CEEC DATA TRANSFER

Fix Course Data

## Issue

The code and stored procedure for pulling Course Data is not correctly pulling the data from CTEC so the Course completions are not correct. This seems to happen when the student fails a Course test and then retakes the test and passes.

### Example of Issue

This data was pulled 07/11/2019, using the Stored Procedure that pulls the data for the Completions Update. It is expected to get only one result per ID. It apparently can get a duplicate result which causes an error and skips the record.

Note that though there are duplicate names, these have different courses

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **First Name** | **Last Name** | **Course ID** | **Course Title** | **Completion Date** | **Email Address** | **Score** |
| Greg | Glover | CTec19 | Course 17: Typical Details | 6/11/19 9:07 PM | gglover@carollo.com | 97.67 |
| Greg | Glover | CTec19 | Course 17: Typical Details | 6/11/19 9:28 PM | gglover@carollo.com | 97.67 |
| Benjamin | Haecherl | CTec7 | Course 7: Introduction to Carollo Project Management | 6/12/19 9:11 AM | bhaecherl@carollo.com | 93 |
| Andrew | Burton | CTec7 | Course 7: Introduction to Carollo Project Management | 6/12/19 2:55 PM | ABurton@Carollo.com | 88.33 |
| Andrew | Burton | CTec5 | Course 4: Quality Management Procedures | 6/12/19 3:17 PM | ABurton@Carollo.com | 94.86 |
| Andrew | Burton | CTec20 | Course 19 - Vision Project Reporting | 6/12/19 3:32 PM | ABurton@Carollo.com | 88 |
| Sara | Ferrance | CTec18 | Course 11: Engineering Services During Construction (ESDC) | 6/17/19 5:41 AM | sferrance@carollo.com | 84.14 |
| Pablo | Marti | CTec7 | Course 7: Introduction to Carollo Project Management | 6/17/19 10:15 AM | pmarti@carollo.com | 91 |
| Pablo | Marti | CTec11 | Course 6: Civil Engineering & Coordination – Offsite Pipelines | 6/19/19 1:38 PM | pmarti@carollo.com | 94 |
| Daniel | Ohman | CTec19 | Course 17: Typical Details | 6/20/19 12:58 PM | dohman@carollo.com | 94.33 |
| Ruzova | Dahal | CTec12 | Course 9: Introduction to Carollo Project Engineering | 6/23/19 11:43 AM | RDahal@carollo.com | 93 |
| Alexandria | Jamieson | CTec19 | Course 17: Typical Details | 6/24/19 12:08 PM | tjamieson@carollo.com | 92.67 |
| Nikkita | Bachoo | CTec19 | Course 17: Typical Details | 6/25/19 7:34 AM | nbachoo@carollo.com | 96 |
| Juan | Diaz-Carreras | CTec12 | Course 9: Introduction to Carollo Project Engineering | 6/25/19 10:50 AM | jdiaz-carreras@carollo.com | 94.14 |
| Jeffrey | Hitt | CTec19 | Course 17: Typical Details | 6/25/19 3:12 PM | jhitt@carollo.com | 88.33 |
| Seth | Woodfin | CTec11 | Course 6: Civil Engineering & Coordination – Offsite Pipelines | 6/26/19 1:50 PM | SWoodfin@carollo.com | 91.67 |
| Seth | Woodfin | CTec13 | Course 13: Architectural Design Coordination | 6/26/19 2:23 PM | SWoodfin@carollo.com | 90.2 |
| Pablo | Marti | CTec13 | Course 13: Architectural Design Coordination | 6/27/19 3:19 PM | pmarti@carollo.com | 97.6 |
| Pablo | Marti | CTec20 | Course 19 - Vision Project Reporting | 6/27/19 3:45 PM | pmarti@carollo.com | 100 |
| Samuel | Isaiah | CTec12 | Course 9: Introduction to Carollo Project Engineering | 6/28/19 12:57 AM | sisaiah@carollo.com | 87.57 |
| Alyssa | DiGirolamo | CTec19 | Course 17: Typical Details | 6/28/19 8:16 AM | adigirolamo@carollo.com | 96 |
| Craig | Brinck | CTec7 | Course 7: Introduction to Carollo Project Management | 7/3/19 1:45 PM | cbrinck@carollo.com | 87.67 |
| Sainee | Borah | CTec20 | Course 19 - Vision Project Reporting | 7/11/19 11:52 AM | sborah@carollo.com | 75 |
| Sainee | Borah | CTec13 | Course 13: Architectural Design Coordination | 7/11/19 11:57 AM | sborah@carollo.com | 95 |

## Proposed Solution

The issue is most likely that the stored procedure is not getting the correct record for these cases. It tries to get the maximum date, but probably should get the max score instead.

## Code Process

CeecData Transfer is a Service that runs every 10 minutes on the IO-UTIL-PRD1 server. Some parts of the service only run once nightly. The service loops through various task required to update our ABSORB Cloud LMS with data that does not originate within ABSORB itself, i.e. courses not taken from the ABSORB platform and student metadata.

The issue we want to resolve runs once nightly. The service starts and checks the schedule for tasks to run. The pertinent task is CTEC\_LMS

1. Get the CTEC Data
   1. Get the list of Students who have mastered coursed in the past 30 days
      1. Uses the stored Procedure asp\_GetMasteryList
      2. The procedure uses the Linked Server in the Log Activity Database on the IO-util-PRD1 database on which the service also runs. It is in the IO-UTIL-PRD1\IOUTILPRD1 SQL instance.
      3. ***Note that this is where the duplicates come from that are at issue.***
   2. Loop through the Mastery List and insert records into the Log Activity database Course Data table.
      1. Uses the stored procedure asp\_InsertCourseData
2. Load the Course Data up to ABSORB using the ABSORB API
   1. Completions = Carollo.GetCourseCompletions(vendorName);
      1. Runs asp\_GetCourseCompletions which returns a list of completions
      2. Note that as the records are processed the records are updated with a processed date to prevent being processed again.
   2. Loops through the Completions
      1. Checks to make sure that there is a matching user of the completion user
         1. If not an error is recorded in the Log Activity file
      2. Checks for a Course and an enrollment.
         1. If not it will Flag the record that a Course Shell needs to be created and skip this record.
         2. For a missing enrollment it adds the enrollment.
      3. After Checks are good then it updates the enrollment record and sets the Processed date for the Course record and moves to the next record.
         1. If the enrollment is already shown as completed, then the record is skipped.
         2. This is where the duplicate record issue is occurring. The dates are different in each record. The first record through will be recorded as completed, but the second record will not have the same date. The code will then add a new enrollment, thus causing a duplicate.
            1. CourseProceddins.cs, Process(), Line 106
3. Updates the Scheduled table’s Execute Date and Time table to the next day so it won’t run again.

**Questions**

1. I am not convinced that we ae seeing Course completions as much as we are seeing the completion of a Module which is not course mastery.

## Relevant Code

### Class CeecDataTransfer

public CeecDataTransfer()

{

InitializeComponent();

}

protected override void OnStart(string[] args)t

. . .

private void test(object sender, ElapsedEventArgs e)

. . .

Scheduler = Carollo.GetApplicationScheduler();

switch (scheduler.ApplicationName) 🡪 scheduler.ApplicationName =CTEC\_LMS

. . .

case CTEC\_LMS:

{

Carollo.LoadCtecDataToDB(scheduler.DaysBack); 🡪DaysBack=30

executeCourseProcessing = true;

break;

}

. . .

CourseProcessing.Process(scheduler.ApplicationName);

Carollo.UpdateApplicationScheduler(scheduler);

### Class Carollo

#### This loops through a list of Courses Mastered during the last 30 Days.

public static void LoadCtecDataToDB(int DaysBack) 🡪DaysBack=30

{

var MasteryList = Carollo.GetMasteryList(DaysBack); 🡪DaysBack=30

foreach (MasteryList mastery in MasteryList)

{

var completion = new CourseCompletion()

{

Vendor = "CTec",

UserName\_Email = mastery.Email,

CourseName = mastery.CourseId,

CourseTitle = mastery.CourseTitle,

CompletionDate = mastery.CompletedDate,

Score = mastery.Score

};

InsertCourseDataToDb(completion);

}

#### This creates a list of Courses Mastered during the last 30 Days.

public static List<MasteryList> GetMasteryList(int DaysBack) 🡪 Daysback=30

{

var MasteryList = new List<MasteryList>();

using (SqlConnection conn = new SqlConnection(readConfigFile(ActivityConnection)))

{

SqlCommand command = new SqlCommand("asp\_GetCourseMastery", conn);

conn.Open();

try

{

command.CommandType = CommandType.StoredProcedure;

command.Parameters.Add("@DaysBack", SqlDbType.Int).Value = DaysBack;

// Execute the command and process the results.

using (SqlDataReader reader = command.ExecuteReader())

{

if (reader.HasRows)

{

MasteryList = DataReaderMapToList<MasteryList>(reader);

}

}

}

catch (Exception e)

{

Config.LogError(e);

}

}

return MasteryList;

}

This inserts each Mastery record into table

public static void InsertCourseDataToDb (CourseCompletion Course)

{

using (SqlConnection conn = new SqlConnection(readConfigFile(ActivityConnection)))

{

SqlCommand command = new SqlCommand("asp\_InsertCourseData", conn);

conn.Open();

try

{

command.CommandType = CommandType.StoredProcedure;

command.Parameters.Add("@Vendor", SqlDbType.NVarChar).Value = Course.Vendor;

command.Parameters.Add("@UserName\_Email", SqlDbType.NVarChar).Value = Course.UserName\_Email;

command.Parameters.Add("@CourseName", SqlDbType.NVarChar).Value = Course.CourseName;

command.Parameters.Add("@CourseTitle", SqlDbType.NVarChar).Value = Course.CourseTitle;

command.Parameters.Add("@EnrollmentDate", SqlDbType.DateTime).Value = Course.EnrollmentDate == DateTime.MinValue ? null : Course.EnrollmentDate;

command.Parameters.Add("@CompletionDate", SqlDbType.DateTime).Value = Course.CompletionDate;

command.Parameters.Add("@Credits\_Hours", SqlDbType.TinyInt).Value = Course.Credits\_Hours;

command.Parameters.Add("@Score", SqlDbType.Decimal).Value = Course.Score;

command.Parameters.Add("@TotalTimeSeconds", SqlDbType.Int).Value = Course.TotalTimeSeconds;

command.Parameters.Add("@ExpirationDate", SqlDbType.DateTime).Value = Course.ExpirationDate == DateTime.MinValue ? null : Course.ExpirationDate;

command.ExecuteNonQuery();

}

catch

{

throw;

}

}

}

## Existing Stored Procedure

USE [LOG\_ACTIVITY]

GO

/\*\*\*\*\*\* Object: StoredProcedure [dbo].[asp\_GetCourseMastery] Script Date: 7/11/2019 9:50:18 AM \*\*\*\*\*\*/

SET ANSI\_NULLS ON

GO

SET QUOTED\_IDENTIFIER ON

GO

ALTER procedure [dbo].[asp\_GetCourseMastery]

@DaysBack INT

AS

BEGIN

DECLARE @StartDate DATETIME = CONVERT(datetime, '01/01/2000', 101);

IF @DaysBack > 0

BEGIN

SELECT @StartDate = DATEADD(day,-@DaysBack,GETDATE())

END

SELECT A.firstName AS [FirstName],

A.lastName AS [LastName],

'CTec' + CAST(C.id AS varchar(10)) AS [CourseID],

LEFT(C.title, 252) AS [CourseTitle],

SCA.timestamp AS [CompletedDate],

A.email as Email,

CAST(SE.score AS decimal(10,2)) as Score

FROM CTEC\_StudentCourseAction SCA

JOIN CTEC\_Course C

ON SCA.courseID = C.id

JOIN CTEC\_Student S

ON SCA.studentID = S.id

JOIN CTEC\_Account A

ON S.onTapAccountID = A.onTapID

JOIN (SELECT AVG(CAST(sc.score AS float)) score, sc.studentID, sc.courseID from

(select max(score) score, studentID, courseID, moduleID from CTEC\_StudentEvaluation

where isMasteryAchieved = 1

group by studentID, courseID, moduleID) sc

group by sc.studentID, sc.courseID) SE

ON SE.studentID = SCA.studentID

AND SE.courseID = SCA.courseID

WHERE actionTypeID = 11

AND SCA.timestamp >= @StartDate

END

## New Stored Procedure

Changes are highlighted

USE [LOG\_ACTIVITY]

GO

/\*\*\*\*\*\* Object: StoredProcedure [dbo].[asp\_GetCourseMastery] Script Date: 7/11/2019 9:50:18 AM \*\*\*\*\*\*/

SET ANSI\_NULLS ON

GO

SET QUOTED\_IDENTIFIER ON

GO

ALTER procedure [dbo].[asp\_GetCourseMastery]

@DaysBack INT

AS

BEGIN

DECLARE @StartDate DATETIME = CONVERT(datetime, '01/01/2000', 101);

IF @DaysBack > 0

BEGIN

SELECT @StartDate = DATEADD(day,-@DaysBack,GETDATE())END

SELECT A.firstName AS [FirstName],

A.lastName AS [LastName],

'CTec' + CAST(C.id AS varchar(10)) AS [CourseID],

LEFT(C.title, 252) AS [CourseTitle],

MAX(SCA.timestamp) AS [CompletedDate],

A.email as Email,

CAST(SE.score AS decimal(10,2)) as Score

FROM CTEC\_StudentCourseAction SCA

JOIN CTEC\_Course C

ON SCA.courseID = C.id

JOIN CTEC\_Student S

ON SCA.studentID = S.id

JOIN CTEC\_Account A

ON S.onTapAccountID = A.onTapID

JOIN (SELECT AVG(CAST(sc.score AS float)) score, sc.studentID, sc.courseID from

(select max(score) score, studentID, courseID, moduleID from CTEC\_StudentEvaluation

where isMasteryAchieved = 1

group by studentID, courseID, moduleID) sc

group by sc.studentID, sc.courseID) SE

ON SE.studentID = SCA.studentID

AND SE.courseID = SCA.courseID

WHERE actionTypeID = 11

AND SCA.timestamp >= @StartDate

GROUP BY A.firstName, A.lastName, 'CTec' + CAST(C.id AS varchar(10)), LEFT(C.title, 252), A.email, CAST(SE.score AS decimal(10,2))

END