Deploying IT1000 result service on premise

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televic
education

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1 Introduction

Each nurse operating an ACCU Chek Inform II (ACI2) POC-device needs to have a valid certificate for it. These certificates are managed within COBAS IT 1000 from Roche.

By setting up a coupling between assessmentQ and IT1000, assessmentQ can push results for certain assignments to an on-premise IT1000 system.

2 assessmentQ content for certifying ACI2 devices

The questions with respect to the ACI2-test are automatically imported by Televic into the channel of the customer. These questions are made available by Roche.

Based on these questions, the customer can create assessmentQ assignments with respect to the ACI2 certification. Multiple variants of the ACI2-test can be prepared by using a different set of questions from the available question pool.

Some points of attention when creating an assignment for ACI2 certification:

- Type: practice (in order to allow multiple attempts, see later in this document)
- Naming convention: the coupling between assessmentQ and IT1000 is made based on the name of the assignment. This naming convention needs to be aligned with the IT1000 responsible from Roche.
- Under the tab 'Results' of the particular assignment(s) the option 'Send to IT1000' needs to be checked (activated). This option is enabled by Televic Education within the channel of the customer.

Example workflow

The workflow as detailed below makes following assumptions:

- The certificate for the ACI2 system remains valid for a period of two years. Hence, the certification process in assessmentQ is based on a cycle of 2 years.
  Remark: the certificate validity period is configurable in IT1000. The cycle of certification can thus be longer or shorter than 2 years.
- A nurse can, after receiving a message from the IT1000 system that the IC2 certificate is about to expire, take the assessmentQ test up to two times.
  Remark: the number attempts is configurable in IT1000.

In case a nurse passes for the test, the certificate is automatically renewed and remains valid for two years.

In case a nurse does not pass the test, he/she should contact the lab in order to see which steps should be followed in order to obtain the certificate after all.

1. Creation of an assessmentQ schedule
   A schedule is created within assessmentQ:

a. The schedule gets a clear name.
      For example: "After message that the ACI2 certificate expires: ACCU Check Inform II test".
   b. A period of two years is set for the schedule.
      For example: 1/1/2020 – 1/1/2022
   c. No notification mails are being set up.
      The nurses will get a message from the IT1000 system itself that their certificate must be renewed. This message is not sent by the assessmentQ system.
   d. The ACI2 assignment is coupled with the schedule
   e. The group "Verpleegkundigen" is coupled.
2. Taking the assessmentQ ACI2 test
   a. The nurse receives a message from the IT1000 that the certificate is about to expire.
   b. The nurse logs in to the assessmentQ portal and sees the schedule for the ACI2 test. He/she start the particular ACI2 test.
      Remark: For a nurse to see the ACI2 test, he/she must be added to the assessmentQ group "Verpleegkundigen".
   c. After finishing the ACI2 test, the nurse gets feedback on the obtained result/score:
      i. In case the score < 80%:
         "You did not get 80%.
         Is this your first attempt? Please try again.
         Is this your second attempt? Your Accu-Check Inform II-system certificate will expire. You can no longer operate the device. Please contact the lab as soon as possible.
         Remark, this message is only valid in case you received a message on the Accu-Check Inform II-system that your certificate is about to expire."
      ii. In case the result is between 80% and 100%:
         "You scored 80% or more.
         Your certificate to operate the Accu-Check Inform II-system is extended with two years.
         Remark, this message is only valid in case you received a message on the Accu-Check Inform II-system that your certificate is about to expire."

After a period of two years, a new schedule can be created in the assessmentQ platform with a new assignment for the ACI2 test and the procedure as described above can be repeated. If needed, a new schedule and assignment can also be created with a higher frequency.

Remark:

The assessmentQ assignment for the ACI2 test is a practice assignment. In other words, the assignment can be retaken multiple times. The IT1000 system only takes into account the resulting score of the assignment in case the nurse actually received the message that the certificate is about to expire. Also, the IT1000 will only consider the result if not all certificate attempts have been used.
In case a nurse takes the exam before receiving a message of the IT1000 or if a nurse performs more than two attempts, the result will be ignored by the IT1000 system.

3 Technical overview

In a typical setup, the IT1000 server is behind the firewall and is not accessible from outside the customer's network. Therefore a small application needs to be installed at the customer's site. Typically this is installed in the DMZ of the firewall as it needs to be accessible from the assessmentQ server. This service will be called when the "Send to IT1000" checkbox is checked in the assessmentQ backoffice. The application will then write the results to a csv file on the local disk. This can then be copied with help of e.g. robocopy command to the IT1000 server where it can then be picked up by the IT1000 system.

Following schematics illustrates this flow:
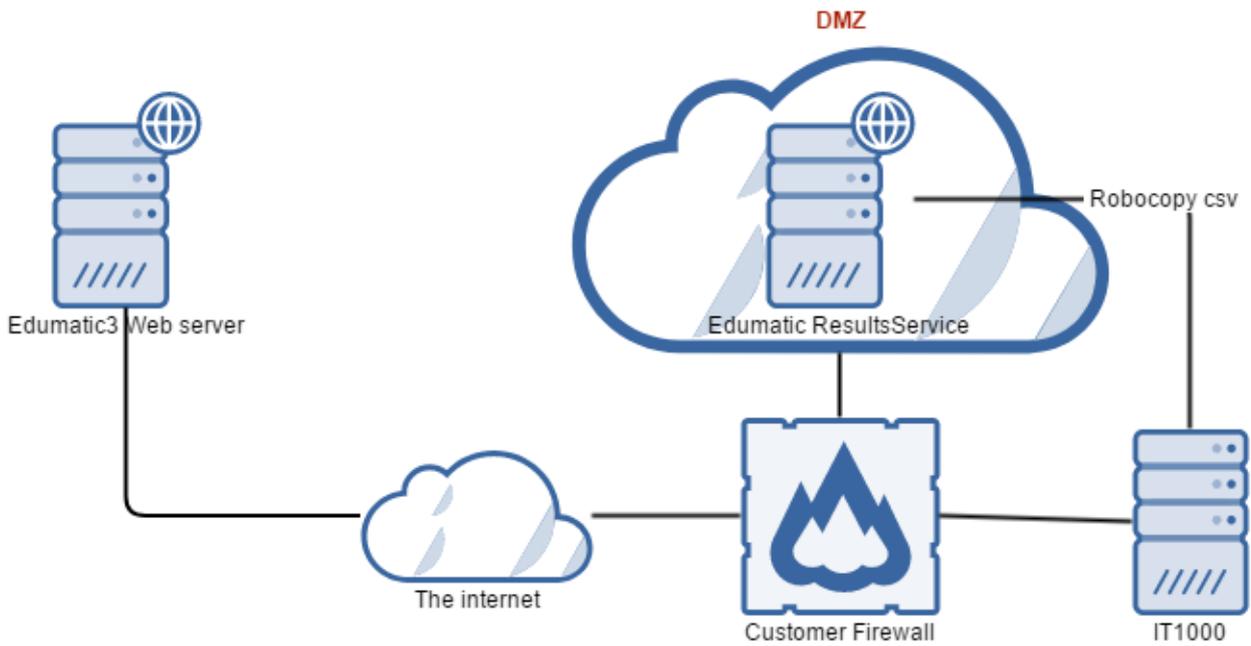
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1: Network schematics on how the architecture looks like
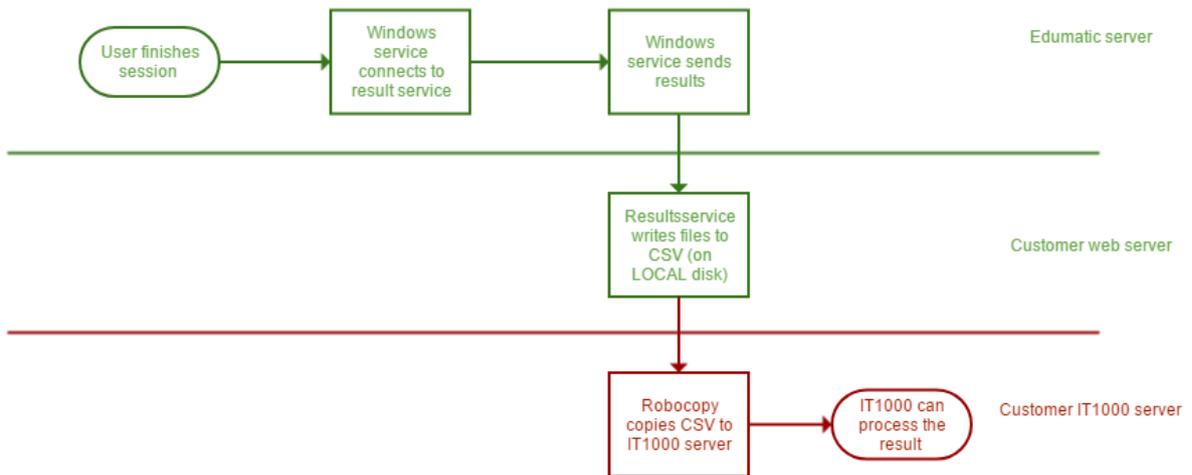
2: Flowchart. Green is provided by televic, red should be provided by the customer

3.1 Requirements

- Publically accessible windows server 2012 R2 or higher with
  - .NET 4.5 or higher (See Appendix A)
  - IIS 7.0 or higher (See Appendix A)
  - ASP.NET 4.5 or higher (See Appendix A)
- If https is required => a valid SSL certificate

- In IIS on server level, make sure the 'Handlers Mapping' feature delegation is set to Read/Write

- The IIS user(s) should have admin rights on the folder to wich the service must write
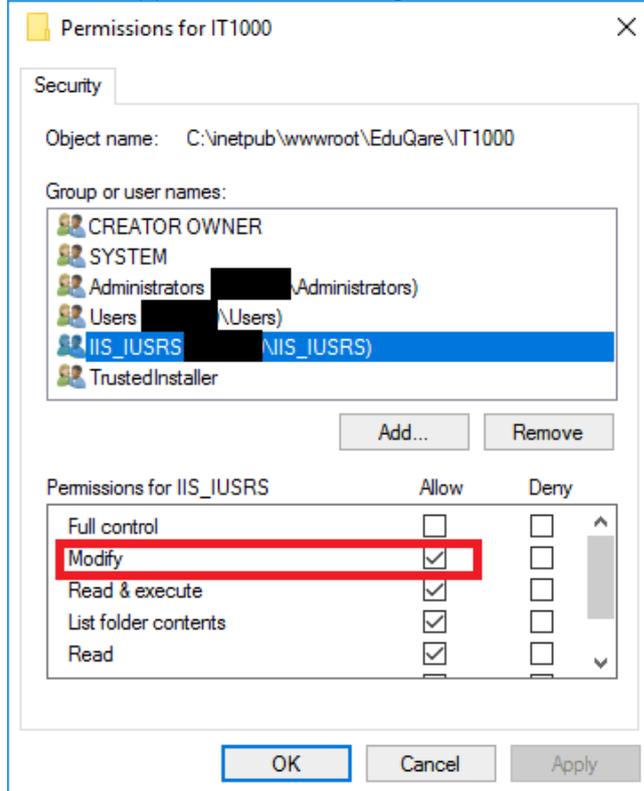
3.2 Deployment steps

1. Copy the Webservice to a folder on the disk, see attached ZIP file.
   a. e.g. C:\inetpub\wwwroot\EduQare
2. Edit the Settings.config file and fill in the correct path to the folder where the CSV files will be stored.
   a. Note, Network paths won't work if the network path is inside the customer's domain. IIS can't authenticate a domain user from within the DMZ
   b. The default export path is: C:/IT1000
3. Open IIS Management Console

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4. Add a website and point this to the earlier chosen directory
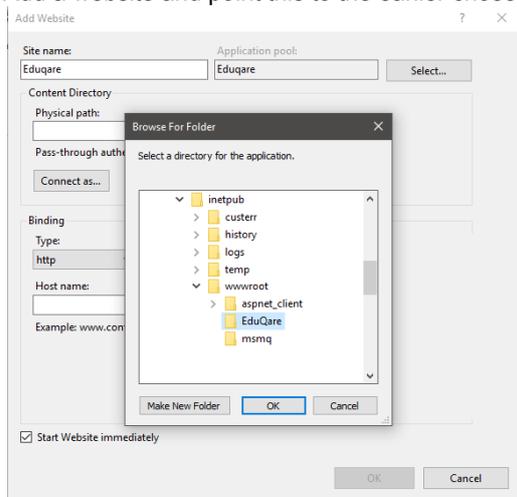
5. Make sure the application is running on an Application pool with:
    a. .NET CLR Version: V4.0
    b. Managed Pipeline Mode: Integrated

6. Create the necessary bindings, for more information see this MSDN article
    a. Note that this step is optional, there are many ways to add bindings to a webserver.
    b. Note that assessmentQ is also capable of integration based on public IP-address, a url is not strictly needed, however recommended.

> (i) Note: we strongly recommend hosting the website on a standard port number

7. To verify if the service works, browse to the application in the browsers and hit the 'test' button
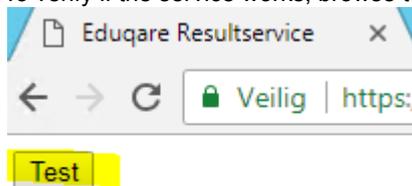
8. The response should be:

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```
▼<string xmlns="http://schemas.microsoft.com/2003/10/Serialization/">
    Test;Test;Test@Test.Test;Test;2018-05-15 14:24:35;FAIL;
  </string>
```

9. Also verify that there is a new csv file present in the selected folder (as set in the Settings.config)

4 Connection details and settings

4.1 Information to provide by the customer

In order to configure the export to IT1000 in assessmentQ, we need to receive the URL via which the webservice can be reached publicly.

Public IT1000 webservice URL =

> **PUBLIC IT1000 WEBSERVICE URL**

5 Appendix A: Installing IIS with ASP.NET on a Windows Server

1. Go to the server manager and select 'Add roles and features'
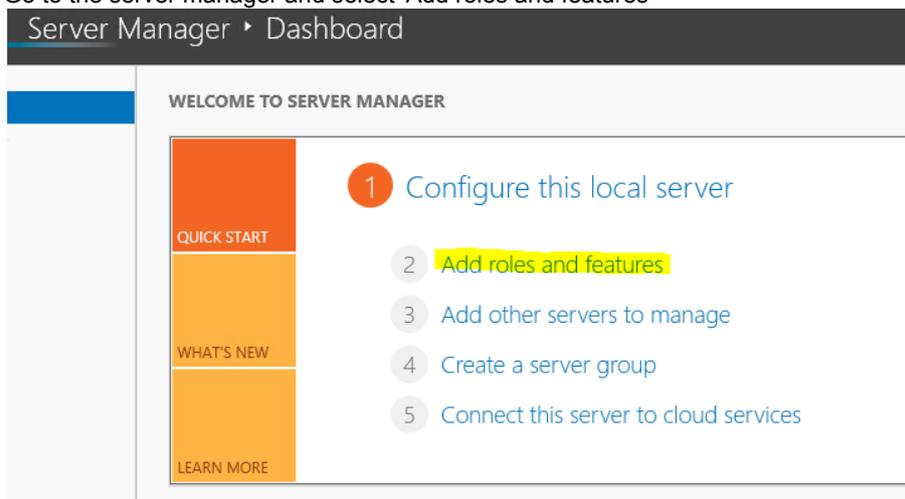
2. Choose 'Role-based or feature-based installation'
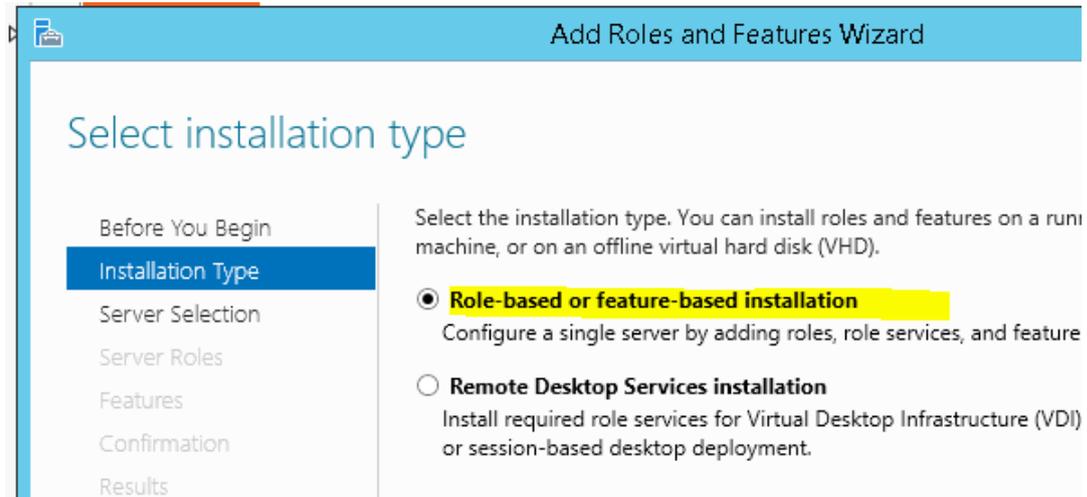
3. Under Server Roles, scroll down to Web Server and check at least the roles as depicted below
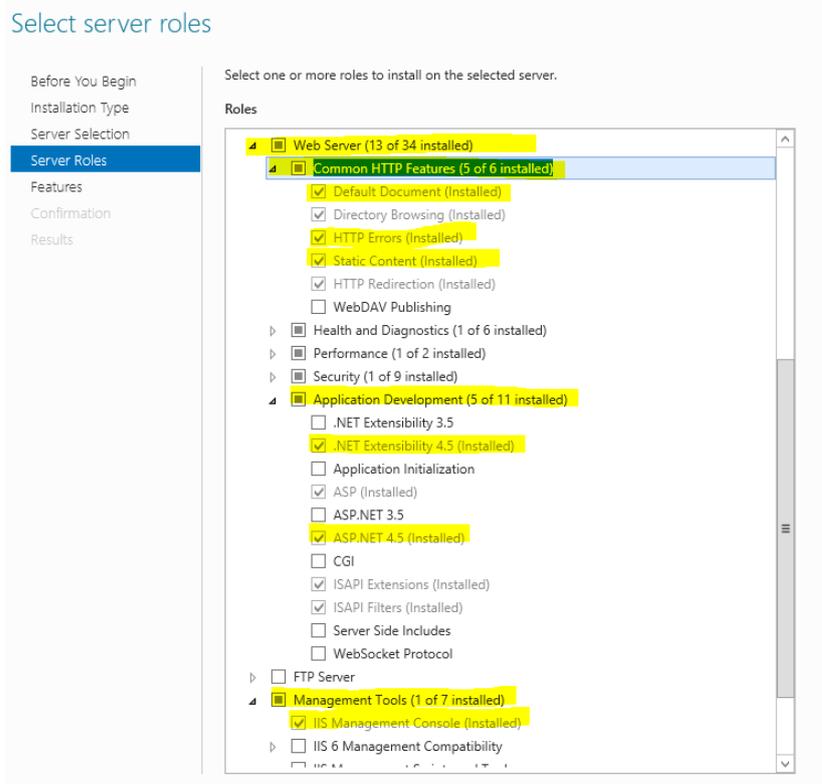
4. Under Features select at least the features depicted below:
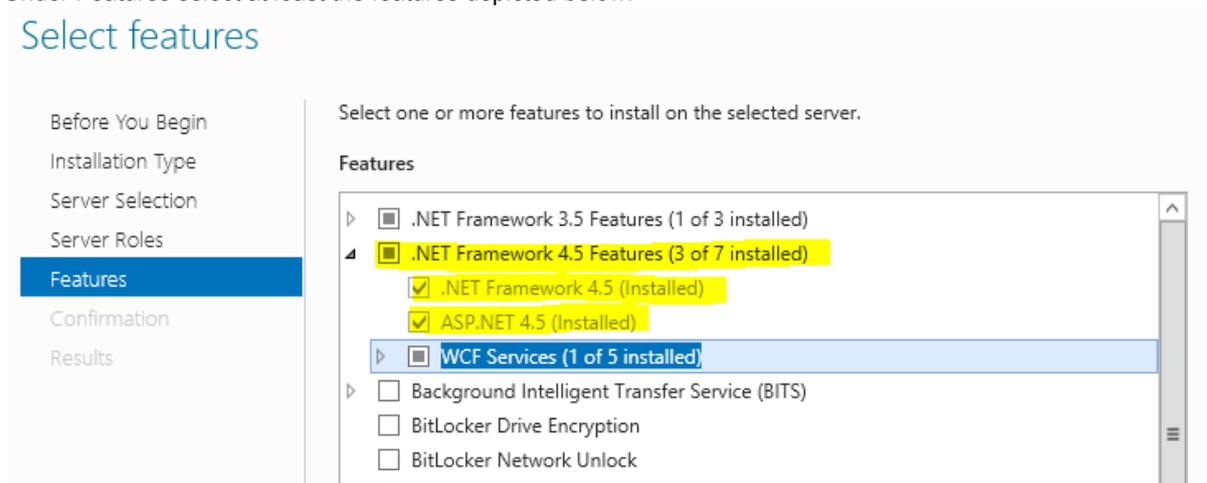
5. Confirm

6 Appendix B: Distribution