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Disclaimer

- 본 설치 문서는 Active Directory 사용 환경이 고려되지 않음.
- 본 설치 문서는 모든 컴포넌트가 동일 시스템에서 동작하는 경우를 가정하고 있으므로, 분산환경에 설치할 경우 Service Url, 인증서, Blue Prism Client-Server 구조를 각 시스템에 어떻게 배치할 지에 관한 설계가 선행되어야 함.

0. Preparations

Decipher 설치 전

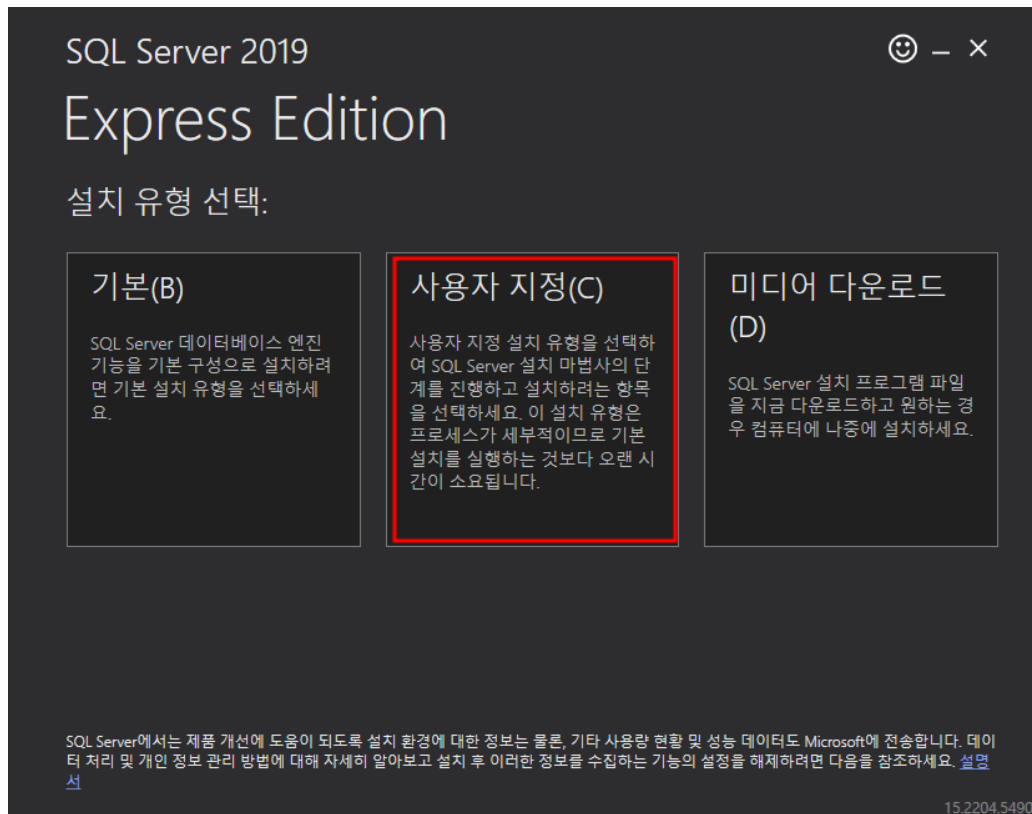
(1) SQL Server 설치

지원되는 SQL 서버 버전

SQL Server Express 2016, 2017, 2019

SQL Server 2014, 2016, 2017, 2019

- 사용자 지정 설치



- Machine Learning 모듈 제외 (Optional)

Feature Selection

Select the Express features to install.

Install Rules
Feature Selection
Feature Rules
Instance Configuration
Server Configuration
Database Engine Configuration
Feature Configuration Rules
Installation Progress
Complete

Looking for Reporting Services? [Download it from the web](#)

Features:

Instance Features

- ☒ Database Engine Services
- ☒ SQL Server Replication
- ☐ Machine Learning Services and Language Extensions
 - ☐ R
 - ☐ Python
 - ☐ Java
- ☒ Full-Text and Semantic Extractions for Search
- ☐ PolyBase Query Service for External Data
- ☐ Java connector for HDFS data sources

Shared Features

- ☒ Client Tools Connectivity
- ☒ Client Tools Backwards Compatibility
- ☒ Client Tools SDK
- ☒ SQL Client Connectivity SDK
- ☐ LocalDB

Redistributable Features

Select All Unselect All

Instance root directory: C:\Program Files\Microsoft SQL Server\

Shared feature directory: C:\Program Files\Microsoft SQL Server\

Shared feature directory (x86): C:\Program Files (x86)\Microsoft SQL Server\

Feature description:

The configuration and operation of each instance feature of a SQL Server instance is isolated from other SQL Server instances. SQL Server instances can operate side-by-side on the same computer.

Prerequisites for selected features:

Already installed:
Windows PowerShell 3.0 or higher

To be installed from media:
Microsoft Visual C++ 2017 Redistributable

Disk Space Requirements

Drive C: 1736 MB required, 113286 MB available

- SQL Server Browser 활성화 (Optional)

Install Rules
Feature Selection
Feature Rules
Instance Configuration
Server Configuration
Database Engine Configuration
Feature Configuration Rules
Installation Progress
Complete

Service Accounts Collation

Microsoft recommends that you use a separate account for each SQL Server service.

Service	Account Name	Password	Startup Type
SQL Server Database Engine	NT Service\MSSQL\$SQLEXPRESS		Automatic
SQL Full-text Filter Daemon Launcher	NT Service\MSSQLFDLauncher\$SQLEX...		Manual
SQL Server Browser	NT AUTHORITY\LOCAL SERVICE		Automatic

☐ Grant Perform Volume Maintenance Task privilege to SQL Server Database Engine Service

This privilege enables instant file initialization by avoiding zeroing of data pages. This may lead to information disclosure by allowing deleted content to be accessed.

[Click here for details](#)

- SQL 인증설정 = SQL Auth

Install Rules
Feature Selection
Feature Rules
Instance Configuration
Server Configuration
Database Engine Configuration
Feature Configuration Rules
Ready to Install
Installation Progress
Complete

Server Configuration | Data Directories | TempDB | Memory | User Instances | FILESTREAM

Specify the authentication mode and administrators for the Database Engine.

Authentication Mode

☐ Windows authentication mode

☒ Mixed Mode (SQL Server authentication and Windows authentication)

Specify the password for the SQL Server system administrator (sa) account.

Enter password: [password field]

Confirm password: [password field]

Specify SQL Server administrators

BPK-BPD\Blue Prism (Blue Prism)

SQL Server administrators have unrestricted access to the Database Engine.

Add Current User | Add... | Remove

설치완료

Complete

Your SQL Server 2019 installation completed successfully with product updates.

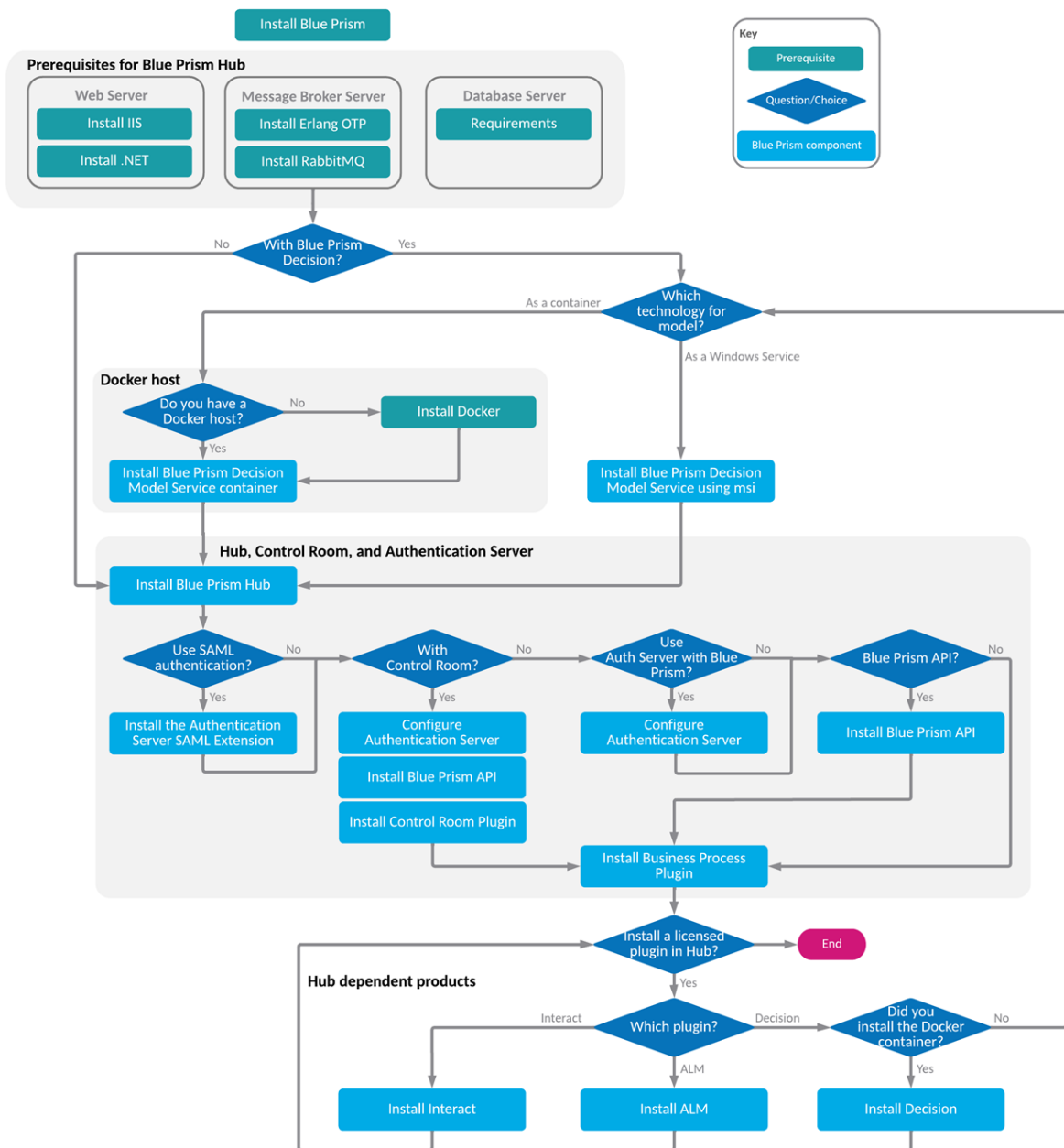
Install Rules
Feature Selection
Feature Rules
Instance Configuration
Server Configuration
Database Engine Configuration
Feature Configuration Rules
Installation Progress
Complete

Information about the Setup operation or possible next steps:

Feature	Status
Full-Text and Semantic Extractions for Search	Succeeded
Database Engine Services	Succeeded
SQL Server Replication	Succeeded
SQL Browser	Succeeded
SQL Writer	Succeeded
Client Tools Backwards Compatibility	Succeeded
Client Tools SDK	Succeeded
Client Tools Connectivity	Succeeded
SQL Client Connectivity SDK	Succeeded
SQL Client Connectivity	Succeeded

Details:

(2) Blue Prism [Install Process Overview](#)



(3) 소프트웨어 요구사항 확인

Blue Prism : 6.6.0 버전 이상

Window OS : Window10, Windows Server 2012 이상

Erlang OTP : 26.1.2

RabbitMQ : 3.12.10

.NetFramework : 4.7.2 이상

1. Install Erlang OTP

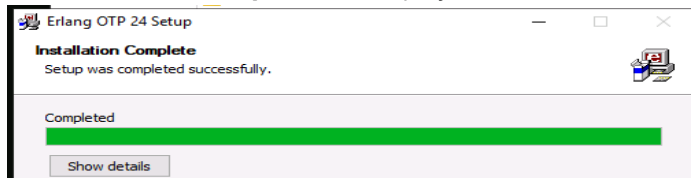
NOTE Erlang 버전은 RabbitMQ 버전과 호환이 되어야 하므로, 설치파일 다운로드 전에 확인 (Refer to [Install Message Broker Server](#))

(1) Run otp_win64_26.1.2.exe

(2) **Note:** If prompted – **DO NOT press Restart** after the Visual C++ installation as this is midway through the Erlang install. Instead, click **Close**

NOTE 이 시점에서 Restart 를 하면 이후 Message Broker 와 Blue Prism 간 연동에 문제가 생길 수 있을 것으로 추정함.

(3) Wait until **Completed** is displayed.



(4) Click **Close**

(5) System **Restart** (Optional)

2. Install RabbitMQ

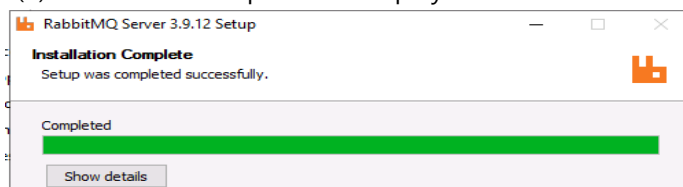
(1) Run rabbitmq-server-3.12.10

(2) Click Next

(3) Accept Default Destination Folder

(4) Click Install

(5) Wait until Completed is displayed.



(6) Click **Next**

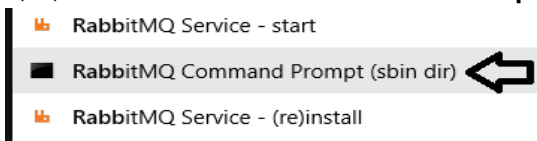
(7) Click **Finish**

(8) Click the Windows icon.



(9) Type "**rabb**"

(10) Run the **RabbitMQ Command Prompt** as Administrator



(11) RabbitMQ Command Prompt 에서 아래 커맨드 실행
rabbitmq-plugins enable rabbitmq_management

(12) Confirm that **Started 3 Plugins** in displayed.

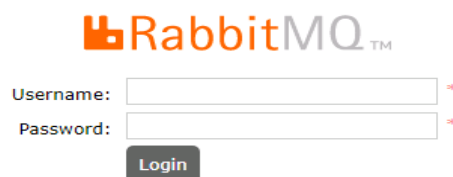
```
Administrator: RabbitMQ Command Prompt (sbin dir)
C:\Program Files\RabbitMQ Server\rabbitmq_server-3.9.12\sbin>rabbitmq-plugins enable rabbitmq_management
Enabling plugins on node rabbit@C2918558604:
rabbitmq_management
The following plugins have been configured:
  rabbitmq_management
  rabbitmq_management_agent
  rabbitmq_web_dispatch
Applying plugin configuration to rabbit@C2918558604...
The following plugins have been enabled:
  rabbitmq_management
  rabbitmq_management_agent
  rabbitmq_web_dispatch
started 3 plugins.
```

NOTE Rabbitmq 플러그인 적용확인을 위해 "Rabbitmq-plugins list" 실행

```
C:\>명령 프롬프트
C:\Users\14D00944>rabbitmq-plugins list
Listing plugins with pattern ".*" ...
Configured: E = explicitly enabled; e = implicitly enabled
| Status: * = running on rabbit@SKW10VM-0738
|/
[ ] rabbitmq_amqp1_0 3.8.2
[ ] rabbitmq_auth_backend_cache 3.8.2
[ ] rabbitmq_auth_backend_http 3.8.2
[ ] rabbitmq_auth_backend_ldap 3.8.2
[ ] rabbitmq_auth_backend_oauth2 3.8.2
[ ] rabbitmq_auth_mechanism_ssl 3.8.2
[ ] rabbitmq_consistent_hash_exchange 3.8.2
[ ] rabbitmq_event_exchange 3.8.2
[ ] rabbitmq_federation 3.8.2
[ ] rabbitmq_federation_management 3.8.2
[ ] rabbitmq_ims_topic_exchange 3.8.2
[E*] rabbitmq_management 3.8.2
[e*] rabbitmq_management_agent 3.8.2
[ ] rabbitmq_mqtt 3.8.2
[ ] rabbitmq_peer_discovery_aws 3.8.2
[ ] rabbitmq_peer_discovery_common 3.8.2
[ ] rabbitmq_peer_discovery_consul 3.8.2
```

(13) **Restart** the system.

(14) Open a Browser to rabbitmq : <http://localhost:15672>



(15) Login as guest/guest

(16) Click Admin Tab

(17) Click Add a user

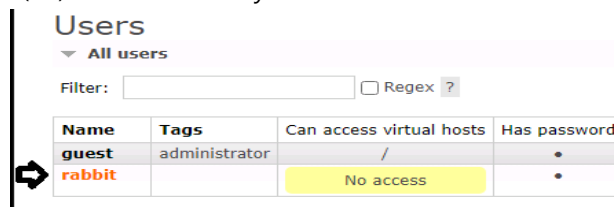
(18) Enter **rabbit** for both **Username** and **Password**

NOTE Add a user 가 안되는 경우, Power Shell 에서 커맨드로 시도해보자.

```
rabbitmqctl add_user username password
```

(19) Click Add user

(20) Select the newly created user



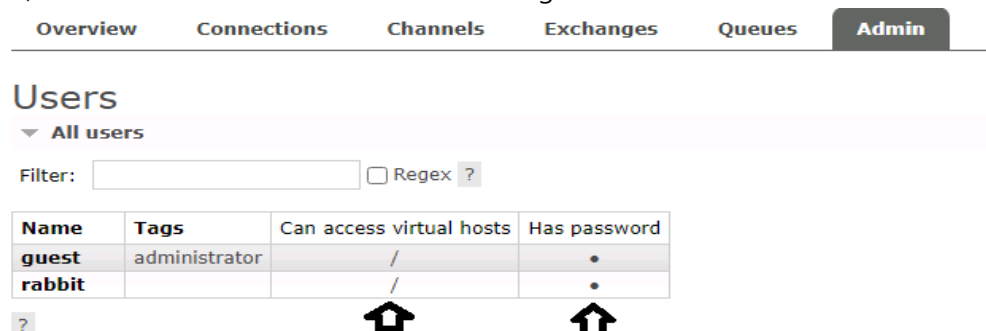
Name	Tags	Can access virtual hosts	Has password
guest	administrator	/	•
rabbit		No access	•

(21) Click Set permission button

Set permission

(22) Click **Admin** Tab

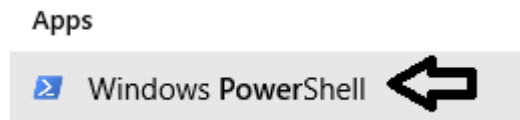
(23) Confirm that **rabbit** user has the following set



Name	Tags	Can access virtual hosts	Has password
guest	administrator	/	•
rabbit		/	•

3. Install IIS

(1) 관리자 권한으로 PowerShell 실행



(2) 아래 커맨드로 실행

**Install-WindowsFeature -name Web-Server, Web-Windows-Auth -
IncludeManagementTools**

(3) **Success** 가 나오는지 확인

```
Select Administrator: Windows PowerShell
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

PS C:\Users\Administrator> Install-WindowsFeature -name Web-Server, Web-Windows-Auth -IncludeManagementTools

Success Restart Needed Exit Code      Feature Result
-----
True     No                Success      {Common HTTP Features, Default Document, D...

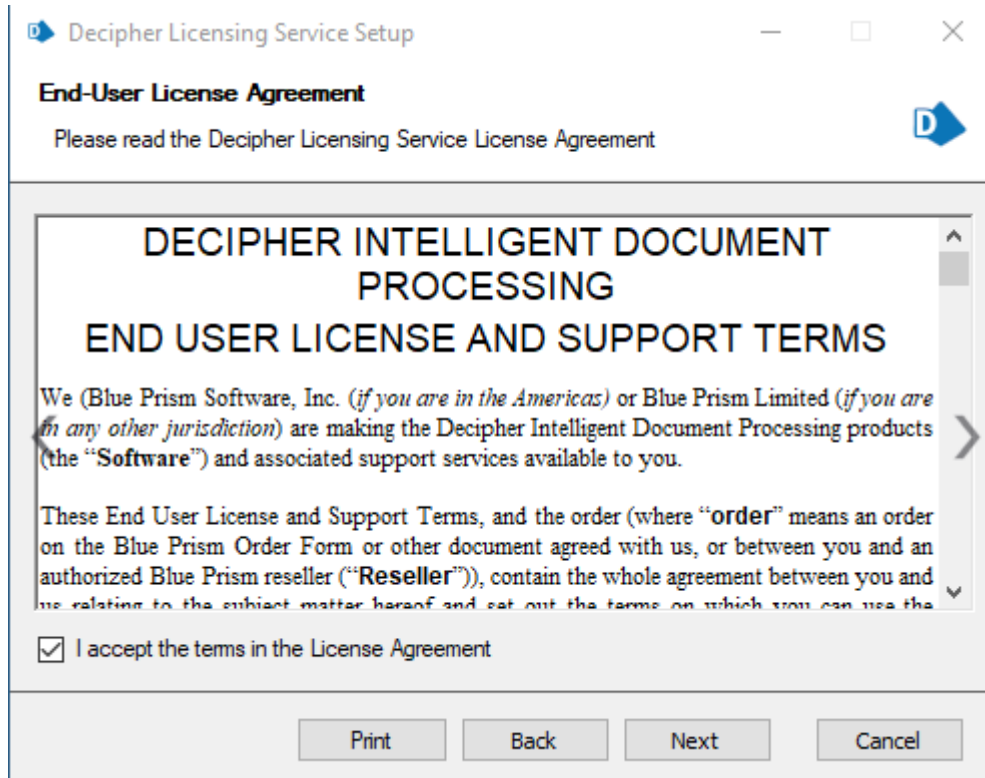
PS C:\Users\Administrator>
```

4. Install Decipher Licensing Service

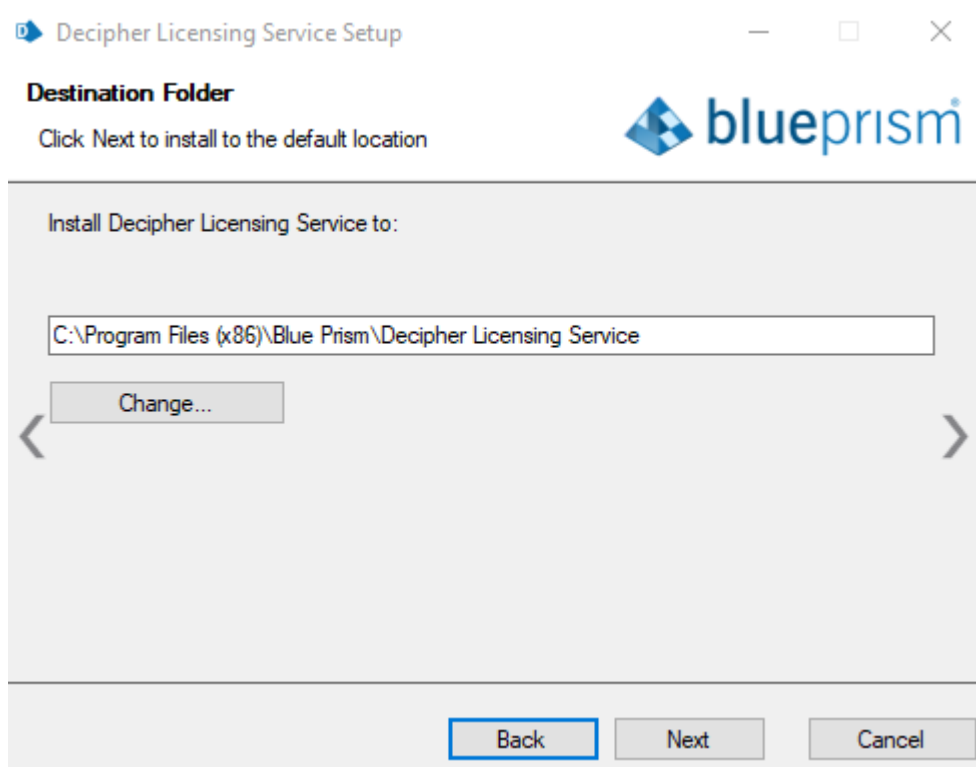
[Decipher 설치 가이드](#)를 보면서 같이 진행하는 것을 권장

(1) Decipher Licensing Service installer 실행

(2) Next



(3) Next



(4) SQL Connection 설정

Decipher Licensing Service Setup

Configure SQL connection

Please enter details for a SQL server instance for the Decipher Server to use

Please select SQL Server: BPEU292\SQLEXPRESS [v] Refresh

Authentication Mode

☒ Trusted (Windows Authentication)

☐ Specify Username and Password (SQL Authentication)

Username: []

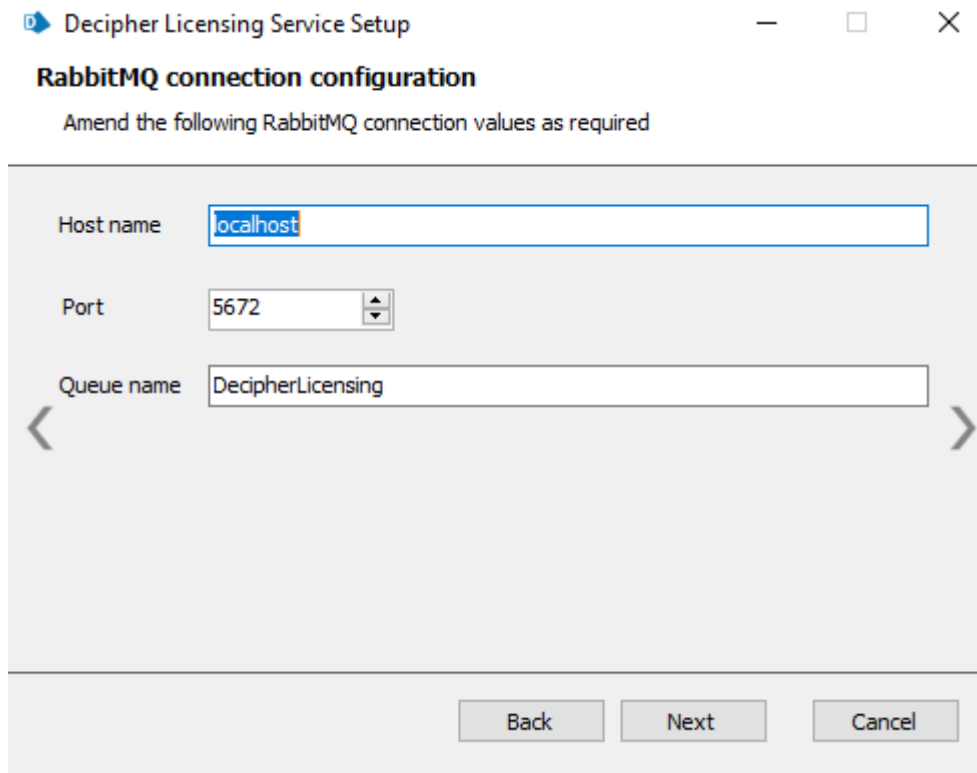
Password: []

Database name: BluePrism

Back Next Cancel

해당 설정 시, 올바른 SQL Server 입력
Window 인증 또는 SQL 인증 설정 후
DB Name 을 BPE DB 로 설정.

(5) RabbitMQ Connection 설정



The screenshot shows a window titled "Decipher Licensing Service Setup" with a subtitle "RabbitMQ connection configuration". Below the subtitle, it says "Amend the following RabbitMQ connection values as required". The configuration fields are:

- Host name: localhost
- Port: 5672
- Queue name: DecipherLicensing

At the bottom of the window, there are three buttons: "Back", "Next", and "Cancel".

Host Name : PC Hostname

Port : 5672(기본값)

Queue name : DecipherLicensing(기본값)

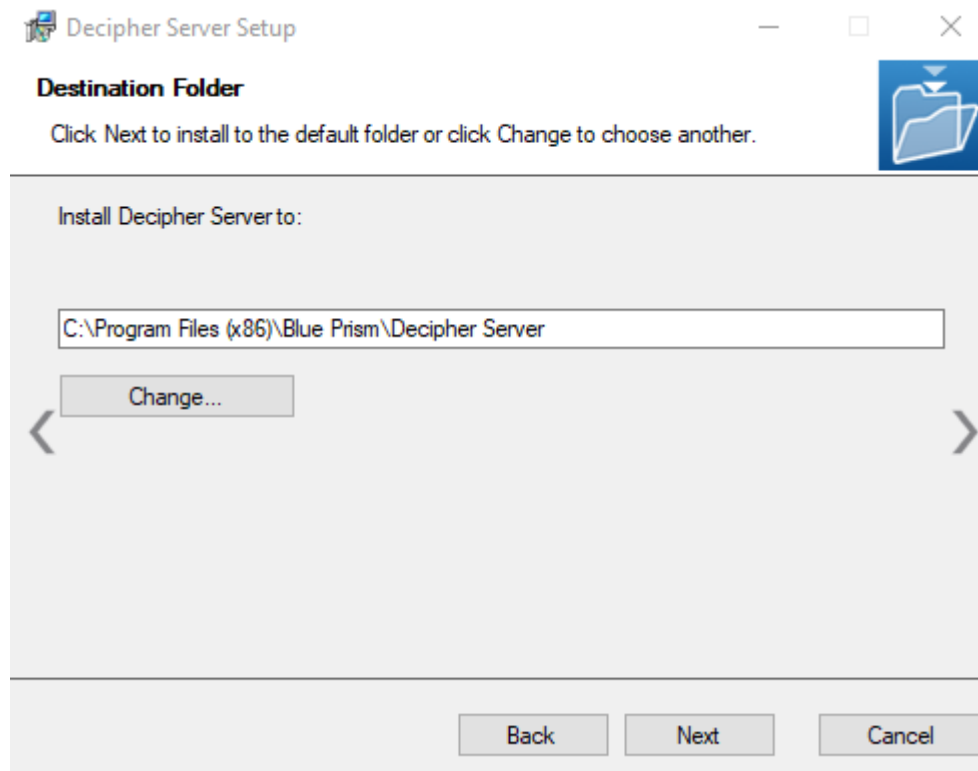
(6) Next

(7) Next

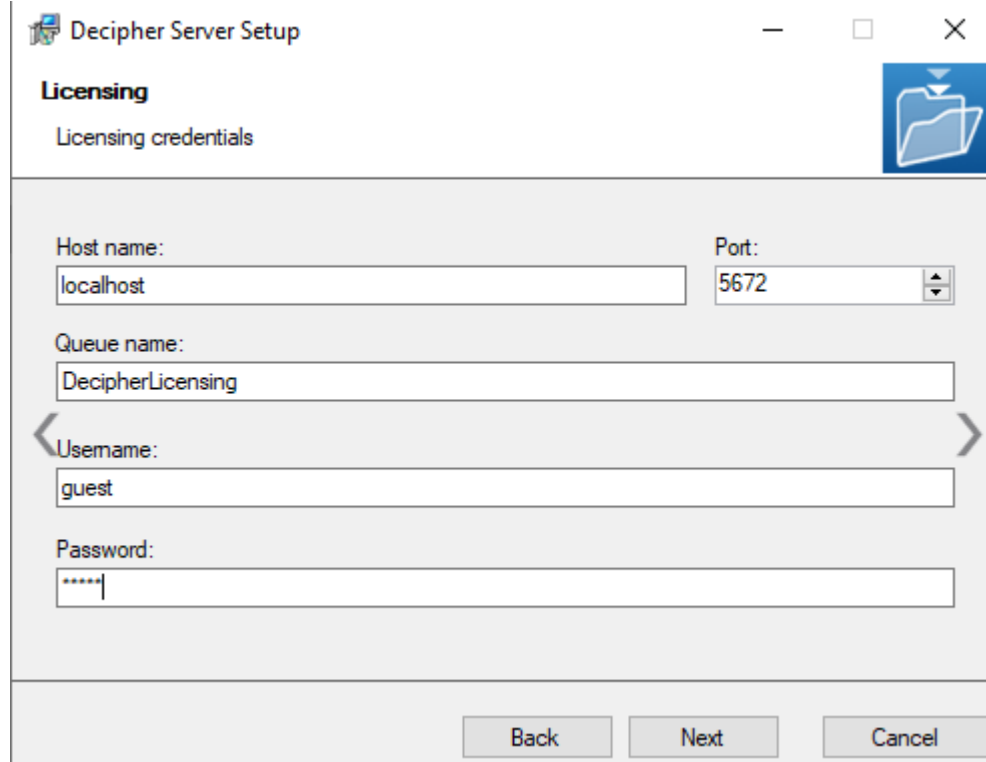
5. Install Decipher Server

(1) Next

(2) Next



(3) Set Rabbit



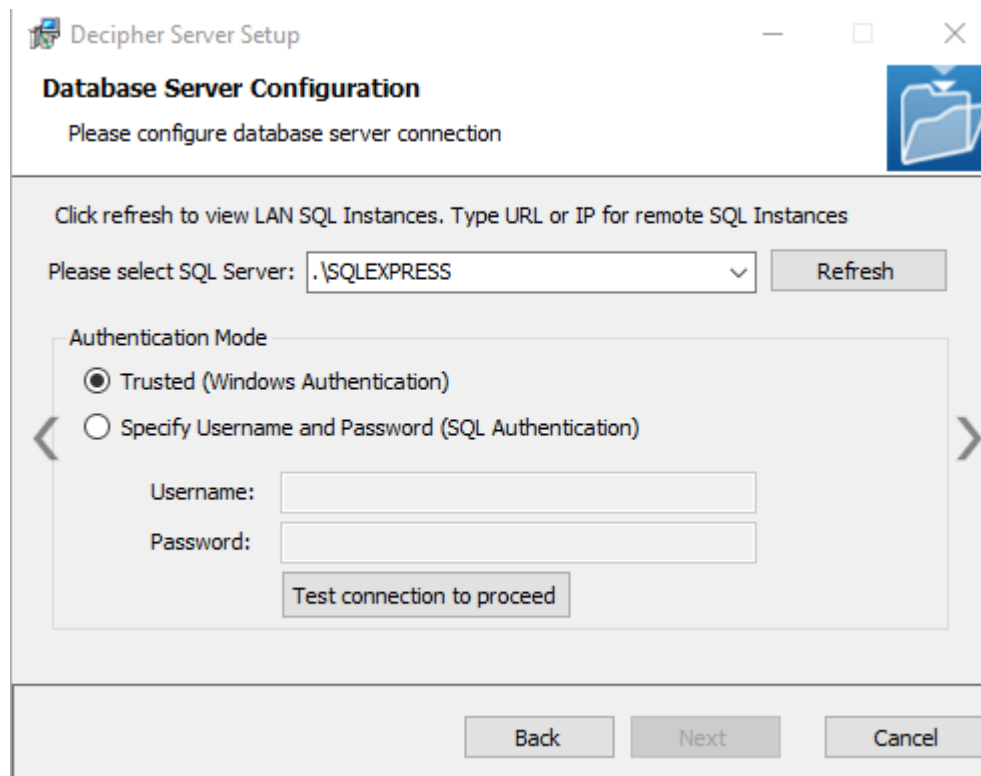
Host name : PC host name

Queue name : DecipherLicensing(기본값)

Username : rabbit

Password : 설정한 비밀번호

(4) Set SQL Server

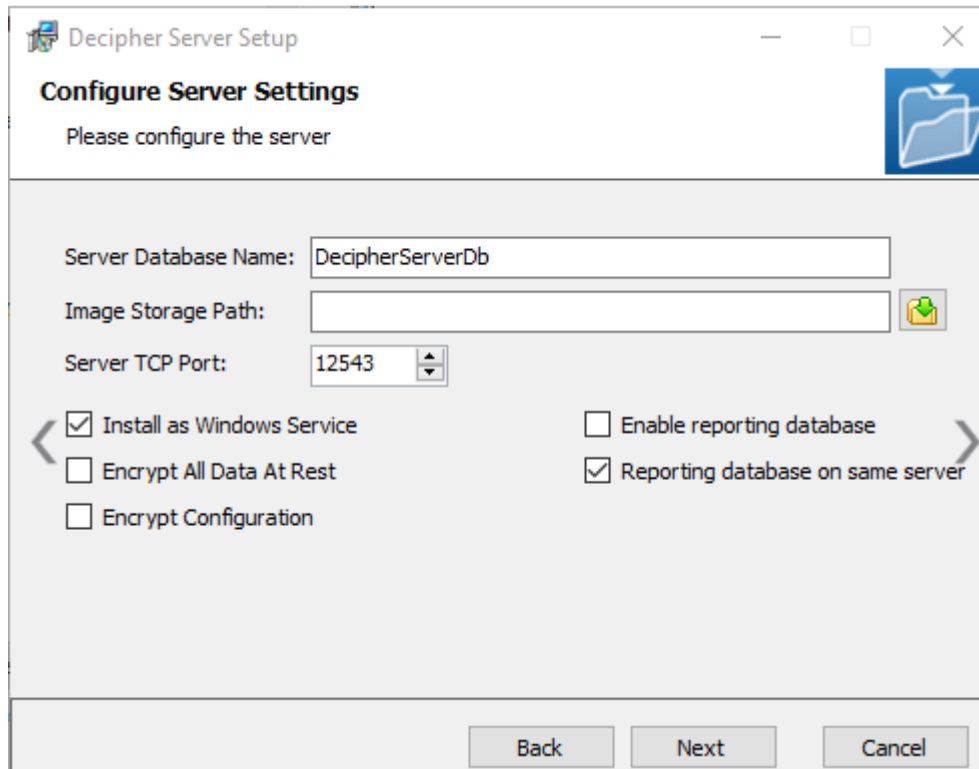


The screenshot shows the 'Decipher Server Setup' window with the 'Database Server Configuration' tab selected. The window title is 'Decipher Server Setup'. The subtitle is 'Database Server Configuration'. Below the subtitle is the instruction 'Please configure database server connection'. There is a 'Refresh' button next to the 'Please select SQL Server:' dropdown menu, which currently shows '.\SQLEXPRESS'. Below this is the 'Authentication Mode' section, which has two radio buttons: 'Trusted (Windows Authentication)' (selected) and 'Specify Username and Password (SQL Authentication)'. The 'Specify Username and Password' option is expanded, showing 'Username:' and 'Password:' input fields, and a 'Test connection to proceed' button. At the bottom of the window are 'Back', 'Next', and 'Cancel' buttons.

SQL Server : 설정할 SQL Server 이름
Windows 인증, SQL 인증 상황에 맞게 설정

Test Connection to Proceed 버튼 클릭 후, **성공 팝업이 뜨면 Next**

(5) 서버 세팅



Server DB Name : DecipherServerDb(기본값)

Image Storage Path : 폴더 모양 누른후 Path 생성후 매핑

이미지 저장 경로

문서가 처리된 후 문서를 저장할 위치를 입력합니다. OneDrive, SharePoint 또는 로컬 드라이브를 포함한 모든 위치가 될 수 있습니다. 예를 들어 C:\Decipher Storage 입니다.

Server TCP Port : 12543(기본값)

✓ 필요한 경우 다른 포트 번호 입력

상황에 맞게 각 선택 버튼 설정(모두 선택 후 진행)

- Install as Windows Service : 윈도우 서비스로 설치(기본으로 선택)
- Enable reporting database : 보고 데이터 베이스 활성화
- Encrypt All Data At Rest : 모든 저장 데이터 암호화
- Reporting Database on same server : 선택하면 report DB 가 생성됨
- Encrypt Configuration : 서버 설정 암호화

6. Install Decipher Web Client

- (1) Decipher Web Client 설치 파일 실행
- (2) 최종 사용자 계약화면 동의 후 Next

(3) Web Client 설정

Decipher Web Client
Configuration

Destination Folder
C:\Program Files (x86)\Blue Prism Browse...

Web Site Port:
80

Application Server IP/URL: 127.0.0.1 Server Port: 12543

Application Database Connection String
Data Source=.\SQLEXPRESS;Initial Catalog=DecipherServerDb;Integrated Security=True

Back Next Cancel

폴더 경로 : 기본 설치 경로

Web Site Port : 80(기본값)

Application Server IP/URL : 127.0.0.1(기본값)

Server Port : Decipher 서버 설치시 입력한 동일 값 입력

DB Connection String :

"Data Source=[SQL Server 이름]Initial Catalog=DecipherServerDb;Integrated Security=True"

[SQL Server 이름] 을 변경 후 입력,

만약 Decipher Server 설치 시, DB 이름도 변경 되었으면 DecipherServerDb 도 변경 해줘야 함.

Ex) Data Source=BluePrism;Initial Catalog=DecipherServerDb;Integrated Security=True

7. Automated Clients 설치 전 유의 사항

Size	Decipher Web Clients	Rabbit MQ	Decipher Server	Data Capture Client	OCR Client	Image Processing Client	Classification Client	Export Client	SQL Server
Small (Sizing numbers are per virtual machine (VM). HA and DR sizing are pro rata)	Concurrency of 5-10 users Maximum of 20 batches of 20 pages per hour	Up to 100 Pages per hour	Up to 100 Pages per hour	Up to 1 Classification training / month Up to 100 pages per hour	Up to 100 scanned pages per hour Or up to 150 native PDF pages per hour	Up to 100 scanned pages per hour up to 150 native PDF pages per hour	Classification of up to 3 document types per batch	Export only to Blue Prism	Storage for up to 1000 Batches or 20,000 document pages / month
	4 CPU (i5) 8 GB RAM 200 GB HDD		2 CPU (i5) 4 GB RAM 200 GB HDD	4 CPU (i7) 4 GB RAM 200 GB HDD					4 CPU (i5) 8 GB RAM 200 GB HDD
Medium (Sizing numbers are per VM. HA and DR sizing are pro rata)	Concurrency of 10-50 users Maximum of 100 batches of 20 pages per hour	Up to 1000 Pages per hour	Up to 1000 Pages per hour	Up to 5 Classification training / month Up to 1000 pages per hour	Up to 1000 scanned pages per hour Or up to 1500 native PDF pages per hour	Up to 1000 scanned pages per hour up to 1500 native PDF pages per hour	Classification of up to 3 document types per batch	Export to Blue Prism and external DBs / file systems	Storage for up to 10000 Batches or 1 million document pages / month
	8 CPU (i5) 16 GB RAM 200 GB HDD		4 CPU (i5) 8 GB RAM 400 GB HDD	8 CPU (i7) 16 GB RAM 200 GB HDD					8 CPU (i5) 16 GB RAM 400 GB HDD

위 와 같이 Decipher Server 용 A PC(빨간색) 와 Decipher Automated Clients 용 B PC(초록색)를 준비했을 경우, B PC 에 Decipher Automated Clients, Decipher NLP Plugin(Optional)을 설치 해 야함.

Decipher Automated Clients 는 OCR, Classification 등등 Decipher 에서 데이터 추출, 문서분류, 등등 작업을 담당한다.

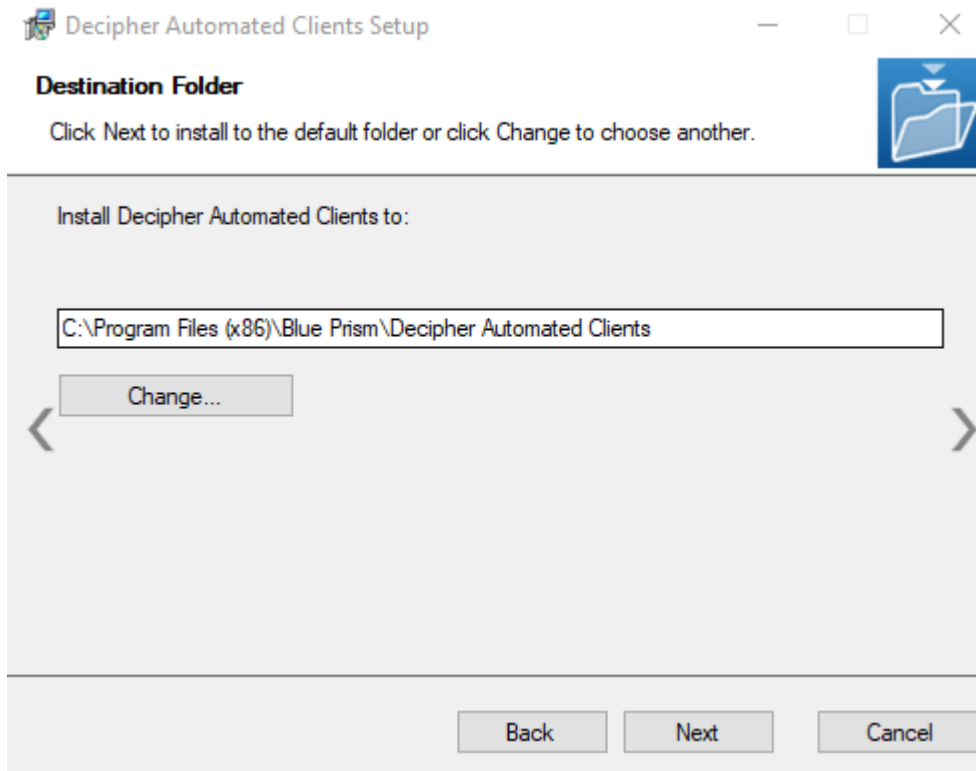
해당 작업 시, CPU 로드율이 100 프로로 진행된다.

8. Install Decipher Automated Clients

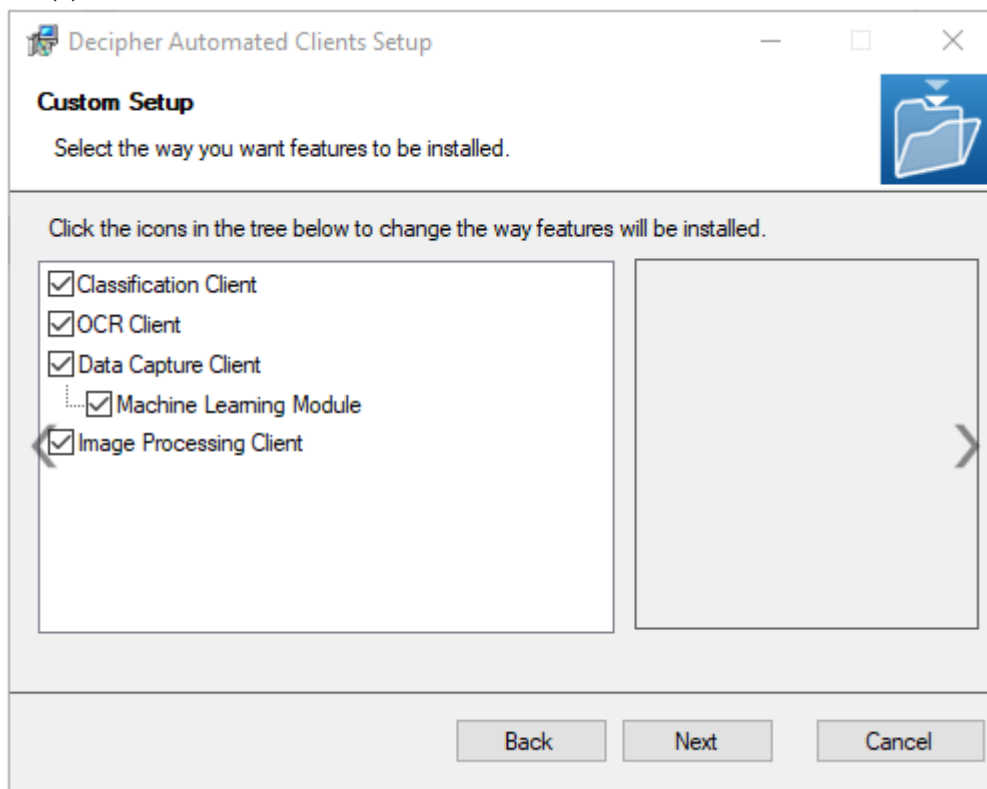
(1) Decipher Automated Clients 설치 파일 실행

(2) Next

(3) 기본 위치로 설정 하거나 폴더변경 후 Next



(4) 사용자 정의 설치 화면



이미지와 같이 모두 선택 후 Next

(5) Decipher Automated Clients 구성 설정

Decipher Automated Clients Setup

Decipher Automated Clients Configuration Settings

Specify Application server connection settings

Server IP/URL: 127.0.0.1

Port: 12543

Username: generaluser

Password:

☐ Encrypt Configuration

Note: The system is configured with a user "generaluser" with a password "user" by default.

Back Install Cancel

Decipher Server IP/URL : Decipher Server 설치 했던 PC 의 Hostname 또는 IP 입력

Port : Decipher Server 설치 시, 입력 된 동일 포트 번호 입력

Username : generaluser(기본값)

Password : user(기본값)

Encrypt Configuration : Automated Clients 설정 암호화 여부

9. Install Decipher NLP Plugin (Option)

NLP Plugin 은 GPU 가 있을 때 사용 가능한 옵션

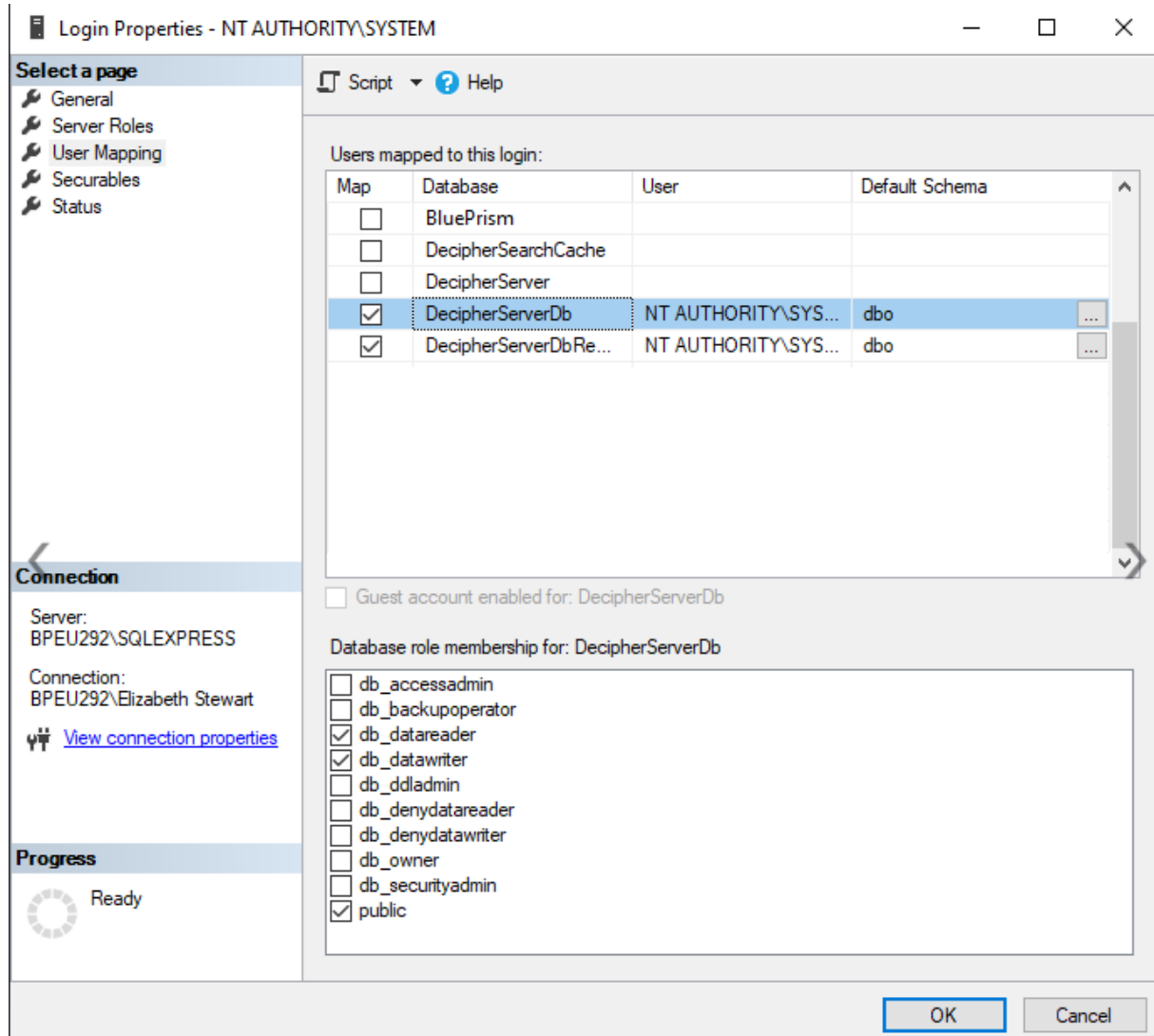
이를 위해 GPU 가 장착되어 있는 PC 가 필요

또한, Automated Client 를 설치한 PC 에 같이 설치를 진행

Configure Decipher IDP

[Decipher IDP 추가 설정은 Docs](#) 를 보면서 설정할 것을 권장

(1) Decipher 데이터 베이스에 시스템 액세스 권한 부여



보안 > 로그인 클릭 후 **NT AUTHORITY\SYSTEM** 의 속성에서
DB_datareader, DB_datawriter 권한 있는지 확인

(2) 모든 Decipher 서비스가 실행중인지 확인

- Decipher automated Client
- Decipher server
- Decipher Licensing Service