

Confirm ®

Confirm Configuration Service v24.10a.AM

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Confirm Configuration Service

Confirm's Identity and access management can be made more secure by enabling two step isolation and encryption of database and third party passwords. The first step isolates encryption to a newly created Confirm Configuration Service. This enables IT administrators and security personals to have centralized control over the encryption mechanism. The second step gets all encryption done by Amazon Web Services' Key Management Service which makes the system highly secure.

Migration to this enhanced security is optional but recommended. Also, users can choose to migrate only to the isolated Confirm Configuration Service or further on to Amazon Web Service encryption, which will need access to AWS over the Internet all the time.

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Installation, Configuring and Upgrading the Confirm Configuration Service

Prerequisites

Ensure that the following prerequisites are installed prior to configuring the Confirm Configuration Serivce.

- If installing the Web Service on a 32 bit system please refer to the IIS Configuration Required for 32 bit Systems page for more details.
- Ensure that Web Server IIS role is installed.
- Visual C++ 2010 redistributable.
- .Net Framework 4.8
- **Note:** It is a best practice, and highly recommended, to use HTTPS deployment for Confirm Configuration Service.

Installation

Run the following steps to install Confirm Configuration Service:

• Run the ConfigurationService.exe and specify a location to install the web service. The default location is set to C:\inetpub\wwwroot\configurationService.

Configuring an Application Pool

It is advisable to create a new application pool for the Confirm Configuration Service. If setting up more than one service, ensure that a unique application pool is created for each instance.

To create an application pool, go to the IIS Manager and right click on the Application Pools option and select Add Application Pool. Ensure that the following settings are applied to the new application pool.

| .Net Framework | Set to 'v4.0' |
|---------------------------------------|--|
| (Applicable for 64 bit machines only) | Set to 'True' (This is set in the 'Advanced Set- |
| Enable 32-Bit Applications | tings'.). |
| Managed Pipeline | Set to 'Integrated'. |
| Identity | Set to a domain user. |
| Load User Profile | Set to 'True'. |

| Adv | anced Settings | ? | × |
|-----|--|-----------------|---|
| ~ | (General) | | • |
| ľ | NET CLR Version | v4.0 | |
| | Enable 32-Bit Applications | True | |
| | Managed Pipeline Mode | Integrated | |
| | Name | Confirm | |
| | Queue Length | 1000 | |
| | Start Mode | OnDemand | |
| > | CPU | | |
| ~ | Process Model | | |
| > | Generate Process Model Event Log Entry | | |
| | Identity | domain\username | |
| | Idle Time-out (minutes) | 20 | ~ |
| M | avimum Worker Processor | | |
| | | OK Cancel | |

Note: It is recommended to use a domain user and set the password policy such that its password never expires. Otherwise, the password should be updated every time it is changed failing which the Application Pool will get disabled and cause Confirm Configuration Service to stop.

Creating the Web Service Application

Open the Internet Information Services (IIS Manager) and navigate to Sites. Then right click on Default Web Site and select Add Application.

The Add Application window will appear.

- Set the Alias to the name you would like for your Web Service.
- Set the Application pool to the application pool initially created.
- Set the Physical Path as the folder where the Web Service files are stored.

| Add Application | ? × |
|--|-----------------|
| Site name: Default Web Site Path: /Confirm | |
| Alias: App <u>l</u> ication pool: | |
| ConfigurationService Confirm | S <u>e</u> lect |
| Example: sales | |
| Physical path: | |
| C:\inetpub\wwwroot\Confirm\ConfigurationService | |
| Pass-through authentication Connect as Test Settings | |
| Enable Preload | |
| ОК | Cancel |

• Finally click on OK to create the application.

Registry Configuration

Following registry entry are to be configured on the web server where Confirm Configuration Service is installed:

| Registry Location | Кеу | Description |
|--|-----------------------------|---|
| 32 bit Machines | LoggingEnabled | Enable logging on or turn it off (Yes/ No). Default set to 'No'. |
| HKEY_LOCAL_MACHINE\SOFT- WARE\Confirm\ConfigurationSer- | LogFile | Path and Filename of the log file. |
| vice 64 bit Machines | KeyManagementEnabled | To determine whether to use Ex- ternal Key Management Service |
| HKEY LOCAL MACHINE\SOFT- | | (Yes/ No). |
| WARE\Wow6432Node\Con- firm\ConfigurationService | KeyManagementTool | External Key management tool to be used. Set to 'AWS' |
| | SamlConfigFile | Provide the path of SAML config file. Required only in case of Single sign-on for ConfirmWeb. |
| | AdConfig | Stores the path of the Active dir- ectory configuration file. En- able/Disable Mixed Mode. |
| | UserStoredInActivedirectory | To determine whether a user stored in Active Directory (Yes/No). |

SAML Configuration

In case of Single Sign-on, additional SAML Information needs to be configured in saml configuration file.

To create a saml configuration file, copy and paste the following text in text editor:

```
<?xml version="1.0" encoding="UTF-8"?>
<SAMLConfigurations xmIns="urn:componentspace:SAML:2.0:configuration">
<!-- Below section is for Confirm web interface -->
 <SAMLConfiguration xmIns="urn:componentspace:SAML:2.0:configuration" ID="{Database Id}">
  <ServiceProvider Name="{ACS URL}" AssertionConsumerServiceUrl="{ACS URL}" />
  <PartnerIdentityProviders>
  <!-- You can get below information from your Identity Provider. Please refer to your Identity Provider
setup instructions for more details -->
   <PartnerIdentityProvider SignAuthnRequest="false"
    Name="{Identity Provider Issuer}"
     Description="{Émail Domain}"
    SingleSignOnServiceUrl="{Identity Provider Single Sign-On URL}"
     PartnerCertificateFile="{X.509 Certificate file path}"/>
  </PartnerIdentityProviders>
 </SAMLConfiguration>
<!-- Below section is for ConfirmConnect -->
 <SAMLConfiguration xmIns="urn:componentspace:SAML:2.0:configuration" ID="Connect">
  <ServiceProvider Name="{ACS URL}" AssertionConsumerServiceUrl="{ACS URL}" />
  <PartnerIdentityProviders>
   <PartnerIdentityProvider SignAuthnRequest="false"
    Name="{Identity Provider Issuer}"
    Description="{Email Domain}"
     SingleSignOnServiceUrl="{Identity Provider Single Sign-On URL}"
     PartnerCertificateFile="{X.509 Certificate file path}"/>
  </PartnerIdentityProviders>
 </SAMLConfiguration>
```

</SAMLConfigurations>

Populate the saml configuration file as below:

| Parameter | Value |
|---|--|
| PartnerIdentityProvider SignAuthRequest | If set to True, provide a value for ServiceProvider LocalCertificateSubject. |
| ServiceProvider Name | Replace {ACS URL} with hosted ConfirmWeb URL suffixed by /api/ProfileName/samllogin |
| | For e.g.: https://confirm.com/confirm/web/api/Profi- leName/samllogin |
| ServiceProvider AssertionConsumerServiceUrl | Same as above |
| ServiceProvider LocalCertificateSubject | Optionally provide the certificate name to digitally sign the outgoing SAML requests to the Identity provider. |
| | For e.g.: "CN=My Secure Certificate Name" |
| | The certificate can be generated by running the 'PushCertificate.bat' utility. |
| | Steps to populate this field: |

| Parameter | Value |
|--|---|
| | 'PushCertificate.bat' file can be found in Resources folder within Confirm media. Run the PushCertifcate.bat and enter a Certificate Name in the prompt. Use this certificate name as value here. |
| PartnerIdentityProvider Name | Replace {Identity Provider Issuer} with Identity Provider Issuer Name |
| | For e.g.: http://www.identitypro- vider.com/ek5v5y0355 |
| PartnerIdentityProvider Description | Replace {Email Domain} with email domain that needs to be configured for single sign-on |
| | For e.g.: @confirm.com |
| PartnerIdentityProvider SingleSignOnServiceUrl | Replace {Identity Provider Single Sign-On URL} with Single Sign-On URL for your Identity Provider. |
| | For e.g.: https://identityprovider.com/app/con- firm/ek5v5y0355/sso/saml |
| PartnerIdentityProvider PartnerCertificateFile | Replace {X.509 Certificate file path} with the loca- tion of your Certificate file. |
| ID | {Database Id} or {Connect} |
| | Replace {Database Id} with the database Id specified in the database configuration file in case of Confirm Web Interface. Use Connect in case of ConfirmConnect. |

Save the saml configuration file created above as 'saml.config'. The path of saml configuration file needs to be specified as the value for 'SamlConfigFile' in registry.

Note: If there is a space in the Profile Name, replace the space with %20.

For e.g. the profile name is 'Client - Development', it should be 'Client%20-%20Development'.

Auth0 Configuration

In case of Single Sign-on, additional Auth0 Information needs to be configured in OIDC configuration file.

To create a OIDC.json file, copy and paste the following text in text editor:

```
{
    "domain": "{Domain Name}",
    "applications": [
    {
        "application_type": "web",
        "client_id": "client_id",
        "client_secret": "client_secret",
        "consumer_service_url": "http://localhost/confirm/confirmweb/api/oidclogin"
    },
    {
        "application_type": "connect",
        "client_id": "{client_id}",
        "client_id": "{client_id}",
        "client_id": "{client_id}",
        "client_id": "{client_id}",
        "client_secret": "{client_id}",
        "client_id": "{client_id}",
        "client_id": "{client_id}",
        "client_id": "{client_id}",
        "client_secret": "{client_id}",
        "client_id": "{client_id}",
        "client_secret": "{client_secret}",
        "client_id": "{client_id}",
        "client_secret": "{client_id}",
        "client_secret": "{client_id}",
        "client_secret";
        "client_secret";
        "client_secret";
        "client_secret";
        "client_secret";
        "client_secret";
        "client_secret";
        "client_secret;
        "client;
```

```
"consumer_service_url": "http://localhost/ConnectorWebService/ConfirmMobileService.svc/idplogin"
    }
  ],
       "organizations": [
     {
       "org_name": "{organization_name}",
"org_id": "{organization_id}",
"profileName": "{Profile_name}",
"connections": [
         {
"domain": "{@xyz.com}",
"connection": "{connection}"
          },
          {
            "domain": "{@abc.com}",
"connection": "{connection}"
          }
       ]
     },
     {
       "org_name": "{organization_name}",
"org_id": "{organization_id}",
"profileName": "{Profile_name}d",
"connection": "{connection}",
"connections": []
    }
]
}
```

Populate the OIDC.json file as below:

| Parameter | Value |
|----------------------|--|
| Domain | In Auth0, the "domain" refers to the unique URL that identifies your Auth0 tenant or account. |
| client_id | The "client_id" is used by the client application to identify itself to the Auth0 authorization server when making requests for authentication, authorization, or resource access. |
| client_secret | The "client_secret" is a confidential piece of inform- ation known only to the client application and the authorization server. |
| | It is used to authenticate the client application when it requests tokens from the authorization server. |
| organization_name | An Organization in Auth0 represents a logical container that can include one or more tenants. Each tenant is a separate and isolated environment, often representing a distinct application or project. |
| organization_id | Id can be obtained on the creation of an organiza- tion in auth0 under the Organization tab. |
| consumer_service_url | Redirect URI is used to redirect the user back to the application after they log in and authorize the application. It's important to note that the Redirect URI must be a valid URL registered in the Auth0 Dashboard for your application. |

| Parameter | Value |
|--------------|--|
| | You need to whitelist the Redirect URI to prevent unauthorized redirects and ensure that Auth0 only redirects to specified valid URLs. To whitelist the Redirect URI we can use Allowed the callback URLs section of Auth0 under applic- ation. |
| Connection | Connections allow us to setup federated login. We can setup database connections or Enterprise connections (SAML, OIDC, AD). |
| | For e.g.: @nda.com |
| Profile_name | This corresponds to the profile name of tenant configured in database setting. |

Save the Auth0 configuration file created above as 'oidc.json'. The path of OIDC file needs to be specified as the value for 'ProfilePath' in registry.

Note: If there is a space in the Profile Name, replace the space with %20.

For e.g. the profile name is 'Client - Development', it should be 'Client%20-%20Development'.

Configuring Mixed Mode Authentication

Mixed mode is a combination of Active Directory(AD) and Confirm authentication i.e. AD users will be authenticated using their AD credentials and non-AD users will be authenticated using their Confirm credentials

A configuration file is required to enable Mixed mode. Please follow steps below:

- Open a text editor and create a new file.
- · Copy and paste the text below this section into the file
- · Save the file.
- Store the full path of the file in the registry key AdConfig (please refer to the section Registry Configuration in this document).

{"AuthProviderType":"Mixed"}

Note: The possible values for AuthProviderType are as below:

- Confirm To Use Confirm Authentication.
- ActiveDirectory To Use ActiveDirectory.
- Mixed To Use both Authentication.
- **Note:** Once the Mixed Mode authentication is enable, it will be applicable to all the Components(Confirmweb, Connect, Connector) as the AdConfig file is shared file.

Access Control and Authentication

Follow the steps below to setup the access control and authentication for Confirm Configuration Service:

- Open Internet Information Services Manager.
- Select the Confirm Configuration Web Site/Application.
- In Features View, double click Authentication.

• Enable Windows Authentication and disable Anonymous Authentication.



If Windows Authentication is not available there, you can install it by going to Add Roles and Features within Server Manager.

• Restart the Web Service.

All Confirm components need to run under a domain user to use Confirm Configuration Service. The details of this can be found under section **Using Confirm Configuration Service**.

Additionally, it is recommended to restrict the access to Confirm Configuration Service to a specific domain group.

High Availability

It is recommended that Confirm Configuration Service is deployed in clustered environment to handle system failures.

Health Check

To check the successful configuration of Confirm Configuration Service browse the URL

'https://<IP Address: Port Number>/api/healthcheck'

after replacing 'IP Address' and 'Port Number' with actual values from IIS.

The response returned should be:

<string xmlns="http://schemas.microsoft.com/2003/10/Serialization/">Confirm Configuration Service working correctly.</string>

If the response differs from above then reverify the configuration steps and refer to the FAQ Section.

Configuring and Using the Amazon Web Service Key Management

Once the Confirm Configuration Service has been installed and configured successfully, IT administrators can choose to use Amazon Web Service's Key Management Service to encrypt and decrypt all database and 3rd party passwords within Confirm. This will make the system access highly secure.

Note: Once migrated to Amazon Web Service, Confirm will always use it for encryption/ decryption of database & third party passwords and other sensitive data. In case of non-availability or connectivity to Amazon Web Service, the encryption and decryption will not be possible, thereby inhibiting Confirm's operation. However, Amazon claims very high availability of AWS.

IT administrators should get good understanding of Amazon Web Service's AWS Identity & Access Management and AWS Key Management Service at https://aws.amazon.com before migrating Confirm to use AWS based encryption.

AWS Costing

Confirm Configuration Service uses two Amazon Web Services "AWS Identity and Access Management" and "AWS Key Management Service".

There is a cost associated with AWS Key Management Service. To know the details check the pricing on https://aws.amazon.com.

Prerequisites to use AWS based encryption:

- An Amazon Web Service account.
- An Identity and Access Management (IAM) user with Access Key ID and Secret Access Key.
- **Note:** Download the credentials file as you create the Access keys. If not downloaded at this time, the Secret Access key will be lost and a new one will have to be generated.

Please ensure that the following is ready

- Identify an AWS region where you wish to have the Customer Master Key (CMK) created.
- An enabled Customer Master Key (CMK) for a region.
- An IAM User having permissions on the newly generated CMK with at least Encryption and Decryption Permissions.
- · Downloaded credentials file

Configuring the AWS credentials

The Confirm Configuration Service reads the AWS credentials from Credential Manager which is part of the Windows Operating System.

Follow these steps to store the AWS credentials in Credential manager:

 Run the '_AwsCredentialManagerSetup.bat' file available in the Confirm Configuration Service installation directory.

• In the first step, it prompts for credential request.

| Windows PowerShell credential request. | | | \times |
|---|----|-------------|----------|
| | | AF | |
| Please enter the App Configuration Service | | for the Con | firm |
| User name: | 2 | ` | × |
| Password: | | | |
| | | | |
| | ОК | Can | cel |

Provide the same credentials that was provided in ApplicationPool Identity. Then Click OK.

• In second step, provide AWS region, Access Key Id and Secret Access key for the Identity and Access Management (IAM) user in use. Use downloaded credentials file to find the key values.

| Windows PowerShe | ell credential request. | ? | \times |
|------------------|-------------------------|-----------|----------|
| | | | |
| | AJ2YQZZL4 | use for t | he |
| User name: | £ | | ~ |
| Password: | | | |
| | ОК | Can | icel |

Verify that the credentials have been created under 'Generic Credentials' in Window Credential Manager.

Configuring the Confirm Configuration Service to use AWS Customer Master Key (CMK)

- Open the 'customerMasterKey.json' file available in the Confirm Configuration Service installation directory.
- Update the following fields with the value from AWS Customer Master Key (CMK) assigned to the Identity and Access Management (IAM) user in use.
- "Keyld": "<Key ID value>",

"Alias": "<Alias Name>",

"KeyArn": "<ARN Value> "

• Taking a backup of 'customerMasterKey.json' file is recommended. This can be used on upgrading Confirm Configuration Service to avoid setting it up again.

Credential Manager backup

The credentials stored in Credential Manager can be stored in a backup file to restore in case system failure or avoiding setting up credentials again if not changed.

Backup using Credential Manager -

The Credential Manager allows to backup and restore the saved credentials.

Following are the steps:

- Open Credential Manager
- Click on the Backup Vault or Back up Credentials (in case of Window server 2012 R2) button
- · Browse a file path and provide a file name
- · Follow the on screen instruction to safe guard your backup file with password
- A .crd file is created on supplied path
- This same file can be used to restore your saved credentials in the event of a problem.

Using Command line -

Another way to access the Credential Manager is through the command line.

Following are the steps:

- Open a command prompt Type command rundll32.exe keymgr.dll, KRShowKeyMgr
- Press Enter
- The Stored User Names and Passwords window will open, allowing to perform the same functions as described above using Credential Manager.

It is recommended to store the backup file to a system on which Confirm Configuration Service is not installed. This will help to recover the file in case of system failure.

Registry Configuration

Following registry entry are to be configured on the web server where Confirm Configuration Service is installed:

| Registry Location | Кеу | Description |
|--|-------------------|---|
| 32 bit Machines | | To determine whether to use Ex- ternal Key Management Service (Yes/ No). Default set to 'No'. |
| HKEY_LOCAL_MACHINE\SOFT- WARE\Confirm\ConfigurationSer- | | |
| vice | KeyManagementTool | External Key management tool to be used. Set to 'AWS' |
| 64 bit Machines | | |
| HKEY_LOCAL_MACHINE\SOFT- WARE\Wow6432Node\Con- firm\ConfigurationService | | |

Confirm is now configured to use AWS Key Management Service. Any subsequent access to passwords used to access Confirm database or third party applications from within Confirm or other component will be encrypted and decrypted using AWS Key Management Service.

Configuring and Using Active Directory User Management

Once the Confirm Configuration Service has been installed and configured successfully, IT administrators can choose to manage users in Active Directory from Confirm. This is relevant for scenarios where Confirm runs in Full or Mixed Integrated Security mode.

Registry Configuration

Following registry entry are to be configured on the web server where Confirm Configuration Service is installed:

| Registry Location | Кеу | Description |
|--|----------|--|
| 32 bit Machines | | To determine whether to manage users in Active Directory from Confirm (Yes/ No). Default set to 'No'. |
| HKEY_LOCAL_MACHINE\SOFT- WARE\Confirm\ConfigurationSer- vice | | |
| 64 bit Machines | AdConfig | The path of the JSON config file which stores configuration inform- ation for managing users in Active Directory (this can be a UNC path). |
| HKEY_LOCAL_MACHINE\SOFT- WARE\Wow6432Node\Con- firm\ConfigurationService | | |

Confirm is now configured to manage users in Active Directory.

Using Confirm Configuration Service from Confirm Components

Introduction

Confirm Components like Confirm Client should know about Confirm Configuration Service to use it. Every Confirm application requires the following registry settings to establish connection with the Confirm Configuration Service.

Note: Confirm Connector will not use Confirm Configuration Service for Encryption/Decryption. 'Connector Key' registry setting value would need to be in place at the requisite registry path for Connector to Encrypt/Decrypt sensitive data within the connector configuration file. If this key is not provided then default key will be used for Encryption/Decryption by the Connector.

Registry Configuration

Following registry entry are to be configured on each machine where a Confirm component (Client, Connector, Web services, Task Processor):

| Registry Location | Кеу | Description |
|--|----------------------------|---|
| 32 bit Machines | UseConfigurationWebService | To determine whether to use Confirm Configuration Service (Yes/ No). Default set to 'No'. |
| HKEY_LOCAL_MACHINE\SOFT- WARE\Confirm | | |
| 64 bit Machines | ConfigurationServiceUrl | The URL of Confirm Configura- tion Service. |
| HKEY_LOCAL_MACHINE\SOFT- WARE\Wow6432Node\Confirm | | |

Access Control and Authentication

Every request made to the Confirm Configuration Service has to be Windows Authenticated. This means that every Confirm component will have to be running under a domain user to use Confirm Configuration Service.

Confirm Client already run under domain user. Also, Task Processor is recommended to be run under a domain user context.

Web Applications run under application pool, which in turn run under default user context of AppPoolIdentity. Point them to run under a domain user.

FAQ

Q: I am unable to login into Confirm after migrating to Confirm Configuration Service and it prompts the message 'Unable to process your request. Please try later or contact System Administrator.', how do I troubleshoot?

A: Follow these steps:

- Use healthcheck api to verify Confirm Configuration Service deployment and configuration is successful.
- If configuration is unsuccessful, verify the ConfigurationServiceUrl value in Registry where Confirm is installed.
- Check the Confirm Client Provider log and Confirm Configuration Service log for more details.

If migrated to AWS, follow these additional steps:

- Verify that IAM User has at least Encryption and Decryption permissions on CMK.
- If Confirm Configuration Service log file reports that it is unable to read from Credential Manager, make sure that AWS credential configuration has been done with the ApplicationPool user.
- If Confirm Configuration Service log file reports that AWS access key is disabled, enable AWS access key by login into AWS account.

Q: Can I define IAM users regionally?

A: Users are global entities. Users can use AWS services in any geographic region.

Q: From where can I get more info about AWS Key Management Service (KMS)?

A: Visit URL: https://aws.amazon.com/kms/ and https://aws.amazon.com/kms/faqs/ for more details.

Q: From where can I get more info about AWS Identity and Access Management (IAM)?

A: Visit URL: https://aws.amazon.com/iam/ for more details.

Q: Once migrated to AWS for encryption, how can I go back to use Confirm's encryption?

A: Once migrated to use AWS encryption, manual intervention is required to get the database back to using Confirm's encryption. This will require cleaning up the passwords from all encrypted locations and setting them back again. You may contact Confirm support team for details.