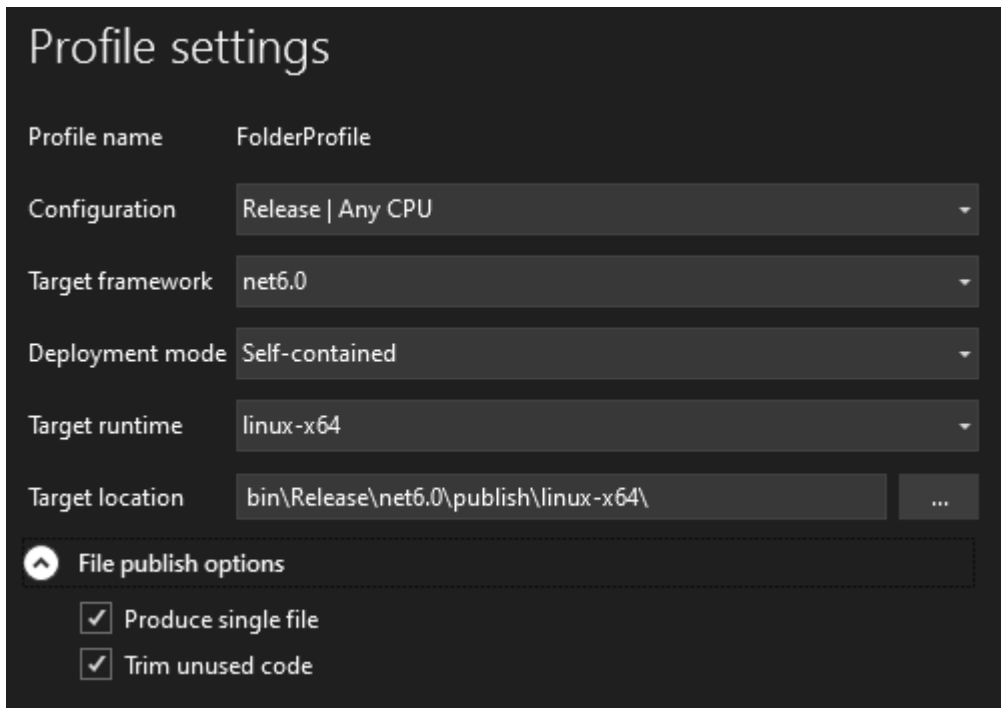
Tests

Open the Test Explorer in Visual Studio and run the unit tests.
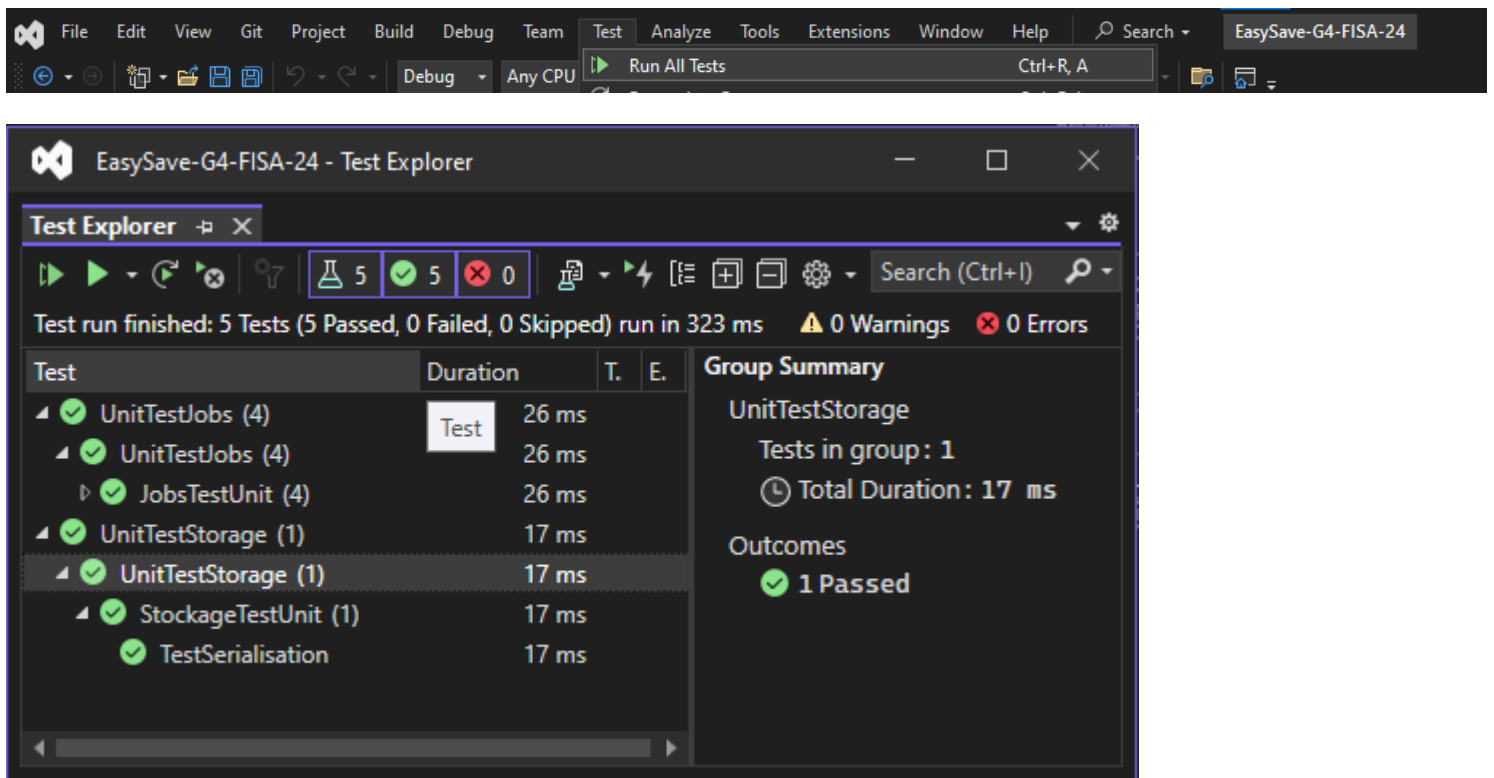
All tests are tested during the CI/CD phase, but it's best to run the tests before pushing.

Latest versions

Please consult the "releases" tab to access the latest version of livrable 1 (Pipelines -> Releases):

Build and test

- A download request to the develop-livrable-1 branch automatically triggers a build and test process (unit tests only).

- A pull request to the livrable-1 branch automatically triggers a continuous integration process, from build and test to release.

These processes can be visualized via pipelines: https://dev.azure.com/faikmehmeti/G4-FISA-24/_build ↗

NOTES: A single agent can manage the execution of a single pipeline; parallelism is not possible.

Features

- Sequential backup
- Daily logs
- Status logsv
- Select language
- List jobs
- Load job configuration
- Create a job
- Delete a job
- Launch jobs

Console application entry point

```csharp
using View = EasySave.Views.View;
namespace EasySave // Note: actual namespace depends on the project name.
{
    /// <summary>
    /// Application entry point
    /// </summary>
    internal class Program
    {
        [STAThread]
        static void Main(string[] args)
        {
            View pView = new View();
            //Lance le program principale
            pView.Run();
        }
    }
}
```

Architecture
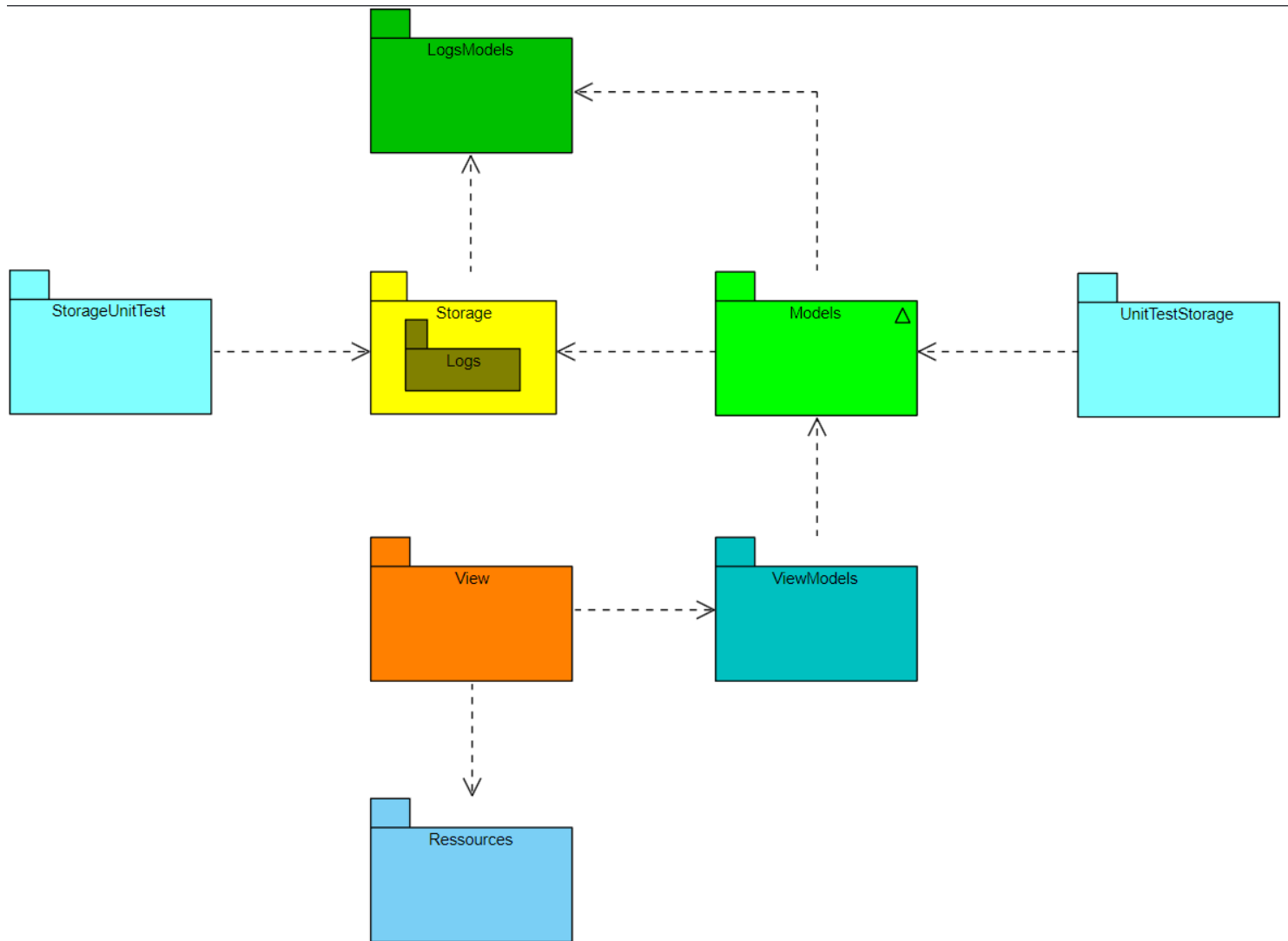
The architecture is based on an MVVM model with :

- **Models** : classes representing data ([CJob⬀](), [CJobManager⬀](), [CSettings⬀](), etc.)
- **Views**: classes representing views ([BaseView⬀](), [View⬀](), [JobView⬀](), etc.).
- **ViewModels**: classes linking models and views.

Log System

Default location of [CJobManager⬀]() and [CSettings⬀]() and location of [log model⬀]() stored using the logging classes in the [Logs⬀]() package.

The current location of event logs is stored in the `Logs` folder.

The current location of user settings is stored in the root directory `Settings.json`.

The location of backup jobs is stored in the `Jobs` folder.

Logs with names formatted as `Logs - 2024-02-15` are daily logs.

The `Logs.json` file is the log status.

Continuous Integration (CI) and Continuous Deployment (CD) processes using Azure DevOps

Continuous Integration configuration

Triggering pipelines

Continuous integration pipelines are configured to trigger automatically when a pull request is made to the main branch. Continuous integration validation is a prerequisite for any code merge.

Integration process

- Build: Compilation of source code into an executable or deployable package.
- Automated Testing: Execution of tests to verify code quality and functionality.
- Release Publishing: Creation and storage of release artifacts in Azure DevOps.

Continuous Deployment Management

Although continuous integration is automated, continuous deployment currently requires manual intervention.

Access to Releases

https://dev.azure.com/faikmehmeti/G4-FISA-24/_release

Here you can track the deployment status of each release.

This link allows you to follow the deployment status for each release.

Deployment Management

By selecting a release, you will be taken to a page where continuous deployment can be managed. Currently, deployments must be performed manually for each stage.

Release CLI 1.0 > Release-55 ⌄

Pipeline   Variables   History | + Deploy ⌄   ⊘ Cancel   ↻ Refresh   ✎ Edit ⌄   ⋯

Release

Continuous deployment

for 🟣 Faïk MEHMETI

14/02/2024 22:59

Artifacts

📥

_G4-FISA-24-v1-CI ⚡

Release-1.0.162

⎇ refs/pull/54/merge

Stages

DEV

○ Not deployed

EasySave 1.0 User Guide

Start application
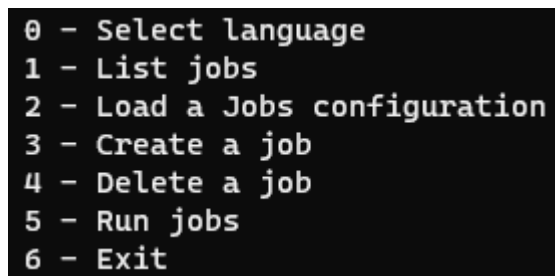
Run the EasySave.exe file

EasySave requires .NET version 6 or higher. It is compatible with the following operating systems:

- Windows 7 and later
- macOS 10.13 and higher
- Linux with distributions based on Debian/Ubuntu or Red Hat/CentOS

On Linux, copy-and-paste keyboard shortcuts are not available, but the application remains usable. On Linux with a graphical interface, the xsel utility must be installed to use Ctrl-C/Ctrl-V shortcuts.

Main menu

The main menu is displayed :

```
0 - Select language
1 - List jobs
2 - Load a Jobs configuration
3 - Create a job
4 - Delete a job
5 - Run jobs
6 - Exit
```

Keyboard shortcuts

EasySave supports the following keyboard shortcuts:

- **CTRL+C** : Clear console contents
- **CTRL+V** : Paste clipboard contents into console. These shortcuts let you quickly interact with the interface without using the mouse.

Choose language

Selects the interface language from among the supported languages.

List jobs

Displays the list of configured backup profiles

Load job configuration

Imports parameters from an existing configuration file

Create job

Configures a new backup profile

Delete a job

Permanently deletes a selected backup profile

Start jobs

Starts scheduled or manual backups