

# CSALMongo Namespace

CSAL Mongo Access Library

This is the main namespace for the library developed for CSAL turn data storage

## Classes

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	Class	Description
	<a href="#">CSALDatabase</a>	Main interface to the CSAL MongoDB database. You should instantiate with a MongoDB URL (e.g. <code>mongodb://localhost:27017/testdb</code> ), insert raw turn data via JSON, and the <code>findXXX</code> methods for querying the resulting data
	<a href="#">CSALDatabaseException</a>	Exception thrown when CSAL Database-specific exceptions occur
	<a href="#">Util</a>	Simple utilities used in this library that don't really have a place anywhere else

[Send Feedback](#) on this topic.

# CSALDatabase Class

CSAL Mongo Access Library

Main interface to the CSAL MongoDB database. You should instantiate with a MongoDB URL (e.g. `mongodb://localhost:27017/testdb`), insert raw turn data via JSON, and the `findXXX` methods for querying the resulting data

## Inheritance Hierarchy

 [System Object](#) **CSALMongo** **CSALDatabase**

**Namespace:** [CSALMongo](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

[C#](#) | [VB](#) | [C++](#) | [F#](#)

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```
public class CSALDatabase
```

## See Also

[CSALDatabase Members](#)

[CSALMongo Namespace](#)

[Send Feedback](#) on this topic.

# CSALDatabase Members

CSAL Mongo Access Library

The `CSALDatabase` type exposes the following members.

## Constructors

	Name	Description
⇒	<code>CSALDatabase</code>	To construct an instance of this class, you supply a valid MongoDB url that includes a database name (e.g. <code>mongodb://localhost:27017/testdb</code> )

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## Methods

	Name	Description
⇒	<code>Equals</code>	Determines whether the specified <code>Object</code> is equal to the current <code>Object</code> . (Inherited from <code>Object</code> .)
⇒	<code>FindClass</code>	Return a single class by ID (or null if not found)
⇒	<code>FindClasses</code>	Return all classes in DB
⇒	<code>FindLesson</code>	Return a single lesson by ID (or null if not found)
⇒	<code>FindLessonAnswerTots</code>	Return a dictionary of Lesson ID => (CorrectCount, IncorrectCount) for all lessons across all students enroller
⇒	<code>FindLessonNames</code>	Return a dictionary of Lesson ID => Lesson Short Names - note that lessons represent human-created content, so this should be a fairly low-effort method
⇒	<code>FindLessons</code>	Return all lessons in DB
⇒	<code>FindStudent</code>	Return a single student by ID (or null if not found)
⇒	<code>FindStudents</code>	Return all students in DB
⇒	<code>FindStudentsByLocation</code>	Return a list of students that are at the given location
⇒	<code>FindTurns</code>	Return all turns matching the given lesson and student. Note that a null or empty string result in no filter.
⇒	<code>FindTurnsForStudents</code>	Return all StudentLessonActs instances that match any of the students given
⇒	<code>FindTurnsRaw</code>	Exactly like FindTurns, but returns the raw BsonDocument representation of the data. Since we are very liberal in what we accept in SaveRawStudentActLesson, we might have turn data that causes exceptions when interpreted with our Model
⇒	<code>FindTurnSummary</code>	Really only for dev view - return a tuple for each

		StudentLessonActs instance defined as (LessonID, UserID, TurnCount)
⇒	 GetHashCode	Serves as a hash function for a particular type. (Inherited from  Object.)
⇒	 GetType	Gets the  Type of the current instance. (Inherited from  Object.)
⇒	InsureIndexes	This very hacky function manually insures all indexes that we want in the MongoDB collections that we manage. Should really only be called once in a blue moon. Currently called on app startup by our web api app.
⇒	SaveClass	Given a class (of students, not an ADT), save it to the database
⇒	SaveLesson	Given a single lesson, save it to the database
⇒	SaveRawStudentLessonAct	Accept a raw JSON data record describing a single CSAL student/lesson interaction. The JSON record is expected to be in the format described in the document "CSAL Data". Note that in practice just about any record format will be saved in an effort to preserve as much data as possible in the event of a system bug. HOWEVER, the top-level fields LessonID and UserID MUST be present
⇒	SaveStudent	Given a student instance, save to the database
⇒	SaveStudentReadingTarget	Like our "main" function SaveRawStudentLessonAct, it should be a JSON object with two fields: UserID and TargetURL.
⇒	 ToString	Returns a string that represents the current object. (Inherited from  Object.)

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## Fields

	Name	Description
	CLASS_COLLECTION	MongoDB collection name for classes
	LESSON_COLLECTION	MongoDB collection name for lessons
	STUDENT_ACT_COLLECTION	MongoDB collection name for turns (actions) tracked for students/lessons
	STUDENT_COLLECTION	MongoDB collection name for students

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## Properties

Name	Description
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### [ServerURL](#)

MongoDB URL specifying MongoDB database to target. Note that you should specify a database in URL (although it is technically optional in the MongoDB spec)

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## **See Also**

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[CSALDatabase Class](#)

[CSALMongo Namespace](#)

[Send Feedback](#) on this topic.

# CSALDatabase Constructor

CSAL Mongo Access Library

To construct an instance of this class, you supply a valid MongoDB url that includes a database name (e.g. mongodb://localhost:27017/testdb)

**Namespace:** [CSALMongo](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

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```
public CSALDatabase(  
    string url  
)
```

### Parameters

*url*

Type:  [System String](#)

MongoDB URL (including database name)

## See Also

[CSALDatabase Class](#)

[CSALDatabase Members](#)

[CSALMongo Namespace](#)

[Send Feedback](#) on this topic.

# CSALDatabase Fields

CSAL Mongo Access Library

The [CSALDatabase](#) type exposes the following members.

## Fields

---

	Name	Description
	<a href="#">CLASS_COLLECTION</a>	MongoDB collection name for classes
	<a href="#">LESSON_COLLECTION</a>	MongoDB collection name for lessons
	<a href="#">STUDENT_ACT_COLLECTION</a>	MongoDB collection name for turns (actions) tracked for students/lessons
	<a href="#">STUDENT_COLLECTION</a>	MongoDB collection name for students

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## See Also

---

[CSALDatabase Class](#)

[CSALMongo Namespace](#)

[Send Feedback](#) on this topic.

# CSALDatabase CLASS\_COLLECTION Field

CSAL Mongo  
Access Library

MongoDB collection name for classes

**Namespace:** [CSALMongo](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

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```
public const string CLASS_COLLECTION
```

### Field Value

Type:  String

## See Also

[CSALDatabase Class](#)

[CSALDatabase Members](#)

[CSALMongo Namespace](#)

[Send Feedback](#) on this topic.

# CSALDatabase LESSON\_COLLECTION CSAL Mongo Access Library

## Field

MongoDB collection name for lessons

**Namespace:** [CSALMongo](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

[C#](#) | [VB](#) | [C++](#) | [F#](#)

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```
public const string LESSON_COLLECTION
```

### Field Value

Type:  [String](#)

## See Also

---

[CSALDatabase Class](#)

[CSALDatabase Members](#)

[CSALMongo Namespace](#)

[Send Feedback](#) on this topic.

# CSALDatabase STUDENT\_ACT\_COLLECTION

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## Field

MongoDB collection name for turns (actions) tracked for students/lessons

**Namespace:** [CSALMongo](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public const string STUDENT_ACT_COLLECTION
```

### Field Value

Type:  String

## See Also

[CSALDatabase Class](#)

[CSALDatabase Members](#)

[CSALMongo Namespace](#)

[Send Feedback](#) on this topic.

# CSALDatabase STUDENT\_COLLECTION Field

CSAL  
Mongo  
Access  
Library

MongoDB collection name for students

**Namespace:** [CSALMongo](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public const string STUDENT_COLLECTION
```

### Field Value

Type:  String

## See Also

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[CSALDatabase Class](#)

[CSALDatabase Members](#)

[CSALMongo Namespace](#)

[Send Feedback](#) on this topic.

# CSALDatabase Methods

CSAL Mongo Access Library

The `CSALDatabase` type exposes the following members.

## Methods

Name	Description
 <code>Equals</code>	Determines whether the specified <code>Object</code> is equal to the current <code>Object</code> . (Inherited from <code>Object</code> .)
 <code>FindClass</code>	Return a single class by ID (or null if not found)
 <code>FindClasses</code>	Return all classes in DB
 <code>FindLesson</code>	Return a single lesson by ID (or null if not found)
 <code>FindLessonAnswerTots</code>	Return a dictionary of Lesson ID => (CorrectCount, IncorrectCount) for all lessons across all students enroller
 <code>FindLessonNames</code>	Return a dictionary of Lesson ID => Lesson Short Names - note that lessons represent human-created content, so this should be a fairly low-effort method
 <code>FindLessons</code>	Return all lessons in DB
 <code>FindStudent</code>	Return a single student by ID (or null if not found)
 <code>FindStudents</code>	Return all students in DB
 <code>FindStudentsByLocation</code>	Return a list of students that are at the given location
 <code>FindTurns</code>	Return all turns matching the given lesson and student. Note that a null or empty string result in no filter.
 <code>FindTurnsForStudents</code>	Return all <code>StudentLessonActs</code> instances that match any of the students given
 <code>FindTurnsRaw</code>	Exactly like <code>FindTurns</code> , but returns the raw <code>BsonDocument</code> representation of the data. Since we are very liberal in what we accept in <code>SaveRawStudentActLesson</code> , we might have turn data that causes exceptions when interpreted with our Model
 <code>FindTurnSummary</code>	Really only for dev view - return a tuple for each <code>StudentLessonActs</code> instance defined as (LessonID, UserID, TurnCount)
 <code>GetHashCode</code>	Serves as a hash function for a particular type. (Inherited from <code>Object</code> .)
 <code>GetType</code>	Gets the <code>Type</code> of the current instance. (Inherited from <code>Object</code> .)
 <code>InsureIndexes</code>	This very hacky function manually insures all indexes that we

		want in the MongoDB collections that we manage. Should really only be called once in a blue moon. Currently called on app startup by our web api app.
⇒	<a href="#">SaveClass</a>	Given a class (of students, not an ADT), save it to the database
⇒	<a href="#">SaveLesson</a>	Given a single lesson, save it to the database
⇒	<a href="#">SaveRawStudentLessonAct</a>	Accept a raw JSON data record describing a single CSAL student/lesson interaction. The JSON record is expected to be in the format described in the document "CSAL Data". Note that in practice just about any record format will be saved in an effort to preserve as much data as possible in the event of a system bug. HOWEVER, the top-level fields LessonID and UserID MUST be present
⇒	<a href="#">SaveStudent</a>	Given a student instance, save to the database
⇒	<a href="#">SaveStudentReadingTarget</a>	Like our "main" function SaveRawStudentLessonAct, it should be a JSON object with two fields: UserID and TargetURL.
⇒	<a href="#">ToString</a>	Returns a string that represents the current object. (Inherited from <a href="#">Object</a> .)

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## See Also

[CSALDatabase Class](#)

[CSALMongo Namespace](#)

[Send Feedback](#) on this topic.

# CSALDatabase FindClass Method

CSAL Mongo Access  
Library

Return a single class by ID (or null if not found)

**Namespace:** [CSALMongo](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | **VB** | C++ | F#

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```
public Class FindClass(  
    string classID  
)
```

### Parameters

*classID*

Type:  [System String](#)

ID of class to locate

### Return Value

Type: [Class](#)

An instance of Model.Class or null if not found

## See Also

[CSALDatabase Class](#)

[CSALDatabase Members](#)

[CSALMongo Namespace](#)

[Send Feedback](#) on this topic.

# CSALDatabase FindClasses Method

CSAL Mongo Access  
Library

Return all classes in DB

**Namespace:** [CSALMongo](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public List<Class> FindClasses()
```

### Return Value

Type:  [List Class](#)

All classes in database

## See Also

[CSALDatabase Class](#)

[CSALDatabase Members](#)

[CSALMongo Namespace](#)

[Send Feedback](#) on this topic.

# CSALDatabase FindLesson Method

CSAL Mongo Access  
Library

Return a single lesson by ID (or null if not found)

**Namespace:** [CSALMongo](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public Lesson FindLesson(  
    string lessonID  
)
```

### Parameters

*lessonID*

Type:  [System String](#)

ID of lesson to locate

### Return Value

Type: [Lesson](#)

Instance of Model.Lesson or null if not found

## See Also

[CSALDatabase Class](#)

[CSALDatabase Members](#)

[CSALMongo Namespace](#)

[Send Feedback](#) on this topic.

# CSALDatabase FindLessonAnswerTots Method

CSAL Mongo  
Access Library

Return a dictionary of Lesson ID => (CorrectCount, IncorrectCount) for all lessons across all students enroller

**Namespace:** [CSALMongo](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

[C#](#) | [VB](#) | [C++](#) | [F#](#)

[Copy to Clipboard](#) [Print](#)

```
public Dictionary<string, Tuple<int, int>> FindLessonAnswerTots(
```

### Return Value

Type: [Dictionary](#) [String](#), [Tuple](#) [Int32](#), [Int32](#)

See summary

## See Also

[CSALDatabase Class](#)

[CSALDatabase Members](#)

[CSALMongo Namespace](#)

[Send Feedback](#) on this topic.

# CSALDatabase FindLessonNames Method

CSAL Mongo Access Library

Return a dictionary of Lesson ID => Lesson Short Names - note that lessons represent human-created content, so this should be a fairly low-effort method

**Namespace:** [CSALMongo](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

[C#](#) | [VB](#) | [C++](#) | [F#](#)

[Copy to Clipboard](#) [Print](#)

```
public Dictionary<string, string> FindLessonNames()
```

### Return Value

Type: [Dictionary](#), [String](#), [String](#)

All lesson names

## See Also

[CSALDatabase Class](#)

[CSALDatabase Members](#)

[CSALMongo Namespace](#)

[Send Feedback](#) on this topic.

# CSALDatabase FindLessons Method

CSAL Mongo Access  
Library

Return all lessons in DB

**Namespace:** [CSALMongo](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public List<Lesson> FindLessons()
```

### Return Value

Type:  [List Lesson](#)

All lessons

## See Also

[CSALDatabase Class](#)

[CSALDatabase Members](#)

[CSALMongo Namespace](#)

[Send Feedback](#) on this topic.

# CSALDatabase FindStudent Method

CSAL Mongo Access  
Library

Return a single student by ID (or null if not found)

**Namespace:** [CSALMongo](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public Student FindStudent(  
    string userID  
)
```

### Parameters

*userID*

Type:  [System String](#)

ID of student to locate

### Return Value

Type: [Student](#)

An instance of Model.Student or null if not found

## See Also

[CSALDatabase Class](#)

[CSALDatabase Members](#)

[CSALMongo Namespace](#)

[Send Feedback](#) on this topic.

# CSALDatabase FindStudents Method

CSAL Mongo Access  
Library

Return all students in DB

**Namespace:** [CSALMongo](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

[C#](#) | [VB](#) | [C++](#) | [F#](#)

[Copy to Clipboard](#) [Print](#)

```
public List<Student> FindStudents()
```

### Return Value

Type:  [List Student](#)

All students in database

## See Also

[CSALDatabase Class](#)

[CSALDatabase Members](#)

[CSALMongo Namespace](#)

[Send Feedback](#) on this topic.

# CSALDatabase FindStudentsByLocation Method

CSAL Mongo  
Access Library

Return a list of students that are at the given location

**Namespace:** [CSALMongo](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public List<Student> FindStudentsByLocation(  
    string location  
)
```

### Parameters

*location*

Type:  [System String](#)

Location - should match Model.Class.Location

### Return Value

Type:  [List Student](#)

All students in classes with the given location

## See Also

[CSALDatabase Class](#)

[CSALDatabase Members](#)

[CSALMongo Namespace](#)

[Send Feedback](#) on this topic.

# CSALDatabase FindTurns Method

CSAL Mongo Access  
Library

Return all turns matching the given lesson and student. Note that a null or empty string result in no filter.

**Namespace:** [CSALMongo](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public List<StudentLessonActs> FindTurns(  
    string lessonID,  
    string userID  
)
```

### Parameters

*lessonID*

Type:  [System String](#)

Lesson to match. Null or empty string matches nothing (so all lessons)

*userID*

Type:  [System String](#)

Student to match. Null or empty string matches nothing (so all students)

### Return Value

Type:  [List StudentLessonActs](#)

An unordered list of ConvLog instances representing the turns found

## Examples

```
var db = new CSALDatabase("mongodb://localhost:27017/testdb");  
db.findTurns(null, null); //Returns ALL turns  
db.findTurns(null, "Alice"); //Returns turns for student Alice (across all lessons)  
db.findTurns("CheckbookBalancing", null); //Returns ALL turns for lesson  
CheckbookBalance (all students)  
db.findTurns("CheckbookBalancing", "Bob"); //Returns ALL turns for student Bob in lesson  
CheckbookBalance
```

## See Also

[CSALDatabase Class](#)  
[CSALDatabase Members](#)  
[CSALMongo Namespace](#)

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[Send Feedback](#) on this topic.

# CSALDatabase FindTurnsForStudents Method

CSAL Mongo  
Access Library

Return all StudentLessonActs instances that match any of the students given

**Namespace:** [CSALMongo](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public List<StudentLessonActs> FindTurnsForStudents(  
    IEnumerable<string> studentIDs  
)
```

### Parameters

*studentIDs*

Type: [System.Collections.Generic IEnumerable](#) [String](#)

Non-null enumerable list of user (student) ID's

### Return Value

Type: [List StudentLessonActs](#)

List of StudentLessonActs instances

## See Also

[CSALDatabase Class](#)

[CSALDatabase Members](#)

[CSALMongo Namespace](#)

[Send Feedback](#) on this topic.

# CSALDatabase FindTurnsRaw Method

CSAL Mongo Access  
Library

Exactly like FindTurns, but returns the raw BsonDocument representation of the data. Since we are very liberal in what we accept in SaveRawStudentActLesson, we might have turn data that causes exceptions when interpreted with our Model

**Namespace:** [CSALMongo](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public List<BsonDocument> FindTurnsRaw(
    string lessonID,
    string userID
)
```

### Parameters

*lessonID*

Type: [System String](#)

Lesson to match. Null or empty string matches nothing (so all lessons)

*userID*

Type: [System String](#)

Student to match. Null or empty string matches nothing (so all students)

### Return Value

Type: [List BsonDocument](#)

An unordered list of BsonDocument instances representing the turns found

## See Also

[CSALDatabase Class](#)

[CSALDatabase Members](#)

[CSALMongo Namespace](#)

[Send Feedback](#) on this topic.

# CSALDatabase FindTurnSummary Method

CSAL Mongo Access  
Library

Really only for dev view - return a tuple for each StudentLessonActs instance defined as (LessonID, UserID, TurnCount)

**Namespace:** [CSALMongo](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

[C#](#) | [VB](#) | [C++](#) | [F#](#)

[Copy to Clipboard](#) [Print](#)

```
public List<Tuple<string, string, int>> FindTurnSummary()
```

### Return Value

Type: [List](#) [Tuple](#) [String](#), [String](#), [Int32](#)

List of tuples

## See Also

[CSALDatabase Class](#)

[CSALDatabase Members](#)

[CSALMongo Namespace](#)

[Send Feedback](#) on this topic.

# CSALDatabase InsureIndexes Method

CSAL Mongo Access  
Library

This very hacky function manually insures all indexes that we want in the MongoDB collections that we manage. Should really only be called once in a blue moon. Currently called on app startup by our web api app.

**Namespace:** [CSALMongo](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public void InsureIndexes()
```

## See Also

---

[CSALDatabase Class](#)

[CSALDatabase Members](#)

[CSALMongo Namespace](#)

[Send Feedback](#) on this topic.

# CSALDatabase SaveClass Method

CSAL Mongo Access  
Library

Given a class (of students, not an ADT), save it to the database

**Namespace:** [CSALMongo](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public void SaveClass(  
    Class clazz  
)
```

### Parameters

*clazz*

Type: [CSALMongo.Model Class](#)

The populated instance to save to the database

## See Also

[CSALDatabase Class](#)

[CSALDatabase Members](#)

[CSALMongo Namespace](#)

[Send Feedback](#) on this topic.

# CSALDatabase SaveLesson Method

CSAL Mongo Access  
Library

Given a single lesson, save it to the database

**Namespace:** [CSALMongo](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public void SaveLesson(  
    Lesson lesson  
)
```

### Parameters

*lesson*

Type: [CSALMongo.Model Lesson](#)

The populated instance to save to the database

## See Also

[CSALDatabase Class](#)

[CSALDatabase Members](#)

[CSALMongo Namespace](#)

[Send Feedback](#) on this topic.

# CSALDatabase SaveRawStudentLessonAct Method

CSAL  
Mongo  
Access  
Library

Accept a raw JSON data record describing a single CSAL student/lesson interaction. The JSON record is expected to be in the format described in the document "CSAL Data". Note that in practice just about any record format will be saved in an effort to preserve as much data as possible in the event of a system bug. HOWEVER, the top-level fields LessonID and UserID MUST be present

**Namespace:** [CSALMongo](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public void SaveRawStudentLessonAct(  
    string jsonDataRecord  
)
```

### Parameters

*jsonDataRecord*

Type:  [System String](#)

Proper JSON record formatted as above.

## See Also

[CSALDatabase Class](#)

[CSALDatabase Members](#)

[CSALMongo Namespace](#)

[Send Feedback](#) on this topic.

# CSALDatabase SaveStudent Method

CSAL Mongo Access  
Library

Given a student instance, save to the database

**Namespace:** [CSALMongo](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public void SaveStudent(  
    Student student  
)
```

### Parameters

*student*

Type: [CSALMongo.Model Student](#)

The populated student instance to save

## See Also

[CSALDatabase Class](#)

[CSALDatabase Members](#)

[CSALMongo Namespace](#)

[Send Feedback](#) on this topic.

# CSALDatabase SaveStudentReadingTarget Method

CSAL  
Mongo  
Access  
Library

Like our "main" function SaveRawStudentLessonAct, it should be a JSON object with two fields: UserID and TargetURL.

**Namespace:** [CSALMongo](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public void SaveStudentReadingTarget(  
    string jsonDataRecord  
)
```

### Parameters

*jsonDataRecord*

Type:  [System String](#)

Proper JSON data record formatted as above

## See Also

[CSALDatabase Class](#)

[CSALDatabase Members](#)

[CSALMongo Namespace](#)

[Send Feedback](#) on this topic.

# CSALDatabase Properties

CSAL Mongo Access Library

The [CSALDatabase](#) type exposes the following members.

## Properties

---

	Name	Description
	<a href="#">ServerURL</a>	MongoDB URL specifying MongoDB database to target. Note that you should specify a database in URL (although it is technically optional in the MongoDB spec)

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## See Also

---

[CSALDatabase Class](#)

[CSALMongo Namespace](#)

[Send Feedback](#) on this topic.

# CSALDatabase ServerURL Property

CSAL Mongo Access  
Library

MongoDB URL specifying MongoDB database to target. Note that you should specify a database in URL (although it is technically optional in the MongoDB spec)

**Namespace:** [CSALMongo](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public string ServerURL { get; set; }
```

**Property Value**

Type:  [String](#)

## See Also

[CSALDatabase Class](#)

[CSALDatabase Members](#)

[CSALMongo Namespace](#)

[Send Feedback](#) on this topic.

# CSALDatabaseException Class CSAL Mongo Access Library

Exception thrown when CSAL Database-specific exceptions occur

## Inheritance Hierarchy

 [System Object](#)  [System Exception](#)

**CSALMongo CSALDatabaseException**

**Namespace:** [CSALMongo](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

[C#](#) | [VB](#) | [C++](#) | [F#](#)

[Copy to Clipboard](#) [Print](#)

```
public class CSALDatabaseException : Exception
```

## See Also

[CSALDatabaseException Members](#)

[CSALMongo Namespace](#)

[Send Feedback](#) on this topic.

# CSALDatabaseException

## Members

CSAL Mongo Access  
Library

The [CSALDatabaseException](#) type exposes the following members.

## Constructors

	Name	Description
	<a href="#">CSALDatabaseException</a>	Delegate construction to base class

[Back to Top](#)

## Methods

	Name	Description
	<a href="#">Equals</a>	Determines whether the specified <a href="#">Object</a> is equal to the current <a href="#">Object</a> . (Inherited from <a href="#">Object</a> .)
	<a href="#">GetBaseException</a>	When overridden in a derived class, returns the <a href="#">Exception</a> that is the root cause of one or more subsequent exceptions. (Inherited from <a href="#">Exception</a> .)
	<a href="#">GetHashCode</a>	Serves as a hash function for a particular type. (Inherited from <a href="#">Object</a> .)
	<a href="#">GetObjectData</a>	When overridden in a derived class, sets the <a href="#">SerializationInfo</a> with information about the exception. (Inherited from <a href="#">Exception</a> .)
	<a href="#">GetType</a>	Gets the runtime type of the current instance. (Inherited from <a href="#">Exception</a> .)
	<a href="#">ToString</a>	Creates and returns a string representation of the current exception. (Inherited from <a href="#">Exception</a> .)

[Back to Top](#)

## Properties

	Name	Description
	<a href="#">Data</a>	Gets a collection of key/value pairs that provide additional user-defined information about the exception. (Inherited from <a href="#">Exception</a> .)
	<a href="#">HelpLink</a>	Gets or sets a link to the help file associated with this exception.

		(Inherited from <a href="#">Exception</a> .)
	<a href="#">InnerException</a>	Gets the <a href="#">Exception</a> instance that caused the current exception. (Inherited from <a href="#">Exception</a> .)
	<a href="#">Message</a>	Gets a message that describes the current exception. (Inherited from <a href="#">Exception</a> .)
	<a href="#">Source</a>	Gets or sets the name of the application or the object that causes the error. (Inherited from <a href="#">Exception</a> .)
	<a href="#">StackTrace</a>	Gets a string representation of the immediate frames on the call stack. (Inherited from <a href="#">Exception</a> .)
	<a href="#">TargetSite</a>	Gets the method that throws the current exception. (Inherited from <a href="#">Exception</a> .)

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## See Also

[CSALDatabaseException Class](#)

[CSALMongo Namespace](#)

[Send Feedback](#) on this topic.

# CSALDatabaseException Constructor

CSAL Mongo Access  
Library

Delegate construction to base class

**Namespace:** [CSALMongo](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public CSALDatabaseException(  
    string msg  
)
```

### Parameters

*msg*

Type:  [System String](#)

The exception message to propagate

## See Also

[CSALDatabaseException Class](#)

[CSALDatabaseException Members](#)

[CSALMongo Namespace](#)

[Send Feedback](#) on this topic.

# CSALDatabaseException

## Methods

CSAL Mongo Access  
Library

The [CSALDatabaseException](#) type exposes the following members.

## Methods

	Name	Description
	<a href="#">Equals</a>	Determines whether the specified <a href="#">Object</a> is equal to the current <a href="#">Object</a> . (Inherited from <a href="#">Object</a> .)
	<a href="#">GetBaseException</a>	When overridden in a derived class, returns the <a href="#">Exception</a> that is the root cause of one or more subsequent exceptions. (Inherited from <a href="#">Exception</a> .)
	<a href="#">GetHashCode</a>	Serves as a hash function for a particular type. (Inherited from <a href="#">Object</a> .)
	<a href="#">GetObjectData</a>	When overridden in a derived class, sets the <a href="#">SerializationInfo</a> with information about the exception. (Inherited from <a href="#">Exception</a> .)
	<a href="#">GetType</a>	Gets the runtime type of the current instance. (Inherited from <a href="#">Exception</a> .)
	<a href="#">ToString</a>	Creates and returns a string representation of the current exception. (Inherited from <a href="#">Exception</a> .)

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## See Also

[CSALDatabaseException Class](#)

[CSALMongo Namespace](#)

[Send Feedback](#) on this topic.

# CSALDatabaseException

## Properties

CSAL Mongo Access  
Library

The [CSALDatabaseException](#) type exposes the following members.

## Properties

	Name	Description
	<a href="#">Data</a>	Gets a collection of key/value pairs that provide additional user-defined information about the exception. (Inherited from <a href="#">Exception</a> .)
	<a href="#">HelpLink</a>	Gets or sets a link to the help file associated with this exception. (Inherited from <a href="#">Exception</a> .)
	<a href="#">InnerException</a>	Gets the <a href="#">Exception</a> instance that caused the current exception. (Inherited from <a href="#">Exception</a> .)
	<a href="#">Message</a>	Gets a message that describes the current exception. (Inherited from <a href="#">Exception</a> .)
	<a href="#">Source</a>	Gets or sets the name of the application or the object that causes the error. (Inherited from <a href="#">Exception</a> .)
	<a href="#">StackTrace</a>	Gets a string representation of the immediate frames on the call stack. (Inherited from <a href="#">Exception</a> .)
	<a href="#">TargetSite</a>	Gets the method that throws the current exception. (Inherited from <a href="#">Exception</a> .)

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## See Also

[CSALDatabaseException Class](#)

[CSALMongo Namespace](#)

[Send Feedback](#) on this topic.

# Util Class

CSAL Mongo Access Library

Simple utilities used in this library that don't really have a place anywhere else

## Inheritance Hierarchy

---

 [System Object](#) **CSALMongo Util**

**Namespace:** [CSALMongo](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

[C#](#) | [VB](#) | [C++](#) | [F#](#)

[Copy to Clipboard](#) [Print](#)

```
public static class Util
```

## See Also

---

[Util Members](#)

[CSALMongo Namespace](#)

[Send Feedback](#) on this topic.

# Util Members

CSAL Mongo Access Library

The [Util](#) type exposes the following members.

## Methods

---

	Name	Description
	<a href="#">ExtractArray</a>	Given a BSON document and a field, return the BSON array corresponding to src[fldName]. If that isn't possible (null values, incorrect type, etc) then do NOT throw an exception
	<a href="#">ExtractDoc</a>	Given a BSON document and a field, return the BSON document corresponding to src[fldName]. If that isn't possible (null values, incorrect type, etc) then do NOT throw an exception

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## See Also

---

[Util Class](#)

[CSALMongo Namespace](#)

[Send Feedback](#) on this topic.

# Util Methods

CSAL Mongo Access Library

The [Util](#) type exposes the following members.

## Methods

---

	Name	Description
	<a href="#">ExtractArray</a>	Given a BSON document and a field, return the BSON array corresponding to src[fldName]. If that isn't possible (null values, incorrect type, etc) then do NOT throw an exception
	<a href="#">ExtractDoc</a>	Given a BSON document and a field, return the BSON document corresponding to src[fldName]. If that isn't possible (null values, incorrect type, etc) then do NOT throw an exception

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## See Also

---

[Util Class](#)

[CSALMongo Namespace](#)

[Send Feedback](#) on this topic.

# Util ExtractArray Method

CSAL Mongo Access Library

Given a BSON document and a field, return the BSON array corresponding to `src[fldName]`. If that isn't possible (null values, incorrect type, etc) then do NOT throw an exception

**Namespace:** [CSALMongo](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

[C#](#) | [VB](#) | [C++](#) | [F#](#)

[Copy to Clipboard](#) [Print](#)

```
public static BsonArray ExtractArray(  
    BsonDocument src,  
    string fldName  
)
```

### Parameters

*src*

Type: **BsonDocument**  
BSON doc to examine

*fldName*

Type:  **System String**  
Property to access in src

### Return Value

Type: **BsonArray**

`src[fldName]` as a **BsonArray**. If `src` or `fldName` are null, then return null. If `src[fldName]` isn't a valid array, then return an empty/default **BsonArray** instance.

## See Also

[Util Class](#)

[Util Members](#)

[CSALMongo Namespace](#)

[Send Feedback](#) on this topic.

# Util ExtractDoc Method

CSAL Mongo Access Library

Given a BSON document and a field, return the BSON document corresponding to src[fldName]. If that isn't possible (null values, incorrect type, etc) then do NOT throw an exception

**Namespace:** [CSALMongo](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public static BsonDocument ExtractDoc(  
    BsonDocument src,  
    string fldName  
)
```

### Parameters

*src*

Type: **BsonDocument**  
BSON doc to examine

*fldName*

Type: [System String](#)  
Property to access in src

### Return Value

Type: **BsonDocument**

src[fldName] as a BsonDocument. If src or fldName are null, then return null. If src[fldName] isn't a valid document, then return an empty/default BsonDocument instance.

## See Also

[Util Class](#)

[Util Members](#)

[CSALMongo Namespace](#)

[Send Feedback](#) on this topic.

## CSALMongo.Model Namespace CSAL Mongo Access Library

This namespace is for model classes used by CSALDatabase. Note that the data for a turn is modeled via TurnModel. ALSO note that turns are sent to us via raw JSON.

### Classes

---

	Class	Description
	<a href="#">Class</a>	A class of students and lessons
	<a href="#">Lesson</a>	A lesson presented to a student in a class
	<a href="#">MediaVisit</a>	Represents a visit to a resource - currently only used for Student.ReadingURLs
	<a href="#">Student</a>	A student enrolled in a class and assigned lessons
	<a href="#">StudentLessonActs</a>	Collection of turns posted for a lesson/student combination
	<a href="#">Utils</a>	Utility functions that make working with this model easier

[Send Feedback](#) on this topic.

# Class Class

CSAL Mongo Access Library

A class of students and lessons

## Inheritance Hierarchy

---

 [System Object](#) **CSALMongo.Model Class**

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

[C#](#) | [VB](#) | [C++](#) | [F#](#)

[Copy to Clipboard](#) [Print](#)

```
public class Class : IComparable<Class>
```

## See Also

---

[Class Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Class Members

The `Class` type exposes the following members.

## Constructors

	Name	Description
	<code>Class</code>	Initializes a new instance of the <code>Class</code> class

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## Methods

	Name	Description
	<code>Equals</code>	Determines whether the specified <code>Object</code> is equal to the current <code>Object</code> . (Inherited from <code>Object</code> .)
	<code>GetHashCode</code>	Serves as a hash function for a particular type. (Inherited from <code>Object</code> .)
	<code>GetType</code>	Gets the <code>Type</code> of the current instance. (Inherited from <code>Object</code> .)
	<code>ToString</code>	Returns a string that represents the current object. (Inherited from <code>Object</code> .)

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## Properties

	Name	Description
	<code>AutoCreated</code>	If true, then this class was created automatically as the result of posted turn data
	<code>ClassID</code>	The storage key for the class (note the interaction with Id)
	<code>Id</code>	The MongoDB ID ( <code>_id</code> )
	<code>Lessons</code>	List of lessons in this class
	<code>Location</code>	Location of the class. Note that this can be used to get a list of student names across classes
	<code>MeetingTime</code>	Convenience field mainly for display to teachers
	<code>Students</code>	List of students enrolled in this class



[TeacherName](#)

Name of the teacher for this class. Note that this should be an email AND that it controls access to the class data in the DB GUI

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**See Also**

---

[Class Class](#)

[CSALMongo.Model Namespace](#)

---

[Send Feedback](#) on this topic.

# Class Constructor

CSAL Mongo Access Library

Initializes a new instance of the [Class](#) class

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public Class()
```

## See Also

---

[Class Class](#)

[Class Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Class Methods

The [Class](#) type exposes the following members.

## Methods

---

	Name	Description
	<a href="#">Equals</a>	Determines whether the specified <a href="#">Object</a> is equal to the current <a href="#">Object</a> . (Inherited from <a href="#">Object</a> .)
	<a href="#">GetHashCode</a>	Serves as a hash function for a particular type. (Inherited from <a href="#">Object</a> .)
	<a href="#">GetType</a>	Gets the <a href="#">Type</a> of the current instance. (Inherited from <a href="#">Object</a> .)
	<a href="#">ToString</a>	Returns a string that represents the current object. (Inherited from <a href="#">Object</a> .)

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## See Also

---

[Class Class](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Class Properties

CSAL Mongo Access Library

The [Class](#) type exposes the following members.

## Properties

---

	Name	Description
	<a href="#">AutoCreated</a>	If true, then this class was created automatically as the result of posted turn data
	<a href="#">ClassID</a>	The storage key for the class (note the interaction with Id)
	<a href="#">Id</a>	The MongoDB ID (_id)
	<a href="#">Lessons</a>	List of lessons in this class
	<a href="#">Location</a>	Location of the class. Note that this can be used to get a list of student names across classes
	<a href="#">MeetingTime</a>	Convenience field mainly for display to teachers
	<a href="#">Students</a>	List of students enrolled in this class
	<a href="#">TeacherName</a>	Name of the teacher for this class. Note that this should be an email AND that it controls access to the class data in the DB GUI

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## See Also

---

[Class Class](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Class AutoCreated Property

CSAL Mongo Access Library

If true, then this class was created automatically as the result of posted turn data

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public Nullable<bool> AutoCreated { get; set; }
```

### Property Value

Type: [Nullable](#) [Boolean](#)

## See Also

[Class Class](#)

[Class Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Class ClassID Property

CSAL Mongo Access Library

The storage key for the class (note the interaction with Id)

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public string ClassID { get; set; }
```

**Property Value**

Type:  [String](#)

## See Also

[Class Class](#)

[Class Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Class Id Property

CSAL Mongo Access Library

The MongoDB ID (`_id`)

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public string Id { get; set; }
```

**Property Value**

Type:  [String](#)

## See Also

---

[Class Class](#)

[Class Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Class Lessons Property

CSAL Mongo Access Library

List of lessons in this class

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public List<string> Lessons { get; set; }
```

**Property Value**

Type: [List](#) [String](#)

## See Also

[Class Class](#)

[Class Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Class Location Property

CSAL Mongo Access Library

Location of the class. Note that this can be used to get a list of student names across classes

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public string Location { get; set; }
```

### Property Value

Type:  [String](#)

## See Also

[Class Class](#)

[Class Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Class MeetingTime Property

CSAL Mongo Access Library

Convenience field mainly for display to teachers

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public string MeetingTime { get; set; }
```

**Property Value**

Type:  [String](#)

## See Also

[Class Class](#)

[Class Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Class Students Property

CSAL Mongo Access Library

List of students enrolled in this class

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public List<string> Students { get; set; }
```

### Property Value

Type: [List](#) [String](#)

## See Also

---

[Class Class](#)

[Class Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Class **TeacherName** Property CSAL Mongo Access Library

Name of the teacher for this class. Note that this should be an email AND that it controls access to the class data in the DB GUI

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public string TeacherName { get; set; }
```

### Property Value

Type:  [String](#)

## See Also

[Class Class](#)

[Class Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Lesson Class

CSAL Mongo Access Library

A lesson presented to a student in a class

## Inheritance Hierarchy

---

 [System Object](#) **CSALMongo.Model Lesson**

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

[C#](#) | [VB](#) | [C++](#) | [F#](#)

[Copy to Clipboard](#) [Print](#)

```
public class Lesson : IComparable<Lesson>
```

## See Also

---

[Lesson Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Lesson Members

The [Lesson](#) type exposes the following members.

## Constructors

	Name	Description
	<a href="#">Lesson</a>	Initializes a new instance of the <a href="#">Lesson</a> class

[Back to Top](#)

## Methods

	Name	Description
	 <a href="#">Equals</a>	Determines whether the specified  <a href="#">Object</a> is equal to the current  <a href="#">Object</a> . (Inherited from  <a href="#">Object</a> .)
	 <a href="#">GetHashCode</a>	Serves as a hash function for a particular type. (Inherited from  <a href="#">Object</a> .)
	 <a href="#">GetType</a>	Gets the  <a href="#">Type</a> of the current instance. (Inherited from  <a href="#">Object</a> .)
	 <a href="#">ToString</a>	Returns a string that represents the current object. (Inherited from  <a href="#">Object</a> .)

[Back to Top](#)

## Properties

	Name	Description
	<a href="#">AttemptTimes</a>	Each time a student attempts this lesson, the date/time is appended to this list
	<a href="#">AutoCreated</a>	If true, then this lesson was created automatically as the result of posted turn data
	<a href="#">Id</a>	The MongoDB ID ( <code>_id</code> )
	<a href="#">LastTurnTime</a>	Last time a turn was saved to the database (in <code>StudentLessonActs</code> )
	<a href="#">LessonID</a>	The storage key for a lesson - note the interaction with <code>Id</code>
	<a href="#">ShortName</a>	Name displayed to user in the GUI
	<a href="#">Students</a>	List of students (by ID) that have been assigned this lesson

	<a href="#">StudentsAttempted</a>	List of students (by ID) that have attempted this lesson. Size should always be less than or equal to size of Students
	<a href="#">StudentsCompleted</a>	List of students (by ID) that have completed this lesson. Size should always be less than or equal to size of Students and StudentsAttempted
	<a href="#">TurnCount</a>	Number of turns posted to the database
	<a href="#">URLs</a>	List of URL's seen for this lesson's ID. Because the lesson ID is sent as a URL and then extracted, there should be at least one URL in this list if at least one Turn has been posted for the lesson.

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## See Also

---

[Lesson Class](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Lesson Constructor

CSAL Mongo Access Library

Initializes a new instance of the [Lesson](#) class

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public Lesson()
```

## See Also

---

[Lesson Class](#)

[Lesson Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Lesson Methods

The [Lesson](#) type exposes the following members.

## Methods

---

	Name	Description
	<a href="#">Equals</a>	Determines whether the specified <a href="#">Object</a> is equal to the current <a href="#">Object</a> . (Inherited from <a href="#">Object</a> .)
	<a href="#">GetHashCode</a>	Serves as a hash function for a particular type. (Inherited from <a href="#">Object</a> .)
	<a href="#">GetType</a>	Gets the <a href="#">Type</a> of the current instance. (Inherited from <a href="#">Object</a> .)
	<a href="#">ToString</a>	Returns a string that represents the current object. (Inherited from <a href="#">Object</a> .)

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## See Also

---

[Lesson Class](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Lesson Properties

The [Lesson](#) type exposes the following members.

## Properties

	Name	Description
	<a href="#">AttemptTimes</a>	Each time a student attempts this lesson, the date/time is appended to this list
	<a href="#">AutoCreated</a>	If true, then this lesson was created automatically as the result of posted turn data
	<a href="#">Id</a>	The MongoDB ID (_id)
	<a href="#">LastTurnTime</a>	Last time a turn was saved to the database (in StudentLessonActs)
	<a href="#">LessonID</a>	The storage key for a lesson - note the interaction with Id
	<a href="#">ShortName</a>	Name displayed to user in the GUI
	<a href="#">Students</a>	List of students (by ID) that have been assigned this lesson
	<a href="#">StudentsAttempted</a>	List of students (by ID) that have attempted this lesson. Size should always be less than or equal to size of Students
	<a href="#">StudentsCompleted</a>	List of students (by ID) that have completed this lesson. Size should always be less than or equal to size of Students and StudentsAttempted
	<a href="#">TurnCount</a>	Number of turns posted to the database
	<a href="#">URLs</a>	List of URL's seen for this lesson's ID. Because the lesson ID is sent as a URL and then extracted, there should be at least one URL in this list if at least one Turn has been posted for the lesson.

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## See Also

[Lesson Class](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

## Lesson AttemptTimes Property CSAL Mongo Access Library

Each time a student attempts this lesson, the date/time is appended to this list

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

### Syntax

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public List<DateTime> AttemptTimes { get; set; }
```

#### Property Value

Type: [List](#) [DateTime](#)

### See Also

[Lesson Class](#)

[Lesson Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

## Lesson AutoCreated Property CSAL Mongo Access Library

If true, then this lesson was created automatically as the result of posted turn data

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

### Syntax

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public Nullable<bool> AutoCreated { get; set; }
```

#### Property Value

Type: [Nullable](#) [Boolean](#)

### See Also

[Lesson Class](#)

[Lesson Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Lesson Id Property

CSAL Mongo Access Library

The MongoDB ID (`_id`)

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public string Id { get; set; }
```

**Property Value**

Type:  [String](#)

## See Also

---

[Lesson Class](#)

[Lesson Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

## Lesson LastTurnTime Property CSAL Mongo Access Library

Last time a turn was saved to the database (in StudentLessonActs)

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

### Syntax

---

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public Nullable<DateTime> LastTurnTime { get; set; }
```

#### Property Value

Type: [Nullable](#) [DateTime](#)

### See Also

---

[Lesson Class](#)

[Lesson Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Lesson LessonID Property

CSAL Mongo Access Library

The storage key for a lesson - note the interaction with Id

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public string LessonID { get; set; }
```

**Property Value**

Type:  [String](#)

## See Also

---

[Lesson Class](#)

[Lesson Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Lesson ShortName Property

CSAL Mongo Access Library

Name displayed to user in the GUI

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public string ShortName { get; set; }
```

**Property Value**

Type:  [String](#)

## See Also

---

[Lesson Class](#)

[Lesson Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Lesson Students Property

CSAL Mongo Access Library

List of students (by ID) that have been assigned this lesson

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public List<string> Students { get; set; }
```

**Property Value**

Type: [List](#) [String](#)

## See Also

[Lesson Class](#)

[Lesson Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Lesson StudentsAttempted Property

CSAL Mongo Access  
Library

List of students (by ID) that have attempted this lesson. Size should always be less than or equal to size of Students

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public List<string> StudentsAttempted { get; set; }
```

### Property Value

Type: [List](#) [String](#)

## See Also

[Lesson Class](#)

[Lesson Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Lesson StudentsCompleted Property

CSAL Mongo Access Library

List of students (by ID) that have completed this lesson. Size should always be less than or equal to size of Students and StudentsAttempted

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public List<string> StudentsCompleted { get; set; }
```

### Property Value

Type: [List](#) [String](#)

## See Also

[Lesson Class](#)

[Lesson Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Lesson TurnCount Property

CSAL Mongo Access Library

Number of turns posted to the database

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public Nullable<int> TurnCount { get; set; }
```

### Property Value

Type: [Nullable](#) [Int32](#)

## See Also

---

[Lesson Class](#)

[Lesson Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

## Lesson URLs Property

CSAL Mongo Access Library

List of URL's seen for this lesson's ID. Because the lesson ID is sent as a URL and then extracted, there should be at least one URL in this list if at least one Turn has been posted for the lesson.

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

### Syntax

---

[C#](#) | [VB](#) | [C++](#) | [F#](#)

[Copy to Clipboard](#) [Print](#)

```
public List<string> URLs { get; set; }
```

#### Property Value

Type: [List](#) [String](#)

### See Also

---

[Lesson Class](#)

[Lesson Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# MediaVisit Class

CSAL Mongo Access Library

Represents a visit to a resource - currently only used for Student.ReadingURLs

## Inheritance Hierarchy

---

 [System Object](#) **CSALMongo.Model MediaVisit**

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

[C#](#) | [VB](#) | [C++](#) | [F#](#)

[Copy to Clipboard](#) [Print](#)

```
public class MediaVisit
```

## See Also

---

[MediaVisit Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# MediaVisit Members

CSAL Mongo Access Library

The [MediaVisit](#) type exposes the following members.

## Constructors

	Name	Description
	<a href="#">MediaVisit</a>	Initializes a new instance of the <a href="#">MediaVisit</a> class

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## Methods

	Name	Description
	 <a href="#">Equals</a>	Determines whether the specified  <a href="#">Object</a> is equal to the current  <a href="#">Object</a> . (Inherited from  <a href="#">Object</a> .)
	 <a href="#">GetHashCode</a>	Serves as a hash function for a particular type. (Inherited from  <a href="#">Object</a> .)
	 <a href="#">GetType</a>	Gets the  <a href="#">Type</a> of the current instance. (Inherited from  <a href="#">Object</a> .)
	 <a href="#">ToString</a>	Returns a string that represents the current object. (Inherited from  <a href="#">Object</a> .)

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## Properties

	Name	Description
	<a href="#">TargetURL</a>	URL visited
	<a href="#">VisitTime</a>	Time of visit (generally per the DB server time)

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## See Also

[MediaVisit Class](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.



# MediaVisit Constructor

CSAL Mongo Access Library

Initializes a new instance of the [MediaVisit](#) class

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public MediaVisit()
```

## See Also

---

[MediaVisit Class](#)

[MediaVisit Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# MediaVisit Methods

CSAL Mongo Access Library

The [MediaVisit](#) type exposes the following members.

## Methods

---

	Name	Description
	<a href="#">Equals</a>	Determines whether the specified <a href="#">Object</a> is equal to the current <a href="#">Object</a> . (Inherited from <a href="#">Object</a> .)
	<a href="#">GetHashCode</a>	Serves as a hash function for a particular type. (Inherited from <a href="#">Object</a> .)
	<a href="#">GetType</a>	Gets the <a href="#">Type</a> of the current instance. (Inherited from <a href="#">Object</a> .)
	<a href="#">ToString</a>	Returns a string that represents the current object. (Inherited from <a href="#">Object</a> .)

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## See Also

---

[MediaVisit Class](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# MediaVisit Properties

CSAL Mongo Access Library

The [MediaVisit](#) type exposes the following members.

## Properties

---

	Name	Description
	<a href="#">TargetURL</a>	URL visited
	<a href="#">VisitTime</a>	Time of visit (generally per the DB server time)

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## See Also

---

[MediaVisit Class](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# MediaVisit TargetURL Property

CSAL Mongo Access Library

URL visited

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public string TargetURL { get; set; }
```

**Property Value**

Type:  [String](#)

## See Also

---

[MediaVisit Class](#)

[MediaVisit Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# MediaVisit VisitTime Property CSAL Mongo Access Library

Time of visit (generally per the DB server time)

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public DateTime VisitTime { get; set; }
```

### Property Value

Type:  [DateTime](#)

## See Also

---

[MediaVisit Class](#)

[MediaVisit Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Student Class

CSAL Mongo Access Library

A student enrolled in a class and assigned lessons

## Inheritance Hierarchy

---

 [System Object](#) **CSALMongo.Model Student**

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

[C#](#) | [VB](#) | [C++](#) | [F#](#)

[Copy to Clipboard](#) [Print](#)

```
public class Student : IComparable<Student>
```

## See Also

---

[Student Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Student Members

The [Student](#) type exposes the following members.

## Constructors

	Name	Description
	<a href="#">Student</a>	Initializes a new instance of the <a href="#">Student</a> class

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## Methods

	Name	Description
	 <a href="#">Equals</a>	Determines whether the specified  <a href="#">Object</a> is equal to the current  <a href="#">Object</a> . (Inherited from  <a href="#">Object</a> .)
	 <a href="#">GetHashCode</a>	Serves as a hash function for a particular type. (Inherited from  <a href="#">Object</a> .)
	 <a href="#">GetType</a>	Gets the  <a href="#">Type</a> of the current instance. (Inherited from  <a href="#">Object</a> .)
	 <a href="#">ToString</a>	Returns a string that represents the current object. (Inherited from  <a href="#">Object</a> .)

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## Properties

	Name	Description
	<a href="#">AutoCreated</a>	True if the student was created automatically when a turn was posted
	<a href="#">FirstName</a>	Student's first name - note the GUI only displays subject ID and in some instances (the student/lesson drill down) actively hides the first name
	<a href="#">Id</a>	The MongoDB ID ( <a href="#">_id</a> )
	<a href="#">LastName</a>	Student's last name
	<a href="#">LastTurnTime</a>	The time the last turn was posted to the database for this student
	<a href="#">ReadingURLs</a>	List of <a href="#">MediaVisit</a> instances posted to the database to maintain a reading history for this student
	<a href="#">TurnCount</a>	Number of turns posted for this student



[UserID](#)

The storage key for a student (AKA a subject ID) - note the interaction with Id

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## See Also

---

[Student Class](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Student Constructor

CSAL Mongo Access Library

Initializes a new instance of the [Student](#) class

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public Student()
```

## See Also

---

[Student Class](#)

[Student Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Student Methods

The [Student](#) type exposes the following members.

## Methods

	Name	Description
	<a href="#">Equals</a>	Determines whether the specified <a href="#">Object</a> is equal to the current <a href="#">Object</a> . (Inherited from <a href="#">Object</a> .)
	<a href="#">GetHashCode</a>	Serves as a hash function for a particular type. (Inherited from <a href="#">Object</a> .)
	<a href="#">GetType</a>	Gets the <a href="#">Type</a> of the current instance. (Inherited from <a href="#">Object</a> .)
	<a href="#">ToString</a>	Returns a string that represents the current object. (Inherited from <a href="#">Object</a> .)

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## See Also

[Student Class](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Student Properties

CSAL Mongo Access Library

The [Student](#) type exposes the following members.

## Properties

---

	Name	Description
	<a href="#">AutoCreated</a>	True if the student was created automatically when a turn was posted
	<a href="#">FirstName</a>	Student's first name - note the GUI only displays subject ID and in some instances (the student/lesson drill down) actively hides the first name
	<a href="#">Id</a>	The MongoDB ID (_id)
	<a href="#">LastName</a>	Student's last name
	<a href="#">LastTurnTime</a>	The time the last turn was posted to the database for this student
	<a href="#">ReadingURLs</a>	List of MediaVisit instances posted to the database to maintain a reading history for this student
	<a href="#">TurnCount</a>	Number of turns posted for this student
	<a href="#">UserID</a>	The storage key for a student (AKA a subject ID) - note the interaction with Id

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## See Also

---

[Student Class](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Student AutoCreated Property CSAL Mongo Access Library

True if the student was created automatically when a turn was posted

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public Nullable<bool> AutoCreated { get; set; }
```

### Property Value

Type: [Nullable](#) [Boolean](#)

## See Also

[Student Class](#)

[Student Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Student FirstName Property

CSAL Mongo Access Library

Student's first name - note the GUI only displays subject ID and in some instances (the student/lesson drill down) actively hides the first name

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public string FirstName { get; set; }
```

### Property Value

Type:  [String](#)

## See Also

[Student Class](#)

[Student Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Student Id Property

CSAL Mongo Access Library

The MongoDB ID (`_id`)

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public string Id { get; set; }
```

**Property Value**

Type:  [String](#)

## See Also

---

[Student Class](#)

[Student Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Student LastName Property

CSAL Mongo Access Library

Student's last name

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public string LastName { get; set; }
```

**Property Value**

Type:  [String](#)

## See Also

---

[Student Class](#)

[Student Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Student LastTurnTime Property

CSAL Mongo Access  
Library

The time the last turn was posted to the database for this student

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public Nullable<DateTime> LastTurnTime { get; set; }
```

### Property Value

Type: [Nullable](#) [DateTime](#)

## See Also

[Student Class](#)

[Student Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

## Student ReadingURLs Property CSAL Mongo Access Library

List of MediaVisit instances posted to the database to maintain a reading history for this student

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

### Syntax

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public List<MediaVisit> ReadingURLs { get; set; }
```

#### Property Value

Type:  [List MediaVisit](#)

### See Also

[Student Class](#)

[Student Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Student TurnCount Property

CSAL Mongo Access Library

Number of turns posted for this student

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public Nullable<int> TurnCount { get; set; }
```

### Property Value

Type: [Nullable](#) [Int32](#)

## See Also

[Student Class](#)

[Student Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Student UserID Property

CSAL Mongo Access Library

The storage key for a student (AKA a subject ID) - note the interaction with Id

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public string UserID { get; set; }
```

**Property Value**

Type:  [String](#)

## See Also

---

[Student Class](#)

[Student Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# StudentLessonActs Class

CSAL Mongo Access Library

Collection of turns posted for a lesson/student combination

## Inheritance Hierarchy

---

 [System Object](#) **CSALMongo.Model StudentLessonActs**

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

[C#](#) | [VB](#) | [C++](#) | [F#](#)

[Copy to Clipboard](#) [Print](#)

```
public class StudentLessonActs : IComparable<StudentLessonActs>
```

## See Also

---

[StudentLessonActs Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# StudentLessonActs Members

CSAL Mongo Access Library

The [StudentLessonActs](#) type exposes the following members.

## Constructors

	Name	Description
⇒	<a href="#">StudentLessonActs</a>	Initializes a new instance of the <a href="#">StudentLessonActs</a> class

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## Methods

	Name	Description
⇒	<a href="#">AdhocCorrectAnswerRate</a>	Return the correct answer rate (from 0.0 to 1.0 inclusive) for the lesson recorded by the Turns from index start to index end
⇒	<a href="#">CorrectAnswerRate</a>	Return the correct answer rate (from 0.0 to 1.0 inclusive) for the last lesson
⇒	<a href="#">CurrentLessonPath</a>	Return a string summarizing the student's latest path through the lesson. If they stayed in medium the whole time, return empty string. If their path was (Start/Medium)=>Hard=>Medium=>Easy return HME
⇒	<a href="#">CurrentReadingTime</a>	Total time spent reading (as calculated by ReadingTime) on last lesson (as identified by LastAttemptIndex)
⇒	<a href="#">CurrentTotalTime</a>	Total time spent on lesson (as calculated by TotalTime) on last lesson (as identified by LastAttemptIndex)
⇒	<a href="#">Equals</a>	Determines whether the specified <a href="#">Object</a> is equal to the current <a href="#">Object</a> . (Inherited from <a href="#">Object</a> .)
⇒	<a href="#">FixupTimestamps</a>	Because things can hit the server out of order (or in case of test data, simultaneously), we insure that the DB timestamps are correct by using the Duration field. Note that this is a hack to approximate time in the event we didn't receive the turns with correct ordering/spacing
⇒	<a href="#">GetHashCode</a>	Serves as a hash function for a particular type. (Inherited from <a href="#">Object</a> .)
⇒	<a href="#">GetType</a>	Gets the <a href="#">Type</a> of the current instance. (Inherited from <a href="#">Object</a> .)
⇒	<a href="#">LastAttemptIndex</a>	Index of the beginning of the last attempt
⇒	<a href="#">LastCompleted</a>	Return true if last lesson (as identified by LastAttemptIndex) has

		been completed (as identified by SequenceCompleted)
	<a href="#">LessonPath</a>	String representation of the path taken by the lesson attempt recorded by Turns from index start to index end
	<a href="#">ReadingTime</a>	Return time spent reading (in ms) during lesson described by Turns stored from index start to index end
	<a href="#">SequenceCompleted</a>	Return true if the lesson described by turns between indexes start and end is completed.
	 <a href="#">ToString</a>	Returns a string that represents the current object. (Inherited from  <a href="#">Object</a> .)
	<a href="#">TotalTime</a>	Return total time spent (in ms) on the lesson described by Turns stored from index start to index end

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## Properties

	Name	Description
	<a href="#">Attempts</a>	Number of attempts (lesson starts)
	<a href="#">Completions</a>	Number of lesson completions
	<a href="#">CorrectAnswers</a>	Number of correct answers for last (most recent) lesson attempt
	<a href="#">Id</a>	The MongoDB ID ( <code>_id</code> ) - composed of Lesson ID and User ID
	<a href="#">IncorrectAnswers</a>	Number of incorrect answers for last (most recent) lesson attempt
	<a href="#">LastTurnTime</a>	Date/time of last turn posted
	<a href="#">LessonID</a>	Lesson ID of turns posted
	<a href="#">TurnCount</a>	Number of turns posted
	<a href="#">Turns</a>	Actual list of turns posted (see the CSALMongo.TurnModel namespace for details)
	<a href="#">UserID</a>	User ID for turns posted

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## See Also

[StudentLessonActs Class](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.



# StudentLessonActs Constructor CSAL Mongo Access Library

Initializes a new instance of the [StudentLessonActs](#) class

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public StudentLessonActs()
```

## See Also

---

[StudentLessonActs Class](#)

[StudentLessonActs Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# StudentLessonActs Methods

CSAL Mongo Access Library

The `StudentLessonActs` type exposes the following members.

## Methods

Name	Description
 <code>AdhocCorrectAnswerRate</code>	Return the correct answer rate (from 0.0 to 1.0 inclusive) for the lesson recorded by the Turns from index start to index end
 <code>CorrectAnswerRate</code>	Return the correct answer rate (from 0.0 to 1.0 inclusive) for the last lesson
 <code>CurrentLessonPath</code>	Return a string summarizing the student's latest path through the lesson. If they stayed in medium the whole time, return empty string. If their path was (Start/Medium)=>Hard=>Medium=>Easy return HME
 <code>CurrentReadingTime</code>	Total time spent reading (as calculated by <code>ReadingTime</code> ) on last lesson (as identified by <code>LastAttemptIndex</code> )
 <code>CurrentTotalTime</code>	Total time spent on lesson (as calculated by <code>TotalTime</code> ) on last lesson (as identified by <code>LastAttemptIndex</code> )
  <code>Equals</code>	Determines whether the specified  <code>Object</code> is equal to the current  <code>Object</code> . (Inherited from  <code>Object</code> .)
 <code>FixupTimestamps</code>	Because things can hit the server out of order (or in case of test data, simultaneously), we insure that the DB timestamps are correct by using the <code>Duration</code> field. Note that this is a hack to approximate time in the event we didn't receive the turns with correct ordering/spacing
  <code>GetHashCode</code>	Serves as a hash function for a particular type. (Inherited from  <code>Object</code> .)
  <code>GetType</code>	Gets the  <code>Type</code> of the current instance. (Inherited from  <code>Object</code> .)
 <code>LastAttemptIndex</code>	Index of the beginning of the last attempt
 <code>LastCompleted</code>	Return true if last lesson (as identified by <code>LastAttemptIndex</code> ) has been completed (as identified by <code>SequenceCompleted</code> )
 <code>LessonPath</code>	String representation of the path taken by the lesson attempt recorded by Turns from index start to index end
 <code>ReadingTime</code>	Return time spent reading (in ms) during lesson described by Turns stored from index start to index end
 <code>SequenceCompleted</code>	Return true if the lesson described by turns between indexes start

		and end is completed.
	<a href="#">ToString</a>	Returns a string that represents the current object. (Inherited from <a href="#">Object</a> .)
	<a href="#">TotalTime</a>	Return total time spent (in ms) on the lesson described by Turns stored from index start to index end

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## See Also

---

[StudentLessonActs Class](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# StudentLessonActs AdhocCorrectAnswerRate Method

CSAL  
Mongo  
Access  
Library

Return the correct answer rate (from 0.0 to 1.0 inclusive) for the lesson recorded by the Turns from index start to index end

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public double AdhocCorrectAnswerRate(  
    int start,  
    int end,  
    double noAnswers = 0  
)
```

### Parameters

*start*

Type: [System Int32](#)

Index where checking begins

*end*

Type: [System Int32](#)

Last index checked - if less than 0, then index is assumed to be last in list

*noAnswers* (Optional)

Type: [System Double](#)

The value to return if there are no answers for the given indexes

### Return Value

Type: [Double](#)

The correct answer rate (0.0 to 1.0 inclusive) for the turns from index start to index end. If no answers are found in the given range, then noAnswers is returned

## See Also

[StudentLessonActs Class](#)  
[StudentLessonActs Members](#)  
[CSALMongo.Model Namespace](#)

---

[Send Feedback](#) on this topic.

# StudentLessonActs CorrectAnswerRate Method

CSAL Mongo  
Access Library

Return the correct answer rate (from 0.0 to 1.0 inclusive) for the last lesson

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public double CorrectAnswerRate()
```

### Return Value

Type:  [Double](#)

correct answer rate (from 0.0 to 1.0 inclusive)

## See Also

[StudentLessonActs Class](#)

[StudentLessonActs Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# StudentLessonActs CurrentLessonPath Method

CSAL Mongo  
Access Library

Return a string summarizing the student's latest path through the lesson. If they stayed in medium the whole time, return empty string. If their path was (Start/Medium)=>Hard=>Medium=>Easy return HME

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public string CurrentLessonPath()
```

### Return Value

Type:  [String](#)

Path as specified

## See Also

[StudentLessonActs Class](#)

[StudentLessonActs Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# StudentLessonActs CurrentReadingTime Method CSAL Mongo Access Library

Total time spent reading (as calculated by ReadingTime) on last lesson (as identified by LastAttemptIndex)

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

[C#](#) | [VB](#) | [C++](#) | [F#](#)

[Copy to Clipboard](#) [Print](#)

```
public double CurrentReadingTime()
```

### Return Value

Type:  [Double](#)

Time spent reading in milliseconds

## See Also

---

[StudentLessonActs Class](#)

[StudentLessonActs Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# StudentLessonActs CurrentTotalTime Method

CSAL Mongo  
Access Library

Total time spent on lesson (as calculated by TotalTime) on last lesson (as identified by LastAttemptIndex)

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

[C#](#) | [VB](#) | [C++](#) | [F#](#)

[Copy to Clipboard](#) [Print](#)

```
public double CurrentTotalTime()
```

### Return Value

Type:  [Double](#)

Time spent in milliseconds

## See Also

[StudentLessonActs Class](#)

[StudentLessonActs Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# StudentLessonActs FixupTimestamps Method

CSAL Mongo  
Access Library

Because things can hit the server out of order (or in case of test data, simultaneously), we insure that the DB timestamps are correct by using the Duration field. Note that this is a hack to approximate time in the event we didn't receive the turns with correct ordering/spacing

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public void FixupTimestamps()
```

## See Also

[StudentLessonActs Class](#)

[StudentLessonActs Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# StudentLessonActs LastAttemptIndex Method

CSAL Mongo  
Access Library

Index of the beginning of the last attempt

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public int LastAttemptIndex()
```

### Return Value

Type:  [Int32](#)

Index that is the beginning of the last attempt at the lesson. -1 if this index doesn't exist

## See Also

[StudentLessonActs Class](#)

[StudentLessonActs Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# StudentLessonActs LastCompleted Method

CSAL Mongo Access  
Library

Return true if last lesson (as identified by LastAttemptIndex) has been completed (as identified by SequenceCompleted)

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

[C#](#) | [VB](#) | [C++](#) | [F#](#)

[Copy to Clipboard](#) [Print](#)

```
public bool LastCompleted()
```

### Return Value

Type:  [Boolean](#)

True if last attempt was completed

## See Also

[StudentLessonActs Class](#)

[StudentLessonActs Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# StudentLessonActs LessonPath Method

CSAL Mongo Access  
Library

String representation of the path taken by the lesson attempt recorded by  
Turns from index start to index end

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public string LessonPath(  
    int start,  
    int end = -1  
)
```

### Parameters

*start*

Type: [System Int32](#)

Index where checking begins

*end* (Optional)

Type: [System Int32](#)

Last index checked - if less than 0, then index is assumed to be last in list

### Return Value

Type: [String](#)

A string representing the lesson path. Each character in the string is a path change: E=Easy, M=Medium, and H=Hard. All lessons are assumed to be begin in M

## See Also

[StudentLessonActs Class](#)

[StudentLessonActs Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# StudentLessonActs ReadingTime Method

CSAL Mongo Access Library

Return time spent reading (in ms) during lesson described by Turns stored from index start to index end

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

[C#](#) | [VB](#) | [C++](#) | [F#](#)

[Copy to Clipboard](#) [Print](#)

```
public double ReadingTime(  
    int start,  
    int end = -1  
)
```

### Parameters

*start*

Type: [System Int32](#)

Index where checking begins

*end* (Optional)

Type: [System Int32](#)

Last index checked - if less than 0, then index is assumed to be last in list

### Return Value

Type: [Double](#)

Reading time in milliseconds

## See Also

[StudentLessonActs Class](#)

[StudentLessonActs Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# StudentLessonActs SequenceCompleted Method

CSAL Mongo  
Access Library

Return true if the lesson described by turns between indexes start and end is completed.

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public bool SequenceCompleted(  
    int start,  
    int end = -1  
)
```

### Parameters

*start*

Type: [System Int32](#)

Index where checking begins

*end* (Optional)

Type: [System Int32](#)

Last index checked - if less than 0, then index is assumed to be last in list

### Return Value

Type: [Boolean](#)

True if the lesson specified has been completed

## See Also

[StudentLessonActs Class](#)

[StudentLessonActs Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# StudentLessonActs TotalTime Method

CSAL Mongo Access  
Library

Return total time spent (in ms) on the lesson described by Turns stored from index start to index end

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public double TotalTime(  
    int start,  
    int last = -1  
)
```

### Parameters

*start*

Type: [System Int32](#)

Index where checking begins

*last* (Optional)

Type: [System Int32](#)

Last index checked - if less than 0, then index is assumed to be last in list

### Return Value

Type: [Double](#)

Total time in milliseconds

## See Also

[StudentLessonActs Class](#)

[StudentLessonActs Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# StudentLessonActs Properties CSAL Mongo Access Library

The [StudentLessonActs](#) type exposes the following members.

## Properties

---

	Name	Description
	<a href="#">Attempts</a>	Number of attempts (lesson starts)
	<a href="#">Completions</a>	Number of lesson completions
	<a href="#">CorrectAnswers</a>	Number of correct answers for last (most recent) lesson attempt
	<a href="#">Id</a>	The MongoDB ID (_id) - composed of Lesson ID and User ID
	<a href="#">IncorrectAnswers</a>	Number of incorrect answers for last (most recent) lesson attempt
	<a href="#">LastTurnTime</a>	Date/time of last turn posted
	<a href="#">LessonID</a>	Lesson ID of turns posted
	<a href="#">TurnCount</a>	Number of turns posted
	<a href="#">Turns</a>	Actual list of turns posted (see the CSALMongo.TurnModel namespace for details)
	<a href="#">UserID</a>	User ID for turns posted

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## See Also

---

[StudentLessonActs Class](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# StudentLessonActs Attempts Property

CSAL Mongo Access  
Library

Number of attempts (lesson starts)

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public int Attempts { get; set; }
```

### Property Value

Type:  [Int32](#)

## See Also

[StudentLessonActs Class](#)

[StudentLessonActs Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# StudentLessonActs Completions Property

CSAL Mongo Access  
Library

Number of lesson completions

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public int Completions { get; set; }
```

### Property Value

Type:  [Int32](#)

## See Also

[StudentLessonActs Class](#)

[StudentLessonActs Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# StudentLessonActs CorrectAnswers Property CSAL Mongo Access Library

Number of correct answers for last (most recent) lesson attempt

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public int CorrectAnswers { get; set; }
```

### Property Value

Type:  [Int32](#)

## See Also

[StudentLessonActs Class](#)

[StudentLessonActs Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# StudentLessonActs Id Property CSAL Mongo Access Library

The MongoDB ID (`_id`) - composed of Lesson ID and User ID

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public string Id { get; set; }
```

**Property Value**

Type:  [String](#)

## See Also

---

[StudentLessonActs Class](#)

[StudentLessonActs Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# StudentLessonActs IncorrectAnswers Property CSAL Mongo Access Library

Number of incorrect answers for last (most recent) lesson attempt

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public int IncorrectAnswers { get; set; }
```

### Property Value

Type:  [Int32](#)

## See Also

[StudentLessonActs Class](#)

[StudentLessonActs Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# StudentLessonActs LastTurnTime Property

CSAL Mongo Access  
Library

Date/time of last turn posted

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public Nullable<DateTime> LastTurnTime { get; set; }
```

### Property Value

Type: [Nullable](#) [DateTime](#)

## See Also

[StudentLessonActs Class](#)

[StudentLessonActs Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# StudentLessonActs LessonID Property

CSAL Mongo Access  
Library

Lesson ID of turns posted

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public string LessonID { get; set; }
```

### Property Value

Type:  [String](#)

## See Also

[StudentLessonActs Class](#)

[StudentLessonActs Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# StudentLessonActs TurnCount Property

CSAL Mongo Access  
Library

Number of turns posted

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public int TurnCount { get; set; }
```

### Property Value

Type:  [Int32](#)

## See Also

[StudentLessonActs Class](#)

[StudentLessonActs Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# StudentLessonActs Turns Property

CSAL Mongo Access  
Library

Actual list of turns posted (see the CSALMongo.TurnModel namespace for details)

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

[C#](#) | [VB](#) | [C++](#) | [F#](#)

[Copy to Clipboard](#) [Print](#)

```
public List<ConvLog> Turns { get; set; }
```

### Property Value

Type:  [List ConvLog](#)

## See Also

[StudentLessonActs Class](#)

[StudentLessonActs Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# StudentLessonActs UserID Property

CSAL Mongo Access  
Library

User ID for turns posted

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public string UserID { get; set; }
```

### Property Value

Type:  [String](#)

## See Also

[StudentLessonActs Class](#)

[StudentLessonActs Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Utils Class

CSAL Mongo Access Library

Utility functions that make working with this model easier

## Inheritance Hierarchy

---

 [System Object](#) **CSALMongo.Model Utils**

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

[C#](#) | [VB](#) | [C++](#) | [F#](#)

[Copy to Clipboard](#) [Print](#)

```
public static class Utils
```

## See Also

---

[Utils Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Utils Members

CSAL Mongo Access Library

The [Utils](#) type exposes the following members.

## Methods

---

	Name	Description
	<a href="#">LessonIDSort</a>	Translation helper that returns a string-sortable version of a lesson ID
	<a href="#">ParseJson TModel</a>	Given a chunk of JSON, parse it and return the specified type. Note that this helper utilizes the BsonDocument functionality from the C# MongoDB driver, NOT the JSON library used by ASP.NET (and our Web API). Also note that the JSON is translated on the fly to handle things like the fields \$id, Id, and _id.

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## See Also

---

[Utils Class](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Utils Methods

The [Utils](#) type exposes the following members.

## Methods

---

	Name	Description
	<a href="#">LessonIDSort</a>	Translation helper that returns a string-sortable version of a lesson ID
	<a href="#">ParseJson TModel</a>	Given a chunk of JSON, parse it and return the specified type. Note that this helper utilizes the BsonDocument functionality from the C# MongoDB driver, NOT the JSON library used by ASP.NET (and our Web API). Also note that the JSON is translated on the fly to handle things like the fields \$id, Id, and _id.

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## See Also

---

[Utils Class](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Utils LessonIDSort Method

CSAL Mongo Access Library

Translation helper that returns a string-sortable version of a lesson ID

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public static string LessonIDSort(  
    string lessonID  
)
```

### Parameters

*lessonID*

Type: [System String](#)

Lesson ID to translate

### Return Value

Type: [String](#)

The string to use for sorting

## See Also

[Utils Class](#)

[Utils Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.

# Utils ParseJson TModel Method

CSAL Mongo Access  
Library

Given a chunk of JSON, parse it and return the specified type. Note that this helper utilizes the BsonDocument functionality from the C# MongoDB driver, NOT the JSON library used by ASP.NET (and our Web API). Also note that the JSON is translated on the fly to handle things like the fields \$id, Id, and \_id.

**Namespace:** [CSALMongo.Model](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public static TModel ParseJson<TModel>(
    string json
)
```

### Parameters

*json*

Type:  [System String](#)

The JSON to parse

## Type Parameters

*TModel*

The type to return

### Return Value

Type: **TModel**

The populated instance of the type TModel

## See Also

[Utils Class](#)

[Utils Members](#)

[CSALMongo.Model Namespace](#)

[Send Feedback](#) on this topic.



# CSALMongo.TurnModel Namespace

CSAL Mongo Access  
Library

This namespace is for model classes as posted to CSALDatabase in JSON format to record a user turn from ACE.

## Classes

---

	Class	Description
	<a href="#">ActionLog</a>	Single action instance
	<a href="#">AssessmentLog</a>	Single instance of assessment
	<a href="#">ConvLog</a>	Top-level instance for turns posted to database - see CSALDatabase and Model for code interpreting these data structures
	<a href="#">InputLog</a>	Single event instance
	<a href="#">TransitionLog</a>	Transition as specified by state, rule, and a list of action

[Send Feedback](#) on this topic.

# ActionLog Class

CSAL Mongo Access Library

Single action instance

## Inheritance Hierarchy

---

 [System Object](#) **CSALMongo.TurnModel ActionLog**

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

[C#](#) | [VB](#) | [C++](#) | [F#](#)

[Copy to Clipboard](#) [Print](#)

```
public class ActionLog
```

## See Also

---

[ActionLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# ActionLog Members

CSAL Mongo Access Library

The [ActionLog](#) type exposes the following members.

## Constructors

	Name	Description
	<a href="#">ActionLog</a>	Initializes a new instance of the <a href="#">ActionLog</a> class

[Back to Top](#)

## Methods

	Name	Description
	 <a href="#">Equals</a>	Determines whether the specified  <a href="#">Object</a> is equal to the current  <a href="#">Object</a> . (Inherited from  <a href="#">Object</a> .)
	 <a href="#">GetHashCode</a>	Serves as a hash function for a particular type. (Inherited from  <a href="#">Object</a> .)
	 <a href="#">GetType</a>	Gets the  <a href="#">Type</a> of the current instance. (Inherited from  <a href="#">Object</a> .)
	 <a href="#">ToString</a>	Returns a string that represents the current object. (Inherited from  <a href="#">Object</a> .)

[Back to Top](#)

## Properties

	Name	Description
	<a href="#">Act</a>	What was the action
	<a href="#">Agent</a>	Agent performing action
	<a href="#">Data</a>	Action-dependent data

[Back to Top](#)

## See Also

[ActionLog Class](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# ActionLog Constructor

CSAL Mongo Access Library

Initializes a new instance of the [ActionLog](#) class

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public ActionLog()
```

## See Also

---

[ActionLog Class](#)

[ActionLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# ActionLog Methods

CSAL Mongo Access Library

The [ActionLog](#) type exposes the following members.

## Methods

---

	Name	Description
	<a href="#">Equals</a>	Determines whether the specified <a href="#">Object</a> is equal to the current <a href="#">Object</a> . (Inherited from <a href="#">Object</a> .)
	<a href="#">GetHashCode</a>	Serves as a hash function for a particular type. (Inherited from <a href="#">Object</a> .)
	<a href="#">GetType</a>	Gets the <a href="#">Type</a> of the current instance. (Inherited from <a href="#">Object</a> .)
	<a href="#">ToString</a>	Returns a string that represents the current object. (Inherited from <a href="#">Object</a> .)

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## See Also

---

[ActionLog Class](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# ActionLog Properties

CSAL Mongo Access Library

The [ActionLog](#) type exposes the following members.

## Properties

---

	Name	Description
	<a href="#">Act</a>	What was the action
	<a href="#">Agent</a>	Agent performing action
	<a href="#">Data</a>	Action-dependent data

[Back to Top](#)

## See Also

---

[ActionLog Class](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# ActionLog Act Property

CSAL Mongo Access Library

What was the action

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public string Act { get; set; }
```

**Property Value**

Type:  [String](#)

## See Also

---

[ActionLog Class](#)

[ActionLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# ActionLog Agent Property

CSAL Mongo Access Library

Agent performing action

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public string Agent { get; set; }
```

**Property Value**

Type:  [String](#)

## See Also

---

[ActionLog Class](#)

[ActionLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# ActionLog Data Property

CSAL Mongo Access Library

Action-dependent data

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public string Data { get; set; }
```

**Property Value**

Type:  [String](#)

## See Also

---

[ActionLog Class](#)

[ActionLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# AssessmentLog Class

CSAL Mongo Access Library

Single instance of assessment

## Inheritance Hierarchy

---

 [System Object](#) **CSALMongo.TurnModel AssessmentLog**

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

[C#](#) | [VB](#) | [C++](#) | [F#](#)

[Copy to Clipboard](#) [Print](#)

```
public class AssessmentLog
```

## See Also

---

[AssessmentLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# AssessmentLog Members

CSAL Mongo Access Library

The [AssessmentLog](#) type exposes the following members.

## Constructors

	Name	Description
	<a href="#">AssessmentLog</a>	Initializes a new instance of the <a href="#">AssessmentLog</a> class

[Back to Top](#)

## Methods

	Name	Description
	 <a href="#">Equals</a>	Determines whether the specified  <a href="#">Object</a> is equal to the current  <a href="#">Object</a> . (Inherited from  <a href="#">Object</a> .)
	 <a href="#">GetHashCode</a>	Serves as a hash function for a particular type. (Inherited from  <a href="#">Object</a> .)
	 <a href="#">GetType</a>	Gets the  <a href="#">Type</a> of the current instance. (Inherited from  <a href="#">Object</a> .)
	 <a href="#">ToString</a>	Returns a string that represents the current object. (Inherited from  <a href="#">Object</a> .)

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## Properties

	Name	Description
	<a href="#">AnswerType</a>	Answer Type
	<a href="#">LSAMatch</a>	LSA match
	<a href="#">Match</a>	Match
	<a href="#">Pass</a>	Pass?
	<a href="#">RegExMatch</a>	RegEx match
	<a href="#">TargetID</a>	Target ID
	<a href="#">Threshold</a>	Threshold

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## See Also

---

[AssessmentLog Class](#)

[CSALMongo.TurnModel Namespace](#)

---

[Send Feedback](#) on this topic.

# AssessmentLog Constructor

CSAL Mongo Access Library

Initializes a new instance of the [AssessmentLog](#) class

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public AssessmentLog()
```

## See Also

---

[AssessmentLog Class](#)

[AssessmentLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# AssessmentLog Methods

CSAL Mongo Access Library

The [AssessmentLog](#) type exposes the following members.

## Methods

	Name	Description
	<a href="#">Equals</a>	Determines whether the specified <a href="#">Object</a> is equal to the current <a href="#">Object</a> . (Inherited from <a href="#">Object</a> .)
	<a href="#">GetHashCode</a>	Serves as a hash function for a particular type. (Inherited from <a href="#">Object</a> .)
	<a href="#">GetType</a>	Gets the <a href="#">Type</a> of the current instance. (Inherited from <a href="#">Object</a> .)
	<a href="#">ToString</a>	Returns a string that represents the current object. (Inherited from <a href="#">Object</a> .)

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## See Also

[AssessmentLog Class](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# AssessmentLog Properties

CSAL Mongo Access Library

The [AssessmentLog](#) type exposes the following members.

## Properties

---

	Name	Description
	<a href="#">AnswerType</a>	Answer Type
	<a href="#">LSAMatch</a>	LSA match
	<a href="#">Match</a>	Match
	<a href="#">Pass</a>	Pass?
	<a href="#">RegExMatch</a>	RegEx match
	<a href="#">TargetID</a>	Target ID
	<a href="#">Threshold</a>	Threshold

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## See Also

---

[AssessmentLog Class](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# AssessmentLog AnswerType Property

CSAL Mongo Access  
Library

Answer Type

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public string AnswerType { get; set; }
```

**Property Value**

Type:  [String](#)

## See Also

[AssessmentLog Class](#)

[AssessmentLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# AssessmentLog LSAMatch Property

CSAL Mongo Access  
Library

LSA match

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public double LSAMatch { get; set; }
```

### Property Value

Type:  [Double](#)

## See Also

[AssessmentLog Class](#)

[AssessmentLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# AssessmentLog Match Property CSAL Mongo Access Library

Match

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public double Match { get; set; }
```

**Property Value**

Type:  [Double](#)

## See Also

---

[AssessmentLog Class](#)

[AssessmentLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# AssessmentLog Pass Property

CSAL Mongo Access Library

Pass?

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public bool Pass { get; set; }
```

**Property Value**

Type:  [Boolean](#)

## See Also

[AssessmentLog Class](#)

[AssessmentLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# AssessmentLog RegExMatch Property

CSAL Mongo Access  
Library

RegEx match

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public double RegExMatch { get; set; }
```

### Property Value

Type:  [Double](#)

## See Also

[AssessmentLog Class](#)

[AssessmentLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# AssessmentLog TargetID Property

CSAL Mongo Access  
Library

Target ID

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public string TargetID { get; set; }
```

**Property Value**

Type:  [String](#)

## See Also

[AssessmentLog Class](#)

[AssessmentLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# AssessmentLog Threshold Property

CSAL Mongo Access  
Library

Threshold

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public double Threshold { get; set; }
```

### Property Value

Type:  [Double](#)

## See Also

[AssessmentLog Class](#)

[AssessmentLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# ConvLog Class

CSAL Mongo Access Library

Top-level instance for turns posted to database - see CSALDatabase and Model for code interpreting these data structures

## Inheritance Hierarchy

---

 [System Object](#) **CSALMongo.TurnModel ConvLog**

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

[C#](#) | [VB](#) | [C++](#) | [F#](#)

[Copy to Clipboard](#) [Print](#)

```
public class ConvLog
```

## See Also

---

[ConvLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# ConvLog Members

CSAL Mongo Access Library

The `ConvLog` type exposes the following members.

## Constructors

	Name	Description
	<code>ConvLog</code>	Initializes a new instance of the <code>ConvLog</code> class

[Back to Top](#)

## Methods

	Name	Description
	<code>AllValidActions</code>	The list of all actions in this conv log - and insure every member and property are non-null
	<code>DBDateTime</code>	Translation helper <code>DBTimestamp</code>
	<code>Equals</code>	Determines whether the specified <code>Object</code> is equal to the current <code>Object</code> . (Inherited from <code>Object</code> .)
	<code>GetHashCode</code>	Serves as a hash function for a particular type. (Inherited from <code>Object</code> .)
	<code>GetType</code>	Gets the <code>Type</code> of the current instance. (Inherited from <code>Object</code> .)
	<code>ToString</code>	Returns a string that represents the current object. (Inherited from <code>Object</code> .)

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## Fields

	Name	Description
	<code>EPOCH_YR</code>	Start-of-epoch to be used for our <code>DBTimestamp</code>

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## Properties

	Name	Description
	<code>Assessments</code>	All assessment data

 <a href="#">DBTimestamp</a>	Timestamp applied before DB storage - not usually supplied in the POST'ed JSON. It is the number of milliseconds since EPOCH_YR
 <a href="#">Duration</a>	Length of action(s) specified in milliseconds
 <a href="#">ErrorMessage</a>	Error message for current turn
 <a href="#">Id</a>	MongoDB key
 <a href="#">Input</a>	Input specified
 <a href="#">LessonID</a>	ID of lesson in question
 <a href="#">Transitions</a>	Transition list
 <a href="#">TurnID</a>	Identifier of turn, greater than or equal to 0
 <a href="#">UserID</a>	User ID (subject ID) of student
 <a href="#">WarningMessage</a>	Warning message for current turn

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## See Also

---

[ConvLog Class](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# ConvLog Constructor

CSAL Mongo Access Library

Initializes a new instance of the [ConvLog](#) class

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public ConvLog()
```

## See Also

---

[ConvLog Class](#)

[ConvLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# ConvLog Fields

CSAL Mongo Access Library

The [ConvLog](#) type exposes the following members.

## Fields

---

	Name	Description
	<a href="#">EPOCH_YR</a>	Start-of-epoch to be used for our DBTimestamp

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## See Also

---

[ConvLog Class](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# ConvLog EPOCH\_YR Field

CSAL Mongo Access Library

Start-of-epoch to be used for our DBTimestamp

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public const int EPOCH_YR
```

### Field Value

Type:  [Int32](#)

## See Also

---

[ConvLog Class](#)

[ConvLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# ConvLog Methods

CSAL Mongo Access Library

The [ConvLog](#) type exposes the following members.

## Methods

---

	Name	Description
⇒	<a href="#">AllValidActions</a>	The list of all actions in this conv log - and insure every member and property are non-null
⇒	<a href="#">DBDateTime</a>	Translation helper DBTimestamp
⇒	<a href="#">Equals</a>	Determines whether the specified <a href="#">Object</a> is equal to the current <a href="#">Object</a> . (Inherited from <a href="#">Object</a> .)
⇒	<a href="#">GetHashCode</a>	Serves as a hash function for a particular type. (Inherited from <a href="#">Object</a> .)
⇒	<a href="#">GetType</a>	Gets the <a href="#">Type</a> of the current instance. (Inherited from <a href="#">Object</a> .)
⇒	<a href="#">ToString</a>	Returns a string that represents the current object. (Inherited from <a href="#">Object</a> .)

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## See Also

---

[ConvLog Class](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# ConvLog AllValidActions Method

CSAL Mongo Access  
Library

The list of all actions in this conv log - and insure every member and property are non-null

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

[C#](#) | [VB](#) | [C++](#) | [F#](#)

[Copy to Clipboard](#) [Print](#)

```
public List<ActionLog> AllValidActions()
```

### Return Value

Type: [List ActionLog](#)

List of all actions identified. Should never be null

## See Also

[ConvLog Class](#)

[ConvLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# ConvLog DBDateTime Method CSAL Mongo Access Library

Translation helper DBTimestamp

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public DateTime DBDateTime()
```

### Return Value

Type:  [DateTime](#)

DBTimestamp interpreted as a DateTime

## See Also

---

[ConvLog Class](#)

[ConvLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# ConvLog Properties

CSAL Mongo Access Library

The [ConvLog](#) type exposes the following members.

## Properties

	Name	Description
	<a href="#">Assessments</a>	All assessment data
	<a href="#">DBTimestamp</a>	Timestamp applied before DB storage - not usually supplied in the POST'ed JSON. It is the number of milliseconds since EPOCH_YR
	<a href="#">Duration</a>	Length of action(s) specified in milliseconds
	<a href="#">ErrorMessage</a>	Error message for current turn
	<a href="#">Id</a>	MongoDB key
	<a href="#">Input</a>	Input specified
	<a href="#">LessonID</a>	ID of lesson in question
	<a href="#">Transitions</a>	Transition list
	<a href="#">TurnID</a>	Identifier of turn, greater than or equal to 0
	<a href="#">UserID</a>	User ID (subject ID) of student
	<a href="#">WarningMessage</a>	Warning message for current turn

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## See Also

[ConvLog Class](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# ConvLog Assessments Property CSAL Mongo Access Library

All assessment data

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public List<AssessmentLog> Assessments { get; set; }
```

### Property Value

Type:  [List AssessmentLog](#)

## See Also

---

[ConvLog Class](#)

[ConvLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# ConvLog DBTimestamp Property

CSAL Mongo Access  
Library

Timestamp applied before DB storage - not usually supplied in the POST'ed JSON. It is the number of milliseconds since EPOCH\_YR

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public double DBTimestamp { get; set; }
```

### Property Value

Type:  Double

## See Also

[ConvLog Class](#)

[ConvLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# ConvLog Duration Property

CSAL Mongo Access Library

Length of action(s) specified in milliseconds

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public double Duration { get; set; }
```

**Property Value**

Type:  [Double](#)

## See Also

---

[ConvLog Class](#)

[ConvLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# ConvLog ErrorMessage Property

CSAL Mongo Access  
Library

Error message for current turn

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public string ErrorMessage { get; set; }
```

### Property Value

Type:  [String](#)

## See Also

[ConvLog Class](#)

[ConvLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# ConvLog Id Property

CSAL Mongo Access Library

MongoDB key

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public string Id { get; set; }
```

**Property Value**

Type:  [String](#)

## See Also

---

[ConvLog Class](#)

[ConvLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# ConvLog Input Property

CSAL Mongo Access Library

Input specified

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public InputLog Input { get; set; }
```

**Property Value**

Type: [InputLog](#)

## See Also

---

[ConvLog Class](#)

[ConvLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# ConvLog LessonID Property

CSAL Mongo Access Library

ID of lesson in question

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public string LessonID { get; set; }
```

**Property Value**

Type:  [String](#)

## See Also

---

[ConvLog Class](#)

[ConvLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# ConvLog Transitions Property CSAL Mongo Access Library

Transition list

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public List<TransitionLog> Transitions { get; set; }
```

### Property Value

Type:  [List TransitionLog](#)

## See Also

---

[ConvLog Class](#)

[ConvLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# ConvLog TurnID Property

CSAL Mongo Access Library

Identifier of turn, greater than or equal to 0

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public int TurnID { get; set; }
```

**Property Value**

Type:  [Int32](#)

## See Also

[ConvLog Class](#)

[ConvLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# ConvLog UserID Property

CSAL Mongo Access Library

User ID (subject ID) of student

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public string UserID { get; set; }
```

**Property Value**

Type:  [String](#)

## See Also

---

[ConvLog Class](#)

[ConvLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# ConvLog WarningMessage Property

CSAL Mongo Access  
Library

Warning message for current turn

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | VB | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public string WarningMessage { get; set; }
```

### Property Value

Type:  [String](#)

## See Also

[ConvLog Class](#)

[ConvLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# InputLog Class

CSAL Mongo Access Library

Single event instance

## Inheritance Hierarchy

---

 [System Object](#) **CSALMongo.TurnModel InputLog**

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

[C#](#) | [VB](#) | [C++](#) | [F#](#)

[Copy to Clipboard](#) [Print](#)

```
public class InputLog
```

## See Also

---

[InputLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# InputLog Members

CSAL Mongo Access Library

The [InputLog](#) type exposes the following members.

## Constructors

	Name	Description
	<a href="#">InputLog</a>	Initializes a new instance of the <a href="#">InputLog</a> class

[Back to Top](#)

## Methods

	Name	Description
	 <a href="#">Equals</a>	Determines whether the specified  <a href="#">Object</a> is equal to the current  <a href="#">Object</a> . (Inherited from  <a href="#">Object</a> .)
	 <a href="#">GetHashCode</a>	Serves as a hash function for a particular type. (Inherited from  <a href="#">Object</a> .)
	 <a href="#">GetType</a>	Gets the  <a href="#">Type</a> of the current instance. (Inherited from  <a href="#">Object</a> .)
	 <a href="#">ToString</a>	Returns a string that represents the current object. (Inherited from  <a href="#">Object</a> .)

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## Properties

	Name	Description
	<a href="#">AllText</a>	All test
	<a href="#">CurrentText</a>	Current Text
	<a href="#">Event</a>	Event

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## See Also

[InputLog Class](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# InputLog Constructor

CSAL Mongo Access Library

Initializes a new instance of the [InputLog](#) class

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public InputLog()
```

## See Also

---

[InputLog Class](#)

[InputLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# InputLog Methods

CSAL Mongo Access Library

The [InputLog](#) type exposes the following members.

## Methods

---

	Name	Description
	<a href="#">Equals</a>	Determines whether the specified <a href="#">Object</a> is equal to the current <a href="#">Object</a> . (Inherited from <a href="#">Object</a> .)
	<a href="#">GetHashCode</a>	Serves as a hash function for a particular type. (Inherited from <a href="#">Object</a> .)
	<a href="#">GetType</a>	Gets the <a href="#">Type</a> of the current instance. (Inherited from <a href="#">Object</a> .)
	<a href="#">ToString</a>	Returns a string that represents the current object. (Inherited from <a href="#">Object</a> .)

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## See Also

---

[InputLog Class](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# InputLog Properties

CSAL Mongo Access Library

The [InputLog](#) type exposes the following members.

## Properties

---

	Name	Description
	<a href="#">AllText</a>	All test
	<a href="#">CurrentText</a>	Current Text
	<a href="#">Event</a>	Event

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## See Also

---

[InputLog Class](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# InputLog AllText Property

CSAL Mongo Access Library

All test

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public string AllText { get; set; }
```

**Property Value**

Type:  [String](#)

## See Also

---

[InputLog Class](#)

[InputLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# InputLog CurrentText Property CSAL Mongo Access Library

Current Text

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public string CurrentText { get; set; }
```

**Property Value**

Type:  [String](#)

## See Also

---

[InputLog Class](#)

[InputLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# InputLog Event Property

CSAL Mongo Access Library

Event

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public string Event { get; set; }
```

**Property Value**

Type:  [String](#)

## See Also

---

[InputLog Class](#)

[InputLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# TransitionLog Class

CSAL Mongo Access Library

Transition as specified by state, rule, and a list of action

## Inheritance Hierarchy

---

 [System Object](#) **CSALMongo.TurnModel TransitionLog**

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

[C#](#) | [VB](#) | [C++](#) | [F#](#)

[Copy to Clipboard](#) [Print](#)

```
public class TransitionLog
```

## See Also

---

[TransitionLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# TransitionLog Members

CSAL Mongo Access Library

The [TransitionLog](#) type exposes the following members.

## Constructors

	Name	Description
	<a href="#">TransitionLog</a>	Initializes a new instance of the <a href="#">TransitionLog</a> class

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## Methods

	Name	Description
	 <a href="#">Equals</a>	Determines whether the specified  <a href="#">Object</a> is equal to the current  <a href="#">Object</a> . (Inherited from  <a href="#">Object</a> .)
	 <a href="#">GetHashCode</a>	Serves as a hash function for a particular type. (Inherited from  <a href="#">Object</a> .)
	 <a href="#">GetType</a>	Gets the  <a href="#">Type</a> of the current instance. (Inherited from  <a href="#">Object</a> .)
	 <a href="#">ToString</a>	Returns a string that represents the current object. (Inherited from  <a href="#">Object</a> .)

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## Properties

	Name	Description
	<a href="#">Actions</a>	List of actions
	<a href="#">RuleID</a>	Rule ID
	<a href="#">StateID</a>	State ID

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## See Also

[TransitionLog Class](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# TransitionLog Constructor

CSAL Mongo Access Library

Initializes a new instance of the [TransitionLog](#) class

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public TransitionLog()
```

## See Also

---

[TransitionLog Class](#)

[TransitionLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# TransitionLog Methods

CSAL Mongo Access Library

The [TransitionLog](#) type exposes the following members.

## Methods

---

	Name	Description
	<a href="#">Equals</a>	Determines whether the specified <a href="#">Object</a> is equal to the current <a href="#">Object</a> . (Inherited from <a href="#">Object</a> .)
	<a href="#">GetHashCode</a>	Serves as a hash function for a particular type. (Inherited from <a href="#">Object</a> .)
	<a href="#">GetType</a>	Gets the <a href="#">Type</a> of the current instance. (Inherited from <a href="#">Object</a> .)
	<a href="#">ToString</a>	Returns a string that represents the current object. (Inherited from <a href="#">Object</a> .)

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## See Also

---

[TransitionLog Class](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# TransitionLog Properties

CSAL Mongo Access Library

The [TransitionLog](#) type exposes the following members.

## Properties

---

	Name	Description
	<a href="#">Actions</a>	List of actions
	<a href="#">RuleID</a>	Rule ID
	<a href="#">StateID</a>	State ID

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## See Also

---

[TransitionLog Class](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# TransitionLog Actions Property CSAL Mongo Access Library

List of actions

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public List<ActionLog> Actions { get; set; }
```

**Property Value**

Type:  [List ActionLog](#)

## See Also

[TransitionLog Class](#)

[TransitionLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# TransitionLog RuleID Property CSAL Mongo Access Library

Rule ID

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public string RuleID { get; set; }
```

**Property Value**

Type:  [String](#)

## See Also

---

[TransitionLog Class](#)

[TransitionLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.

# TransitionLog StateID Property CSAL Mongo Access Library

State ID

**Namespace:** [CSALMongo.TurnModel](#)

**Assembly:** CSALMongo (in CSALMongo.dll) Version: 1.0.0.0 (1.0.0.0)

## Syntax

---

C# | **VB** | C++ | F#

[Copy to Clipboard](#) [Print](#)

```
public string StateID { get; set; }
```

**Property Value**

Type:  [String](#)

## See Also

---

[TransitionLog Class](#)

[TransitionLog Members](#)

[CSALMongo.TurnModel Namespace](#)

[Send Feedback](#) on this topic.