Encryption (JWE) C# Library .NET 4.8 Solution .NET Standard 2.0 / Core 3.1 Solution

Build/Install Encryption Library

1) Open up a Visual Studio 2019 "Developer Command Prompt" window
2) Change directory to the solution folder
3) Run the following command build a Release version

For .NET 4.8:

```
msbuild.exe Encription-Lib_CLR_4.8_Solution.sln /t:Clean,Build
/p:Configuration=Release
```

For .NET Core 3.1

```
msbuild.exe Encryption-Lib_CLR_Core_3.1_Solution.sln /t:Clean,Build
/p:Configuration=Release
```

Implementation Details

The T-Mobile Encryption Library uses the following logic for creating the JWE.

- Obtains public RSA and/or EC keys from a JWKS REST Service.
    - Caches the public key list
    - Refreshes the public key list each hour

- Uses the public key to encrypt a PII string and creates a JWE encode string.
    - For RSA key, uses `RSA_OAEP_256` and `A256GCM`
    - For EC key, uses `ECDH_ES_A256KW` and `A256GCM`

- Uses the private key to decrypt a JWE encode string
    - Uses public Key Id is the same as the private Key Id.