

libSBOLc

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Contents

1	Data Structure Index	1
1.1	Data Structures	1
2	File Index	3
2.1	File List	3
3	Data Structure Documentation	5
3.1	_Collection Struct Reference	5
3.1.1	Detailed Description	5
3.1.2	Field Documentation	5
3.1.2.1	collections	5
3.1.2.2	components	5
3.1.2.3	description	5
3.1.2.4	id	5
3.1.2.5	name	5
3.2	_DNAComponent Struct Reference	6
3.2.1	Detailed Description	6
3.2.2	Field Documentation	6
3.2.2.1	annotations	6
3.2.2.2	collections	6
3.2.2.3	description	6
3.2.2.4	dnaSequence	6
3.2.2.5	id	6
3.2.2.6	name	6
3.3	_DNASequence Struct Reference	6
3.3.1	Detailed Description	7
3.3.2	Field Documentation	7
3.3.2.1	nucleotides	7
3.4	_SequenceAnnotation Struct Reference	7
3.4.1	Detailed Description	7
3.4.2	Field Documentation	8
3.4.2.1	annotates	8
3.4.2.2	end	8
3.4.2.3	genbankStart	8
3.4.2.4	id	8
3.4.2.5	precedes	8
3.4.2.6	subComponent	8
4	File Documentation	9

4.1	parser.h File Reference	9
4.1.1	Define Documentation	12
4.1.1.1	BEGIN_C_DECLS	12
4.1.1.2	END_C_DECLS	12
4.1.1.3	SBOLAPIEXPORTS	12
4.1.2	Typedef Documentation	12
4.1.2.1	Collection	12
4.1.2.2	DNAComponent	12
4.1.2.3	DNASequence	12
4.1.2.4	SequenceAnnotation	12
4.1.3	Function Documentation	13
4.1.3.1	addComponentToCollection	13
4.1.3.2	addPrecedesRelationship	13
4.1.3.3	addSequenceAnnotation	13
4.1.3.4	cleanup	13
4.1.3.5	getNthCollection	13
4.1.3.6	getNthCollectionFor	13
4.1.3.7	getNthDNAComponent	13
4.1.3.8	getNthDNAComponentIn	13
4.1.3.9	getNthPrecedes	13
4.1.3.10	getNthSequenceAnnotation	14
4.1.3.11	getNthSequenceAnnotationIn	14
4.1.3.12	getNumCollections	14
4.1.3.13	getNumCollectionsFor	14
4.1.3.14	getNumDNAComponents	14
4.1.3.15	getNumDNAComponentsIn	14
4.1.3.16	getNumPrecedes	14
4.1.3.17	getNumSequenceAnnotations	14
4.1.3.18	getNumSequenceAnnotationsIn	14
4.1.3.19	readSBOL	14
4.1.3.20	setCollectionDescription	15
4.1.3.21	setCollectionID	15
4.1.3.22	setCollectionName	15
4.1.3.23	setComponentDescription	15
4.1.3.24	setComponentID	15
4.1.3.25	setComponentName	15
4.1.3.26	setSequenceAnnotationID	15
4.1.3.27	setSubComponent	15

Chapter 1

Data Structure Index

1.1 Data Structures

Here are the data structures with brief descriptions:

_Collection (Collection class)	5
_DNAComponent (DNAComponent class)	6
_DNASequence (DNASequence class)	6
_SequenceAnnotation (SequenceAnnotation class)	7

Chapter 2

File Index

2.1 File List

Here is a list of all files with brief descriptions:

parser.h	9
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Chapter 3

Data Structure Documentation

3.1 _Collection Struct Reference

Collection class.

```
#include <parser.h>
```

Data Fields

- char * [id](#)
- char * [name](#)
- char * [description](#)
- struct [_DNAComponent](#) ** [components](#)
- struct [_Collection](#) ** [collections](#)

3.1.1 Detailed Description

Collection class.

3.1.2 Field Documentation

3.1.2.1 struct [_Collection](#)** [collections](#)

3.1.2.2 struct [_DNAComponent](#)** [components](#)

3.1.2.3 char* [description](#)

3.1.2.4 char* [id](#)

3.1.2.5 char* [name](#)

The documentation for this struct was generated from the following file:

- [parser.h](#)

3.2 `_DNAComponent` Struct Reference

`DNAComponent` class.

```
#include <parser.h>
```

Data Fields

- `char * id`
- `char * name`
- `char * description`
- `struct _DNASequence * dnaSequence`
- `struct _SequenceAnnotation ** annotations`
- `struct _Collection ** collections`

3.2.1 Detailed Description

`DNAComponent` class.

3.2.2 Field Documentation

3.2.2.1 `struct _SequenceAnnotation ** annotations`

3.2.2.2 `struct _Collection ** collections`

3.2.2.3 `char* description`

3.2.2.4 `struct _DNASequence* dnaSequence`

3.2.2.5 `char* id`

3.2.2.6 `char* name`

The documentation for this struct was generated from the following file:

- [parser.h](#)

3.3 `_DNASequence` Struct Reference

`DNASequence` class.

```
#include <parser.h>
```

Data Fields

- char * [nucleotides](#)

3.3.1 Detailed Description

DNASequence class.

3.3.2 Field Documentation

3.3.2.1 char* nucleotides

The documentation for this struct was generated from the following file:

- [parser.h](#)

3.4 _SequenceAnnotation Struct Reference

SequenceAnnotation class.

```
#include <parser.h>
```

Data Fields

- char * [id](#)
- struct [_DNAComponent](#) * [annotates](#)
- struct [_DNAComponent](#) * [subComponent](#)
- int [genbankStart](#)
- int [end](#)
- struct [_SequenceAnnotation](#) ** [precedes](#)

3.4.1 Detailed Description

SequenceAnnotation class.

3.4.2 Field Documentation

3.4.2.1 **struct _DNAComponent*** **annotates**

3.4.2.2 **int** **end**

3.4.2.3 **int** **genbankStart**

3.4.2.4 **char*** **id**

3.4.2.5 **struct _SequenceAnnotation**** **precedes**

3.4.2.6 **struct _DNAComponent*** **subComponent**

The documentation for this struct was generated from the following file:

- [parser.h](#)

Chapter 4

File Documentation

4.1 parser.h File Reference

```
#include <stdlib.h>
#include <stdio.h>
```

Data Structures

- struct [_DNASequence](#)
DNASequence class.
- struct [_DNAComponent](#)
DNAcomponent class.
- struct [_SequenceAnnotation](#)
SequenceAnnotation class.
- struct [_Collection](#)
Collection class.

Defines

- #define [BEGIN_C_DECLS](#)
- #define [END_C_DECLS](#)
- #define [SBOLAPIEXPORTS](#)

Typedefs

- typedef struct [_DNASequence](#) [DNASequence](#)

DNASequences class.

- typedef struct [_DNAComponent](#) DNAComponent
DNAComponent class.
- typedef struct [_SequenceAnnotation](#) SequenceAnnotation
SequenceAnnotation class.
- typedef struct [_Collection](#) Collection
Collection class.

Functions

- SBOLAPIEXPORTS void [readSBOL](#) (char *filename)
read n-triples file
- SBOLAPIEXPORTS int [getNumCollections](#) ()
get number of collections
- SBOLAPIEXPORTS [Collection](#) [getNthCollection](#) (int n)
get nth collection
- SBOLAPIEXPORTS int [getNumCollectionsFor](#) ([DNAComponent](#) component)
get number of collections
- SBOLAPIEXPORTS [Collection](#) [getNthCollectionFor](#) ([DNAComponent](#) component, int n)
get nth collection
- SBOLAPIEXPORTS int [getNumDNAComponents](#) ()
get number of DNA components
- SBOLAPIEXPORTS [DNAComponent](#) [getNthDNAComponent](#) (int n)
get nth DNA component
- SBOLAPIEXPORTS int [getNumDNAComponentsIn](#) ([Collection](#) collection)
get number of DNA components
- SBOLAPIEXPORTS [DNAComponent](#) [getNthDNAComponentIn](#) ([Collection](#) collection, int n)
get nth DNA component
- SBOLAPIEXPORTS int [getNumSequenceAnnotations](#) ()
get number of Sequence Annotations

- SBOLAPIEXPORTS [SequenceAnnotation](#) [getNthSequenceAnnotation](#) (int n)
get nth annotation
- SBOLAPIEXPORTS int [getNumSequenceAnnotationsIn](#) ([DNAComponent](#) component)
get number of annotations in a component
- SBOLAPIEXPORTS [SequenceAnnotation](#) [getNthSequenceAnnotationIn](#) ([DNAComponent](#) component, int n)
get nth annotation in a component
- SBOLAPIEXPORTS int [getNumPrecedes](#) ([SequenceAnnotation](#) annotation)
get number of precedes relationships in an annotation
- SBOLAPIEXPORTS [SequenceAnnotation](#) [getNthPrecedes](#) ([SequenceAnnotation](#) annotation, int n)
get nth precedes relationship in an annotation
- SBOLAPIEXPORTS void [setCollectionID](#) ([Collection](#) *collection, char *id)
set collection id
- SBOLAPIEXPORTS void [setCollectionName](#) ([Collection](#) *collection, char *name)
set collection name
- SBOLAPIEXPORTS void [setCollectionDescription](#) ([Collection](#) *collection, char *descr)
set collection description
- SBOLAPIEXPORTS void [setComponentID](#) ([DNAComponent](#) *component, char *id)
set component id
- SBOLAPIEXPORTS void [setComponentName](#) ([DNAComponent](#) *component, char *name)
set component name
- SBOLAPIEXPORTS void [setComponentDescription](#) ([DNAComponent](#) *component, char *descr)
set component description
- SBOLAPIEXPORTS void [addComponentToCollection](#) ([DNAComponent](#) *component, [Collection](#) *collection)
add existing component to existing collection

- SBOLAPIEXPORTS void [setSequenceAnnotationID](#) ([SequenceAnnotation](#) *annotation, char *id)
add existing component to existing collection
- SBOLAPIEXPORTS void [setSubComponent](#) ([SequenceAnnotation](#) *annotation, [DNAComponent](#) *component)
set sub-component for a sequence annotation
- SBOLAPIEXPORTS void [addSequenceAnnotation](#) ([DNAComponent](#) *component, [SequenceAnnotation](#) *annotation)
add existing sequence annotation to existing DNA component
- SBOLAPIEXPORTS void [addPrecedesRelationship](#) ([SequenceAnnotation](#) *upstream, [SequenceAnnotation](#) *downstream)
add precedence relationship between two existing sequence annotations
- SBOLAPIEXPORTS void [cleanup](#) ()
free memory

4.1.1 Define Documentation

4.1.1.1 `#define BEGIN_C_DECLS`

4.1.1.2 `#define END_C_DECLS`

4.1.1.3 `#define SBOLAPIEXPORTS`

4.1.2 Typedef Documentation

4.1.2.1 `typedef struct _Collection Collection`

Collection class.

4.1.2.2 `typedef struct _DNAComponent DNAComponent`

DNAcomponent class.

4.1.2.3 `typedef struct _DNASequence DNASequence`

DNASequence class.

4.1.2.4 `typedef struct _SequenceAnnotation SequenceAnnotation`

SequenceAnnotation class.

4.1.3 Function Documentation

4.1.3.1 SBOLAPIEXPORTS void addComponentToCollection (DNAComponent * *component*, Collection * *collection*)

add existing component to existing collection

4.1.3.2 SBOLAPIEXPORTS void addPrecedesRelationship (SequenceAnnotation * *upstream*, SequenceAnnotation * *downstream*)

add precedence relationship between two existing sequence annotations

4.1.3.3 SBOLAPIEXPORTS void addSequenceAnnotation (DNAComponent * *component*, SequenceAnnotation * *annotation*)

add existing sequence annotation to existing DNA component

4.1.3.4 SBOLAPIEXPORTS void cleanup ()

free memory

4.1.3.5 SBOLAPIEXPORTS Collection getNthCollection (int *n*)

get nth collection

4.1.3.6 SBOLAPIEXPORTS Collection getNthCollectionFor (DNAComponent *component*, int *n*)

get nth collection

4.1.3.7 SBOLAPIEXPORTS DNAComponent getNthDNAComponent (int *n*)

get nth DNA component

4.1.3.8 SBOLAPIEXPORTS DNAComponent getNthDNAComponentIn (Collection *collection*, int *n*)

get nth DNA component

4.1.3.9 SBOLAPIEXPORTS SequenceAnnotation getNthPrecedes (SequenceAnnotation *annotation*, int *n*)

get nth precedes relationship in an annotation

4.1.3.10 SBOLAPIEXPORTS SequenceAnnotation getNthSequenceAnnotation (int *n*)

get nth annotation

4.1.3.11 SBOLAPIEXPORTS SequenceAnnotation getNthSequenceAnnotationIn (DNAComponent *component*, int *n*)

get nth annotation in a component

4.1.3.12 SBOLAPIEXPORTS int getNumCollections ()

get number of collections

4.1.3.13 SBOLAPIEXPORTS int getNumCollectionsFor (DNAComponent *component*)

get number of collections

4.1.3.14 SBOLAPIEXPORTS int getNumDNAComponents ()

get number of DNA components

4.1.3.15 SBOLAPIEXPORTS int getNumDNAComponentsIn (Collection *collection*)

get number of DNA components

4.1.3.16 SBOLAPIEXPORTS int getNumPrecedes (SequenceAnnotation *annotation*)

get number of precedes relationships in an annotation

4.1.3.17 SBOLAPIEXPORTS int getNumSequenceAnnotations ()

get number of Sequence Annotations

4.1.3.18 SBOLAPIEXPORTS int getNumSequenceAnnotationsIn (DNAComponent *component*)

get number of annotations in a component

4.1.3.19 SBOLAPIEXPORTS void readSBOL (char * *filename*)

read n-triples file

4.1.3.20 SBOLAPIEXPORTS void setCollectionDescription (Collection * *collection*, char * *descr*)

set collection description

4.1.3.21 SBOLAPIEXPORTS void setCollectionID (Collection * *collection*, char * *id*)

set collection id

4.1.3.22 SBOLAPIEXPORTS void setCollectionName (Collection * *collection*, char * *name*)

set collection name

4.1.3.23 SBOLAPIEXPORTS void setComponentDescription (DNAComponent * *component*, char * *descr*)

set component description

4.1.3.24 SBOLAPIEXPORTS void setComponentID (DNAComponent * *component*, char * *id*)

set component id

4.1.3.25 SBOLAPIEXPORTS void setComponentName (DNAComponent * *component*, char * *name*)

set component name

4.1.3.26 SBOLAPIEXPORTS void setSequenceAnnotationID (SequenceAnnotation * *annotation*, char * *id*)

add existing component to existing collection

4.1.3.27 SBOLAPIEXPORTS void setSubComponent (SequenceAnnotation * *annotation*, DNAComponent * *component*)

set sub-component for a sequence annotation

Index

- [_Collection](#), [5](#)
 - [collections](#), [5](#)
 - [components](#), [5](#)
 - [description](#), [5](#)
 - [id](#), [5](#)
 - [name](#), [5](#)
 - [_DNAComponent](#), [6](#)
 - [annotations](#), [6](#)
 - [collections](#), [6](#)
 - [description](#), [6](#)
 - [dnaSequence](#), [6](#)
 - [id](#), [6](#)
 - [name](#), [6](#)
 - [_DNASequence](#), [6](#)
 - [nucleotides](#), [7](#)
 - [_SequenceAnnotation](#), [7](#)
 - [annotates](#), [8](#)
 - [end](#), [8](#)
 - [genbankStart](#), [8](#)
 - [id](#), [8](#)
 - [precedes](#), [8](#)
 - [subComponent](#), [8](#)
- [addComponentToCollection](#)
 - [parser.h](#), [13](#)
- [addPrecedesRelationship](#)
 - [parser.h](#), [13](#)
- [addSequenceAnnotation](#)
 - [parser.h](#), [13](#)
- [annotates](#)
 - [_SequenceAnnotation](#), [8](#)
- [annotations](#)
 - [_DNAComponent](#), [6](#)
- [BEGIN_C_DECLS](#)
 - [parser.h](#), [12](#)
- [cleanup](#)
 - [parser.h](#), [13](#)
- [Collection](#)
 - [parser.h](#), [12](#)
- [collections](#)
 - [_Collection](#), [5](#)
 - [_DNAComponent](#), [6](#)
- [components](#)
 - [_Collection](#), [5](#)
- [description](#)
 - [_Collection](#), [5](#)
 - [_DNAComponent](#), [6](#)
- [DNAComponent](#)
 - [parser.h](#), [12](#)
- [DNASequence](#)
 - [parser.h](#), [12](#)
- [dnaSequence](#)
 - [_DNAComponent](#), [6](#)
- [end](#)
 - [_SequenceAnnotation](#), [8](#)
- [END_C_DECLS](#)
 - [parser.h](#), [12](#)
- [genbankStart](#)
 - [_SequenceAnnotation](#), [8](#)
- [getNthCollection](#)
 - [parser.h](#), [13](#)
- [getNthCollectionFor](#)
 - [parser.h](#), [13](#)
- [getNthDNAComponent](#)
 - [parser.h](#), [13](#)
- [getNthDNAComponentIn](#)
 - [parser.h](#), [13](#)
- [getNthPrecedes](#)
 - [parser.h](#), [13](#)
- [getNthSequenceAnnotation](#)
 - [parser.h](#), [13](#)
- [getNthSequenceAnnotationIn](#)
 - [parser.h](#), [14](#)
- [getNumCollections](#)
 - [parser.h](#), [14](#)
- [getNumCollectionsFor](#)
 - [parser.h](#), [14](#)

- getNumDNAComponents
 - parser.h, [14](#)
- getNumDNAComponentsIn
 - parser.h, [14](#)
- getNumPrecedes
 - parser.h, [14](#)
- getNumSequenceAnnotations
 - parser.h, [14](#)
- getNumSequenceAnnotationsIn
 - parser.h, [14](#)
- id
 - _Collection, [5](#)
 - _DNAComponent, [6](#)
 - _SequenceAnnotation, [8](#)
- name
 - _Collection, [5](#)
 - _DNAComponent, [6](#)
- nucleotides
 - _DNASequence, [7](#)
- parser.h, [9](#)
 - addComponentToCollection, [13](#)
 - addPrecedesRelationship, [13](#)
 - addSequenceAnnotation, [13](#)
 - BEGIN_C_DECLS, [12](#)
 - cleanup, [13](#)
 - Collection, [12](#)
 - DNAComponent, [12](#)
 - DNASequence, [12](#)
 - END_C_DECLS, [12](#)
 - getNthCollection, [13](#)
 - getNthCollectionFor, [13](#)
 - getNthDNAComponent, [13](#)
 - getNthDNAComponentIn, [13](#)
 - getNthPrecedes, [13](#)
 - getNthSequenceAnnotation, [13](#)
 - getNthSequenceAnnotationIn, [14](#)
 - getNumCollections, [14](#)
 - getNumCollectionsFor, [14](#)
 - getNumDNAComponents, [14](#)
 - getNumDNAComponentsIn, [14](#)
 - getNumPrecedes, [14](#)
 - getNumSequenceAnnotations, [14](#)
 - getNumSequenceAnnotationsIn, [14](#)
 - readSBOL, [14](#)
 - SBOLAPIEXPORTS, [12](#)
 - SequenceAnnotation, [12](#)
 - setCollectionDescription, [14](#)
 - setCollectionID, [15](#)
 - setCollectionName, [15](#)
 - setComponentDescription, [15](#)
 - setComponentID, [15](#)
 - setComponentName, [15](#)
 - setSequenceAnnotationID, [15](#)
 - setSubComponent, [15](#)
- precedes
 - _SequenceAnnotation, [8](#)
- readSBOL
 - parser.h, [14](#)
- SBOLAPIEXPORTS
 - parser.h, [12](#)
- SequenceAnnotation
 - parser.h, [12](#)
- setCollectionDescription
 - parser.h, [14](#)
- setCollectionID
 - parser.h, [15](#)
- setCollectionName
 - parser.h, [15](#)
- setComponentDescription
 - parser.h, [15](#)
- setComponentID
 - parser.h, [15](#)
- setComponentName
 - parser.h, [15](#)
- setSequenceAnnotationID
 - parser.h, [15](#)
- setSubComponent
 - parser.h, [15](#)
- subComponent
 - _SequenceAnnotation, [8](#)