

My Project



# Contents

<b>1</b>	<b>Deprecated List</b>	<b>1</b>
<b>2</b>	<b>Hierarchical Index</b>	<b>3</b>
2.1	Class Hierarchy	3
<b>3</b>	<b>Class Index</b>	<b>5</b>
3.1	Class List	5
<b>4</b>	<b>File Index</b>	<b>7</b>
4.1	File List	7
<b>5</b>	<b>Class Documentation</b>	<b>9</b>
5.1	OGRAttrIndex Class Reference	9
5.2	OGRDataSource Class Reference	9
5.2.1	Detailed Description	10
5.3	OGRLayer Class Reference	10
5.3.1	Detailed Description	13
5.3.2	Member Function Documentation	13
5.3.2.1	AlterFieldDefn(int iField, OGRFieldDefn *poNewFieldDefn, int nFlagsIn)	13
5.3.2.2	CreateFeature(OGRFeature *poFeature)	13
5.3.2.3	CreateField(OGRFieldDefn *poField, int bApproxOK=TRUE)	14
5.3.2.4	CreateGeomField(OGRGeomFieldDefn *poField, int bApproxOK=TRUE)	14
5.3.2.5	DeleteFeature(GIntBig nFID)	15
5.3.2.6	DeleteField(int iField)	15
5.3.2.7	Dereference()	15
5.3.2.8	FindFieldIndex(const char *pszFieldName, int bExactMatch)	16
5.3.2.9	GetExtent(OGREnvelope *psExtent, int bForce=TRUE)	16
5.3.2.10	GetExtent(int iGeomField, OGREnvelope *psExtent, int bForce=TRUE)	16
5.3.2.11	GetFeature(GIntBig nFID)	18
5.3.2.12	GetFeatureCount(int bForce=TRUE)	18
5.3.2.13	GetFIDColumn()	19
5.3.2.14	GetGeometryColumn()	19
5.3.2.15	GetGeomType()	19

5.3.2.16	GetLayerDefn()=0	19
5.3.2.17	GetName()	20
5.3.2.18	GetNextFeature()=0	20
5.3.2.19	GetRefCount() const	20
5.3.2.20	GetSpatialFilter()	20
5.3.2.21	GetSpatialRef()	21
5.3.2.22	GetStyleTable()	21
5.3.2.23	ICreateFeature(OGRFeature *poFeature)	21
5.3.2.24	ISetFeature(OGRFeature *poFeature)	21
5.3.2.25	Reference()	22
5.3.2.26	ReorderField(int iOldFieldPos, int iNewFieldPos)	22
5.3.2.27	ReorderFields(int *panMap)	23
5.3.2.28	ResetReading()=0	23
5.3.2.29	SetAttributeFilter(const char *)	23
5.3.2.30	SetFeature(OGRFeature *poFeature)	24
5.3.2.31	SetIgnoredFields(const char **papszFields)	24
5.3.2.32	SetNextByIndex(GIntBig nIndex)	24
5.3.2.33	SetSpatialFilter(OGRGeometry *)	25
5.3.2.34	SetSpatialFilter(int iGeomField, OGRGeometry *)	25
5.3.2.35	SetSpatialFilterRect(double dfMinX, double dfMinY, double dfMaxX, double df↵ MaxY)	27
5.3.2.36	SetSpatialFilterRect(int iGeomField, double dfMinX, double dfMinY, double df↵ MaxX, double dfMaxY)	27
5.3.2.37	SetStyleTable(OGRStyleTable *poStyleTable)	28
5.3.2.38	SetStyleTableDirectly(OGRStyleTable *poStyleTable)	28
5.3.2.39	SyncToDisk()	28
5.3.2.40	TestCapability(const char *)=0	28
5.4	OGRLayerAttrIndex Class Reference	30
5.5	OGRSFDriver Class Reference	30
5.5.1	Detailed Description	30
5.6	OGRSFDriverRegistrar Class Reference	31
5.6.1	Detailed Description	31
<b>6</b>	<b>File Documentation</b>	<b>33</b>
6.1	ogrsf_frmts.h File Reference	33
6.1.1	Detailed Description	35
6.1.2	Function Documentation	35
6.1.2.1	OGRRegisterAll()	35
	<b>Index</b>	<b>37</b>

## Chapter 1

# Deprecated List

Class [OGRDataSource](#)

globalScope> Member [OGRRegisterAll](#) ()

Use GDALAllRegister() in GDAL 2.0

Class [OGRSFDriver](#)

Class [OGRSFDriverRegistrar](#)



## Chapter 2

# Hierarchical Index

### 2.1 Class Hierarchy

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

GDALDataset	
OGRDataSource . . . . .	9
GDALDriver	
OGRSFDriver . . . . .	30
GDALMajorObject	
OGRLayer . . . . .	10
OGRAttrIndex . . . . .	9
OGRLayerAttrIndex . . . . .	30
OGRSFDriverRegistrar . . . . .	31





## Chapter 3

# Class Index

### 3.1 Class List

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

<a href="#">OGRAttrIndex</a>	9
<a href="#">OGRDataSource</a>	9
<a href="#">OGRLayer</a>	10
<a href="#">OGRLayerAttrIndex</a>	30
<a href="#">OGRSFDriver</a>	30
<a href="#">OGRSFDriverRegistrar</a>	31



## Chapter 4

# File Index

### 4.1 File List

Here is a list of all documented files with brief descriptions:

<b>ogr_attrind.h</b>	.....	<b>??</b>
<a href="#">ogrsf_frmts.h</a>	.....	<a href="#">33</a>



## Chapter 5

# Class Documentation

### 5.1 OGRAttrIndex Class Reference

#### Public Member Functions

- virtual GIntBig **GetFirstMatch** (OGRField \*psKey)=0
- virtual GIntBig \* **GetAllMatches** (OGRField \*psKey)=0
- virtual GIntBig \* **GetAllMatches** (OGRField \*psKey, GIntBig \*panFIDList, int \*nFIDCount, int \*nLength)=0
- virtual OGRErr **AddEntry** (OGRField \*psKey, GIntBig nFID)=0
- virtual OGRErr **RemoveEntry** (OGRField \*psKey, GIntBig nFID)=0
- virtual OGRErr **Clear** ()=0

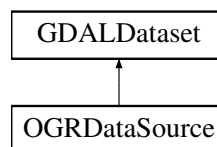
The documentation for this class was generated from the following file:

- ogr\_attrind.h

### 5.2 OGRDataSource Class Reference

```
#include <ogr_sfrmts.h>
```

Inheritance diagram for OGRDataSource:



#### Public Member Functions

- virtual const char \* **GetName** () OGR\_DEPRECATED("Use GDALDataset class instead")=0

#### Static Public Member Functions

- static void **DestroyDataSource** (OGRDataSource \*) OGR\_DEPRECATED("Use GDALDataset class instead")

### 5.2.1 Detailed Description

LEGACY class. Use GDALDataset in your new code ! This class may be removed in a later release.

This class represents a data source. A data source potentially consists of many layers ([OGRLayer](#)). A data source normally consists of one, or a related set of files, though the name doesn't have to be a real item in the file system.

When an [OGRDataSource](#) is destroyed, all it's associated OGRLayers objects are also destroyed.

NOTE: Starting with GDAL 2.0, it is *NOT* safe to cast the handle of a C function that returns a OGRDataSourceH to a OGRDataSource\*. If a C++ object is needed, the handle should be cast to GDALDataset\*.

### Deprecated

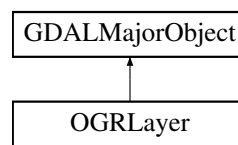
The documentation for this class was generated from the following file:

- [ogrsf\\_frmts.h](#)

## 5.3 OGRLayer Class Reference

```
#include <ogrsf_frmts.h>
```

Inheritance diagram for OGRLayer:



### Public Member Functions

- virtual OGRGeometry \* [GetSpatialFilter](#) ()  
*This method returns the current spatial filter for this layer.*
- virtual void [SetSpatialFilter](#) (OGRGeometry \*)  
*Set a new spatial filter.*
- virtual void [SetSpatialFilterRect](#) (double dfMinX, double dfMinY, double dfMaxX, double dfMaxY)  
*Set a new rectangular spatial filter.*
- virtual void [SetSpatialFilter](#) (int iGeomField, OGRGeometry \*)  
*Set a new spatial filter.*
- virtual void [SetSpatialFilterRect](#) (int iGeomField, double dfMinX, double dfMinY, double dfMaxX, double dfMaxY)  
*Set a new rectangular spatial filter.*
- virtual OGRErr [SetAttributeFilter](#) (const char \*)  
*Set a new attribute query.*
- virtual void [ResetReading](#) ()=0  
*Reset feature reading to start on the first feature.*
- virtual OGRFeature \* [GetNextFeature](#) ()=0  
*Fetch the next available feature from this layer.*
- virtual OGRErr [SetNextByIndex](#) (GIntBig nIndex)  
*Move read cursor to the nIndex'th feature in the current resultset.*
- virtual OGRFeature \* [GetFeature](#) (GIntBig nFID)  
*Fetch a feature by its identifier.*

- OGRErr [SetFeature](#) (OGRFeature \*poFeature)  
*Rewrite an existing feature.*
- OGRErr [CreateFeature](#) (OGRFeature \*poFeature)  
*Create and write a new feature within a layer.*
- virtual OGRErr [DeleteFeature](#) (GIntBig nFID)  
*Delete feature from layer.*
- virtual const char \* [GetName](#) ()  
*Return the layer name.*
- virtual OGRwkbGeometryType [GetGeomType](#) ()  
*Return the layer geometry type.*
- virtual OGRFeatureDefn \* [GetLayerDefn](#) ()=0  
*Fetch the schema information for this layer.*
- virtual int [FindFieldIndex](#) (const char \*pszFieldName, int bExactMatch)  
*Find the index of field in the layer.*
- virtual OGRSpatialReference \* [GetSpatialRef](#) ()  
*Fetch the spatial reference system for this layer.*
- virtual GIntBig [GetFeatureCount](#) (int bForce=TRUE)  
*Fetch the feature count in this layer.*
- virtual OGRErr [GetExtent](#) (OGREnvelope \*psExtent, int bForce=TRUE)  
*Fetch the extent of this layer.*
- virtual OGRErr [GetExtent](#) (int iGeomField, OGREnvelope \*psExtent, int bForce=TRUE)  
*Fetch the extent of this layer, on the specified geometry field.*
- virtual int [TestCapability](#) (const char \*)=0  
*Test if this layer supported the named capability.*
- virtual OGRErr [CreateField](#) (OGRFieldDefn \*poField, int bApproxOK=TRUE)  
*Create a new field on a layer.*
- virtual OGRErr [DeleteField](#) (int iField)  
*Delete an existing field on a layer.*
- virtual OGRErr [ReorderFields](#) (int \*panMap)  
*Reorder all the fields of a layer.*
- virtual OGRErr [AlterFieldDefn](#) (int iField, OGRFieldDefn \*poNewFieldDefn, int nFlagsIn)  
*Alter the definition of an existing field on a layer.*
- virtual OGRErr [CreateGeomField](#) (OGRGeomFieldDefn \*poField, int bApproxOK=TRUE)  
*Create a new geometry field on a layer.*
- virtual OGRErr [SyncToDisk](#) ()  
*Flush pending changes to disk.*
- virtual OGRStyleTable \* [GetStyleTable](#) ()  
*Returns layer style table.*
- virtual void [SetStyleTableDirectly](#) (OGRStyleTable \*poStyleTable)  
*Set layer style table.*
- virtual void [SetStyleTable](#) (OGRStyleTable \*poStyleTable)  
*Set layer style table.*
- virtual OGRErr **StartTransaction** ()
- virtual OGRErr **CommitTransaction** ()
- virtual OGRErr **RollbackTransaction** ()
- virtual const char \* [GetFIDColumn](#) ()  
*This method returns the name of the underlying database column being used as the FID column, or "" if not supported.*
- virtual const char \* [GetGeometryColumn](#) ()  
*This method returns the name of the underlying database column being used as the geometry column, or "" if not supported.*
- virtual OGRErr [SetIgnoredFields](#) (const char \*\*papszFields)

*Set which fields can be omitted when retrieving features from the layer.*

- OGRErr **Intersection** (OGRLayer \*pLayerMethod, OGRLayer \*pLayerResult, char \*\*papszOptions=NULL, GDALProgressFunc pfnProgress=NULL, void \*pProgressArg=NULL)
- OGRErr **Union** (OGRLayer \*pLayerMethod, OGRLayer \*pLayerResult, char \*\*papszOptions=NULL, GDALProgressFunc pfnProgress=NULL, void \*pProgressArg=NULL)
- OGRErr **SymDifference** (OGRLayer \*pLayerMethod, OGRLayer \*pLayerResult, char \*\*papszOptions, GDALProgressFunc pfnProgress, void \*pProgressArg)
- OGRErr **Identity** (OGRLayer \*pLayerMethod, OGRLayer \*pLayerResult, char \*\*papszOptions=NULL, GDALProgressFunc pfnProgress=NULL, void \*pProgressArg=NULL)
- OGRErr **Update** (OGRLayer \*pLayerMethod, OGRLayer \*pLayerResult, char \*\*papszOptions=NULL, GDALProgressFunc pfnProgress=NULL, void \*pProgressArg=NULL)
- OGRErr **Clip** (OGRLayer \*pLayerMethod, OGRLayer \*pLayerResult, char \*\*papszOptions=NULL, GDALProgressFunc pfnProgress=NULL, void \*pProgressArg=NULL)
- OGRErr **Erase** (OGRLayer \*pLayerMethod, OGRLayer \*pLayerResult, char \*\*papszOptions=NULL, GDALProgressFunc pfnProgress=NULL, void \*pProgressArg=NULL)
- int **Reference** ()

*Increment layer reference count.*

- int **Dereference** ()

*Decrement layer reference count.*

- int **GetRefCount** () const

*Fetch reference count.*

- GIntBig **GetFeaturesRead** ()
- OGRErr **ReorderField** (int iOldFieldPos, int iNewFieldPos)

*Reorder an existing field on a layer.*

- int **AttributeFilterEvaluationNeedsGeometry** ()
- OGRErr **InitializeIndexSupport** (const char \*)
- OGRLayerAttrIndex \* **GetIndex** ()

## Protected Member Functions

- int **FilterGeometry** (OGRGeometry \*)
- int **InstallFilter** (OGRGeometry \*)
- OGRErr **GetExtentInternal** (int iGeomField, OGREnvelope \*psExtent, int bForce)
- virtual OGRErr **ISetFeature** (OGRFeature \*poFeature)

*Rewrite an existing feature.*

- virtual OGRErr **ICreateFeature** (OGRFeature \*poFeature)

*Create and write a new feature within a layer.*

## Protected Attributes

- int **m\_bFilterIsEnvelope**
- OGRGeometry \* **m\_poFilterGeom**
- OGRPreparedGeometry \* **m\_pPreparedFilterGeom**
- OGREnvelope **m\_sFilterEnvelope**
- int **m\_iGeomFieldFilter**
- OGRStyleTable \* **m\_poStyleTable**
- OGRFeatureQuery \* **m\_poAttrQuery**
- char \* **m\_pszAttrQueryString**
- OGRLayerAttrIndex \* **m\_poAttrIndex**
- int **m\_nRefCount**
- GIntBig **m\_nFeaturesRead**



### 5.3.1 Detailed Description

This class represents a layer of simple features, with access methods.

### 5.3.2 Member Function Documentation

#### 5.3.2.1 OGRErr OGRLayer::AlterFieldDefn ( int *iField*, OGRFieldDefn \* *poNewFieldDefn*, int *nFlags* ) [virtual]

Alter the definition of an existing field on a layer.

You must use this to alter the definition of an existing field of a real layer. Internally the OGRFeatureDefn for the layer will be updated to reflect the altered field. Applications should never modify the OGRFeatureDefn used by a layer directly.

This method should not be called while there are feature objects in existence that were obtained or created with the previous layer definition.

Not all drivers support this method. You can query a layer to check if it supports it with the `OLCAAlterFieldDefn` capability. Some drivers may only support this method while there are still no features in the layer. When it is supported, the existings features of the backing file/database should be updated accordingly. Some drivers might also not support all update flags.

This function is the same as the C function `OGR_L_AlterFieldDefn()`.

#### Parameters

<i>iField</i>	index of the field whose definition must be altered.
<i>poNewFieldDefn</i>	new field definition
<i>nFlags</i>	combination of <code>ALTER_NAME_FLAG</code> , <code>ALTER_TYPE_FLAG</code> , <code>ALTER_WIDTH_PRECISION_FLAG</code> , <code>ALTER_NULLABLE_FLAG</code> and <code>ALTER_DEFAULT_FLAG</code> to indicate which of the name and/or type and/or width and precision fields and/or nullability from the new field definition must be taken into account.

#### Returns

OGRErr\_NONE on success.

#### Since

OGR 1.9.0

#### 5.3.2.2 OGRErr OGRLayer::CreateFeature ( OGRFeature \* *poFeature* )

Create and write a new feature within a layer.

The passed feature is written to the layer as a new feature, rather than overwriting an existing one. If the feature has a feature id other than `OGRNullFID`, then the native implementation may use that as the feature id of the new feature, but not necessarily. Upon successful return the passed feature will have been updated with the new feature id.

Starting with GDAL 2.0, drivers should specialize the `ICreateFeature()` method, since `CreateFeature()` is no longer virtual.

This method is the same as the C function `OGR_L_CreateFeature()`.

#### Parameters

<i>poFeature</i>	the feature to write to disk.
------------------	-------------------------------

**Returns**

OGRERR\_NONE on success.

### 5.3.2.3 OGRErr OGRLayer::CreateField ( OGRFieldDefn \* *poField*, int *bApproxOK* = TRUE ) [virtual]

Create a new field on a layer.

You must use this to create new fields on a real layer. Internally the OGRFeatureDefn for the layer will be updated to reflect the new field. Applications should never modify the OGRFeatureDefn used by a layer directly.

This method should not be called while there are feature objects in existence that were obtained or created with the previous layer definition.

Not all drivers support this method. You can query a layer to check if it supports it with the OLCCreateField capability. Some drivers may only support this method while there are still no features in the layer. When it is supported, the existings features of the backing file/database should be updated accordingly.

Drivers may or may not support not-null constraints. If they support creating fields with not-null constraints, this is generally before creating any feature to the layer.

This function is the same as the C function OGR\_L\_CreateField().

**Parameters**

<i>poField</i>	field definition to write to disk.
<i>bApproxOK</i>	If TRUE, the field may be created in a slightly different form depending on the limitations of the format driver.

**Returns**

OGRERR\_NONE on success.

### 5.3.2.4 OGRErr OGRLayer::CreateGeomField ( OGRGeomFieldDefn \* *poField*, int *bApproxOK* = TRUE ) [virtual]

Create a new geometry field on a layer.

You must use this to create new geometry fields on a real layer. Internally the OGRFeatureDefn for the layer will be updated to reflect the new field. Applications should never modify the OGRFeatureDefn used by a layer directly.

This method should not be called while there are feature objects in existence that were obtained or created with the previous layer definition.

Not all drivers support this method. You can query a layer to check if it supports it with the OLCCreateGeomField capability. Some drivers may only support this method while there are still no features in the layer. When it is supported, the existings features of the backing file/database should be updated accordingly.

Drivers may or may not support not-null constraints. If they support creating fields with not-null constraints, this is generally before creating any feature to the layer.

This function is the same as the C function OGR\_L\_CreateGeomField().

**Parameters**

<i>poField</i>	geometry field definition to write to disk.
<i>bApproxOK</i>	If TRUE, the field may be created in a slightly different form depending on the limitations of the format driver.

**Returns**

OGRERR\_NONE on success.

**Since**

OGR 1.11

**5.3.2.5 OGRErr OGRLayer::DeleteFeature ( GIntBig *nFID* ) [virtual]**

Delete feature from layer.

The feature with the indicated feature id is deleted from the layer if supported by the driver. Most drivers do not support feature deletion, and will return OGRERR\_UNSUPPORTED\_OPERATION. The [TestCapability\(\)](#) layer method may be called with OLCDeleteFeature to check if the driver supports feature deletion.

This method is the same as the C function OGR\_L\_DeleteFeature().

**Parameters**

<i>nFID</i>	the feature id to be deleted from the layer
-------------	---

**Returns**

OGRERR\_NONE if the operation works, otherwise an appropriate error code (e.g OGRERR\_NON\_EXISTING\_FEATURE if the feature does not exist).

**5.3.2.6 OGRErr OGRLayer::DeleteField ( int *iField* ) [virtual]**

Delete an existing field on a layer.

You must use this to delete existing fields on a real layer. Internally the OGRFeatureDefn for the layer will be updated to reflect the deleted field. Applications should never modify the OGRFeatureDefn used by a layer directly.

This method should not be called while there are feature objects in existence that were obtained or created with the previous layer definition.

Not all drivers support this method. You can query a layer to check if it supports it with the OLCDeleteField capability. Some drivers may only support this method while there are still no features in the layer. When it is supported, the existings features of the backing file/database should be updated accordingly.

This function is the same as the C function OGR\_L\_DeleteField().

**Parameters**

<i>iField</i>	index of the field to delete.
---------------	-------------------------------

**Returns**

OGRERR\_NONE on success.

**Since**

OGR 1.9.0

**5.3.2.7 int OGRLayer::Dereference ( )**

Decrement layer reference count.

This method is the same as the C function OGR\_L\_Dereference().

**Returns**

the reference count after decrementing.

### 5.3.2.8 `int OGRLayer::FindFieldIndex ( const char * pszFieldName, int bExactMatch )` [virtual]

Find the index of field in the layer.

The returned number is the index of the field in the layers, or -1 if the field doesn't exist.

If *bExactMatch* is set to FALSE and the field doesn't exist in the given form the driver might apply some changes to make it match, like those it might do if the layer was created (eg. like LAUNDER in the OCI driver).

This method is the same as the C function `OGR_L_FindFieldIndex()`.

**Returns**

field index, or -1 if the field doesn't exist

### 5.3.2.9 `OGRERR OGRLayer::GetExtent ( OGREnvelope * psExtent, int bForce = TRUE )` [virtual]

Fetch the extent of this layer.

Returns the extent (MBR) of the data in the layer. If *bForce* is FALSE, and it would be expensive to establish the extent then `OGRERR_FAILURE` will be returned indicating that the extent isn't known. If *bForce* is TRUE then some implementations will actually scan the entire layer once to compute the MBR of all the features in the layer.

Depending on the drivers, the returned extent may or may not take the spatial filter into account. So it is safer to call [GetExtent\(\)](#) without setting a spatial filter.

Layers without any geometry may return `OGRERR_FAILURE` just indicating that no meaningful extents could be collected.

Note that some implementations of this method may alter the read cursor of the layer.

This method is the same as the C function `OGR_L_GetExtent()`.

**Parameters**

<i>psExtent</i>	the structure in which the extent value will be returned.
<i>bForce</i>	Flag indicating whether the extent should be computed even if it is expensive.

**Returns**

`OGRERR_NONE` on success, `OGRERR_FAILURE` if extent not known.

### 5.3.2.10 `OGRERR OGRLayer::GetExtent ( int iGeomField, OGREnvelope * psExtent, int bForce = TRUE )` [virtual]

Fetch the extent of this layer, on the specified geometry field.

Returns the extent (MBR) of the data in the layer. If *bForce* is FALSE, and it would be expensive to establish the extent then `OGRERR_FAILURE` will be returned indicating that the extent isn't known. If *bForce* is TRUE then some implementations will actually scan the entire layer once to compute the MBR of all the features in the layer.

Depending on the drivers, the returned extent may or may not take the spatial filter into account. So it is safer to call [GetExtent\(\)](#) without setting a spatial filter.

Layers without any geometry may return `OGRERR_FAILURE` just indicating that no meaningful extents could be collected.

Note that some implementations of this method may alter the read cursor of the layer.

Note to driver implementators: if you implement [GetExtent\(int, OGREnvelope\\*, int\)](#), you must also implement [GetExtent\(OGREnvelope\\*, int\)](#) to make it call `GetExtent(0, OGREnvelope*, int)`.

This method is the same as the C function `OGR_L_GetExtentEx()`.

## Parameters

<i>iGeomField</i>	the index of the geometry field on which to compute the extent.
<i>psExtent</i>	the structure in which the extent value will be returned.
<i>bForce</i>	Flag indicating whether the extent should be computed even if it is expensive.

## Returns

OGRERR\_NONE on success, OGRERR\_FAILURE if extent not known.

### 5.3.2.11 OGRFeature \* OGRLayer::GetFeature ( GIntBig nFID ) [virtual]

Fetch a feature by its identifier.

This function will attempt to read the identified feature. The nFID value cannot be OGRNullFID. Success or failure of this operation is unaffected by the spatial or attribute filters (and specialized implementations in drivers should make sure that they do not take into account spatial or attribute filters).

If this method returns a non-NULL feature, it is guaranteed that its feature id (OGRFeature::GetFID()) will be the same as nFID.

Use OGRLayer::TestCapability(OLCRandomRead) to establish if this layer supports efficient random access reading via [GetFeature\(\)](#); however, the call should always work if the feature exists as a fallback implementation just scans all the features in the layer looking for the desired feature.

Sequential reads (with [GetNextFeature\(\)](#)) are generally considered interrupted by a [GetFeature\(\)](#) call.

The returned feature should be free with OGRFeature::DestroyFeature().

This method is the same as the C function OGR\_L\_GetFeature().

## Parameters

<i>nFID</i>	the feature id of the feature to read.
-------------	--

## Returns

a feature now owned by the caller, or NULL on failure.

### 5.3.2.12 GIntBig OGRLayer::GetFeatureCount ( int bForce = TRUE ) [virtual]

Fetch the feature count in this layer.

Returns the number of features in the layer. For dynamic databases the count may not be exact. If bForce is FALSE, and it would be expensive to establish the feature count a value of -1 may be returned indicating that the count isn't know. If bForce is TRUE some implementations will actually scan the entire layer once to count objects.

The returned count takes the spatial filter into account.

Note that some implementations of this method may alter the read cursor of the layer.

This method is the same as the C function OGR\_L\_GetFeatureCount().

Note: since GDAL 2.0, this method returns a GIntBig (previously a int)

## Parameters

<i>bForce</i>	Flag indicating whether the count should be computed even if it is expensive.
---------------	---

## Returns

feature count, -1 if count not known.

#### 5.3.2.13 `const char * OGRLayer::GetFIDColumn ( ) [virtual]`

This method returns the name of the underlying database column being used as the FID column, or "" if not supported.

This method is the same as the C function `OGR_L_GetFIDColumn()`.

##### Returns

fid column name.

#### 5.3.2.14 `const char * OGRLayer::GetGeometryColumn ( ) [virtual]`

This method returns the name of the underlying database column being used as the geometry column, or "" if not supported.

For layers with multiple geometry fields, this method only returns the name of the first geometry column. For other columns, use `GetLayerDefn()->OGRFeatureDefn::GetGeomFieldDefn(i)->GetNameRef()`.

This method is the same as the C function `OGR_L_GetGeometryColumn()`.

##### Returns

geometry column name.

#### 5.3.2.15 `OGRwkbGeometryType OGRLayer::GetGeomType ( ) [virtual]`

Return the layer geometry type.

This returns the same result as `GetLayerDefn()->OGRFeatureDefn::GetGeomType()`, but for a few drivers, calling `GetGeomType()` directly can avoid lengthy layer definition initialization.

For layers with multiple geometry fields, this method only returns the geometry type of the first geometry column. For other columns, use `GetLayerDefn()->OGRFeatureDefn::GetGeomFieldDefn(i)->GetType()`. For layers without any geometry field, this method returns `wkbNone`.

This method is the same as the C function `OGR_L_GetGeomType()`.

If this method is derived in a driver, it must be done such that it returns the same content as `GetLayerDefn()->OGRFeatureDefn::GetGeomType()`.

##### Returns

the geometry type

##### Since

OGR 1.8.0

#### 5.3.2.16 `OGRFeatureDefn * OGRLayer::GetLayerDefn ( ) [pure virtual]`

Fetch the schema information for this layer.

The returned `OGRFeatureDefn` is owned by the `OGRLayer`, and should not be modified or freed by the application. It encapsulates the attribute schema of the features of the layer.

This method is the same as the C function `OGR_L_GetLayerDefn()`.

##### Returns

feature definition.

### 5.3.2.17 `const char * OGRLayer::GetName ( ) [virtual]`

Return the layer name.

This returns the same content as [GetLayerDefn\(\)](#)->[OGRFeatureDefn::GetName\(\)](#), but for a few drivers, calling [GetName\(\)](#) directly can avoid lengthy layer definition initialization.

This method is the same as the C function `OGR_L_GetName()`.

If this method is derived in a driver, it must be done such that it returns the same content as [GetLayerDefn\(\)](#)->[OGRFeatureDefn::GetName\(\)](#).

#### Returns

the layer name (must not be freed)

#### Since

OGR 1.8.0

### 5.3.2.18 `OGRFeature * OGRLayer::GetNextFeature ( ) [pure virtual]`

Fetch the next available feature from this layer.

The returned feature becomes the responsibility of the caller to delete with `OGRFeature::DestroyFeature()`. It is critical that all features associated with an [OGRLayer](#) (more specifically an `OGRFeatureDefn`) be deleted before that layer/datasource is deleted.

Only features matching the current spatial filter (set with [SetSpatialFilter\(\)](#)) will be returned.

This method implements sequential access to the features of a layer. The [ResetReading\(\)](#) method can be used to start at the beginning again.

Features returned by [GetNextFeature\(\)](#) may or may not be affected by concurrent modifications depending on drivers. A guaranteed way of seeing modifications in effect is to call [ResetReading\(\)](#) on layers where [GetNextFeature\(\)](#) has been called, before reading again. Structural changes in layers (field addition, deletion, ...) when a read is in progress may or may not be possible depending on drivers. If a transaction is committed/aborted, the current sequential reading may or may not be valid after that operation and a call to [ResetReading\(\)](#) might be needed.

This method is the same as the C function `OGR_L_GetNextFeature()`.

#### Returns

a feature, or NULL if no more features are available.

### 5.3.2.19 `int OGRLayer::GetRefCount ( ) const`

Fetch reference count.

This method is the same as the C function `OGR_L_GetRefCount()`.

#### Returns

the current reference count for the layer object itself.

### 5.3.2.20 `OGRGeometry * OGRLayer::GetSpatialFilter ( ) [virtual]`

This method returns the current spatial filter for this layer.

The returned pointer is to an internally owned object, and should not be altered or deleted by the caller.

This method is the same as the C function `OGR_L_GetSpatialFilter()`.



**Returns**

spatial filter geometry.

**5.3.2.21 OGRSpatialReference \* OGRLayer::GetSpatialRef ( ) [virtual]**

Fetch the spatial reference system for this layer.

The returned object is owned by the [OGRLayer](#) and should not be modified or freed by the application.

Starting with OGR 1.11, several geometry fields can be associated to a feature definition. Each geometry field can have its own spatial reference system, which is returned by [OGRGeomFieldDefn::GetSpatialRef\(\)](#). [OGRLayer::↔GetSpatialRef\(\)](#) is equivalent to [GetLayerDefn\(\)->OGRFeatureDefn::GetGeomFieldDefn\(0\)->GetSpatialRef\(\)](#)

This method is the same as the C function [OGR\\_L\\_GetSpatialRef\(\)](#).

**Returns**

spatial reference, or NULL if there isn't one.

**5.3.2.22 void OGRLayer::GetStyleTable ( ) [virtual]**

Returns layer style table.

This method is the same as the C function [OGR\\_L\\_GetStyleTable\(\)](#).

**Returns**

pointer to a style table which should not be modified or freed by the caller.

**5.3.2.23 OGRErr OGRLayer::!CreateFeature ( OGRFeature \* poFeature ) [protected],[virtual]**

Create and write a new feature within a layer.

This method is implemented by drivers and not called directly. User code should use [CreateFeature\(\)](#) instead.

The passed feature is written to the layer as a new feature, rather than overwriting an existing one. If the feature has a feature id other than [OGRNullFID](#), then the native implementation may use that as the feature id of the new feature, but not necessarily. Upon successful return the passed feature will have been updated with the new feature id.

**Parameters**

<i>poFeature</i>	the feature to write to disk.
------------------	-------------------------------

**Returns**

[OGRERR\\_NONE](#) on success.

**Since**

GDAL 2.0

**5.3.2.24 OGRErr OGRLayer::!SetFeature ( OGRFeature \* poFeature ) [protected],[virtual]**

Rewrite an existing feature.

This method is implemented by drivers and not called directly. User code should use [SetFeature\(\)](#) instead.

This method will write a feature to the layer, based on the feature id within the [OGRFeature](#).

**Parameters**

<i>poFeature</i>	the feature to write.
------------------	-----------------------

**Returns**

OGRERR\_NONE if the operation works, otherwise an appropriate error code (e.g OGRERR\_NON\_EXISTING\_FEATURE if the feature does not exist).

**Since**

GDAL 2.0

**5.3.2.25 int OGRLayer::Reference ( )**

Increment layer reference count.

This method is the same as the C function OGR\_L\_Reference().

**Returns**

the reference count after incrementing.

**5.3.2.26 OGRErr OGRLayer::ReorderField ( int iOldFieldPos, int iNewFieldPos )**

Reorder an existing field on a layer.

This method is a conveniency wrapper of [ReorderFields\(\)](#) dedicated to move a single field. It is a non-virtual method, so drivers should implement [ReorderFields\(\)](#) instead.

You must use this to reorder existing fields on a real layer. Internally the OGRFeatureDefn for the layer will be updated to reflect the reordering of the fields. Applications should never modify the OGRFeatureDefn used by a layer directly.

This method should not be called while there are feature objects in existence that were obtained or created with the previous layer definition.

The field definition that was at initial position iOldFieldPos will be moved at position iNewFieldPos, and elements between will be shuffled accordingly.

For example, let suppose the fields were "0","1","2","3","4" initially. ReorderField(1, 3) will reorder them as "0","2","3","1","4".

Not all drivers support this method. You can query a layer to check if it supports it with the OLCReorderFields capability. Some drivers may only support this method while there are still no features in the layer. When it is supported, the existings features of the backing file/database should be updated accordingly.

This function is the same as the C function OGR\_L\_ReorderField().

**Parameters**

<i>iOldFieldPos</i>	previous position of the field to move. Must be in the range [0,GetFieldCount()-1].
<i>iNewFieldPos</i>	new position of the field to move. Must be in the range [0,GetFieldCount()-1].

**Returns**

OGRERR\_NONE on success.

**Since**

OGR 1.9.0

**5.3.2.27 OGRErr OGRLayer::ReorderFields ( int \* *panMap* ) [virtual]**

Reorder all the fields of a layer.

You must use this to reorder existing fields on a real layer. Internally the OGRFeatureDefn for the layer will be updated to reflect the reordering of the fields. Applications should never modify the OGRFeatureDefn used by a layer directly.

This method should not be called while there are feature objects in existence that were obtained or created with the previous layer definition.

*panMap* is such that, for each field definition at position *i* after reordering, its position before reordering was *panMap*[*i*].

For example, let suppose the fields were "0","1","2","3","4" initially. ReorderFields([0,2,3,1,4]) will reorder them as "0","2","3","1","4".

Not all drivers support this method. You can query a layer to check if it supports it with the OLCReorderFields capability. Some drivers may only support this method while there are still no features in the layer. When it is supported, the existing features of the backing file/database should be updated accordingly.

This function is the same as the C function OGR\_L\_ReorderFields().

**Parameters**

<i>panMap</i>	an array of <a href="#">GetLayerDefn()-&gt;OGRFeatureDefn::GetFieldCount()</a> elements which is a permutation of [0, <a href="#">GetLayerDefn()-&gt;OGRFeatureDefn::GetFieldCount()-1</a> ].
---------------	---

**Returns**

OGRERR\_NONE on success.

**Since**

OGR 1.9.0

**5.3.2.28 void OGRLayer::ResetReading ( ) [pure virtual]**

Reset feature reading to start on the first feature.

This affects [GetNextFeature\(\)](#).

This method is the same as the C function OGR\_L\_ResetReading().

**5.3.2.29 void OGRLayer::SetAttributeFilter ( const char \* *pszQuery* ) [virtual]**

Set a new attribute query.

This method sets the attribute query string to be used when fetching features via the [GetNextFeature\(\)](#) method. Only features for which the query evaluates as true will be returned.

The query string should be in the format of an SQL WHERE clause. For instance "population > 1000000 and population < 5000000" where population is an attribute in the layer. The query format is normally a restricted form of SQL WHERE clause as described in the "WHERE" section of the [OGR SQL](#) tutorial. In some cases (RDBMS backed drivers) the native capabilities of the database may be used to interpret the WHERE clause in which case the capabilities will be broader than those of OGR SQL.

Note that installing a query string will generally result in resetting the current reading position (ala [ResetReading\(\)](#)).

This method is the same as the C function OGR\_L\_SetAttributeFilter().

## Parameters

<i>pszQuery</i>	query in restricted SQL WHERE format, or NULL to clear the current query.
-----------------	---

## Returns

OGRERR\_NONE if successfully installed, or an error code if the query expression is in error, or some other failure occurs.

5.3.2.30 OGRERR OGRLayer::SetFeature ( OGRFeature \* *poFeature* )

Rewrite an existing feature.

This method will write a feature to the layer, based on the feature id within the OGRFeature.

Use OGRLayer::TestCapability(OLCRandomWrite) to establish if this layer supports random access writing via [SetFeature\(\)](#).

Starting with GDAL 2.0, drivers should specialize the [ISetFeature\(\)](#) method, since [SetFeature\(\)](#) is no longer virtual.

This method is the same as the C function OGR\_L\_SetFeature().

## Parameters

<i>poFeature</i>	the feature to write.
------------------	-----------------------

## Returns

OGRERR\_NONE if the operation works, otherwise an appropriate error code (e.g OGRERR\_NON\_EXISTING\_FEATURE if the feature does not exist).

5.3.2.31 OGRERR OGRLayer::SetIgnoredFields ( const char \*\* *papszFields* ) [virtual]

Set which fields can be omitted when retrieving features from the layer.

If the driver supports this functionality (testable using OLCIgnoreFields capability), it will not fetch the specified fields in subsequent calls to [GetFeature\(\)](#) / [GetNextFeature\(\)](#) and thus save some processing time and/or bandwidth.

Besides field names of the layers, the following special fields can be passed: "OGR\_GEOMETRY" to ignore geometry and "OGR\_STYLE" to ignore layer style.

By default, no fields are ignored.

This method is the same as the C function OGR\_L\_SetIgnoredFields()

## Parameters

<i>papszFields</i>	an array of field names terminated by NULL item. If NULL is passed, the ignored list is cleared.
--------------------	--

## Returns

OGRERR\_NONE if all field names have been resolved (even if the driver does not support this method)

5.3.2.32 OGRERR OGRLayer::SetNextByIndex ( GIntBig *nIndex* ) [virtual]

Move read cursor to the nIndex'th feature in the current resultset.

This method allows positioning of a layer such that the [GetNextFeature\(\)](#) call will read the requested feature, where nIndex is an absolute index into the current result set. So, setting it to 3 would mean the next feature read with

[GetNextFeature\(\)](#) would have been the 4th feature to have been read if sequential reading took place from the beginning of the layer, including accounting for spatial and attribute filters.

Only in rare circumstances is [SetNextByIndex\(\)](#) efficiently implemented. In all other cases the default implementation which calls [ResetReading\(\)](#) and then calls [GetNextFeature\(\)](#) *nIndex* times is used. To determine if fast seeking is available on the current layer use the [TestCapability\(\)](#) method with a value of `OLCFastSetNextByIndex`.

This method is the same as the C function `OGR_L_SetNextByIndex()`.

#### Parameters

<i>nIndex</i>	the index indicating how many steps into the result set to seek.
---------------	--

#### Returns

`OGRERR_NONE` on success or an error code.

#### 5.3.2.33 void OGRLayer::SetSpatialFilter ( OGRGeometry \* poFilter ) [virtual]

Set a new spatial filter.

This method set the geometry to be used as a spatial filter when fetching features via the [GetNextFeature\(\)](#) method. Only features that geometrically intersect the filter geometry will be returned.

Currently this test is may be inaccurately implemented, but it is guaranteed that all features who's envelope (as returned by `OGRGeometry::getEnvelope()`) overlaps the envelope of the spatial filter will be returned. This can result in more shapes being returned that should strictly be the case.

This method makes an internal copy of the passed geometry. The passed geometry remains the responsibility of the caller, and may be safely destroyed.

For the time being the passed filter geometry should be in the same SRS as the layer (as returned by [OGRLayer::GetSpatialRef\(\)](#)). In the future this may be generalized.

This method is the same as the C function `OGR_L_SetSpatialFilter()`.

#### Parameters

<i>poFilter</i>	the geometry to use as a filtering region. NULL may be passed indicating that the current spatial filter should be cleared, but no new one instituted.
-----------------	--

#### 5.3.2.34 void OGRLayer::SetSpatialFilter ( int iGeomField, OGRGeometry \* poFilter ) [virtual]

Set a new spatial filter.

This method set the geometry to be used as a spatial filter when fetching features via the [GetNextFeature\(\)](#) method. Only features that geometrically intersect the filter geometry will be returned.

Currently this test is may be inaccurately implemented, but it is guaranteed that all features who's envelope (as returned by `OGRGeometry::getEnvelope()`) overlaps the envelope of the spatial filter will be returned. This can result in more shapes being returned that should strictly be the case.

This method makes an internal copy of the passed geometry. The passed geometry remains the responsibility of the caller, and may be safely destroyed.

For the time being the passed filter geometry should be in the same SRS as the geometry field definition it corresponds to (as returned by [GetLayerDefn\(\)->OGRFeatureDefn::GetGeomFieldDefn\(iGeomField\)->GetSpatialRef\(\)](#)). In the future this may be generalized.

Note that only the last spatial filter set is applied, even if several successive calls are done with different `iGeomField` values.

Note to driver implementators: if you implement [SetSpatialFilter\(int,OGRGeometry\\*\)](#), you must also implement [SetSpatialFilter\(OGRGeometry\\*\)](#) to make it call `SetSpatialFilter(0,OGRGeometry*)`.

This method is the same as the C function `OGR_L_SetSpatialFilterEx()`.

## Parameters

<i>iGeomField</i>	index of the geometry field on which the spatial filter operates.
<i>poFilter</i>	the geometry to use as a filtering region. NULL may be passed indicating that the current spatial filter should be cleared, but no new one instituted.

## Since

GDAL 1.11

**5.3.2.35** void OGRLayer::SetSpatialFilterRect ( double *dfMinX*, double *dfMinY*, double *dfMaxX*, double *dfMaxY* )  
[virtual]

Set a new rectangular spatial filter.

This method set rectangle to be used as a spatial filter when fetching features via the [GetNextFeature\(\)](#) method. Only features that geometrically intersect the given rectangle will be returned.

The x/y values should be in the same coordinate system as the layer as a whole (as returned by [OGRLayer::GetSpatialRef\(\)](#)). Internally this method is normally implemented as creating a 5 vertex closed rectangular polygon and passing it to [OGRLayer::SetSpatialFilter\(\)](#). It exists as a convenience.

The only way to clear a spatial filter set with this method is to call [OGRLayer::SetSpatialFilter\(NULL\)](#).

This method is the same as the C function [OGR\\_L\\_SetSpatialFilterRect\(\)](#).

## Parameters

<i>dfMinX</i>	the minimum X coordinate for the rectangular region.
<i>dfMinY</i>	the minimum Y coordinate for the rectangular region.
<i>dfMaxX</i>	the maximum X coordinate for the rectangular region.
<i>dfMaxY</i>	the maximum Y coordinate for the rectangular region.

**5.3.2.36** void OGRLayer::SetSpatialFilterRect ( int *iGeomField*, double *dfMinX*, double *dfMinY*, double *dfMaxX*, double *dfMaxY* ) [virtual]

Set a new rectangular spatial filter.

This method set rectangle to be used as a spatial filter when fetching features via the [GetNextFeature\(\)](#) method. Only features that geometrically intersect the given rectangle will be returned.

The x/y values should be in the same coordinate system as as the geometry field definition it corresponds to (as returned by [GetLayerDefn\(\)->OGRFeatureDefn::GetGeomFieldDefn\(iGeomField\)->GetSpatialRef\(\)](#)). Internally this method is normally implemented as creating a 5 vertex closed rectangular polygon and passing it to [OGRLayer::SetSpatialFilter\(\)](#). It exists as a convenience.

The only way to clear a spatial filter set with this method is to call [OGRLayer::SetSpatialFilter\(NULL\)](#).

This method is the same as the C function [OGR\\_L\\_SetSpatialFilterRectEx\(\)](#).

## Parameters

<i>iGeomField</i>	index of the geometry field on which the spatial filter operates.
<i>dfMinX</i>	the minimum X coordinate for the rectangular region.
<i>dfMinY</i>	the minimum Y coordinate for the rectangular region.
<i>dfMaxX</i>	the maximum X coordinate for the rectangular region.
<i>dfMaxY</i>	the maximum Y coordinate for the rectangular region.

## Since

GDAL 1.11

### 5.3.2.37 void OGRLayer::SetStyleTable ( OGRStyleTable \* *poStyleTable* ) [virtual]

Set layer style table.

This method operate exactly as [OGRLayer::SetStyleTableDirectly\(\)](#) except that it does not assume ownership of the passed table.

This method is the same as the C function `OGR_L_SetStyleTable()`.

#### Parameters

<i>poStyleTable</i>	pointer to style table to set
---------------------	-------------------------------

### 5.3.2.38 void OGRLayer::SetStyleTableDirectly ( OGRStyleTable \* *poStyleTable* ) [virtual]

Set layer style table.

This method operate exactly as [OGRLayer::SetStyleTable\(\)](#) except that it assumes ownership of the passed table.

This method is the same as the C function `OGR_L_SetStyleTableDirectly()`.

#### Parameters

<i>poStyleTable</i>	pointer to style table to set
---------------------	-------------------------------

### 5.3.2.39 OGRErr OGRLayer::SyncToDisk ( ) [virtual]

Flush pending changes to disk.

This call is intended to force the layer to flush any pending writes to disk, and leave the disk file in a consistent state. It would not normally have any effect on read-only datasources.

Some layers do not implement this method, and will still return `OGRErrNone`. The default implementation just returns `OGRErrNone`. An error is only returned if an error occurs while attempting to flush to disk.

In any event, you should always close any opened datasource with `OGRDataSource::DestroyDataSource()` that will ensure all data is correctly flushed.

This method is the same as the C function `OGR_L_SyncToDisk()`.

#### Returns

`OGRErrNone` if no error occurs (even if nothing is done) or an error code.

### 5.3.2.40 int OGRLayer::TestCapability ( const char \* *pszCap* ) [pure virtual]

Test if this layer supported the named capability.

The capability codes that can be tested are represented as strings, but `#defined` constants exists to ensure correct spelling. Specific layer types may implement class specific capabilities, but this can't generally be discovered by the caller.

- **OLCRandomRead** / "RandomRead": TRUE if the [GetFeature\(\)](#) method is implemented in an optimized way for this layer, as opposed to the default implementation using [ResetReading\(\)](#) and [GetNextFeature\(\)](#) to find the requested feature id.
- **OLCSequentialWrite** / "SequentialWrite": TRUE if the [CreateFeature\(\)](#) method works for this layer. Note this means that this particular layer is writable. The same [OGRLayer](#) class may returned FALSE for other layer instances that are effectively read-only.



- **OLCRandomWrite** / "RandomWrite": TRUE if the [SetFeature\(\)](#) method is operational on this layer. Note this means that this particular layer is writable. The same [OGRLayer](#) class may returned FALSE for other layer instances that are effectively read-only.
- **OLCFastSpatialFilter** / "FastSpatialFilter": TRUE if this layer implements spatial filtering efficiently. Layers that effectively read all features, and test them with the [OGRFeature](#) intersection methods should return FALSE. This can be used as a clue by the application whether it should build and maintain its own spatial index for features in this layer.
- **OLCFastFeatureCount** / "FastFeatureCount": TRUE if this layer can return a feature count (via [GetFeatureCount\(\)](#)) efficiently ... ie. without counting the features. In some cases this will return TRUE until a spatial filter is installed after which it will return FALSE.
- **OLCFastGetExtent** / "FastGetExtent": TRUE if this layer can return its data extent (via [GetExtent\(\)](#)) efficiently ... ie. without scanning all the features. In some cases this will return TRUE until a spatial filter is installed after which it will return FALSE.
- **OLCFastSetNextByIndex** / "FastSetNextByIndex": TRUE if this layer can perform the [SetNextByIndex\(\)](#) call efficiently, otherwise FALSE.
- **OLCCreateField** / "CreateField": TRUE if this layer can create new fields on the current layer using [CreateField\(\)](#), otherwise FALSE.
- **OLCCreateGeomField** / "CreateGeomField": (GDAL >= 1.11) TRUE if this layer can create new geometry fields on the current layer using [CreateGeomField\(\)](#), otherwise FALSE.
- **OLCDeleteField** / "DeleteField": TRUE if this layer can delete existing fields on the current layer using [DeleteField\(\)](#), otherwise FALSE.
- **OLCReorderFields** / "ReorderFields": TRUE if this layer can reorder existing fields on the current layer using [ReorderField\(\)](#) or [ReorderFields\(\)](#), otherwise FALSE.
- **OLCAlterFieldDefn** / "AlterFieldDefn": TRUE if this layer can alter the definition of an existing field on the current layer using [AlterFieldDefn\(\)](#), otherwise FALSE.
- **OLCDeleteFeature** / "DeleteFeature": TRUE if the [DeleteFeature\(\)](#) method is supported on this layer, otherwise FALSE.
- **OLCStringsAsUTF8** / "StringsAsUTF8": TRUE if values of [OFTString](#) fields are assured to be in UTF-8 format. If FALSE the encoding of fields is uncertain, though it might still be UTF-8.
- **OLCTransactions** / "Transactions": TRUE if the [StartTransaction\(\)](#), [CommitTransaction\(\)](#) and [RollbackTransaction\(\)](#) methods work in a meaningful way, otherwise FALSE.
- **OLCIgnoreFields** / "IgnoreFields": TRUE if fields, geometry and style will be omitted when fetching features as set by [SetIgnoredFields\(\)](#) method.
- **OLCCurveGeometries** / "CurveGeometries": TRUE if this layer supports writing curve geometries or may return such geometries. (GDAL 2.0).

This method is the same as the C function [OGR\\_L\\_TestCapability\(\)](#).

#### Parameters

<i>pszCap</i>	the name of the capability to test.
---------------	-------------------------------------

#### Returns

TRUE if the layer has the requested capability, or FALSE otherwise. [OGRLayers](#) will return FALSE for any unrecognised capabilities.

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

- [ogrsf\\_frmts.h](#)
- [ogrsf\\_frmts.dox](#)

## 5.4 OGRLayerAttrIndex Class Reference

### Public Member Functions

- virtual OGRErr **Initialize** (const char \*pszIndexPath, [OGRLayer](#) \*)=0
- virtual OGRErr **CreateIndex** (int iField)=0
- virtual OGRErr **DropIndex** (int iField)=0
- virtual OGRErr **IndexAllFeatures** (int iField=-1)=0
- virtual OGRErr **AddToIndex** (OGRFeature \*poFeature, int iField=-1)=0
- virtual OGRErr **RemoveFromIndex** (OGRFeature \*poFeature)=0
- virtual [OGRAttrIndex](#) \* **GetFieldIndex** (int iField)=0

### Protected Attributes

- [OGRLayer](#) \* **poLayer**
- char \* **pszIndexPath**

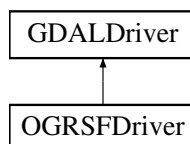
The documentation for this class was generated from the following file:

- ogr\_attrind.h

## 5.5 OGRSFDriver Class Reference

```
#include <ogrsf_frmts.h>
```

Inheritance diagram for OGRSFDriver:



### Public Member Functions

- virtual const char \* **GetName** () OGR\_DEPRECATED("Use GDALDriver class instead")=0
- virtual [OGRDataSource](#) \* **Open** (const char \*pszName, int bUpdate=FALSE) OGR\_DEPRECATED("Use GDALDriver class instead")=0
- virtual int **TestCapability** (const char \*pszCap) OGR\_DEPRECATED("Use GDALDriver class instead")=0
- virtual [OGRDataSource](#) \* **CreateDataSource** (const char \*pszName, char \*\*=NULL) OGR\_DEPRECATED("Use GDALDriver class instead")
- virtual OGRErr **DeleteDataSource** (const char \*pszName) OGR\_DEPRECATED("Use GDALDriver class instead")

### 5.5.1 Detailed Description

LEGACY class. Use GDALDriver in your new code ! This class may be removed in a later release.

Represents an operational format driver.

One [OGRSFDriver](#) derived class will normally exist for each file format registered for use, regardless of whether a file has or will be opened. The list of available drivers is normally managed by the [OGRSFDriverRegistrar](#).

NOTE: Starting with GDAL 2.0, it is *NOT* safe to cast the handle of a C function that returns a OGRSFDriverH to a OGRSFDriver\*. If a C++ object is needed, the handle should be cast to GDALDriver\*.

## Deprecated

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

- [ogrsf\\_frmts.h](#)

## 5.6 OGRSFDriverRegistrar Class Reference

```
#include <ogrsf_frmts.h>
```

### Public Member Functions

- void **RegisterDriver** ([OGRSFDriver](#) \*poDriver) OGR\_DEPRECATED("Use GDALDriverManager class instead")
- int **GetDriverCount** (void) OGR\_DEPRECATED("Use GDALDriverManager class instead")
- [GDALDriver](#) \* **GetDriver** (int iDriver) OGR\_DEPRECATED("Use GDALDriverManager class instead")
- [GDALDriver](#) \* **GetDriverByName** (const char \*) OGR\_DEPRECATED("Use GDALDriverManager class instead")
- int **GetOpenDSCount** () OGR\_DEPRECATED("Use GDALDriverManager class instead")
- [OGRDataSource](#) \* **GetOpenDS** (int) OGR\_DEPRECATED("Use GDALDriverManager class instead")

### Static Public Member Functions

- static [OGRSFDriverRegistrar](#) \* **GetRegistrar** () OGR\_DEPRECATED("Use GDALDriverManager class instead")

### 5.6.1 Detailed Description

LEGACY class. Use GDALDriverManager in your new code ! This class may be removed in a later release.

Singleton manager for [OGRSFDriver](#) instances that will be used to try and open datasources. Normally the registrar is populated with standard drivers using the [OGRRegisterAll\(\)](#) function and does not need to be directly accessed. The driver registrar and all registered drivers may be cleaned up on shutdown using [OGRCleanupAll\(\)](#).

## Deprecated

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

- [ogrsf\\_frmts.h](#)



## Chapter 6

# File Documentation

### 6.1 ogrsf\_frmts.h File Reference

```
#include "cpl_progress.h"
#include "ogr_feature.h"
#include "ogr_featurestyle.h"
#include "gdal_priv.h"
```

#### Classes

- class [OGRLayer](#)
- class [OGRDataSource](#)
- class [OGRSFDriver](#)
- class [OGRSFDriverRegistrar](#)

#### Macros

- #define **OGR\_DEPRECATED(x)** CPL\_WARN\_DEPRECATED(x)

#### Functions

- CPL\_C\_START void CPL\_DLL [OGRRegisterAll](#) ()  
*Register all drivers.*
- void **OGRRegisterAllInternal** ()
- void CPL\_DLL **RegisterOGRFileGDB** ()
- void CPL\_DLL **RegisterOGRShape** ()
- void CPL\_DLL **RegisterOGRNTF** ()
- void CPL\_DLL **RegisterOGRFME** ()
- void CPL\_DLL **RegisterOGRSDTS** ()
- void CPL\_DLL **RegisterOGRTiger** ()
- void CPL\_DLL **RegisterOGRS57** ()
- void CPL\_DLL **RegisterOGRTAB** ()
- void CPL\_DLL **RegisterOGRMIF** ()
- void CPL\_DLL **RegisterOGROGDI** ()
- void CPL\_DLL **RegisterOGRODBC** ()
- void CPL\_DLL **RegisterOGRWAsP** ()
- void CPL\_DLL **RegisterOGRPG** ()

- void CPL\_DLL **RegisterOGRMSSQLSpatial** ()
- void CPL\_DLL **RegisterOGRMySQL** ()
- void CPL\_DLL **RegisterOGROCI** ()
- void CPL\_DLL **RegisterOGRDGN** ()
- void CPL\_DLL **RegisterOGRGML** ()
- void CPL\_DLL **RegisterOGRLIBKML** ()
- void CPL\_DLL **RegisterOGRKML** ()
- void CPL\_DLL **RegisterOGRGeoJSON** ()
- void CPL\_DLL **RegisterOGRAVCBin** ()
- void CPL\_DLL **RegisterOGRAVCE00** ()
- void CPL\_DLL **RegisterOGRREC** ()
- void CPL\_DLL **RegisterOGRMEM** ()
- void CPL\_DLL **RegisterOGRVRT** ()
- void CPL\_DLL **RegisterOGRDODS** ()
- void CPL\_DLL **RegisterOGRSQLite** ()
- void CPL\_DLL **RegisterOGRCSV** ()
- void CPL\_DLL **RegisterOGRILI1** ()
- void CPL\_DLL **RegisterOGRILI2** ()
- void CPL\_DLL **RegisterOGRGRASS** ()
- void CPL\_DLL **RegisterOGRPGeo** ()
- void CPL\_DLL **RegisterOGRDXFDWG** ()
- void CPL\_DLL **RegisterOGRDXF** ()
- void CPL\_DLL **RegisterOGRDWG** ()
- void CPL\_DLL **RegisterOGRSDE** ()
- void CPL\_DLL **RegisterOGRIDB** ()
- void CPL\_DLL **RegisterOGRGMT** ()
- void CPL\_DLL **RegisterOGRBNA** ()
- void CPL\_DLL **RegisterOGRGPX** ()
- void CPL\_DLL **RegisterOGRGeoconcept** ()
- void CPL\_DLL **RegisterOGRIngres** ()
- void CPL\_DLL **RegisterOGRXPlane** ()
- void CPL\_DLL **RegisterOGRNAS** ()
- void CPL\_DLL **RegisterOGRGeoRSS** ()
- void CPL\_DLL **RegisterOGRGTM** ()
- void CPL\_DLL **RegisterOGRVFK** ()
- void CPL\_DLL **RegisterOGRPGDump** ()
- void CPL\_DLL **RegisterOGRISM** ()
- void CPL\_DLL **RegisterOGRGPSBabel** ()
- void CPL\_DLL **RegisterOGRSUA** ()
- void CPL\_DLL **RegisterOGROpenAir** ()
- void CPL\_DLL **RegisterOGRPDS** ()
- void CPL\_DLL **RegisterOGRWFS** ()
- void CPL\_DLL **RegisterOGRSOSI** ()
- void CPL\_DLL **RegisterOGRHTF** ()
- void CPL\_DLL **RegisterOGRFAA** ()
- void CPL\_DLL **RegisterOGRGeomedia** ()
- void CPL\_DLL **RegisterOGRMDB** ()
- void CPL\_DLL **RegisterOGRDIGEO** ()
- void CPL\_DLL **RegisterOGRGFT** ()
- void CPL\_DLL **RegisterOGRGME** ()
- void CPL\_DLL **RegisterOGRSVG** ()
- void CPL\_DLL **RegisterOGR CouchDB** ()
- void CPL\_DLL **RegisterOGRCloudant** ()
- void CPL\_DLL **RegisterOGRIdrisi** ()
- void CPL\_DLL **RegisterOGRARCGEN** ()

- void CPL\_DLL **RegisterOGRSEGUKOOA** ()
- void CPL\_DLL **RegisterOGRSEGY** ()
- void CPL\_DLL **RegisterOGRXLS** ()
- void CPL\_DLL **RegisterOGRODS** ()
- void CPL\_DLL **RegisterOGRXLSX** ()
- void CPL\_DLL **RegisterOGRElastic** ()
- void CPL\_DLL **RegisterOGRGeoPackage** ()
- void CPL\_DLL **RegisterOGRWalk** ()
- void CPL\_DLL **RegisterOGRCartoDB** ()
- void CPL\_DLL **RegisterOGRSXF** ()
- void CPL\_DLL **RegisterOGROpenFileGDB** ()
- void CPL\_DLL **RegisterOGRSelafin** ()
- void CPL\_DLL **RegisterOGRJML** ()
- void CPL\_DLL **RegisterOGRPLSCENES** ()
- void CPL\_DLL **RegisterOGRCSW** ()

### 6.1.1 Detailed Description

Classes related to registration of format support, and opening datasets.

### 6.1.2 Function Documentation

#### 6.1.2.1 int OGRRegisterAll ( )

Register all drivers.

**Deprecated** Use GDALAllRegister() in GDAL 2.0





# Index

AlterFieldDefn  
    OGRLayer, [13](#)

CreateFeature  
    OGRLayer, [13](#)

CreateField  
    OGRLayer, [14](#)

CreateGeomField  
    OGRLayer, [14](#)

DeleteFeature  
    OGRLayer, [15](#)

DeleteField  
    OGRLayer, [15](#)

Dereference  
    OGRLayer, [15](#)

FindFieldIndex  
    OGRLayer, [16](#)

GetExtent  
    OGRLayer, [16](#)

GetFIDColumn  
    OGRLayer, [18](#)

GetFeature  
    OGRLayer, [18](#)

GetFeatureCount  
    OGRLayer, [18](#)

GetGeomType  
    OGRLayer, [19](#)

GetGeometryColumn  
    OGRLayer, [19](#)

GetLayerDefn  
    OGRLayer, [19](#)

GetName  
    OGRLayer, [19](#)

GetNextFeature  
    OGRLayer, [20](#)

GetRefCount  
    OGRLayer, [20](#)

GetSpatialFilter  
    OGRLayer, [20](#)

GetSpatialRef  
    OGRLayer, [21](#)

GetStyleTable  
    OGRLayer, [21](#)

ICreateFeature  
    OGRLayer, [21](#)

ISetFeature  
    OGRLayer, [21](#)

OGRAttrIndex, [9](#)

OGRDataSource, [9](#)

OGRLayer, [10](#)

    AlterFieldDefn, [13](#)

    CreateFeature, [13](#)

    CreateField, [14](#)

    CreateGeomField, [14](#)

    DeleteFeature, [15](#)

    DeleteField, [15](#)

    Dereference, [15](#)

    FindFieldIndex, [16](#)

    GetExtent, [16](#)

    GetFIDColumn, [18](#)

    GetFeature, [18](#)

    GetFeatureCount, [18](#)

    GetGeomType, [19](#)

    GetGeometryColumn, [19](#)

    GetLayerDefn, [19](#)

    GetName, [19](#)

    GetNextFeature, [20](#)

    GetRefCount, [20](#)

    GetSpatialFilter, [20](#)

    GetSpatialRef, [21](#)

    GetStyleTable, [21](#)

    ICreateFeature, [21](#)

    ISetFeature, [21](#)

    Reference, [22](#)

    ReorderField, [22](#)

    ReorderFields, [22](#)

    ResetReading, [23](#)

    SetAttributeFilter, [23](#)

    SetFeature, [24](#)

    SetIgnoredFields, [24](#)

    SetNextByIndex, [24](#)

    SetSpatialFilter, [25](#)

    SetSpatialFilterRect, [27](#)

    SetStyleTable, [27](#)

    SetStyleTableDirectly, [28](#)

    SyncToDisk, [28](#)

    TestCapability, [28](#)

OGRLayerAttrIndex, [30](#)

OGRRegisterAll  
    ogrsf\_frmts.h, [35](#)

OGRSFDriver, [30](#)

OGRSFDriverRegistrar, [31](#)

ogrsf\_frmts.h, [33](#)

    OGRRegisterAll, [35](#)

Reference  
    OGRLayer, [22](#)

- ReorderField
  - OGRLayer, [22](#)
- ReorderFields
  - OGRLayer, [22](#)
- ResetReading
  - OGRLayer, [23](#)
- SetAttributeFilter
  - OGRLayer, [23](#)
- SetFeature
  - OGRLayer, [24](#)
- SetIgnoredFields
  - OGRLayer, [24](#)
- SetNextByIndex
  - OGRLayer, [24](#)
- SetSpatialFilter
  - OGRLayer, [25](#)
- SetSpatialFilterRect
  - OGRLayer, [27](#)
- SetStyleTable
  - OGRLayer, [27](#)
- SetStyleTableDirectly
  - OGRLayer, [28](#)
- SyncToDisk
  - OGRLayer, [28](#)
- TestCapability
  - OGRLayer, [28](#)