



PEtALS-BC-FILETRANSFER

This document explain how to install configure and use the petals-bc-filetransfer JBI component.

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PEtALS-BC-FILETRANSFER

The FileTransfer component is a Binding Component (BC) which supports file transfers.

This component allows to :

- Poll a configured directory for incoming files. At a poll, each file retrieved is put into a new JBI message, set as source or attachment. The message is sent to a target JBI service.
- Provide a standard service that write the JBI message (content and attachments) it receives into a file with a specified name and suffixed with the current date name.
- Provide a **GetFiles** service, to retrieve files correponding to a pattern, from a folder. This service is called when the request operation is **getFiles**.

Provide a **GetFile** service, to retrieve the first file correponding to a pattern, from a folder. This service is called when the request operation is **getFile**.

Provide a **SetFile** service, to write the JBI message (content and attachments) it receives into a file with a specified name.**setFile**.

Chapter 1. Component Configuration

no specific configuration for this component

Table 1.1. Configuration of the component (CDK)

Parameter	Description	Default	Required	Scope
acceptor-pool-size	The size of the thread pool used to accept Message Exchange from the NMR. Once a message is accepted, its processing is delegated to the processor pool thread.	5	Yes	Runtime
processor-pool-size	The size of the thread pool used to process Message Exchanges. Once a message is accepted, its processing is delegated to one of the thread of this pool.	10	Yes	Runtime
performance-notifications	Enable the performance notifications in the component. The CDK proposes to a performance notification feature to the component implementor. If you enable this feature, you must use the related method accessible in the <code>AbstractComponent</code> class.	-	No	Runtime
performance-step	When the performance notification feature is enabled, it is possible to define a step on the notifications. When there is an heavy message traffic, it is recommended to increase this step to avoid performance disturbance.	-	No	Runtime
properties-file	Name of the file containing properties used as reference by other parameters. Parameters reference the property name in the following pattern <code>\${myPropertyName}</code> . At runtime, the expression is replaced by the value of the property. The value of this parameter is : <ul style="list-style-type: none"> • an URL • a file relative to the PEtALS installation path • an empty value to stipulate a non-using file 	empty value	Yes	Installation
ignored-status	When the component receives an acknowledgement message exchange, it can skip the processing of these message according to the type of the acknowledgment. If you decide to not ignore some acknowledgement, the component listeners must take care of them. Accepted values : <code>DONE_AND_ERROR_IGNORED</code> , <code>DONE_IGNORED</code> , <code>ERROR_IGNORED</code> OR <code>NOTHING_IGNORED</code>	<code>DONE_AND_ERROR_IGNORED</code>	Yes	Component
jbi-listener-class-name	Qualified name of the class extending AbstractJBIListener	-	Yes	Component
external-listener-class-name	Qualified name of the class extending AbstractExternalListener	-	No	Component

Definition of CDK parameter scope :

- *Component* : The parameter has been defined during the development of the component. A user of the component can not change its value.
- *Installation*: The parameter can be set during the installation of the component, by using the installation MBean (see JBI specifications for details about the installation sequence). If the parameter is optional and has not been defined during the development of the component, it is not available at installation time.

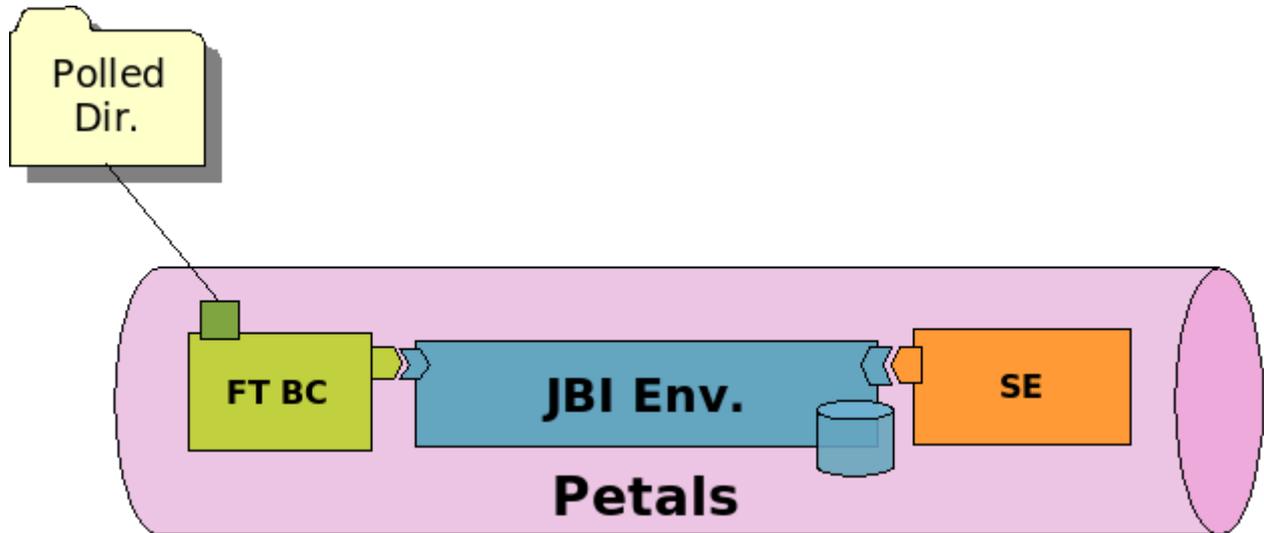
- *Runtime* : The parameter can be set during the installation of the component and during runtime. The runtime configuration can be changed using the CDK custom MBean named `RuntimeConfiguration`. If the parameter is optional and has not been defined during the development of the component, it is not available at installation and runtime times.

Chapter 2. Service Configuration

2.1. Transfer files into the JBI bus

CONSUME SERVICE : Transfer file(s) to a JBI service

Figure 2.1. Consumes a JBI service on polled file(s)



2.1.1. Service Unit descriptor

```
<?xml version="1.0" encoding="UTF-8"?>
<jbi:jbi version="1.0"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:jbi="http://java.sun.com/xml/ns/jbi"
  xmlns:petalsCDK="http://petals.ow2.org/components/extensions/version-4.0"
  xmlns:filetransfer="http://petals.ow2.org/components/filetransfer/version-2.1"
  xmlns:generatedNs="http://petals.ow2.org/filetransfer">

  <jbi:services binding-component="false">

    <jbi:consumes
      interface-name="generatedNs:get"
      service-name="generatedNs:getService"
      endpoint-name="getServiceEndpoint">

      <!-- CDK specific fields -->
      <petalsCDK:operation>test</petalsCDK:operation>
      <petalsCDK:mep>InOnly</petalsCDK:mep>

      <!-- FileTransfer specific fields -->
      <filetransfer:read-directory>${PETALS_HOME}/filetransfer/in</filetransfer:read-directory>

      <filetransfer:backup-directory>${PETALS_HOME}/filetransfer/backup</filetransfer:backup-directory>
      <filetransfer:transfer-mode>content</filetransfer:transfer-mode>
      <filetransfer:polling-period>1000</filetransfer:polling-period>
    </jbi:consumes>
  </jbi:services>
</jbi:jbi>
```

Table 2.1. Configuration of a Service Unit to consume a service (JBI)

Parameter	Description	Default	Required
consumes	Name of the JBI service to invoke into the JBI bus. You can define only the interface (qname) to let the NMR choose a matching service, or the pair service(qname) and endpoint (string) to consume the localized service.	-	Yes

**Note**

To be able to download WSDL imports in a long futur, these imports are cached by the CDK when installing services. This feature can be disabled with `disableWsdllImportsDownload`.

Table 2.2. Configuration of a Service Unit to consume a service (Filetransfer)

Parameter	Description	Default	Required
read-directory	The location of the directory to poll on files. The address must be absolute. Environment variables are supported with the form <code>\${myEnvVariable}</code> .	-	Yes
backup-directory	The backup directory where files are put once a transfer has been processed. The backup files are never deleted by the component. Environment variables are supported with the form <code>\${myEnvVariable}</code> .	-	No
polling-period	The period between each polling in ms.	1000	Yes
transfer-mode	The mode of transfer of the received file(s) as message payload. Accepted values : <code>content</code> , <code>attachment</code> .	<code>content</code>	Yes

2.1.2. Consumer restrictions

The FileTransfer component supports only `InOnly` message exchange pattern as consumer.

The FileTransfer component does not support synchronous sendings as consumer.

2.1.3. Consumer usage

If you want to invoke a service in the JBI bus with files, put the files in the configured directory (`read-directory`). At each configured polling period (`polling-period`), the component fetchs the incoming files.

For each received files and according to the transfer mode (`transfer-mode`), the component creates a new message exchange and attaches the file, either as source or as attachment.

If a file is put as a attachment, the name of the attachment is set to the name of the file, and in the source of the message exchange, the component put a XML structure like following:

```
<attached-files>
  <file-name>myFileName</file-name>
</attached-files>
```

The resulted message exchange(s) are sent to the target endpoint.

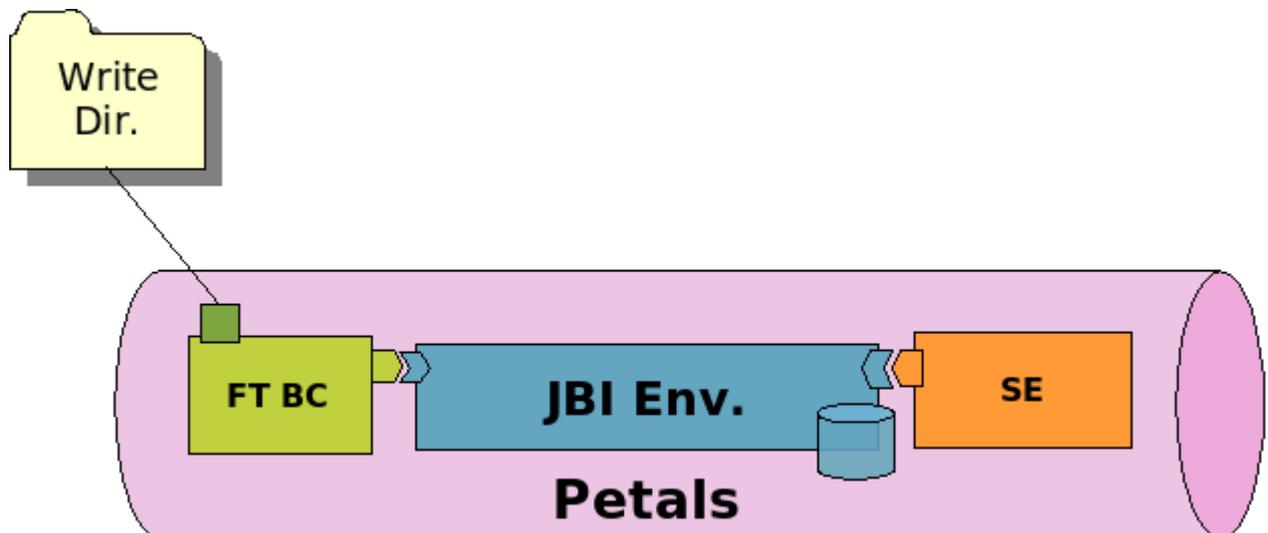
During the transfer, if the backup directory (`backup-directory`) is set, the transferred file is moved into it and never deleted by the component. Otherwise the file is moved to the component working directory until the exchange is achieved, then it is deleted.

When deploying a service unit like in the [previous code snippet](#), all the files put in the directory `$_PETALS_HOME/filetransfer/in` would be set as the payload of an invocation to the `getService` service.

2.2. Transfer files out of the JBI bus

PROVIDE SERVICE : Write JBI messages content and attachments to directory

Figure 2.2. Provides a JBI service to write JBI messages into directory



2.2.1. Service Unit descriptor

```
<?xml version="1.0" encoding="UTF-8"?>
<jbi:jbi version="1.0"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:jbi="http://java.sun.com/xml/ns/jbi"
  xmlns:petalsCDK="http://petals.ow2.org/components/extensions/version-4.0"
  xmlns:filetransfer="http://petals.ow2.org/components/filetransfer/version-2.1"
  xmlns:generatedNs="http://petals.ow2.org/filetransfer">

  <jbi:services binding-component="true">

    <jbi:provides
      interface-name="generatedNs:put"
      service-name="generatedNs:putService"
      endpoint-name="putServiceEndpoint">

      <!-- WSDL file -->
      <petalsCDK:wSDL xsi:nil="true" />

      <-- FileTransfer specific fields -->
      <filetransfer:write-directory>${PETALS_HOME}/filetransfer/out</filetransfer:write-directory>
      <filetransfer:copy-mode>content-only</filetransfer:copy-mode>
      <filetransfer:file-pattern>test.xml</filetransfer:file-pattern>
    </jbi:provides>
  </jbi:services>
```

```
</jbi:jbi>
```

Table 2.3. Configuration of a Service Unit to provide a service (JBI)

Parameter	Description	Default	Required
provides	Describe the JBI service that will be exposed into the JBI bus. <code>Interface</code> (qname), <code>service</code> (qname) and <code>endpoint</code> (string) attributes are required.	-	Yes

Table 2.4. Configuration of a Service Unit to provide a service (CDK)

Parameter	Description	Default	Required
<code>wsdl-imports-download</code>	If false, the external imports declared in the service WSDL won't be downloaded, so they won't be replaced by their content.	True	No
<code>wsdl</code>	Path to the WSDL document describing services and operations exposed by the provided JBI endpoints defined in the SU. The value of this parameter is : <ul style="list-style-type: none"> • an URL • a file relative to the root of the SU package If not specified, a basic WSDL description is automatically provided by the CDK.	-	No
<code>timeout</code>	Timeout in milliseconds of a synchronous send. this parameter can be used in conjunction with the <code>sendSync(Exchange exchange)</code> method of the Listeners. Set 0 for an infinite timeout.	-	No
<code>org.ow2.petals.messaging.provider.check</code>	Check PETALS container document for further details. This property activates the bypass of acknowledgment messages destined to this SU.	-	No

Table 2.5. Configuration of a Service Unit to provide a service (Filetransfer)

Parameter	Description	Default	Required
write-directory	The location of the directory where to write JBI message. It must be an absolute address. The directory will be created if it does not exist. Environment variables are supported with the form <code>\${myEnvVariable}</code> .	The component workspace directory	No
copy-mode	Transfer either the source, the attachments or both of the payload. Possible values are <code>content-only</code> , <code>attachments-only</code> or <code>content-and-attachments</code> .	<code>content-and-attachments</code>	Yes
file-pattern	The name of the file where the JBI message source will be written in. The file name will be the JBI operation value if operation found, else it will be the default name <code>content.xml</code> . The system date (in ms since 1970) will be appended on each created file.	The operation name or <code>content.xml</code>	No

2.2.2. Provider restrictions

The FileTransfer component supports only `InOnly` message exchange pattern as service provider.

2.2.3. Provider Usage

According to the configured mode (`copy-mode`), the ingoing normalized message exchange content, attachments or both are transferred to the target directory (`write-directory`).

If the component transfers a source, the name of the created file would be either the configured file pattern (`file-pattern`), the operation of the message exchange, or the default name `content.xml`.

If the component transfers attachments of a message exchange, the name of the created files would be the names of the attachments.

For each file created, the system date is appended to the file name.

When deploying a service unit like in the [previous code snippet](#), all the JBI messages received on the `putService` service will produce files in the `${PETALS_HOME}/filetransfer/out` directory.

2.2.3.1. setFile operation

When the `setFile` operation is set on the incoming IN message, the component write a file with the file name pattern (or by default `setFile.xml`), in the configured write directory (or by default into the component workspace directory). The file is written as an XML file with the in message into the original exchange.

The available exchange pattern is : **InOnly**.

2.2.3.2. default operation

According to the configured mode (`copy-mode`), the ingoing normalized message exchange content, attachments or both are transferred to the target directory (`write-directory`).

If the component transfers a source, the name of the created file would be either the configured file pattern (`file-pattern`), the operation of the message exchange, or the default name `content.xml`.

If the component transfers attachments of a message exchange, the name of the created files would be the names of the attachments.

For each file created, the system date is appended to this file name.

When deploying a service unit like in the [previous code snippet](#), all the JBI messages received on the `putService` service will produce files in the `${PETALS_HOME}/filetransfer/out` directory.

2.3. Retrieve files from a folder : the GetFiles service

PROVIDE SERVICE : return files from a folder as XML message or attachments

2.3.1. Service Unit descriptor

```
<?xml version="1.0" encoding="UTF-8"?>
<jbi:jbi version="1.0"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:jbi="http://java.sun.com/xml/ns/jbi"
  xmlns:petalsCDK="http://petals.ow2.org/components/extensions/version-4.0"
  xmlns:filetransfer="http://petals.ow2.org/components/filetransfer/version-2.2"
  xmlns:generatedNs="http://petals.ow2.org/filetransfer">

  <jbi:services binding-component="true">

    <jbi:provides
      interface-name="gefiletransfer:GetFiles"
      service-name="generatedNs:myGetFilesService"
      endpoint-name="getFilesServiceEndpoint">

      <!-- WSDL file -->
      <petalsCDK:wSDL xsi:nil="true" />

      <-- FileTransfer specific fields -->
      <filetransfer:read-directory>${PETALS_HOME}/filetransfer</filetransfer:read-directory>
    </jbi:provides>
  </jbi:services>
</jbi:jbi>
```

Table 2.6. Configuration of a Service Unit to provide a service (JBI)

Parameter	Description	Default	Required
provides	Describe the JBI service that will be exposed into the JBI bus. <code>interface</code> (qname), <code>service</code> (qname) and <code>endpoint</code> (string) attributes are required.	-	Yes

Table 2.7. Configuration of a Service Unit to provide a service (CDK)

Parameter	Description	Default	Required
wsdl-imports-download	If false, the external imports declared in the service WSDL won't be downloaded, so they won't be replaced by their content.	True	No
wsdl	Path to the WSDL document describing services and operations exposed by the provided JBI endpoints defined in the SU. The value of this parameter is : <ul style="list-style-type: none"> • an URL • a file relative to the root of the SU package If not specified, a basic WSDL description is automatically provided by the CDK.	-	No
timeout	Timeout in milliseconds of a synchronous send. this parameter can be used in conjunction with the <code>sendSync(Exchange exchange)</code> method of the Listeners. Set 0 for an infinite timeout.	-	No
org.ow2.petals.messaging.provider.checkPEtALS	Check PEtALS container document for further details. This property activates the bypass of acknowledgment messages destined to this SU.	-	No

Table 2.8. Configuration of a Service Unit to provide the GetFiles service (Filetransfer)

Parameter	Description	Default	Required
read-directory	The directory where files will be searched when GetFiles is invoked. Environment variables are supported with the form <code>\${myEnvVariable}</code> .		Yes
backup-directory	The directory where files are moved after being read. Files are moved in the <code>system temp</code> directory is defined. Environment variables are supported with the form <code>\${myEnvVariable}</code> .	files are moved in the <code>system temp</code> directory after being read	No

2.3.2. Provider restrictions

The FileTransfer component supports only `InOutOnly` or `InOptionalOut` message exchange pattern as service provider.

2.3.3. Provider Usage

2.3.3.1. GetFile operation

When the `getFiles` operation is set on the incoming IN message, the component returns the first file found in the configured directory, according to the file filter set in the XML request. The file is returned as an XML response message (so the file MUST be an XML file).

The IN message looks like :

```
<q0:getFile xmlns:q0="http://petals.ow2.org/components/filetransfer/version-2.2">
  <q0:filepattern>*.xml</q0:filepattern>
</q0:getFile>
```

The OUT message returned to the consumer is the XML content of the first file matching the pattern :

The read file is moved to the configured backup directory or in the system TEMP directory

The available exchange patterns are : **InOptionalOut, InOut**.

2.3.3.2. GetFiles operation

When the `getFiles` operation is set on the incoming IN message, the component returns all the files file found in the configured directory, according to the files filters set in the XML request. The files are all returned as attachments. An XML report message is returned.

The IN message looks like :

```
<q0:getFiles xmlns:q0="http://petals.ow2.org/components/filetransfer/version-2.2">
  <q0:filepattern>*.xml</q0:filepattern>
  <q0:filepattern>picture.jpg</q0:filepattern>
  <q0:filepattern>document??.doc</q0:filepattern>
</q0:getFiles>
```

The OUT message returned to the consumer is defined as follow :

```
<q0:getFilesResponse xmlns:q0="http://petals.ow2.org/components/filetransfer/version-2.2">
  <q0:filename>file1.xml</q0:filename>
  <q0:filename>file2.xml</q0:filename>
  <q0:filename>picture.jpg</q0:filename>
  <q0:filename>document_1.doc</q0:filename>
  <q0:filename>document_2.doc</q0:filename>
</q0:getFilesResponse>
```

Files are returned as attachments.

The read files are moved to the configured backup directory or in the system TEMP directory.

The available exchange patterns are : **InOptionalOut, InOut**.