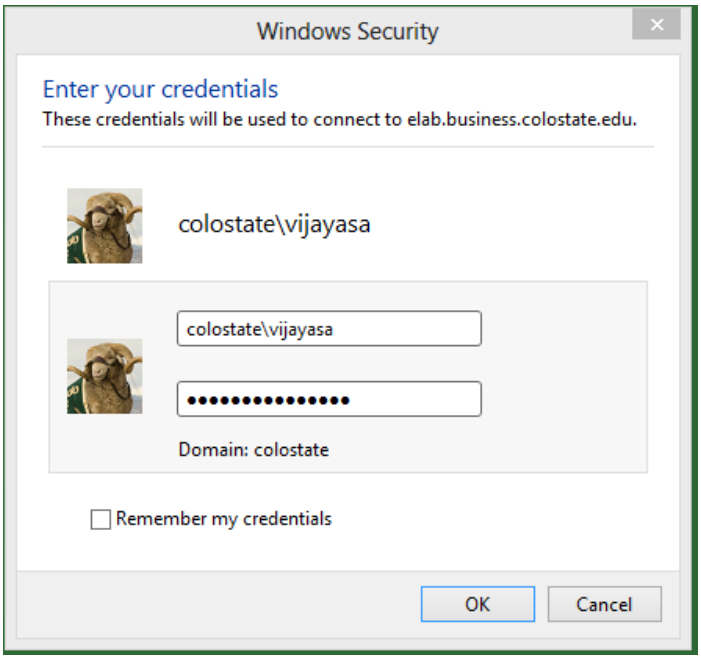
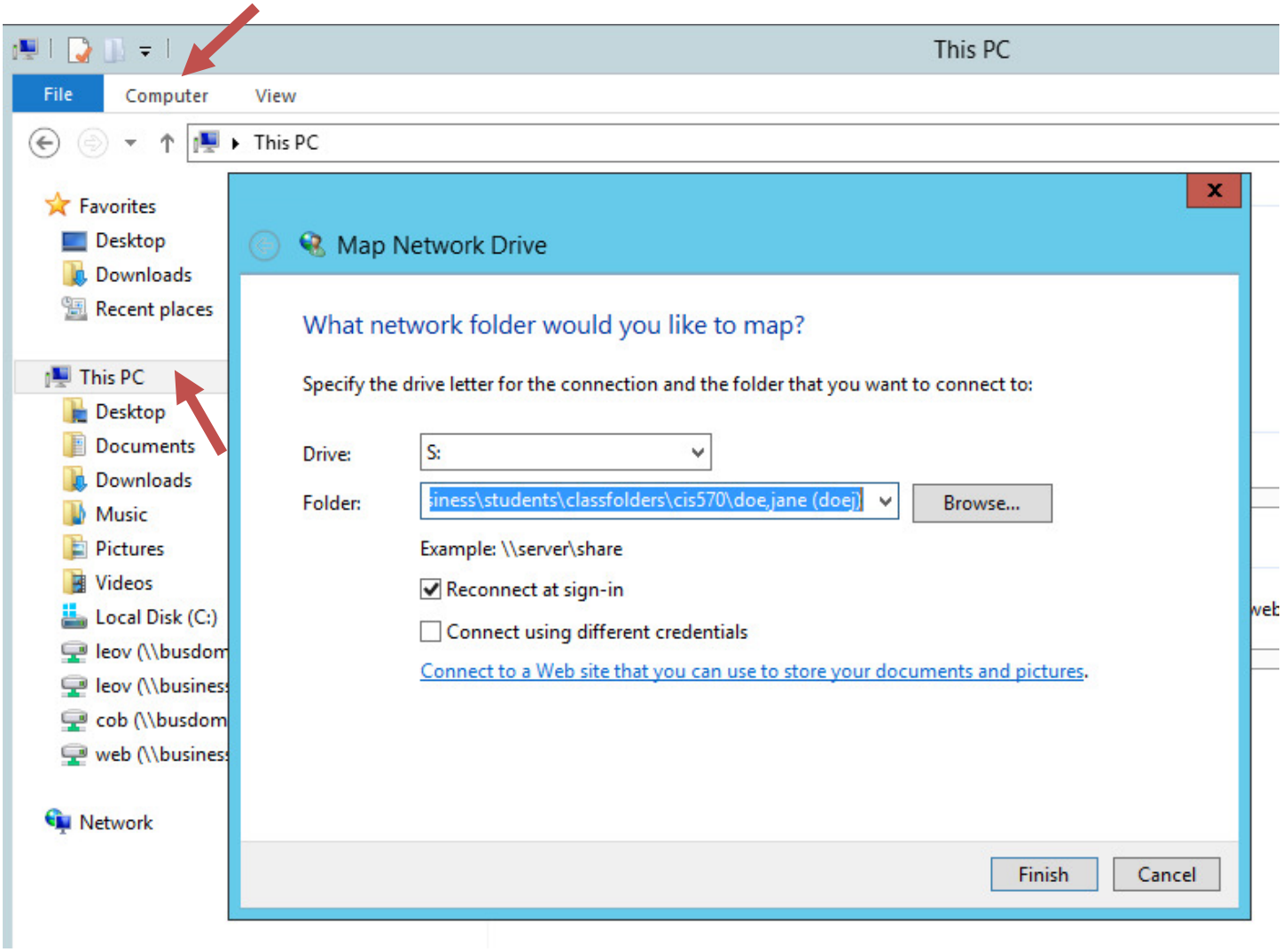
Hands-on-Exercise for Data Integration – Part 2

<u>Important Note</u>: You should have created the necessary tables in your ManufacturingDM (Data Mart Assignment – Part 1) in order to complete this assignment.

- **Log on to elab using <u>your eID credentials</u> (see sample login dialog box below)**



- Open File Explorer.
- Check if a Network location to \\business\students\classfolders\CIS570\ is already mapped. If it is, skip to the next section. If it isn't, map the location with the following steps:
  - Click on "This PC" on the left-side of the window.
  - Select Computer → Map network drive → Map network drive from the menu.
  - In the Map Network Drive dialog box, choose S: for Drive and type the following path in the Folder textbox: \\business\students\classfolders\cis570\lastname,firstname (eID). Example - For student, Jane Doe (eID: doej), the path would be \\business\students\classfolders\cis570\doe,jane (doej).



- Check "Reconnect at sign-in" and click Finish.

Learn by Doing – Populating the Fact Tables in the Manufacturing Data Mart (Larson – Chapter 8, Pages 293-303)

- Ignore the reference to the Inventory Fact table in the Business Need section (Page 294).
- Ignore the Note on page 294. The **BatchInfo.csv** file is posted as part of this assignment. Download this file to **your class folder for CIS 570 (i.e., "S: drive")**.

Steps to create a project connection manager

- For step 1 - Start Visual Studio 2017
- Complete steps 2-3
- For step 4, do the following:
    - In the Connections tray (bottom of your screen), right-click **your ManufacturingDM (it will be prefixed by BUSCISSQL\CISBI.your last name) connection,** and select Rename in the context menu. Rename the connection by removing the prefix **BUSCISSQL\CISBI.** (for example, if your last name is Smith, the new connection name will be SmithManufacturingDM**).**
    - Right click this renamed connection, and select Convert to Project Connection in the context menu. Your ManufacturingDM connection is moved to the Connection Managers folder in the Solution Explorer window. A reference to the project-level ManufacturingDM connection is

placed in the Connection tray. This reference name is preceded by "(project)" to indicate it is a link to a project connection, not a package connection.

Steps to create the Load DimBatch Data Flow

- Complete steps 1-7
- For step 8 – Browse to the BatchInfo.csv file that you downloaded. Select this file and click Open to exit the Open dialog box.
- Complete steps 9-31
- For step 32 – Drag an OLE DB Destination item from the Other Destinations section of the Toolbox, and drop it on the Data Flow tab.
- For step 33 – Click the Derived Column item. Click the blue data flow arrow, drag it on top of the OLE DB Destination item, and drop it on this item. This connects the transformation to the destination.
- For step 34 – Double click the OLE DB Destination item. The OLE DB Destination Editor dialog box appears.
- For step 35 – Your ManufacturingDM connection should already be selected in the Connection Manager drop-down list. Select [DimBatch] from the Use a table or view drop-down list.
- Complete step 36 (If the Input Column corresponding to the BatchName Destination Column is set to <ignore>, change it by selecting BatchName from the drop-down).
- For step 37 – Click OK to exit the OLE DB Destination editor dialog box. The Data Flow tab should appear as shown in Figure 8-17.

Steps to begin creating the Load ManufacturingFact Data Flow

- Complete steps 1-6

Steps to create a Derived Column Data Flow item

- Complete steps 1-7.

Steps to create Lookup Data Flow items

- Complete steps 1-22.

Steps to create ~~SQL Server~~ OLE DB Data Destination item

- For step 1 – Drag an OLE DB Destination item from the SSIS Toolbox and drop it on the Data Flow tab.
- For step 2 – Click the Validate Product item. Click the blue data flow arrow, drag it on top of the OLE DB Destination item, and drop it on this item. The Input Output Selection dialog box appears.
- Complete step 3.
- For step 4 – Double click the OLE DB Destination item. The OLE DB Destination Editor dialog box appears.
- Complete steps 5-7.
- For step 8 – Click OK to exit the OLE DB Destination Editor dialog box.

Steps to create a Data Destination for the rows in error

- Complete steps 1-12

- For step 13 – Browse to **your class folder for CIS 570 (i.e., "S: drive")**. Enter **MfgInfoErrors.txt** for File name.
- Complete steps 14-22.
- For step 23 – Drag the group so it is between the Derived Column item and the OLE DB Destination item. Position and size the items appropriately.
- Complete step 24.
- **Stop.** You don't have to complete the rest of the steps (pages 303-307) in your book. Instead, complete the following steps:

Steps to save and execute the integration services package

- Step 1 – Click the Save All button on the toolbar to save the completed package
- Step 2 – Click the Control Flow tab
- Step 3
    - **Make sure that you have 2 data flow tasks (i.e., there are two boxes – Load DimBatch and Load ManufacturingFact).**
    - Click the Start button (the green triangle) on the toolbar to execute the completed package. When the execution is complete, observe the circles on the top-right of the two boxes.
        - **If the two boxes have a green circle with a check mark,** click the "Package Execution completed with success. Click here to switch to design mode, or select Stop Debugging from the Debug menu" link to return to design mode. Go to step 4 below.
        - **If the first box (Load DimBatch) has an X in a red circle**, click the "Package Execution completed with success. Click here to switch to design mode, or select Stop Debugging from the Debug menu" link to return to design mode. Check each data flow task for errors (a red X in a task box indicates an error). You can trace and fix errors by double-clicking on a task box and making sure that you completed the steps for that task correctly. After you have fixed the errors, repeat steps 1-3.
        - **If the first box (Load DimBatch) has a green circle with a check mark and the second (Load ManufacturingFact) has an X in a red circle**, click the "Package Execution completed with success. Click here to switch to design mode, or select Stop Debugging from the Debug menu" link to return to design mode. **Right click the first box (Load DimBatch) that was green, and select Disable from the context menu. The disabled box will be gray.** Check the data flow tasks of Load ManufacturingFact for errors (a red X in a task box indicates an error). You can trace and fix errors by double-clicking on a task box and making sure that you completed the steps for that task correctly. After you have fixed the errors, repeat steps 1-3.
- Step 4
    - Check the Server Explorer window (it will be displayed either on the left or right edge of your screen).
    - If the connection to your ManufacturingDM is displayed under Data Connections, go to step 5. If not, right-click on Data Connections and Choose Add Connection from the context menu.
    - Select "Microsoft SQL Server" in Choose Data Source window → click Continue (Note: This window will appear the first time you create a new data connection. After that, you may not see this window).

- In the Add Connection window, a) type buscissql\cisbi for Server name; b) from the Select or enter a database name drop-down choose **your ManufacturingDM database** (e.g., if your last name is Smith, your database will be called SmithManufacturingDM), and c) click OK. You should see your database displayed under Data Connections in the Server Explorer window.

- Step 5
  - In the Server Explorer window, expand the Tables folder. Right click on DimBatch and select Show Table Data from the context menu. A table view tab should open and display 2,291 batch records (by default a maximum of 1,000 rows will be displayed; select **All** in the **Max Rows** drop-down list to display all the records in the table). Close the table. Confirm that the FactManufacturing table is also populated with records (4,587 records). Exit VS2017.