End-to-end tests for electronic invoices, including eBill

PostFinance

Contact details

Consulting and sales for business customers
Tel.: 0848 888 900 (max. CHF 0.08/min. in Switzerland)

E-bill helpdesk
Tel.   0800 111 101
E-mail   e-bill.help@postfinance.ch

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1 Introduction

For e-bill tests, PostFinance offers the customer test environment (KI), which always has the same functional status as the productive environment (PROD), except just before releases. A new release is installed on the customer test environment approximately two weeks before production.

For data to be successfully transmitted to eBill, recipient IDs set up specifically for this purpose must be used. For more information on this, see section 4.3.

These instructions describe which preconditions invoice issuers must meet, especially for tests with SIX eBill, and which configurations are important for PostFinance so that end-to-end eBill tests are possible in the customer test environment.

Important: end-to-end-tests with eBill never contain direct access to the SIX eBill platform, or an affiliated e-banking application.

2 Preconditions

2.1 Configuration for customer integration

If you wish to carry out tests, you must register with the e-bill helpdesk in advance so that we can configure you on the customer test environmen.

2.2 PF login for the eInvoicing portal (eIP)

You can log in to the eInvoicing portal **via PF login.** If you have an **e-finance-login**, you can use it. **Otherwise**, you must first set up a personal login. To do this, you will need an e-mail address, a smartphone with an authenticator app installed (e.g. Google Authenticator).

You can create the login either via the production environment or the customer test environment. The same login is then used for both environments.

URL eIP PROD: https://einvoicing.postfinance.ch
URL eIP KI: https://einvoicing-ki.postfinance.ch

3 eInvoicing platform

3.1 Initial login

Logging in to the eInvoicing portal uses PF login, i.e. either via e-finance login or the login created with an e-mail address, password and authenticator as shown in section 2.

Depending on which URL you have selected, you will either be taken to the production environment or the customer test environment:
URL eIP PROD: https://einvoicing.postfinance.ch
URL eIP KI: https://einvoicing-ki.postfinance.ch

If you have logged in to the customer test environment, you can see this in the bar at the top after logging in.

When you log in, the system will verify whether the user you are using in your selected environment (production or customer test environment) is already assigned to an e-bill contract. If this is not the case, the following page will appear:

3.2 Existing BillerID/PayerID

If you have already registered a BillerID or PayerID for your company, do NOT register a new company, and instead request access to the existing one (shown in red above). For tests in the customer test environment, please make sure beforehand that your ID is configured in the environment.
Please note: Option 4, i.e. access to a company migrated from Paynet, is the same function as Option 2.
If several IDs are found for the same company, the following notification will appear:

In this instance, you will need to discuss what to do next with the e-bill helpdesk.

3.3 New customer

If your company is not registered as an invoice issuer (BillerID) or invoice recipient (Payer ID), your company can be registered as a new one (Option 3, highlighted in yellow).
Ideally, your company identification (company ID no.) should be used to register the company. But you can also register using the company name. If possible, the company name you enter should be as close as possible to the name that appears in the commercial register.

4 Test cases and procedures

4.1 Preconditions

To conduct tests with eBill, eBill must first be activated in the customer test environment at SIX eBill. This requires the following settings, which can only be applied in the eIP if PostFinance is the primary network partner.
– The eBill status must be active.
– For tests relating to registrations/deregistrations, the eBill company search must also be active.
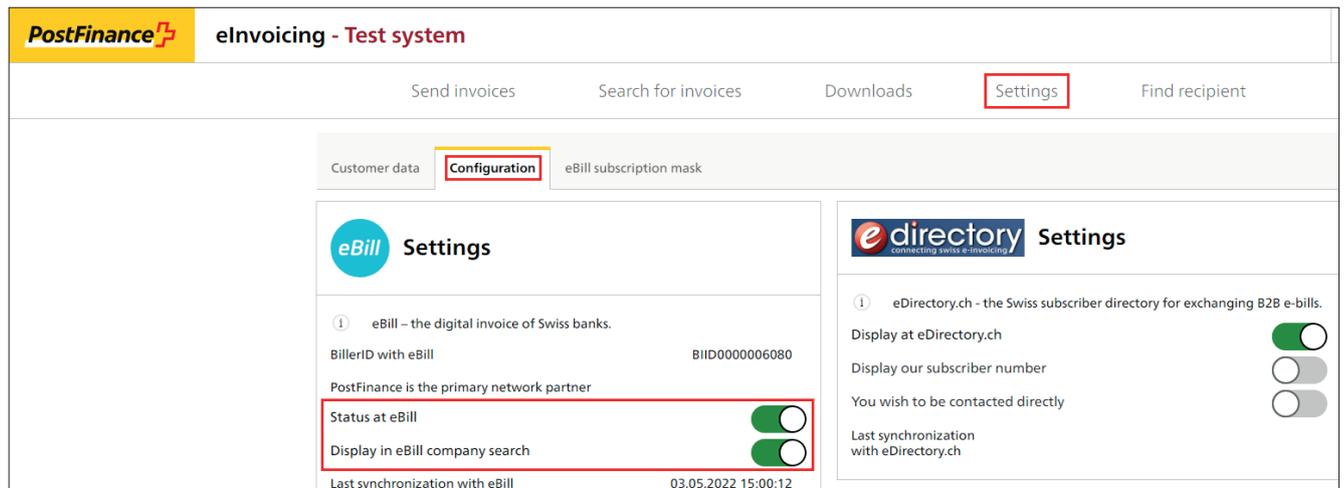
Synchronization with eBill occurs after activation (approx. 30 minutes). After that point, the date/time of the most recent synchronization will be visible in the eBill settings tile. The tests can then begin.

4.2 Receive and process registrations/deregistrations from eBill customers

As a rule, tests for registrations/deregistrations can be conducted in the production environment and in the customer test environment. The advantage of performing the tests directly in production is that the settings do not have to be reconfigured in production afterwards.

As long as the settings are not definitive, we recommend deactivating "Display in eBill company search" in production. This will prevent the registration form from being displayed in the eBill portal. You can also take the following steps if you have deactivated "Display in eBill company search", or the eBill status is deactivated.

If you wish to conduct the customer tests independently of ongoing operations, you must use the customer test environment. In doing so, bear in mind that, once the tests have been successfully completed, the same configurations must be entered in the production environment. The customer test environment settings cannot be transferred to the production environment.

4.2.1 Registration form configuration

eBill subscription mask   ↺ Reset
                                                                                  ✎ Edit

Configure and personalize the eBill subscription mask for your customers. This mask appears when a customer adds your company in the eBill portal to his invoice issuers.

Preview in: [English ⌄]   for   [Private customers ⌄]

Robert Schneider SA
Ruelle du Lac 177, 2503 Biel/Bienne

Subscribe at Robert Schneider SA to receive future invoices via eBill.

ⓘ Hier erscheint die Zusatzinformation auf EN

You are subscribing with the following data:

Maria Bernasconi
Testgasse 4
8001 Zurich
maria.bernasconi@test.ch

Date of birth   └_____

Reference Number   └_____

Delivery of subscription and cancellation data   ✎ Edit

Preparation   **Delivery format**
Collective message   CSV File

Delivery channel
eInvoicing Portal

                                                        [Download sample file]

Using the "Edit" function, you can configure additional information, additional fields and the relevant descriptions yourself. Additional fields are additional information that is required to better identify your customers. You can find more details in the section "Standard eBill registration screens" of the e-bill manual. In the example mentioned above, the "Contract number" is defined as an additional field. Once stored, the registration form data is transferred to eBill with the next synchronization. The synchronization occurs every 30 minutes.

In the section below, you can use the "Edit" function to configure the way that registration/deregistration data is delivered. Here you can select whether you would like the data to be delivered in CSV format (CSV V2.0) or in XML format (CRM-XML V2.0). You can also select the delivery channel and processing method you would like.

Create a sample file for registrations/deregistrations

For complete end-to-end functionality that is exactly as it is in the real world in production, all the parties involved would be needed. These are:

1. The e-banking customer with access to their e-banking account
2. The bank that offers e-banking and is affiliated with SIX eBill
3. SIX eBill infrastructure
4. The invoice issuer's primary network partner
5. Invoice issuers

Seeing as it is not possible to make all the partners needed available in the customer test environment in their entirety (esp. 1 and 2), PostFinance has set up a function in the eInvoicing portal to create a sample file.
If you have configured the registration form in addition to the delivery method, you can download a sample file. The file is generated in the set delivery format (CSV or XML) and in any additional fields defined in the registration form.
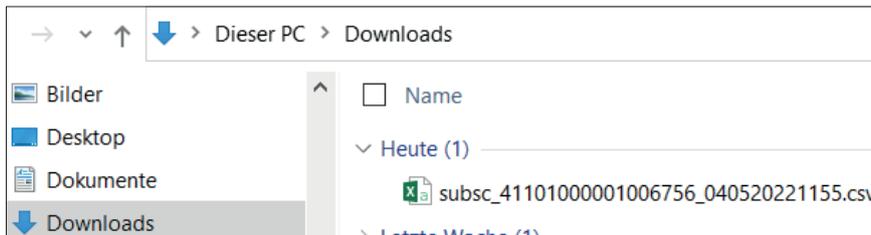
PLEASE NOTE: You must save the CSV file locally and then open it with → Editor by right-clicking → on the mouse (or using a different text processor). If you open the CSV file with Excel (by double-clicking), the incorrect BillerID and RecipientID will be displayed.

For the example shown in section 4.2.1, the CSV file in the editor looks as follows:

It includes:
- 2 examples of SubscriptionType 1 = registration via registration form
- 3 examples of SubscriptionType 2 = direct registration (each with an ISR reference, QR reference and SCOR reference)
- 1 example of SubscriptionType 3 = deregistration

Additional fields are only provided for SubscriptionType 1, and are marked in the sample file with an X.

In the Editor mode, you can fill these values with real or even deliberately false information that you want to use for testing, for instance as follows:

```
NAME;FAMILYNAME;COMPANYNAME;ADDRESS;ZIP;CITY;COUNTRY;EMAIL;UID;CREDITACCOUNT;CREDITORREFERENCE;CONTRACTNBR
terstrasse 1;3000;Bern;CH;hans.muster@mail.ch;;;;1582369
asse 1;3000;Bern;CH;info@example.ch;CHE123456789;;;9999999
;;Strasse 2;3001;Bern;CH;giovanni.esempio@mail.ch;;01-001234-1;123456789012345;
rasse 3;3002;Bern;CH;john.example@mail.ch;;CH5130000001250090342;12345678901234567890123456767;
Strasse 4;3003;Bern;CH;karin.beispiel@mail.ch;;CH0309000000250090342;RF20200226000ALPHA1234567;
asse 5;3004;Bern;CH;kurt.anders@mail.ch;;;;
```

You can also copy as many lines as you want, and generate more samples in the process. Likewise, BillerID and RecipientID, or other information such as names, can be replaced by real values as you see fit. By doing so, you create a sample form that is identical to when one of your customers registers/deregisters directly via eBill.

You can do exactly the same with the XML sample file. To do this, you must open the XML file with an XML editor in which you can enter the necessary information manually.

```xml
 1    <?xml version="1.0" encoding="utf-8"?>
 2   <CustomerRegistrationMessage xmlns:xsd="http://www.w3.org/
      version="2.0">
 3      <CustomerRegistration>
 4         <SubscriptionType>1</SubscriptionType>
 5         <BillerID>41100000000000050</BillerID>
 6         <RecipientID>41100000000000001</RecipientID>
 7         <RecipientType>PRIVATE</RecipientType>
 8         <Language>de</Language>
 9         <CustomerNameAddress>
10           <NamePrivate>
11              <GivenName>Hans</GivenName>
12              <FamilyName>Muster</FamilyName>
13           </NamePrivate>
14           <Address>Musterstrasse 1</Address>
15           <Zip>3000</Zip>
16           <City>Bern</City>
17           <Country>CH</Country>
18         </CustomerNameAddress>
19         <Email>hans.muster@mail.ch</Email>
20         <CustomerSubscriptionFormField>
21           <TechnicalID>CONTRACTNBR</TechnicalID>
22           <Value>1582369</Value>
23         </CustomerSubscriptionFormField>
24      </CustomerRegistration>
```

A sample file generated in this way can only be read in your test environment and used for testing purposes. If need be, the file can be placed directly in the input channel and processed further from there.

If you wish to have the test file moved from the PostFinance environment to the channel you require, please contact our e-bill helpdesk.

PLEASE NOTE: If the settings for the login screen have been configured in the **customer test environment,** you must **configure these in exactly the same way in the** productive environment.

4.2.2 Tests using the banking porta

Dedicated e-bill helpdesk staff have access to the SIX eBill banking portal, where the eBill portal can be displayed in real life. Registration/deregistration tests can also be carried out here, generating corresponding registration/ deregistration test files that can be downloaded the following day from the eInvoicing portal under "Downloads". These tests are an even closer reflection of reality because the eBill portal can be simulated via the banking portal. However, they are more complex for all parties involved.

Please contact your advisor if you would like to conduct tests using the banking portal.

For regulatory reasons, customers cannot gain access to the banking portal themselves.

4.3 Send invoices

If you are configured in the customer test environment according to section 2.1, you can upload invoices and deliver for eBill.

A precondition for successful submission to eBill is that the authorizations for delivery for the relevant invoice recipients are stored for you at SIX eBill. This is also the case if the look-up function is activated for these invoice recipients.

The following pre-configured invoice recipients are available to you for testing in the test environment.

Case	First name	Last name	Company name	Date of birth	E-mail / company ID no.	Segment	eBillAccountID / PID	Lookup
1	Sandra	Berger-Test		01.01.1973	sandrabergertest.20210730-141256479@ebill.ch	PC	41012178193445685	Active
2	Thomas	Müller-Test		10.10.1997	thomasmllertest.20210730-141041679@ebill.ch	PC	41012139347097339	Active
3	Melanie	Kaiser-Test		10.05.1973	melaniekaisertest.20210730-141538852@ebill.ch	PC	41012117039793939	non active
4			Sample Company Ltd		CHE123456789	BC	41012142117897198	Active

This results in the following testing options:

Case	Name	Segment	Recipient adressing	Result
1	Berger-Test	PC	PID or e-mail possible PID recommended	Invoice successfully sent
2	Müller-Test	PC	PID or e-mail possible PID recommended	Invoice successfully sent
3	Kaiser-Test	PC	PID or e-mail possible PID recommended	Invoice not sent successfully because the recipient's authorization for delivery (look-up) is not active
4	Sample Company Ltd	BC	PID or company ID no. possible PID recommended	Invoice successfully sent

In this respect invoice recipients 1, 2 and 4 can also be used for end-to-end tests by adding the recipients to the registration sample file (see section 4.2.2) and using them to send test invoices once they have been stored in their database/receivables application.

4.4 Monitoring processing and the processing log

In the eInvoicing portal, you can check the result of processing in the "Search invoices" menu shortly after submission.

Any system notifications are visible in the transaction details.

The following day a processing log will be provided. You can either download it from the eInvoicing portal under "Downloads" or via the set delivery channel.

4.5 Other test cases

Other test cases are possible. For other cases, contact the eBill helpdesk.
Below are a few examples:

Test case	Testing
Reject invoice (variant 1)	The e-bill helpdesk can set an invoice to the status "rejected by recipient", which results in a corresponding notification in the next processing log.
Reject invoice (variant 2)	The e-bill helpdesk can reject an invoice via the banking portal (see section 4.2.3), which results in a corresponding notification in the next processing log.
NOK cases	Deliberately erroneous invoices can be submitted autonomously, e.g. containing impossible date values. These are displayed automatically in the eInvoicing portal with the corresponding error message, or in the next processing log with NOK.

Note: Direct registrations (SUBSCRIPTIONTYPE 2) cannot be tested end-to-end in the customer test environment because they are triggered by a payment entered previously in an e-banking application.