IDEA P.C. NEKYA

Project: Ce.R.T.H. B2B

Author: Christos Lytras

□ christos.lytras@gmail.com

□ chris@nekya.com

& +30 698 037 2 501

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1. Specifications

1.1 Technologies & Frameworks

This application is built with:

- ASP.NET Core and C# for cross-platform server-side code
- Entity Framework Core for ORM with the database
- Identity Server for Authentication and Authorization
- React for client-side code
- Bootstrap for layout and styling

1.2 Requirements

- 1. Database server like SQL Server or MySQL Server
- 2. SSL certificate and permanent HTTPS redirection



Warning

The application and the Identity Server cannot operate with an invalid/expired or without a SSL certificate.

There should be a scheduled SSL certificate renewal process, or an auto-scripted renewal.

3. An environment that has ASP.NET Core runtimes



i Information

Windows Server with an IIS web server are recommended but not limited to.

4. Git Bash for quick and automated update procedure

1.3 Compatibility

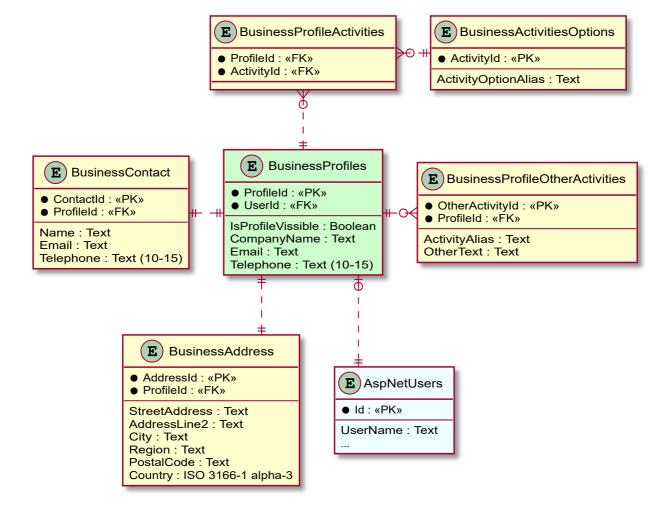
The application is compatible with the following minimum major browser versions

- Chrome 51
- Firefox 54
- Safari 10
- Edge 14
- Edge Chromium 80
- Internet Explorer 11 (partially)

Internet Explorer has major flows and standard CSS supporting issues. It also needs polypills to support ES6 standard features. For old browsers, there will be a warning message and if the application detects browsers that cannot be run into, there will be a notice to let final users know that their browser is old, insecure and propose upgrading to the latest secure versions.

1.4 Database Business Profiles Model Diagram

Business Profiles Model Diagram



2. Installation

2.1 Production

2.1.1 ASP.NET Core Runtimes

Download & install ASP.NET Core Runtime 3.1



i Information

On Windows, it is recommended installing the Hosting Bundle, which includes the .NET Core Runtime and IIS support.



Warning

IIS Server **must be running** when the ASP.NET Core Hosting Bundle is installed.

Restart IIS after the Hosting Bundle installation is finished.

2.1.2 Git Bash & Github

- 1. Download & install Git bash Follow the instructions under Auto-launching ssh-agent on Git for Windows to auto start the SSH agent every time Git bash is starting.
- 2. Install Github SSH keys for the deployment repository CERTHB2BPublish
 - 1. Copy SSH key files that will be provided (certhb2bpublish_deploy and certhb2bpublish_deploy.pub) into ~/.ssh directory. If the ~/.ssh directory does not exist create it.
 - 2. Create a ~/.ssh/config file with the following contents

```
Host github.com
User git
Hostname github.com
IdentityFile ~/.ssh/certhb2bpublish_deploy
```

2.1.3 Application Repository Initialization

 Open Git bash and clone the CERTHB2BPublish repository to C:\inetpub\CERTHB2B using the following commands

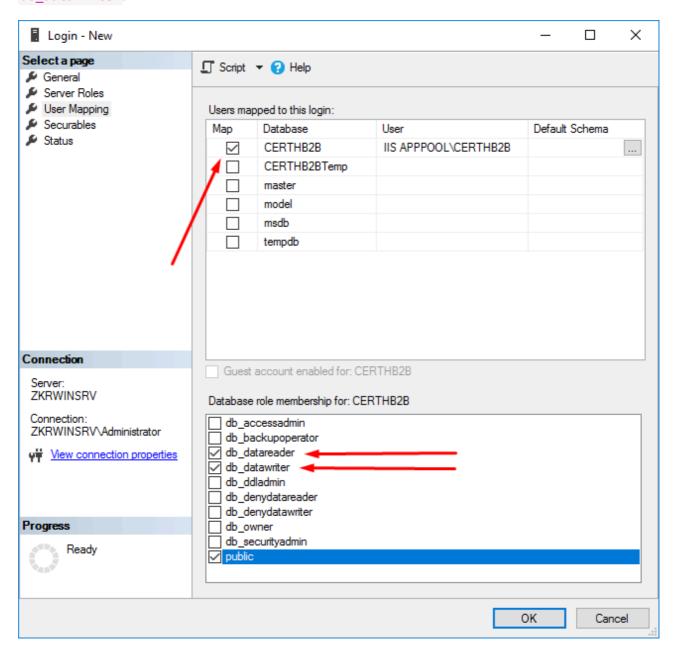
```
cd /c/initpub
git clone git@github.com:nekdev/CERTHB2BPublish.git CERTHB2B
```

2.1.4 IIS Site Creation

• Create an IIS site with name CERTHB2B, physical path C:\inetpub\CERTHB2B and binding for both HTTP (port 80) and HTTPS (port 443) ports

2.1.5 SQL Server database

- 1. Open SQL Server Management Studio (*install it if it's not already installed*) and create a database with name CERTHB2B
- 2. Create SQL Server login and apply it to the database Expand Security → Logins (not on the database, but under server), right-click to Logins and click on New Login.... For Login name set IIS APPPOOL\CERTHB2B and under User Mapping page, check the newly created database and down at Database role membership check public, db_datareader and db_datawriter:





Warning

The login name CERTHB2B in IIS APPPOOL\CERTHB2B must be the same as the IIS site name we created in the previous step.

3. Initial Migrations

Open Windows PowerShell (as Administrator), go to the application directory and run the application DLL with the --Migrate all CLI argument to apply initial migrations:

Set-Location -Path C:\inetpub\CERTHB2B\ dotnet run CERTHB2B.dll --Migrate all

2.1.6 Identity Server Certificate

Use Microsoft Management Console (MMC) to import the Identity Server Certificate that will be provided.

- 1. Follow the instructions under View certificates with the MMC snap-in
- 2. Select **Run** from the **Start** menu, and then enter certlm.msc
- 3. Navigate to Personal → Certificates pane, right click within the Certificates panel and click All Tasks → Import... to start the Certificate Import Wizard
- 4. Follow the Wizard and select the PFX certificate file that will be provided
- 5. Enter or copy/paste the certificate password provided when asked
- 6. When asked for Certificate Store, select Place all certificates in the following store with store name set to Personal
- 7. Click Next and Finish and you should get a successful message indicating the certificate is now imported. You can check the certificate under *Personal* → *Certificates* with the CN subject set to CERTHB2BIdentityServerSPA

2.2 Development

2.2.1 User Secrets

1. Init user secrets under the project directory

```
dotnet user-secrets init
```

2. Add items to user secrets

```
dotnet user-secrets set SendGridUser <user>
dotnet u1er-secrets set SendGridKey <key>
```

3. List items in users secrets

```
dotnet user-secrets list
```