How to read ZIP file using Symbian C++

This code example shows how to read a zip file using the Symbian C++ `CZipFile` class.

Header:

```
#include <ZipFileMember.h>
#include <ZipFile.h>
```

Link against:

```
LIBRARY ezip.lib
```

Retrieving files information in a ZIP file

The following example shows how to iterate all files inside a ZIP file. It demonstrates how to read the extracted file name, compressed file size, uncompressed file size and extracts zip file.

```
void ExtractZip(const TDesC& aCompressedFile) {
  RFs fileSession;
  fileSession.Connect();
  CleanupClosePushL(fileSession);
  // Creating a new instance of CZipFile.
  // The first parameter of the two-phase constructor is a session of File Server.
  // The second parameter is the file name of the ZIP file.
  CZipFile* zipFile = CZipFile::NewL(fileSession, aCompressedFile);
  if (zipFile != NULL) {
    CleanupStack::PushL(zipFile);

    // Getting the list of all files inside the ZIP.
    // The ownership of CZipFileMemberIterator will be passed to the caller,
    // thus we have to delete it after we are done reading the ZIP.
    CZipFileMemberIterator* members = zipFile->GetMembersL();
    if (members != NULL) {
      CleanupStack::PushL(members);

      // Iterating through all the files.
      // We have to call CZipFileMemberIterator::NextL() over and over
      // until it returns 0.
      CZipFileMember* member;
      while ((member = members->NextL()) != 0) {
        // Print the name of the extracted file, the compressed file size
        // and the uncompressed file size.
        const TDesC* fileName = member->Name();
        TInt compressedSize = member->CompressedSize();
        TInt uncompressedSize = member->UncompressedSize();
        if (fileName != NULL) {
          ExtractFileFromZip(fileSession, aCompressedFile, *zipFile, *member);
        }
        delete member;
      }
      CleanupStack::PopAndDestroy(); // members
    }
    CleanupStack::PopAndDestroy(); // zipFile
  }
  CleanupStack::PopAndDestroy(&fileSession);
}
```

Extracting a file from a ZIP file

The following example shows how to extract a specific file from a ZIP file.

```
void ExtractFileFromZip(RFs& aFs, const TDesC& aZipFileName, CZipFile& aZipFile,
    CZipFileMember& aMember) {
  // Use input stream to extract the file.
  // The input stream of a file inside ZIP file is RZipFileMemberReaderStream.
  // The method used to get the input stream is CZipFile::GetInputStreamL().
  RZipFileMemberReaderStream* stream;
  aZipFile.GetInputStreamL(&aMember, stream);
  CleanupStack::PushL(stream);

  // Read the file using input stream.
  // Before reading the file, the code allocates a buffer to store with
  // the size of member->UncompressesedSize().
  //
  // If the file is quite huge, do not use "one-shot" Read().
  // Instead, read using a small block of buffer and do it inside an
  // active object.
  const TInt KBufferSize = 1024;
  TInt uncompressedSize = aMember.UncompressedSize();
  RBuf8 buffer;
  buffer.CreateL(KBufferSize);
  CleanupClosePushL(buffer);
  TInt readBytes = 0;
  TBool createNewFile;
  while (readBytes < uncompressedSize) {
    TInt toRead = (uncompressedSize - readBytes) > buffer.MaxSize() ? buffer.MaxSize() : (uncompressedSize - readBytes);
    TInt err = stream->Read(buffer, toRead);
    User::LeaveIfError(err);
    if (readBytes == 0) {
      createNewFile = ETrue;
    }
```


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```
    else {
      createNewFile = EFalse;
    }
    WriteToFile(aFs, aZipFileName, createNewFile, buffer, aMember);
    readBytes += buffer.Length();
  }

  // Finally, do not forget to release all the allocated resources.
  CleanupStack::PopAndDestroy(2, stream); // stream, expandedMember
}

void WriteToFile(RFs& aFs, const TDesC& aZipFileName, TBool aCreateNewFile,
    const TDesC8& aData, CZipFileMember& aMember) {
  TFileName fileName;
  TParsePtrC pathFinder(aZipFileName);
  fileName.Copy(pathFinder.Path());
  fileName.Append(*aMember.Name());
  TInt err = 0;
  RFile expandedMember;
  CleanupClosePushL(expandedMember);
  if (!BaflUtils::FileExists(aFs, fileName)) {
    err = expandedMember.Replace(aFs, fileName, EFileShareAny|EFileWrite);
  }
  else if (aCreateNewFile) {
    err = expandedMember.Replace(aFs, fileName, EFileShareAny|EFileWrite);
  }
  else {
    TInt pos = 0;
    err = expandedMember.Open(aFs, fileName, EFileShareAny|EFileWrite);
    err = expandedMember.Seek(ESeekEnd, pos);
  }

  if (err == KErrNone) {
    expandedMember.Write(aData);
  }
  expandedMember.Close();
  CleanupStack::PopAndDestroy(&expandedMember);
}
```

Example project

File:ExtractZip.zip

See also

- .ZIP File Format Specification - specification from the creator of PKZIP, the first program that supports ZIP file.
- /CZipFileClass - official documentation of class CZipFile.
- Other examples and tutorials in the Developer Library: Zip Compression Library

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