Arduino NIO Library

Generated by Doxygen 1.8.9.1

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Contents

1 Hierarchical Index

1.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

2 Class Index

2.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

3 File Index

3.1 File List

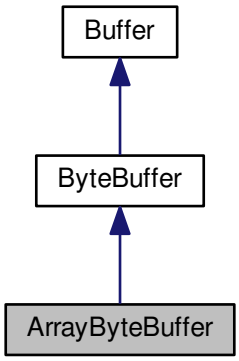
Here is a list of all files with brief descriptions:

4 Class Documentation

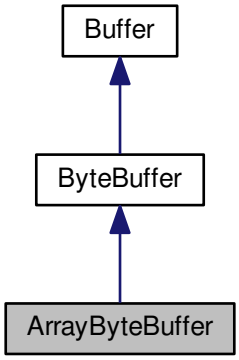
4.1 ArrayByteBuffer Class Reference

```
#include <ArrayByteBuffer.h>
```

Inheritance diagram for ArrayByteBuffer:



Collaboration diagram for ArrayByteBuffer:



Public Member Functions

- ArrayByteBuffer (unsigned char *buf, unsigned int len)
- virtual unsigned char get ()
- virtual void put (unsigned char b)
- virtual unsigned char get (unsigned int index)
- virtual void put (unsigned int index, unsigned char b)
- virtual bool isReadOnly ()
- virtual bool hasArray ()
- virtual unsigned char * getArray ()

Protected Attributes

- unsigned char * buf

Additional Inherited Members

4.1.1 Detailed Description

Arduino NIO.

ArrayByteBuffer.h

Definition at line 12 of file ArrayByteBuffer.h.

4.1.2 Constructor & Destructor Documentation

4.1.2.1 ArrayByteBuffer::ArrayByteBuffer (unsigned char * *buf,* unsigned int *len*)

Definition at line 12 of file ArrayByteBuffer.cpp.

4.1.3 Member Function Documentation

4.1.3.1 unsigned char ArrayByteBuffer::get ( ) [virtual]

Implements ByteBuffer.

Definition at line 15 of file ArrayByteBuffer.cpp.

4.1.3.2 unsigned char ArrayByteBuffer::get (unsigned int *index*) [virtual]

Implements ByteBuffer.

Definition at line 28 of file ArrayByteBuffer.cpp.

4.1.3.3 unsigned char * ArrayByteBuffer::getArray ( ) [virtual]

Implements Buffer.

Definition at line 49 of file ArrayByteBuffer.cpp.

4.1.3.4 bool ArrayByteBuffer::hasArray ( ) [virtual]

Implements Buffer.

Definition at line 45 of file ArrayByteBuffer.cpp.

4.1.3.5 bool ArrayByteBuffer::isReadOnly ( ) [virtual]

Implements Buffer.

Definition at line 41 of file ArrayByteBuffer.cpp.

4.1.3.6 void ArrayByteBuffer::put (unsigned char *b*) [virtual]

Implements ByteBuffer.

Definition at line 22 of file ArrayByteBuffer.cpp.

4.1.3.7 void ArrayByteBuffer::put (unsigned int *index,* unsigned char *b*) [virtual]

Implements ByteBuffer.

Definition at line 35 of file ArrayByteBuffer.cpp.

4.1.4 Member Data Documentation

4.1.4.1 unsigned char* ArrayByteBuffer::buf [protected]

Definition at line 15 of file ArrayByteBuffer.h.

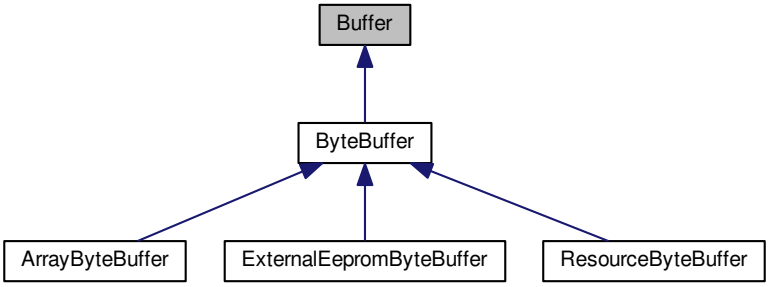
The documentation for this class was generated from the following files:

- ArrayByteBuffer.h
- ArrayByteBuffer.cpp

4.2 Buffer Class Reference

`#include <Buffer.h>`

Inheritance diagram for Buffer:



Public Member Functions

- unsigned int getCapacity ()
- unsigned int getPosition ()
- void setPosition (unsigned int pos)
- unsigned int getLimit ()
- void setLimit (unsigned int lim)
- void mark ()
- void reset ()
- void clear ()
- void flip ()
- void rewind ()
- unsigned int getRemaining ()
- bool hasRemaining ()
- virtual bool isReadOnly ()=0
- virtual bool hasArray ()=0
- virtual unsigned char * getArray ()=0

Protected Member Functions

- Buffer (unsigned int mark, unsigned int pos, unsigned int lim, unsigned int cap)

Protected Attributes

- bool marked
- unsigned int markpos
- unsigned int pos
- unsigned int lim
- unsigned int cap

4.2.1 Detailed Description

Arduino NIO.

Buffer.h

Definition at line 10 of file Buffer.h.

4.2.2 Constructor & Destructor Documentation

4.2.2.1 Buffer::Buffer (unsigned int *mark,* unsigned int *pos,* unsigned int *lim,* unsigned int *cap*) [protected]

Definition at line 12 of file Buffer.cpp.

4.2.3 Member Function Documentation

4.2.3.1 void Buffer::clear ( )

Definition at line 67 of file Buffer.cpp.

4.2.3.2 void Buffer::flip ( )

Definition at line 73 of file Buffer.cpp.

4.2.3.3 virtual unsigned char* Buffer::getArray ( ) [pure virtual]

Implemented in ExternalEepromByteBuffer, ResourceByteBuffer, and ArrayByteBuffer.

4.2.3.4 unsigned int Buffer::getCapacity ( )

Definition at line 24 of file Buffer.cpp.

4.2.3.5 unsigned int Buffer::getLimit ( )

Definition at line 39 of file Buffer.cpp.

4.2.3.6 unsigned int Buffer::getPosition ( )

Definition at line 28 of file Buffer.cpp.

4.2.3.7 unsigned int Buffer::getRemaining ( )

Definition at line 84 of file Buffer.cpp.

4.2.3.8 virtual bool Buffer::hasArray ( ) [pure virtual]

Implemented in ExternalEepromByteBuffer, ResourceByteBuffer, and ArrayByteBuffer.

4.2.3.9 bool Buffer::hasRemaining ( )

Definition at line 88 of file Buffer.cpp.

4.2.3.10 virtual bool Buffer::isReadOnly ( ) [pure virtual]

Implemented in ExternalEepromByteBuffer, ResourceByteBuffer, and ArrayByteBuffer.

4.2.3.11 void Buffer::mark ( )

Definition at line 56 of file Buffer.cpp.

4.2.3.12 void Buffer::reset ( )

Definition at line 61 of file Buffer.cpp.

4.2.3.13 void Buffer::rewind ( )

Definition at line 79 of file Buffer.cpp.

4.2.3.14 void Buffer::setLimit (unsigned int *lim*)

Definition at line 43 of file Buffer.cpp.

4.2.3.15 void Buffer::setPosition (unsigned int *pos*)

Definition at line 32 of file Buffer.cpp.

4.2.4 Member Data Documentation

4.2.4.1 unsigned int Buffer::cap [protected]

Definition at line 18 of file Buffer.h.

4.2.4.2 unsigned int Buffer::lim [protected]

Definition at line 17 of file Buffer.h.

4.2.4.3 bool Buffer::marked [protected]

Definition at line 14 of file Buffer.h.

4.2.4.4 unsigned int Buffer::markpos [protected]

Definition at line 15 of file Buffer.h.

4.2.4.5 unsigned int Buffer::pos [protected]

Definition at line 16 of file Buffer.h.

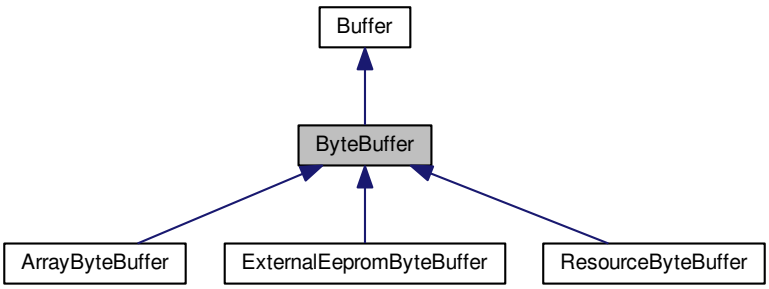
The documentation for this class was generated from the following files:

- Buffer.h
- Buffer.cpp

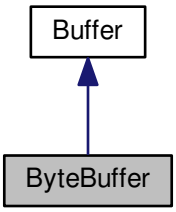
4.3 ByteBuffer Class Reference

```
#include <ByteBuffer.h>
```

Inheritance diagram for ByteBuffer:



Collaboration diagram for ByteBuffer:



Public Member Functions

- virtual unsigned char get ()=0
- virtual void put (unsigned char b)=0
- virtual unsigned char get (unsigned int index)=0
- virtual void put (unsigned int index, unsigned char b)=0
- virtual bool get (unsigned char ∗dst, int off, int len)
- bool get (unsigned char ∗dst, int len)
- virtual bool put (unsigned char ∗src, int off, int len)
- bool put (unsigned char ∗src, int len)
- virtual bool put (ByteBuffer ∗src)
- virtual bool put (ByteBuffer ∗src, int len)

Protected Member Functions

- ByteBuffer (unsigned int mark, unsigned int pos, unsigned int lim, unsigned int cap)

Additional Inherited Members

4.3.1 Detailed Description

Arduino NIO.

ByteBuffer.h

Definition at line 12 of file ByteBuffer.h.

4.3.2 Constructor & Destructor Documentation

4.3.2.1 ByteBuffer::ByteBuffer (unsigned int *mark,* unsigned int *pos,* unsigned int *lim,* unsigned int *cap*) [protected]

Definition at line 12 of file ByteBuffer.cpp.

4.3.3 Member Function Documentation

4.3.3.1 virtual unsigned char ByteBuffer::get ( ) [pure virtual]

Implemented in ExternalEepromByteBuffer, ResourceByteBuffer, and ArrayByteBuffer.

4.3.3.2 virtual unsigned char ByteBuffer::get (unsigned int *index*) [pure virtual]

Implemented in ExternalEepromByteBuffer, ResourceByteBuffer, and ArrayByteBuffer.

4.3.3.3 bool ByteBuffer::get (unsigned char * *dst,* int *off,* int *len*) [virtual]

Definition at line 15 of file ByteBuffer.cpp.

4.3.3.4 bool ByteBuffer::get (unsigned char * *dst,* int *len*)

Definition at line 26 of file ByteBuffer.cpp.

4.3.3.5 virtual void ByteBuffer::put (unsigned char *b*) [pure virtual]

Implemented in ExternalEepromByteBuffer, ResourceByteBuffer, and ArrayByteBuffer.

4.3.3.6 virtual void ByteBuffer::put (unsigned int *index,* unsigned char *b*) [pure virtual]

Implemented in ExternalEepromByteBuffer, ResourceByteBuffer, and ArrayByteBuffer.

4.3.3.7 bool ByteBuffer::put (unsigned char * *src,* int *off,* int *len*) [virtual]

Definition at line 30 of file ByteBuffer.cpp.

4.3.3.8 bool ByteBuffer::put (unsigned char * *src,* int *len*)

Definition at line 41 of file ByteBuffer.cpp.

4.3.3.9 bool ByteBuffer::put (ByteBuffer * *src*) [virtual]

Definition at line 45 of file ByteBuffer.cpp.

4.3.3.10 bool ByteBuffer::put (ByteBuffer * *src,* int *len*) [virtual]

Definition at line 49 of file ByteBuffer.cpp.

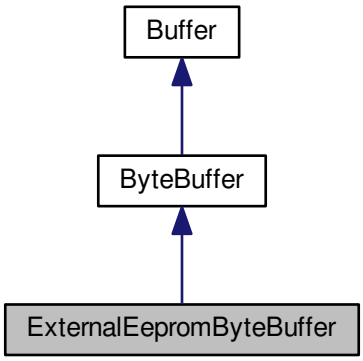
The documentation for this class was generated from the following files:

- ByteBuffer.h
- ByteBuffer.cpp

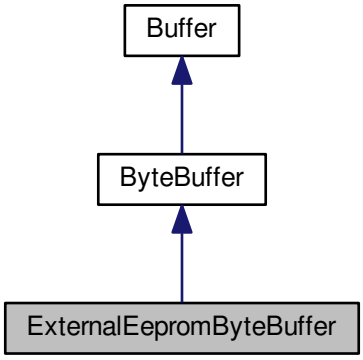
4.4 ExternalEepromByteBuffer Class Reference

`#include <ExternalEepromByteBuffer.h>`

Inheritance diagram for ExternalEepromByteBuffer:



Collaboration diagram for ExternalEepromByteBuffer:



Public Member Functions

- ExternalEepromByteBuffer (ExternalEeprom *externalEeprom)
- virtual unsigned char get ()
- virtual void put (unsigned char b)
- virtual unsigned char get (unsigned int index)
- virtual void put (unsigned int index, unsigned char b)
- virtual bool isReadOnly ()
- virtual bool hasArray ()
- virtual unsigned char * getArray ()

Protected Attributes

- ExternalEeprom * externalEeprom

Additional Inherited Members

4.4.1 Detailed Description

Arduino NIO.

ExternalEepromByteBuffer.h

Definition at line 13 of file ExternalEepromByteBuffer.h.

4.4.2 Constructor & Destructor Documentation

4.4.2.1 ExternalEepromByteBuffer::ExternalEepromByteBuffer (ExternalEeprom * *externalEeprom*)

Definition at line 12 of file ExternalEepromByteBuffer.cpp.

4.4.3 Member Function Documentation

4.4.3.1 unsigned char ExternalEepromByteBuffer::get ( ) [virtual]

Implements ByteBuffer.

Definition at line 15 of file ExternalEepromByteBuffer.cpp.

4.4.3.2 unsigned char ExternalEepromByteBuffer::get (unsigned int *index*) [virtual]

Implements ByteBuffer.

Definition at line 28 of file ExternalEepromByteBuffer.cpp.

4.4.3.3 unsigned char * ExternalEepromByteBuffer::getArray ( ) [virtual]

Implements Buffer.

Definition at line 49 of file ExternalEepromByteBuffer.cpp.

4.4.3.4 bool ExternalEepromByteBuffer::hasArray ( ) [virtual]

Implements Buffer.

Definition at line 45 of file ExternalEepromByteBuffer.cpp.

4.4.3.5 bool ExternalEepromByteBuffer::isReadOnly ( ) [virtual]

Implements Buffer.

Definition at line 41 of file ExternalEepromByteBuffer.cpp.

4.4.3.6 void ExternalEepromByteBuffer::put (unsigned char *b*) [virtual]

Implements ByteBuffer.

Definition at line 22 of file ExternalEepromByteBuffer.cpp.

4.4.3.7 void ExternalEepromByteBuffer::put (unsigned int *index*, unsigned char *b*) [virtual]

Implements ByteBuffer.

Definition at line 35 of file ExternalEepromByteBuffer.cpp.

4.4.4 Member Data Documentation

4.4.4.1 ExternalEeprom* ExternalEepromByteBuffer::externalEeprom [protected]

Definition at line 16 of file ExternalEepromByteBuffer.h.

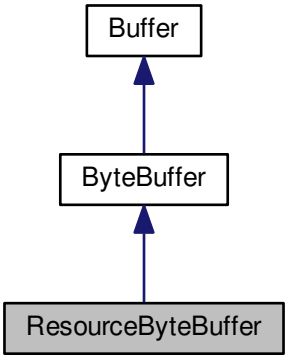
The documentation for this class was generated from the following files:

- ExternalEepromByteBuffer.h
- ExternalEepromByteBuffer.cpp

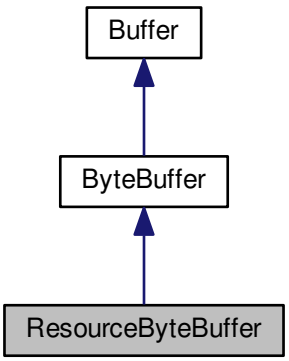
4.5 ResourceByteBuffer Class Reference

`#include <ResourceByteBuffer.h>`

Inheritance diagram for ResourceByteBuffer:



Collaboration diagram for ResourceByteBuffer:



Public Member Functions

- ResourceByteBuffer (Resource *resource, unsigned int len)
- virtual unsigned char get ()
- virtual void put (unsigned char b)
- virtual unsigned char get (unsigned int index)
- virtual void put (unsigned int index, unsigned char b)
- virtual bool isReadOnly ()
- virtual bool hasArray ()
- virtual unsigned char * getArray ()

Protected Attributes

- Resource * resource

Additional Inherited Members

4.5.1 Detailed Description

Arduino NIO.

ResourceByteBuffer.h

Definition at line 13 of file ResourceByteBuffer.h.

4.5.2 Constructor & Destructor Documentation

4.5.2.1 ResourceByteBuffer::ResourceByteBuffer (Resource * *resource,* unsigned int *len*)

Definition at line 12 of file ResourceByteBuffer.cpp.

4.5.3 Member Function Documentation

4.5.3.1 unsigned char ResourceByteBuffer::get ( ) [virtual]

Implements ByteBuffer.

Definition at line 22 of file ResourceByteBuffer.cpp.

4.5.3.2 unsigned char ResourceByteBuffer::get (unsigned int *index*) [virtual]

Implements ByteBuffer.

Definition at line 37 of file ResourceByteBuffer.cpp.

4.5.3.3 unsigned char * ResourceByteBuffer::getArray ( ) [virtual]

Implements Buffer.

Definition at line 64 of file ResourceByteBuffer.cpp.

4.5.3.4 bool ResourceByteBuffer::hasArray ( ) [virtual]

Implements Buffer.

Definition at line 60 of file ResourceByteBuffer.cpp.

4.5.3.5 bool ResourceByteBuffer::isReadOnly ( ) [virtual]

Implements Buffer.

Definition at line 56 of file ResourceByteBuffer.cpp.

4.5.3.6 void ResourceByteBuffer::put (unsigned char *b*) [virtual]

Implements ByteBuffer.

Definition at line 30 of file ResourceByteBuffer.cpp.

4.5.3.7 void ResourceByteBuffer::put (unsigned int *index*, unsigned char *b*) [virtual]

Implements ByteBuffer.

Definition at line 48 of file ResourceByteBuffer.cpp.

4.5.4 Member Data Documentation

4.5.4.1 Resource* ResourceByteBuffer::resource [protected]

Definition at line 16 of file ResourceByteBuffer.h.

The documentation for this class was generated from the following files:

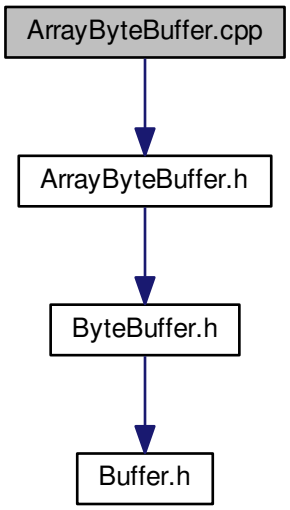
- ResourceByteBuffer.h
- ResourceByteBuffer.cpp

5 File Documentation

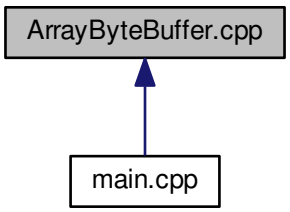
5.1 ArrayByteBuffer.cpp File Reference

```
#include "ArrayByteBuffer.h"
```

Include dependency graph for ArrayByteBuffer.cpp:



This graph shows which files directly or indirectly include this file:



Macros

- #define __ARDUINO_NIO_ARRAY_BYTE_BUFFER_CPP__ 1

5.1.1 Macro Definition Documentation

5.1.1.1 #define __ARDUINO_NIO_ARRAY_BYTE_BUFFER_CPP__ 1

Arduino NIO.

ArrayByteBuffer.cpp

Definition at line 8 of file ArrayByteBuffer.cpp.

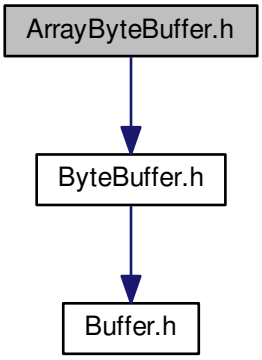
5.2 ArrayByteBuffer.cpp

```
00001
00007 #ifndef __ARDUINO_NIO_ARRAY_BYTE_BUFFER_CPP__
00008 #define __ARDUINO_NIO_ARRAY_BYTE_BUFFER_CPP__ 1
00009
00010 #include "ArrayByteBuffer.h"
00011
00012 ArrayByteBuffer::ArrayByteBuffer(unsigned char* buf, unsigned int len) :
      ByteBuffer(0, 0, len, len), buf(buf) {
00013 }
00014
00015 unsigned char ArrayByteBuffer::get() {
00016     if (pos < lim) {
00017         return buf[pos++];
00018     }
00019     return 0;
00020 }
00021
00022 void ArrayByteBuffer::put(unsigned char b) {
00023     if (pos < lim) {
00024         buf[pos++] = b;
00025     }
00026 }
00027
00028 unsigned char ArrayByteBuffer::get(unsigned int index) {
00029     if (index < lim) {
00030         return buf[index];
00031     }
00032     return 0;
00033 }
00034
00035 void ArrayByteBuffer::put(unsigned int index, unsigned char b) {
00036     if (index < lim) {
00037         buf[index] = b;
00038     }
00039 }
00040
00041 bool ArrayByteBuffer::isReadOnly() {
00042     return false;
00043 }
00044
00045 bool ArrayByteBuffer::hasArray() {
00046     return true;
00047 }
00048
00049 unsigned char* ArrayByteBuffer::getArray() {
00050     return buf;
00051 }
00052
00053 #endif /* __ARDUINO_NIO_ARRAY_BYTE_BUFFER_CPP__ */
```

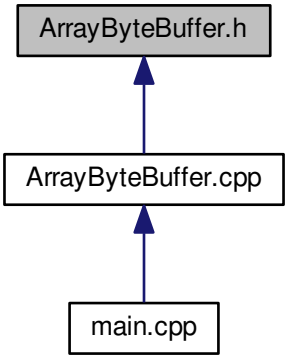
5.3 ArrayByteBuffer.h File Reference

```
#include <ByteBuffer.h>
```

Include dependency graph for ArrayByteBuffer.h:



This graph shows which files directly or indirectly include this file:



Classes

- class ArrayByteBuffer

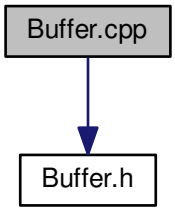
5.4 ArrayByteBuffer.h

```
00001
00007 #ifndef __ARDUINO_NIO_ARRAY_BYTE_BUFFER_H__
00008 #define __ARDUINO_NIO_ARRAY_BYTE_BUFFER_H__ 1
00009
00010 #include <ByteBuffer.h>
00011
00012 class ArrayByteBuffer : public ByteBuffer {
00013 protected:
00014
00015     unsigned char* buf;
```

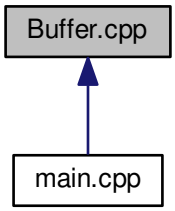
```
00016
00017 public:
00018
00019     ArrayByteBuffer(unsigned char* buf, unsigned int len);
00020
00021     virtual unsigned char get();
00022
00023     virtual void put(unsigned char b);
00024
00025     virtual unsigned char get(unsigned int index);
00026
00027     virtual void put(unsigned int index, unsigned char b);
00028
00029     virtual bool isReadOnly();
00030
00031     virtual bool hasArray();
00032
00033     virtual unsigned char* getArray();
00034 };
00035
00036 #endif /* __ARDUINO_NIO_ARRAY_BYTE_BUFFER_H__ */
```

5.5 Buffer.cpp File Reference

`#include "Buffer.h"`
Include dependency graph for Buffer.cpp:



This graph shows which files directly or indirectly include this file:



Macros

- #define __ARDUINO_NIO_BUFFER_CPP__ 1

5.5.1 Macro Definition Documentation

5.5.1.1 #define __ARDUINO_NIO_BUFFER_CPP__ 1

Arduino NIO.

Buffer.cpp

Definition at line 8 of file Buffer.cpp.

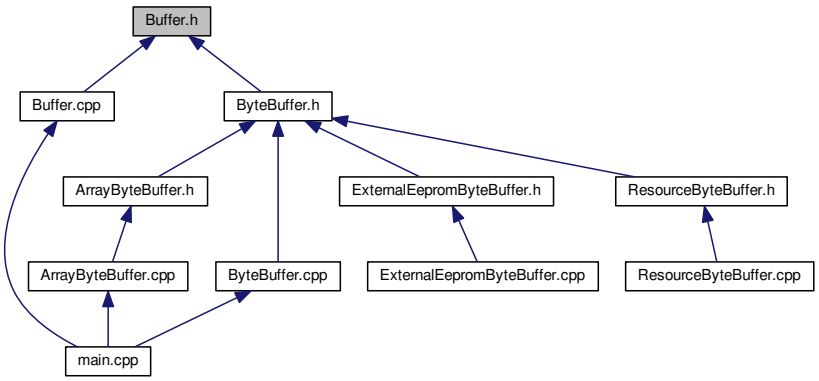
5.6 Buffer.cpp

```
00001
00007 #ifndef __ARDUINO_NIO_BUFFER_CPP__
00008 #define __ARDUINO_NIO_BUFFER_CPP__ 1
00009
00010 #include "Buffer.h"
00011
00012 Buffer::Buffer(unsigned int mark, unsigned int pos, unsigned int lim, unsigned int cap) {
00013     this->cap = cap;
00014     this->markpos = mark;
00015     if (mark > 0) {
00016         this->marked = true;
00017     } else {
00018         this->marked = false;
00019     }
00020     setPosition(pos);
00021     setLimit(lim);
00022 }
00023
00024 unsigned int Buffer::getCapacity() {
00025     return cap;
00026 }
00027
00028 unsigned int Buffer::getPosition() {
00029     return pos;
00030 }
00031
00032 void Buffer::setPosition(unsigned int pos) {
00033     this->pos = pos;
00034     if (marked && markpos > pos) {
00035         marked = false;
00036     }
00037 }
00038
00039 unsigned int Buffer::getLimit() {
00040     return lim;
00041 }
00042
00043 void Buffer::setLimit(unsigned int lim) {
00044     if (lim > cap) {
00045         return;
00046     }
00047     this->lim = lim;
00048     if (pos > lim) {
00049         pos = lim;
00050     }
00051     if (marked && markpos > lim) {
00052         marked = false;
00053     }
00054 }
00055
00056 void Buffer::mark() {
00057     markpos = pos;
00058     marked = true;
00059 }
00060
00061 void Buffer::reset() {
00062     if (marked) {
00063         pos = markpos;
00064     }
00065 }
00066
00067 void Buffer::clear() {
00068     pos = 0;
00069     lim = cap;
00070     markpos = 0;
00071 }
00072
00073 void Buffer::flip() {
00074     lim = pos;
00075     pos = 0;
```

```
00076     marked = false;
00077 }
00078
00079 void Buffer::rewind() {
00080     pos = 0;
00081     marked = false;
00082 }
00083
00084 unsigned int Buffer::getRemaining() {
00085     return lim - pos;
00086 }
00087
00088 bool Buffer::hasRemaining() {
00089     return pos < lim;
00090 }
00091
00092 #endif /* __ARDUINO_NIO_BUFFER_CPP__ */
```

5.7 Buffer.h File Reference

This graph shows which files directly or indirectly include this file:



Classes

- class Buffer

5.8 Buffer.h

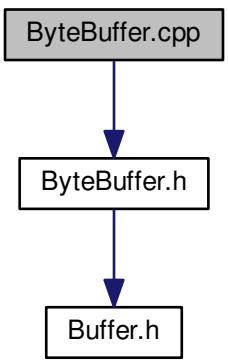
```
00001
00007 #ifndef __ARDUINO_NIO_BUFFER_H__
00008 #define __ARDUINO_NIO_BUFFER_H__ 1
00009
00010 class Buffer {
00011
00012 protected:
00013
00014     bool marked;
00015     unsigned int markpos;
00016     unsigned int pos;
00017     unsigned int lim;
00018     unsigned int cap;
00019
00020     Buffer(unsigned int mark, unsigned int pos, unsigned int lim, unsigned int cap);
00021
00022 public:
00023
00024     unsigned int getCapacity();
00025
00026     unsigned int getPosition();
00027
00028     void setPosition(unsigned int pos);
00029
```

```
00030     unsigned int getLimit();
00031
00032     void setLimit(unsigned int lim);
00033
00034     void mark();
00035
00036     void reset();
00037
00038     void clear();
00039
00040     void flip();
00041
00042     void rewind();
00043
00044     unsigned int getRemaining();
00045
00046     bool hasRemaining();
00047
00048     virtual bool isReadOnly() = 0;
00049
00050     virtual bool hasArray() = 0;
00051
00052     virtual unsigned char* getArray() = 0;
00053 };
00054
00055 #endif /* __ARDUINO_NIO_BUFFER_H__ */
```

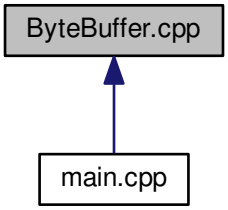
5.9 ByteBuffer.cpp File Reference

```
#include "ByteBuffer.h"
```

Include dependency graph for ByteBuffer.cpp:



This graph shows which files directly or indirectly include this file:



Macros

- #define __ARDUINO_NIO_BYTE_BUFFER_CPP__ 1

5.9.1 Macro Definition Documentation

5.9.1.1 #define __ARDUINO_NIO_BYTE_BUFFER_CPP__ 1

Arduino NIO.

ByteBuffer.cpp

Definition at line 8 of file ByteBuffer.cpp.

5.10 ByteBuffer.cpp

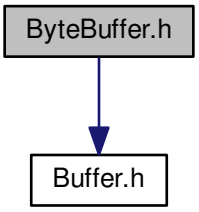
```
00001
00007 #ifndef __ARDUINO_NIO_BYTE_BUFFER_CPP__
00008 #define __ARDUINO_NIO_BYTE_BUFFER_CPP__ 1
00009
00010 #include "ByteBuffer.h"
00011
00012 ByteBuffer::ByteBuffer(unsigned int mark, unsigned int pos, unsigned int lim,
      unsigned int cap) : Buffer(mark, pos, lim, cap) {
00013 }
00014
00015 bool ByteBuffer::get(unsigned char* dst, int off, int len) {
00016     if (len > getRemaining()) {
00017         return false;
00018     }
00019     unsigned int end = off + len;
00020     for (int i = off; i < end; i++) {
00021         dst[i] = get();
00022     }
00023     return true;
00024 }
00025
00026 bool ByteBuffer::get(unsigned char* dst, int len) {
00027     return get(dst, 0, len);
00028 }
00029
00030 bool ByteBuffer::put(unsigned char* src, int off, int len) {
00031     if (len > getRemaining()) {
00032         return false;
00033     }
00034     unsigned int end = off + len;
00035     for (unsigned int i = off; i < end; i++) {
00036         put(src[i]);
00037     }
00038     return true;
00039 }
00040
```

```
00041 bool ByteBuffer::put(unsigned char* src, int len) {
00042     return put(src, 0, len);
00043 }
00044
00045 bool ByteBuffer::put(ByteBuffer* src) {
00046     return put(src, src->getRemaining());
00047 }
00048
00049 bool ByteBuffer::put(ByteBuffer* src, int len) {
00050     if (src == this) {
00051         return false;
00052     }
00053     unsigned int n = src->getRemaining();
00054     len = (len > n) ? len : n;
00055     if (len > getRemaining()) {
00056         return false;
00057     }
00058     for (unsigned int i = 0; i < n; i++) {
00059         put(src->get());
00060     }
00061     return true;
00062 }
00063
00064 #endif /* __ARDUINO_NIO_BYTE_BUFFER_CPP__ */
```

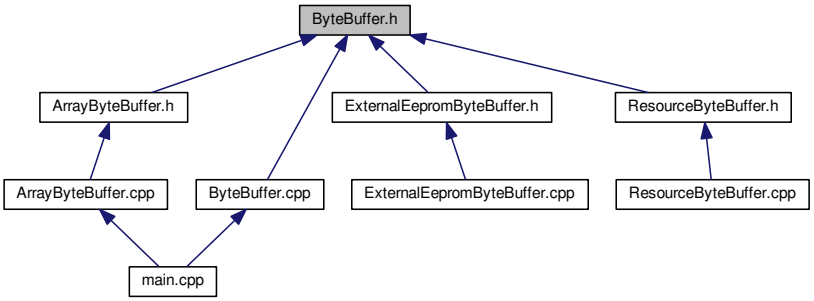
5.11 ByteBuffer.h File Reference

`#include <Buffer.h>`

Include dependency graph for ByteBuffer.h:



This graph shows which files directly or indirectly include this file:



Classes

- class ByteBuffer

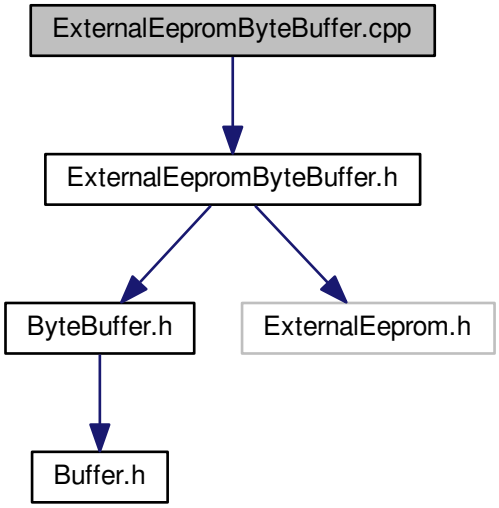
5.12 ByteBuffer.h

```
00001
00007 #ifndef __ARDUINO_NIO_BYTE_BUFFER_H__
00008 #define __ARDUINO_NIO_BYTE_BUFFER_H__ 1
00009
00010 #include <Buffer.h>
00011
00012 class ByteBuffer : public Buffer {
00013
00014 protected:
00015
00016     ByteBuffer(unsigned int mark, unsigned int pos, unsigned int
      lim, unsigned int cap);
00017
00018 public:
00019
00020     virtual unsigned char get() = 0;
00021
00022     virtual void put(unsigned char b) = 0;
00023
00024     virtual unsigned char get(unsigned int index) = 0;
00025
00026     virtual void put(unsigned int index, unsigned char b) = 0;
00027
00028     virtual bool get(unsigned char* dst, int off, int len);
00029
00030     bool get(unsigned char* dst, int len);
00031
00032     virtual bool put(unsigned char* src, int off, int len);
00033
00034     bool put(unsigned char* src, int len);
00035
00036     virtual bool put(ByteBuffer* src);
00037
00038     virtual bool put(ByteBuffer* src, int len);
00039 };
00040
00041 #endif /* __ARDUINO_NIO_BYTE_BUFFER_H__ */
00042
```

5.13 ExternalEepromByteBuffer.cpp File Reference

```
#include "ExternalEepromByteBuffer.h"
```

Include dependency graph for ExternalEepromByteBuffer.cpp:



Macros

- #define __ARDUINO_NIO_EXTERNAL_EEPROM_BYTE_BUFFER_CPP__ 1

5.13.1 Macro Definition Documentation

5.13.1.1 #define __ARDUINO_NIO_EXTERNAL_EEPROM_BYTE_BUFFER_CPP__ 1

Arduino NIO.

ExternalEepromByteBuffer.cpp

Definition at line 8 of file ExternalEepromByteBuffer.cpp.

5.14 ExternalEepromByteBuffer.cpp

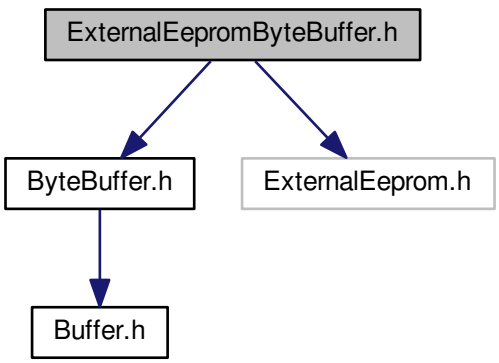
```
00001
00007 #ifndef __ARDUINO_NIO_EXTERNAL_EEPROM_BYTE_BUFFER_CPP__
00008 #define __ARDUINO_NIO_EXTERNAL_EEPROM_BYTE_BUFFER_CPP__ 1
00009
00010 #include "ExternalEepromByteBuffer.h"
00011
00012 ExternalEepromByteBuffer::ExternalEepromByteBuffer(
      ExternalEeprom* externalEeprom) : ByteBuffer(0, 0, externalEeprom->getDeviceSize(), externalEeprom->
      getDeviceSize()), externalEeprom(externalEeprom) {
00013 }
00014
00015 unsigned char ExternalEepromByteBuffer::get() {
00016     if (pos < lim) {
00017         return externalEeprom->read(pos++);
00018     }
00019     return 0;
00020 }
00021
00022 void ExternalEepromByteBuffer::put(unsigned char b) {
00023     if (pos < lim) {
00024         externalEeprom->write(pos++, b);
00025     }
```

```
00026 }
00027
00028 unsigned char ExternalEepromByteBuffer::get(unsigned int index) {
00029     if (index < lim) {
00030         return externalEeprom->read(index);
00031     }
00032     return 0;
00033 }
00034
00035 void ExternalEepromByteBuffer::put(unsigned int index, unsigned char b) {
00036     if (index < lim) {
00037         externalEeprom->write(index, b);
00038     }
00039 }
00040
00041 bool ExternalEepromByteBuffer::isReadOnly() {
00042     return false;
00043 }
00044
00045 bool ExternalEepromByteBuffer::hasArray() {
00046     return false;
00047 }
00048
00049 unsigned char* ExternalEepromByteBuffer::getArray() {
00050     return (unsigned char*) 0;
00051 }
00052
00053 #endif /* __ARDUINO_NIO_EXTERNAL_EEPROM_BYTE_BUFFER_CPP__ */
```

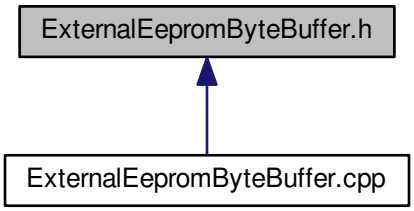
5.15 ExternalEepromByteBuffer.h File Reference

```
#include <ByteBuffer.h>
#include <ExternalEeprom.h>
```

Include dependency graph for ExternalEepromByteBuffer.h:



This graph shows which files directly or indirectly include this file:



Classes

- class ExternalEepromByteBuffer

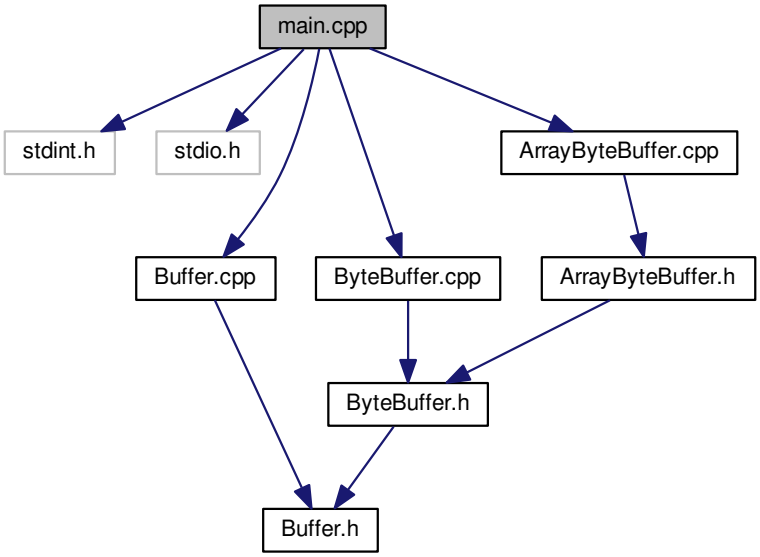
5.16 ExternalEepromByteBuffer.h

```
00001
00007 #ifndef __ARDUINO_NIO_EXTERNAL_EEPROM_BYTE_BUFFER_H__
00008 #define __ARDUINO_NIO_EXTERNAL_EEPROM_BYTE_BUFFER_H__ 1
00009
00010 #include <ByteBuffer.h>
00011 #include <ExternalEeprom.h>
00012
00013 class ExternalEepromByteBuffer : public ByteBuffer {
00014 protected:
00015
00016     ExternalEeprom* externalEeprom;
00017
00018 public:
00019
00020     ExternalEepromByteBuffer(ExternalEeprom* externalEeprom);
00021
00022     virtual unsigned char get();
00023
00024     virtual void put(unsigned char b);
00025
00026     virtual unsigned char get(unsigned int index);
00027
00028     virtual void put(unsigned int index, unsigned char b);
00029
00030     virtual bool isReadOnly();
00031
00032     virtual bool hasArray();
00033
00034     virtual unsigned char* getArray();
00035 };
00036
00037 #endif /* __ARDUINO_NIO_EXTERNAL_EEPROM_BYTE_BUFFER_H__ */
```

5.17 main.cpp File Reference

```
#include <stdint.h>
#include <stdio.h>
#include <Buffer.cpp>
#include <ByteBuffer.cpp>
#include <ArrayByteBuffer.cpp>
```

Include dependency graph for main.cpp:



Functions

- void testArrayByteBuffer ()
- int main ()

5.17.1 Function Documentation

5.17.1.1 int main ( )

Definition at line 63 of file main.cpp.

5.17.1.2 void testArrayByteBuffer ( )

Definition at line 8 of file main.cpp.

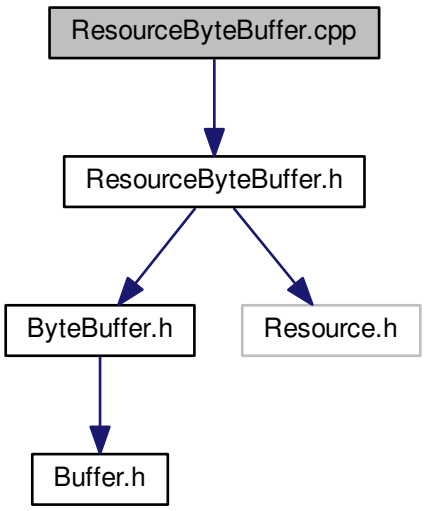
5.18 main.cpp

```
00001 #include <stdint.h>
00002 #include <stdio.h>
00003
00004 #include <Buffer.cpp>
00005 #include <ByteBuffer.cpp>
00006 #include <ArrayByteBuffer.cpp>
00007
00008 void testArrayByteBuffer() {
00009     bool error = false;
00010     unsigned char byteArray[100];
00011     ArrayByteBuffer abb(byteArray, 100);
00012     abb.put(1);
00013     abb.put(2);
00014     abb.put(3);
00015     if (byteArray[0] != 1 || byteArray[1] != 2 || byteArray[2] != 3) {
00016         error = 1;
00017     }
00018     abb.clear();
00019     abb.put(0xaa);
```

```
00020     abb.put(0xbb);
00021     if (byteArray[0] != 0xaa || byteArray[1] != 0xbb) {
00022         error = 1;
00023     }
00024     abb.mark();
00025     abb.put(0x00);
00026     abb.put(0x38);
00027     abb.put(0x94);
00028     abb.put(0x66);
00029     abb.reset();
00030     if (abb.get() != 0x00) {
00031         error = 1;
00032     }
00033     if (abb.get() != 0x38) {
00034         error = 1;
00035     }
00036     if (abb.get() != 0x94) {
00037         error = 1;
00038     }
00039     if (abb.get() != 0x66) {
00040         error = 1;
00041     }
00042     abb.reset();
00043     abb.put(0xf0);
00044     if (byteArray[2] != 0xf0) {
00045         error = 1;
00046     }
00047     abb.put(70, 0xfa);
00048     if (byteArray[70] != 0xfa) {
00049         error = 1;
00050     }
00051     abb.put(0x1a);
00052     if (byteArray[3] != 0x1a) {
00053         error = 1;
00054     }
00055     if (error) {
00056         printf("(F) ByteArrayOutputStream failed.\n");
00057     } else {
00058         printf("(*) ByteArrayOutputStream passed.\n");
00059     }
00060 }
00061
00062
00063 int main() {
00064     testArrayByteBuffer();
00065     return 0;
00066 }
```

5.19 ResourceByteBuffer.cpp File Reference

`#include "ResourceByteBuffer.h"`
Include dependency graph for ResourceByteBuffer.cpp:



Macros

- #define __ARDUINO_NIO_RESOURCE_BYTE_BUFFER_CPP__ 1

5.19.1 Macro Definition Documentation

5.19.1.1 #define __ARDUINO_NIO_RESOURCE_BYTE_BUFFER_CPP__ 1

Arduino NIO.

ResourceByteBuffer.cpp

Definition at line 8 of file ResourceByteBuffer.cpp.

5.20 ResourceByteBuffer.cpp

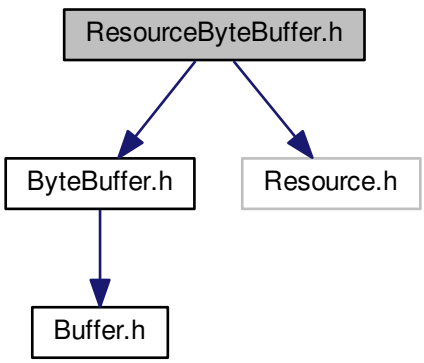
```
00001
00007 #ifndef __ARDUINO_NIO_RESOURCE_BYTE_BUFFER_CPP__
00008 #define __ARDUINO_NIO_RESOURCE_BYTE_BUFFER_CPP__ 1
00009
00010 #include "ResourceByteBuffer.h"
00011
00012 ResourceByteBuffer::ResourceByteBuffer(Resource* resource, unsigned
      int len) : ByteBuffer(0, 0, len, len), resource(resource) {
00013     if (resource->size() < len) {
00014         unsigned int needed = len - resource->size();
00015         resource->seek(Resource::SEEK_ORIGIN_BEGIN, resource->size());
00016         for (unsigned int i = 0; i < needed; i++) {
00017             resource->write(0x00);
00018         }
00019     }
00020 }
00021
00022 unsigned char ResourceByteBuffer::get() {
```

```
00023     if (pos < lim) {
00024         pos++;
00025         return resource->read();
00026     }
00027     return 0;
00028 }
00029
00030 void ResourceByteBuffer::put(unsigned char b) {
00031     if (pos < lim) {
00032         pos++;
00033         resource->write(b);
00034     }
00035 }
00036
00037 unsigned char ResourceByteBuffer::get(unsigned int index) {
00038     if (index < lim) {
00039         unsigned char b = 0;
00040         resource->seek(Resource::SEEK_ORIGIN_BEGIN, index);
00041         b = resource->read();
00042         resource->seek(Resource::SEEK_ORIGIN_BEGIN, pos);
00043         return b;
00044     }
00045     return 0;
00046 }
00047
00048 void ResourceByteBuffer::put(unsigned int index, unsigned char b) {
00049     if (index < lim) {
00050         resource->seek(Resource::SEEK_ORIGIN_BEGIN, index);
00051         resource->write(b);
00052         resource->seek(Resource::SEEK_ORIGIN_BEGIN, pos);
00053     }
00054 }
00055
00056 bool ResourceByteBuffer::isReadOnly() {
00057     return resource->isReadOnly();
00058 }
00059
00060 bool ResourceByteBuffer::hasArray() {
00061     return false;
00062 }
00063
00064 unsigned char* ResourceByteBuffer::getArray() {
00065     return (unsigned char *) 0;
00066 }
00067
00068 #endif /* __ARDUINO_NIO_RESOURCE_BYTE_BUFFER_CPP__ */
00069
```

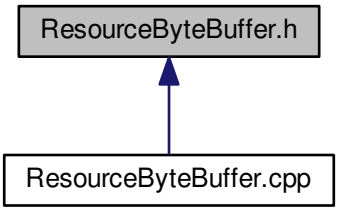
5.21 ResourceByteBuffer.h File Reference

```
#include <ByteBuffer.h>
#include <Resource.h>
```

Include dependency graph for ResourceByteBuffer.h:



This graph shows which files directly or indirectly include this file:



Classes

- class ResourceByteBuffer

5.22 ResourceByteBuffer.h

```
00001
00007 #ifndef __ARDUINO_NIO_RESOURCE_BYTE_BUFFER_H__
00008 #define __ARDUINO_NIO_RESOURCE_BYTE_BUFFER_H__ 1
00009
00010 #include <ByteBuffer.h>
00011 #include <Resource.h>
00012
00013 class ResourceByteBuffer : public ByteBuffer {
00014 protected:
00015
00016     Resource* resource;
00017
00018 public:
00019
00020     ResourceByteBuffer(Resource* resource, unsigned int len);
00021
00022     virtual unsigned char get();
00023
00024     virtual void put(unsigned char b);
00025
00026     virtual unsigned char get(unsigned int index);
00027
00028     virtual void put(unsigned int index, unsigned char b);
00029
00030     virtual bool isReadOnly();
00031
00032     virtual bool hasArray();
00033
00034     virtual unsigned char* getArray();
00035 };
00036
00037 #endif /* __ARDUINO_NIO_RESOURCE_BYTE_BUFFER_H__ */
```

Index