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

PEtALS Team

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<th></th>
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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 corresponding 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 corresponding 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)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Default</th>
<th>Required</th>
<th>Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>acceptor-pool-size</td>
<td>The size of the thread pool used to accept Message Exchange from</td>
<td>5</td>
<td>Yes</td>
<td>Runtime</td>
</tr>
<tr>
<td></td>
<td>the NMR. Once a message is accepted, its processing is delegated to</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>the processor pool thread.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>processor-pool-size</td>
<td>The size of the thread pool used to process Message Exchanges.</td>
<td>10</td>
<td>Yes</td>
<td>Runtime</td>
</tr>
<tr>
<td></td>
<td>Once a message is accepted, its processing is delegated to one of</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>one of the thread of this pool.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>performance-notifications</td>
<td>Enable the performance notifications in the component. The CDK提出</td>
<td>-</td>
<td>No</td>
<td>Runtime</td>
</tr>
<tr>
<td></td>
<td>to a performance notification feature to the component</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>implementor. If you enable this feature, you must use the related</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>method accessible in the AbstractComponent class.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>performance-step</td>
<td>When the performance notification feature is enabled, it is</td>
<td>-</td>
<td>No</td>
<td>Runtime</td>
</tr>
<tr>
<td></td>
<td>possible to define a step on the notifications. When there is an</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>heavy message traffic, it is recommanded to increase this step to</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>avoid performance disturbance.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>properties-file</td>
<td>Name of the file containing properties used as reference by other parameters. Parameters reference the property name in the following pattern ${myPropertyName}. At runtime, the expression is replaced by the value of the property.</td>
<td>empty</td>
<td>Yes</td>
<td>Installation</td>
</tr>
<tr>
<td></td>
<td>The value of this parameter is :</td>
<td>value</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• an URL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• a file relative to the PEtALS installation path</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• an empty value to stipulate a non-using file</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ignored-status</td>
<td>When the component receives an acknowledgement message exchange, it can</td>
<td></td>
<td></td>
<td>Component</td>
</tr>
<tr>
<td></td>
<td>skip the processing of these message according to the type of the</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>acknowledgment. If you decide to not ignore some acknowledgement, the</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>component listeners must take care of them.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Accepted values : DONE_AND_ERROR_IGNORED, DONE_IGNORED, ERROR_IGNORED,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NOTHING_IGNORED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>jbi-listener-class-name</td>
<td>Qualified name of the class extending AbstractJBIListener</td>
<td>-</td>
<td>Yes</td>
<td>Component</td>
</tr>
<tr>
<td>external-listener-class-name</td>
<td>Qualified name of the class extending AbstractExternalListener</td>
<td>-</td>
<td>No</td>
<td>Component</td>
</tr>
</tbody>
</table>

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
<?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)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Default</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>consumes</td>
<td>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.</td>
<td>-</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**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 disableWsdlImportsDownload.

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

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

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:
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
<?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>
```
### Table 2.3. Configuration of a Service Unit to provide a service (JBI)

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

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

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Default</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>wsdl-imports-download</td>
<td>If false, the external imports declared in the service WSDL won’t be downloaded, so they won’t be replaced by their content.</td>
<td>True</td>
<td>No</td>
</tr>
</tbody>
</table>
| 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:  
• 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 sendSync(Exchange exchange) method of the Listeners. Set 0 for an infinite timeout. | -       | No       |

org.ow2.petals.messaging.provider.noack

This property activates the bypass of acknowledgment messages destined to this SU.
### Table 2.5. Configuration of a Service Unit to provide a service (Filetransfer)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Default</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>write-directory</td>
<td>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>.</td>
<td>The component workspace directory</td>
<td>No</td>
</tr>
<tr>
<td>copy-mode</td>
<td>Transfer either the source, the attachments or both of the payload. Possible values are content-only, attachments-only or content-and-attachments.</td>
<td>content-and-attachments</td>
<td>Yes</td>
</tr>
<tr>
<td>file-pattern</td>
<td>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 content.xml. The system date (in ms since 1970) will be appended on each created file.</td>
<td>The operation name or content.xml</td>
<td>No</td>
</tr>
</tbody>
</table>

**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
<?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)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Default</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>provides</td>
<td>Describe the JBI service that will be exposed into the JBI bus. Interface (qname), service (qname) and endpoint (string) attributes are required.</td>
<td>-</td>
<td>Yes</td>
</tr>
</tbody>
</table>
### Table 2.7. Configuration of a Service Unit to provide a service (CDK)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Default</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>wsdl-imports-download</td>
<td>If false, the external imports declared in the service WSDL won't be downloaded, so they won't be replaced by their content.</td>
<td>True</td>
<td>No</td>
</tr>
</tbody>
</table>
| 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:  
• 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 sendSync(Exchange exchange) method of the Listeners. Set 0 for an infinite timeout. | -       | No       |

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

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

### 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:
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:

```xml
&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:

```xml
&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.**