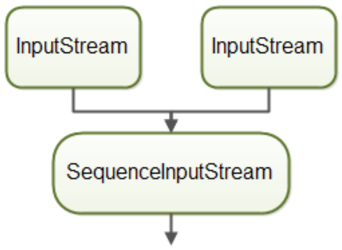
Java IO: SequenceInputStream

Jakob Jenkov
Last update: 2015-08-31

The Java SequenceInputStream combines two or more other InputStream's into one. First the SequenceInputStream will read all bytes from the first InputStream, then all bytes from the second InputStream. That is the reason it is called a *SequenceInputStream*, since the InputStream instances a read in sequence.



SequenceInputStream Example

It is time to see an example of how to use a SequenceInputStream.

Before you can use the SequenceInputStream you must import it in your Java class. Here is how to imp SequenceInputStream:

```
import java.io.SequenceInputStream;
```

This import statement should be at the top of your Java class, right under the package declaration.

Now let us see how to use the SequenceInputStream. Here is a simple Java SequenceInputStream exam

```
InputStream input1 = new FileInputStream("c:\\data\\file1.txt");
InputStream input2 = new FileInputStream("c:\\data\\file2.txt");

SequenceInputStream sequenceInputStream =
    new SequenceInputStream(input1, input2);

int data = sequenceInputStream.read();
while(data != -1){
    System.out.println(data);
    data = sequenceInputStream.read();
}
```

This Java code example first creates two FileInputStream instances. The FileInputStream extends th InputStream class, so they can be used with the SequenceInputStream.

Second, this example creates a SequenceInputStream . The SequenceInputStream is given the two FileInputStream instances as constructor parameters. This is how you tell the SequenceInputStream to combine two InputStream instances.

The two InputStream instances combined with the SequenceInputStream can now be used as if it was c coherent stream. When there is no more data to read from the second InputStream, the SequenceInputStream read() method will return -1, just like any other InputStream does.

Combining More Than Two InputStreams

You can combine more than two InputStream instances with the SequenceInputStream in two ways. Th first way is to put all the `InputStream` instances into a `Vector`, and pass that `Vector` to the `SequenceInputSt` constructor looks:

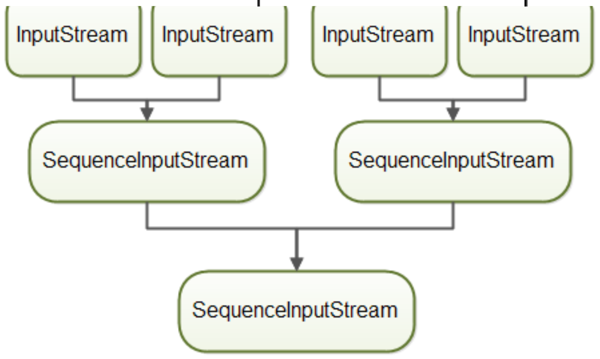
```
InputStream input1 = new FileInputStream("c:\\data\\file1.txt");
InputStream input2 = new FileInputStream("c:\\data\\file2.txt");
InputStream input3 = new FileInputStream("c:\\data\\file3.txt");

Vector<InputStream> streams = new Vector<>();
streams.add(input1);
streams.add(input2);
streams.add(input3);

SequenceInputStream sequenceInputStream =
    new SequenceInputStream(streams.elements()))

int data = sequenceInputStream.read();
while(data != -1){
    System.out.println(data);
    data = sequenceInputStream.read();
}
sequenceInputStream.close();
```

The second method is to combine the `InputStream` instances two and two into `SequenceInputStream` instances, and then combine these again with another `SequenceInputStream`. Here is how combining n than two `InputStream` instances with multiple `SequenceInputStream` instances look:

```
SequenceInputStream sequenceInputStream1 =
        new SequenceInputStream(input1, input2);

SequenceInputStream sequenceInputStream2 =
        new SequenceInputStream(input3, input4);

SequenceInputStream sequenceInputStream =
    new SequenceInputStream(
            sequenceInputStream1, sequenceInputStream2)){

int data = sequenceInputStream.read();
while(data != -1){
    System.out.println(data);
    data = sequenceInputStream.read();
}
sequenceInputStream.close();
```

The resulting object graph looks like this:

All Trails | Trail TOC | Page TOC | Previous | Next



Closing a SequenceInputStream

When you are finished reading data from the `SequenceInputStream` you should remember to close it. Closing a `SequenceInputStream` will also close the `InputStream` instances which the `SequenceInputStre` reading.

Closing a `SequenceInputStream` is done by calling its `close()` method. Here is how closing a `SequenceInputStream` looks:

```
sequenceInputStream.close();
```

You can also use the **try-with-resources** construct introduced in Java 7. Here is how to use and clos `SequenceInputStream` looks with the try-with-resources construct:

```
InputStream input1 = new FileInputStream("c:\\data\\file1.txt");
InputStream input2 = new FileInputStream("c:\\data\\file2.txt");

try(SequenceInputStream sequenceInputStream =
    new SequenceInputStream(input1, input2)){
```

```
    int data = sequenceInputStream.read();
    while(data != -1){
        System.out.println(data);
        data = sequenceInputStream.read();
    }
}
```

Notice how there is no longer any explicit `close()` method call. The try-with-resources construct takes of that.

Notice also that the two `FileInputStream` instances are not created inside the try-with-resources block That means that the try-with-resources block will not automatically close these two `FileInputStream` instances. However, when the `SequenceInputStream` is closed it will also close the `InputStream` instanc reads from, so the two `FileInputStream` instances will get closed when the `SequenceInputStream` is clo

Next: **Java IO: DataInputStream**

G+ Delen Tweet

Jakob Jenkov

All Trails | Trail TOC | Page TOC | Previous | Next