



How to use encrypt/decrypt data

Project name: Cryptography Best practices

Package version: 1.0.0

Version	Date	Description
1	July 29, 2022	Document created

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INTRODUCTION

This document describes the SAP Build Process Automation sample **Cryptography Best practices** and provides the following information:

- Description (functional and technical)
- Version used to generate this sample

It also contains information on prerequisites, such as the steps to follow before launching the agent.

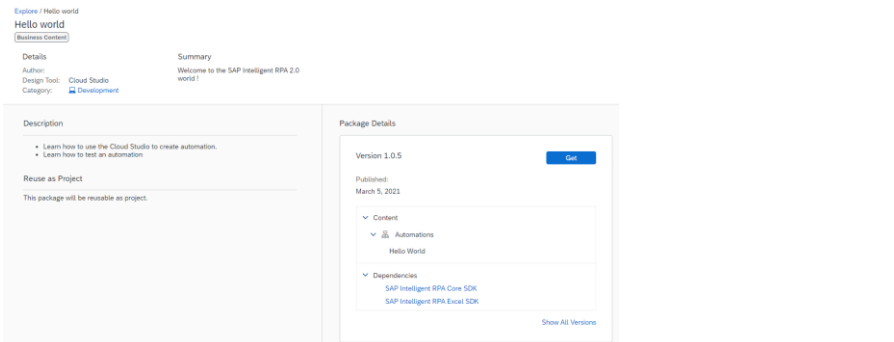
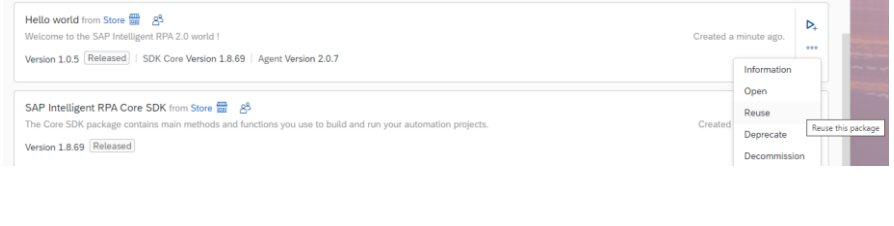
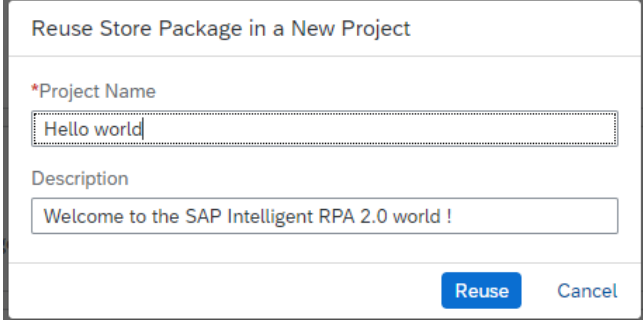
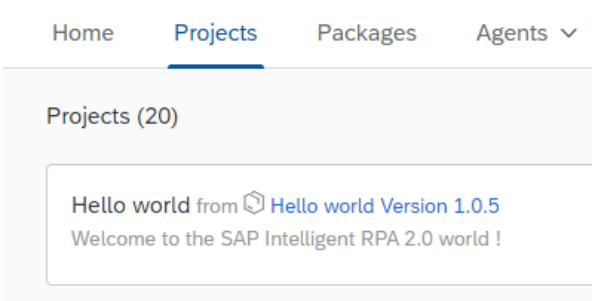
IMPORTANT RECOMMENDATION

General

To use this sample, you need to have a basic knowledge and understanding of SAP Build Process Automation tool. At the very least you need to know how to build an automation, add and modify activities and generate a package.

Reuse the sample as a new project

Note: screenshot might display a different name than the one of this sample.

<p>From the Cloud Factory, open the Store tab and select the sample you want to retrieve.</p> <p>Click on the Get button.</p>	
<p>Once the package is retrieved, open the Packages tab of the Cloud Factory.</p> <p>Click on the Options button of the package you just retrieved and select the option Reuse.</p>	
<p>Set a name for the project to be created.</p>	
<p>Open the project that has just been created.</p>	
<p>If needed, update the content of this project, and generate a new package from it.</p>	

You need to execute this procedure to be able to open the project and see all its content (the captured applications, the declared items, the automations, etc.).

DESCRIPTION

This package contains captures, datatype and automations that are described below. See chapter Version for more details about the version of the Desktop Agent and the SDK dependencies.

Settings

This section describes the settings of the project such as environment variables or dependent packages that are used in the automation.

Environment variables

N/A

Dependent packages

N/A

Captures

This section describes the captures which were made to pilot the application in this sample. It will also describe the different methods which were used to capture the pages and declare the items.

N/A

Datatypes

This section describes the datatype used in this sample. It describes the structure of the datatype and where it is used in the automations.

Mail Data Type

Name of attribute	Type	Description
Content	Any	Content of the mail to be encrypted/decrypted
Subject	String	Subject of the mail to be encrypted/decrypted
Recipients	String (list)	List of mail recipients

Web Service Data Type

Name of attribute	Type	Description
Code	Number	Status code of the web service call
Message	String	Status message of the web service call
Headers	Any	Headers of the response
Data	Any	Body of the response

Automations

Decrypt a message

Input/Output

Name	Type	Input/Output	Description
Certificate	String	Input	Name of the certificate to be used to decrypt data
InputMessageEncrypted	Any	Input	Encrypted data
MessageDecrypted	Any	Output	Message once it was decrypted

Description

The agent retrieves a specific certificate in the Windows Certificate Store, and uses it to decrypt data passed as input parameter.

Decrypt a web service call

Input/Output

Name	Type	Input/Output	Description
CN	String	Input	Name of the certificate
url	String	Input	URL of the web service sending encrypted data

Description

The agent retrieves data from a specific endpoint. The retrieved data is a collection of messages so the agent will iterate over the list to decrypt all the messages. To decrypt the data, the agent first retrieves a certificate from the Windows Certificate Store.

Decrypt an email

Input/Output

Name	Type	Input/Output	Description
certificateName	String	Input	Name of the certificate used to decrypt data
mailCriteria	Email search criteria	Input	Criteria used to dynamically select a specific mail.

Description

The agent will retrieve the certificate in the Windows Certificate Store. Using the Email search criteria passed as input parameter, it will then decrypt a specific email and log the result.

Encrypt a message

Input/Output

Name	Type	Input/Output	Description
Certificate	String	Input	Name of the certificate used to encrypt data
InputMessage	String	Input	Clear text to be encrypted
MessageEncrypted	String	Any	Encrypted data

Description

The agent will retrieve the certificate in the Windows Certificate Store and will use it to encrypt data passed as input parameter.

Encrypt Web Service Call

Input/Output

Name	Type	Input/Output	Description
inputText	String	Input	Text to be sent to the web service

Name	Type	Input/Output	Description
CertificateName	String	Input	Name of the certificate
webServiceURL	String	Input	URL of the service to be used

Description

The agent retrieves the certificate from the Windows Certificate Store. It will use it to encrypt data and then send it to a third part system.

Encrypt an Email

Input/Output

Name	Type	Input/Output	Description
CertificateName	String	Input	Name of the certificate
Mail	Mail data type	Input	Name of the folder where the document will be uploaded

Description

The agent retrieves the certificate from the Windows Certificate Store. It will use it to encrypt the subject and the body of the mail to be sent.

Retrieve the certificate

Input/Output

Name	Type	Input/Output	Description
CN	String	Input	Name of the certificate
Certificate	Certificate container	Output	Certificate retrieved

Description

The agent retrieves the certificate from the Windows Certificate Store. It will also encrypt and decrypt a test data to check that the certificate can be used in other automations.

Retrieve the Key container

Input/Output

Name	Type	Input/Output	Description
IDCertificate	String	Input	The name the key container
keyContainer	Key container	Output	The key container retrieved

Description

The agent retrieves a key container used to encrypt/decrypt data. It will also encrypt and decrypt a test data to check that the certificate can be used in other automations.

VERSION

The product versions used to generate this sample are detailed below. This sample is provided “as is”, with no warranty that it will work correctly with other versions. If some versions of your software are different (such as the tool version or the target application version), you may need to recapture the application and/or update the workflow activities.

SAP Build Process Automation

This sample targets the Desktop Agent **2.0.27** or higher.

The following SDK dependencies were used to generate this sample: 1.27.60

See [documentation](#) for more details about the compatibility between SDK version and Desktop Agent.

Target application

N/A

PREREQUISITES

Global setup

SAP Build Process Automation must be installed in accordance with the installation guide available [here](#). An SAP Build Process Automation Factory must be available with a suitable environment (containing an agent). All information can be found in the “Getting Started” section accessible via the above link.

Specific steps to follow before launching the agent

N/A

EXPECTED OUTPUT

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