
Subject: How to use StringStream?

Posted by [lectus](#) on Tue, 29 Jan 2013 21:51:57 GMT

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I csn't find any example of it.

I'm trying to use it together with ZCompress.

Thanks

Subject: Re: How to use StringStream?

Posted by [Mindtraveller](#) on Sat, 02 Feb 2013 20:56:02 GMT

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What exactly are you trying to do?

If you want to make "streaming" zip/unzip operation, then you may meet some problems here. Anyway, I really tried to use StringStream as simple FIFO buffer for the same thing, and it didn't work as I expected.

So I had to write my own string buffer class which is String-based Stream compatible FIFO-buffer.

This is simplified code how to use it for streaming unzip operation:

```
FileUnZip unzip(filename);
StrIOStream unzipStream; //my simple String-based FIFO class
unzip.ReadFile(unzipStream, callback(this, &MyClass::OnZipData));
while (unzipStream.GetSize())
    ProcessChunk(&unzipStream);
...

bool MyClass::OnZipData(int op1, int op2)
{
    ProcessChunk(&unzipStream);
    return isShutdown; //usually false
}

void MyClass::ProcessChunk(Stream *stream)
{
    String data = stream->Get(static_cast<int>(stream->GetSize())); //get unzipped data
    ... //process the chunk of unzipped data
}
```

The idea is that ProcessChunk() is called from within unzip cycle for streaming. For the last part of unzipped data, the ProcessChunk() is not called automatically, so we call it manually AFTER unzipping.

My tests for the BIG files (about 3 GB in unzipped size) had shown that the maximum size of

unzipped chunk could be ~60 MB. So you have to take it into account.

Finally, if you need it, here is the source code of my Stream-based class:

```
class StrIOStream : public Stream
{
protected:
    virtual void _Put(int w)
    {
        data.Cat(w);
    }

    virtual int _Term()
    {
        return data.IsEmpty() ? -1 : data[0];
    }

    virtual int _Get()
    {
        if (data.IsEmpty())
            return -1;

        int w = data[0];
        data.Remove(0);
        return w;
    }

    virtual void _Put(const void *_data, dword size)
    {
        data.Cat((const char *) _data, size);
    }

    virtual dword _Get(void *_data, dword size)
    {
        dword l = min(size, (dword) data.GetLength());
        memcpy(_data, ~data, l);
        data.Remove(0, l);
        return l;
    }

public:
    virtual void Seek(int64 pos) {}
    virtual int64 GetSize() const {return data.GetLength();}
    virtual void SetSize(int64 size)
    {
        if (size == data.GetLength())
            return;
        if (size > data.GetLength())
            data.Cat('?', static_cast<int>(size-data.GetLength()));
    }
};
```

```
    else
        data.Trim(static_cast<int>(size));
}
virtual bool IsOpen() const {return true;}

protected:
    String      data;

public:
    void      Open(const String& _data) {data = _data;}
    void      Create() {}
    void      Reserve(int n) {data.Reserve(n);}

    String      GetResult() {return data;}
    operator    String()      { return data; }
};
```
