GENESYS™2023

Project® Connector Guide

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TABLE OF CONTENTS

Preface vi
GENESYS - PROJECT CONNECTOR INSTALLATION AND MANAGEMENT 1
1.1 Installing the Project Connector 1
1.2 Managing the Project Connector 3
CONNECTING PROJECT WITH GENESYS 7
1.3 Connecting to GENESYS from Project 7
1.4 The GENESYS Ribbon in Project 8
IMPORTING INFORMATION INTO PROJECT FROM GENESYS 9
1.5 Example of importing a set of WBS entities from GENESYS into Project 9

LIST OF FIGURES

Figure 1 Sample Project Connector vi
Figure 2 Project Connector Installer, Step 1 1
Figure 3 Project Connector Installer, Step 2 2
Figure 4 Project Connector Installer, Step 3 2
Figure 5 Project Connector Installer, Step 4 3
Figure 6 Project GENESYS and FILE Tabs 4
Figure 7 Project FILE tab, Options Menu Item 4
Figure 8 Project Options Dialog, Add-ins Menu Item 5
Figure 9 Project Add-ins Dialog, Manage COM Add-ins Option 6
Figure 10 COM Add-ins Dialog, Managing the GENESYS Connector 7
Figure 11 GENESYS Login in Project Using Ribbon Button 7
Figure 12 Project with GENESYS Login 8
Figure 13 GENESYS Ribbon in Project 8
Figure 14 Importing Entities into Project 10
Figure 15 Example GENESYS Project Imported into Project 10

CUSTOMER RESOURCE OPTIONS

Supporting users throughout their entire journey of learning model-based systems engineering (MBSE) is central to Vitech's mission. For users looking for additional resources outside of this document, please refer to the links below. Alternatively, all links may be found at www.vitechcorp.com/online-resources/.

[Webinars]

Immense, on-demand library of webinar recordings, including systems engineering industry and tool-specific content.

[Screencasts]

Short videos to guide users through installation and usage of GENESYS.

[A Primer for Model-Based Systems Engineering]

Our free eBook and our most popular resource for new and experienced practitioners alike.

[Help Files]

Searchable online access to GENESYS help files.

[Technical Papers]

Library of technical and white papers for download, authored by Vitech systems engineers.

[Technical Support]

Frequently Asked Questions (FAQ), support-ticket web form, and information regarding email, phone, and chat support options.

PREFACE

This Project Connector Guide provides information on how to install and use an extension in Project developed to connect the GENESYS™ database to Microsoft® Project®. The connector is a .NET application that extends the Project application provided in Microsoft Office® 2013, 2016, 2019, and 2021. Figure 1 displays the extended blank Project presentation.

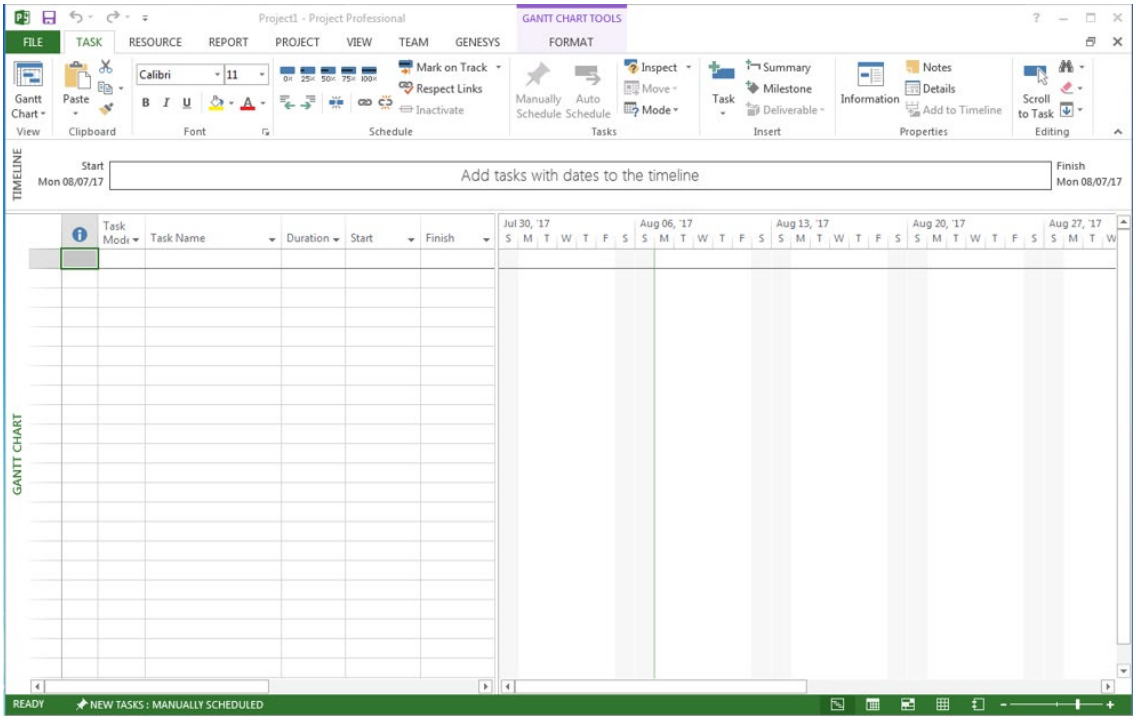


Figure 1 Sample Project Connector

The connector developed for Project allows for a one-way export of Project Element, Project Activity, Test Event, Test Activity entities from GENESYS to Project.

This guide describes the process to import and add the extension in Project, how to interface directly with the GENESYS repository and individual projects in the repository, how to use the features in the Project extension to export system design schedule information out of the GENESYS data repository for use in Project.

This guide is intended to augment the Model-Based Systems Engineering (MBSE) with GENESYS training course and the reference material provided with GENESYS. The ultimate goal of this guide is to expose the user to the features of the Project extension and thereby extend the use and application of GENESYS for both system design and development and project management associated with a system development project.

The following additional resources are available for use with this guide:

- For the definition of schema terms, the reader is referred to the GENESYS schema, which contains descriptions for each schema entity.
- For application of GENESYS to system and architecture design, the reader is referred to the GENESYS System Definition Guide (SDG) and Architecture Definition Guide (ADG) supplied with the GENESYS software installation.

GENESYS - PROJECT CONNECTOR INSTALLATION AND MANAGEMENT

1.1 Installing the Project Connector

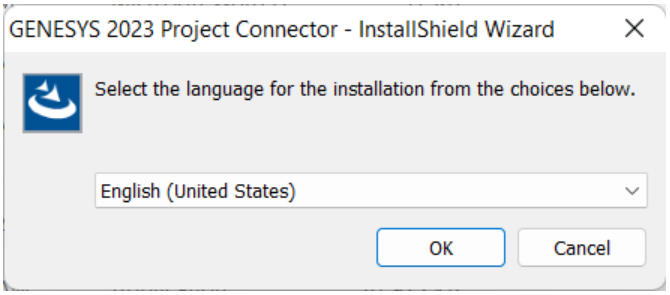
The GENESYS Project Connector is installed via a standard, familiar Windows setup program. Please note that separate installers are available for either 64-bit or 32-bit Windows and Project operating environments. The connector is compatible with Microsoft Project 2010, 2013, 2016, 2019, and 2021.

There are separate files for the Project Connector depending on the architecture of the computer in which the software is being installed. The files are named:

- "GENESYS2023ProjectConnector_x86.exe" (for 32-bit Windows operating systems) and
- "GENESYS2023ProjectConnector_x64.exe" (for 64-bit Windows operating systems).

Double-click the installer .exe file to begin the installation.

Select the language to use. This is both the language of the installer and the language that GENESYS will be set to use. Click "OK".



Click "Next."

Figure 2 Project Connector Installer, Step 1

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Review and accept the licensing agreement terms and click “Next.”

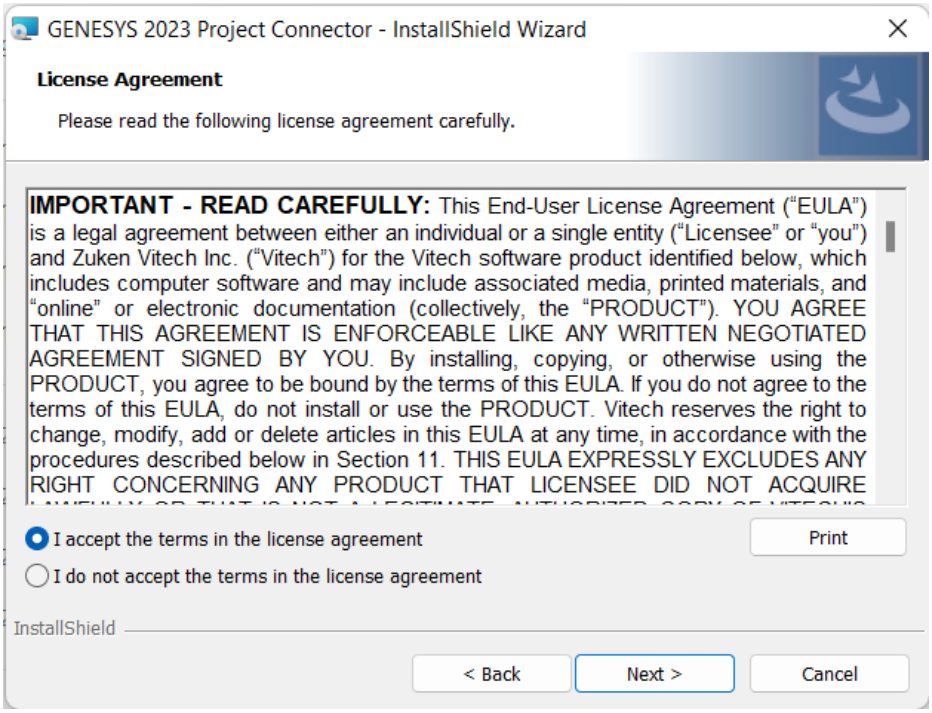

Figure 3 Project Connector Installer, Step 2

Click “Install” to begin the installation.

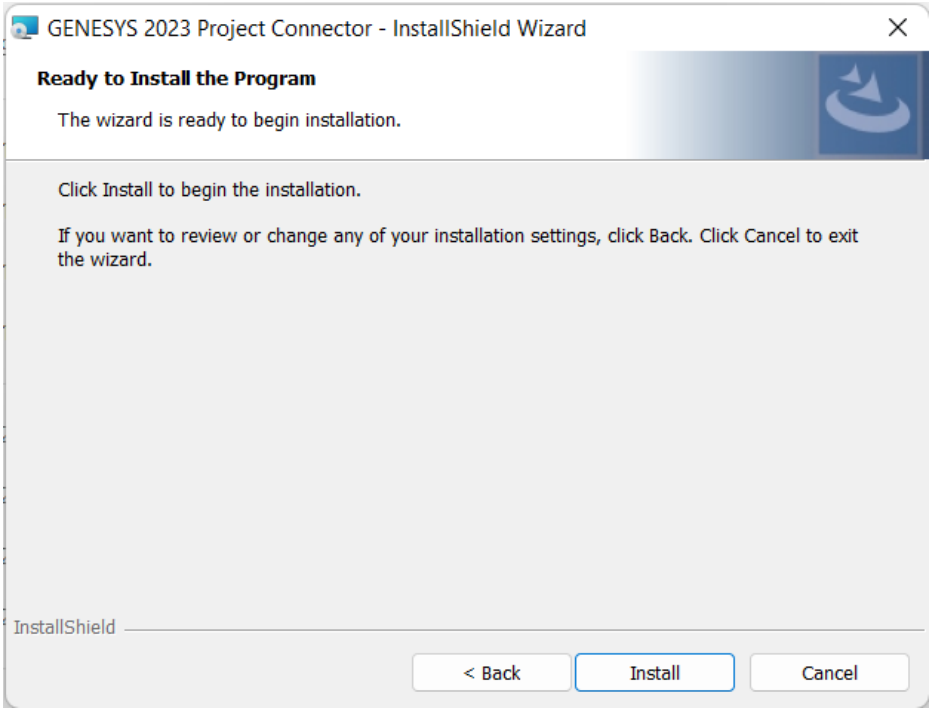

Figure 4 Project Connector Installer, Step 3

The setup program will run and install the Project Connector. When the process completes, simply click “Finish” to complete the installation. The connector will now be available for use to import GENESYS project planning data into a Project file.

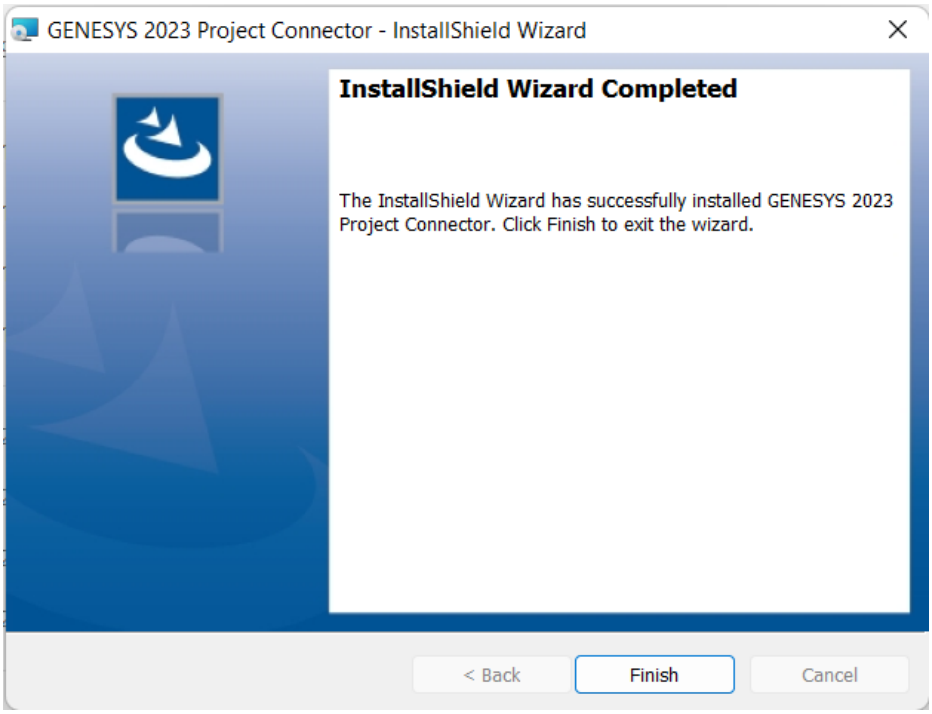

Figure 5 Project Connector Installer, Step 4

1.2 Managing the Project Connector

Add-ins to Project are sometimes disabled by customers. Note that in order for the connector to work, you may be required to adjust your settings by enabling the ability of Project to use Add-ins.

Once installed, the GENESYS Project Connector can be managed via standard Microsoft Office add-in tools. Note that the steps below apply to Microsoft Project 2010 installations, and may vary slightly in different versions of Project.

The extension to GENESYS in Project is accessed via the “GENESYS” tab in an open project file, as shown in the figure below. To manage the connector, first click the “FILE” tab.

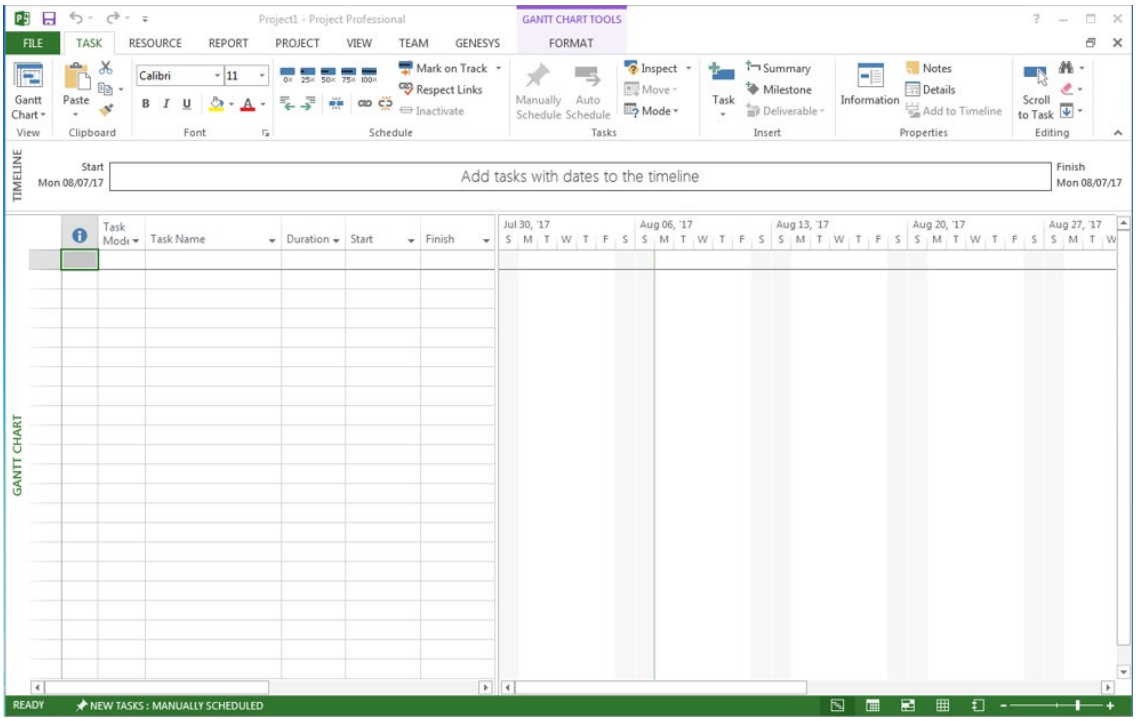

Figure 6 Project GENESYS and FILE Tabs

Once in the “FILE” tab, click the “Options” item from the menu on the left.

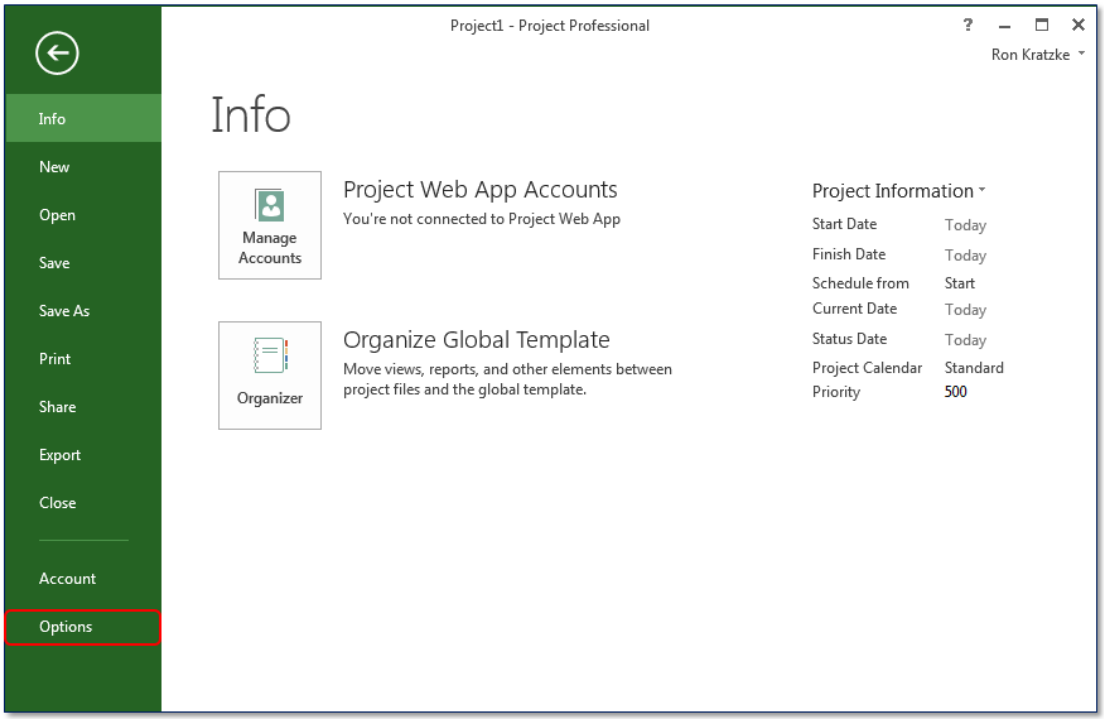

Figure 7 Project FILE tab, Options Menu Item

In the Options dialog that opens, select the “Add-ins” option from the menu on the left.

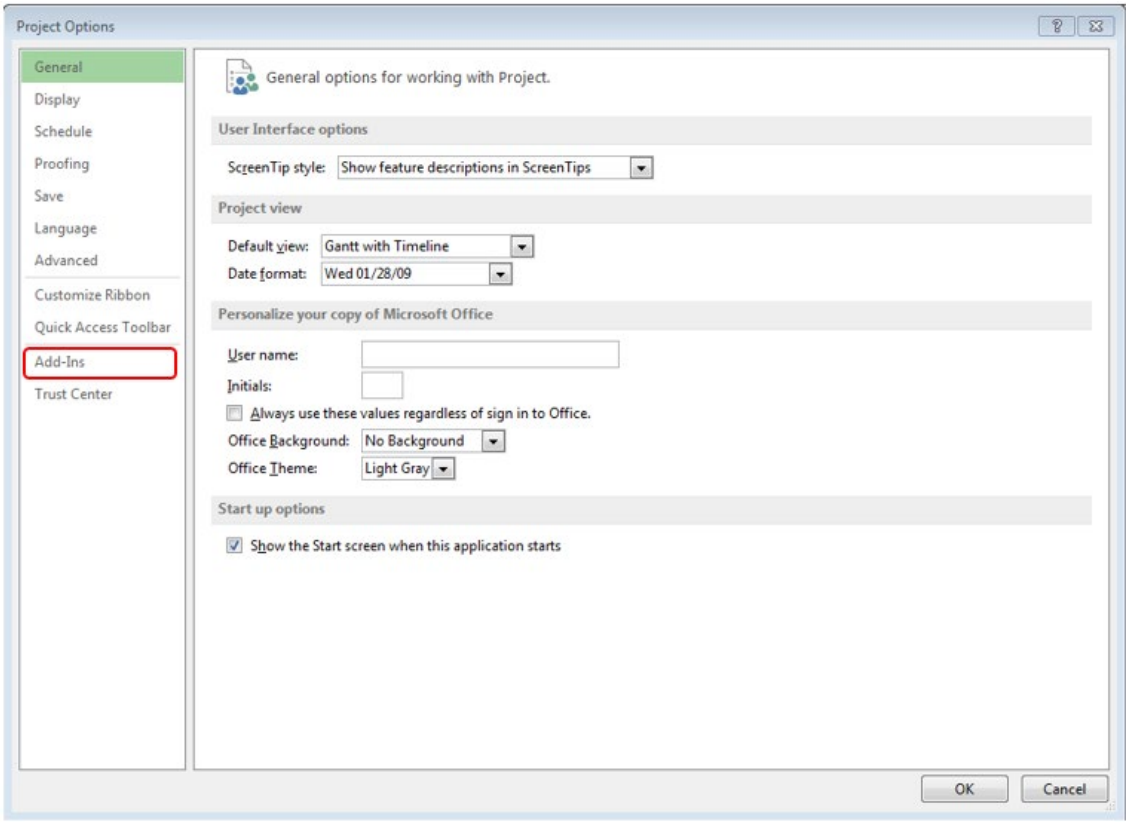

Figure 8 Project Options Dialog, Add-ins Menu Item

In the Add-ins dialog that opens, select “COM Add-ins” from the “Manage:” combo box at the bottom, then click the “Go…” button.

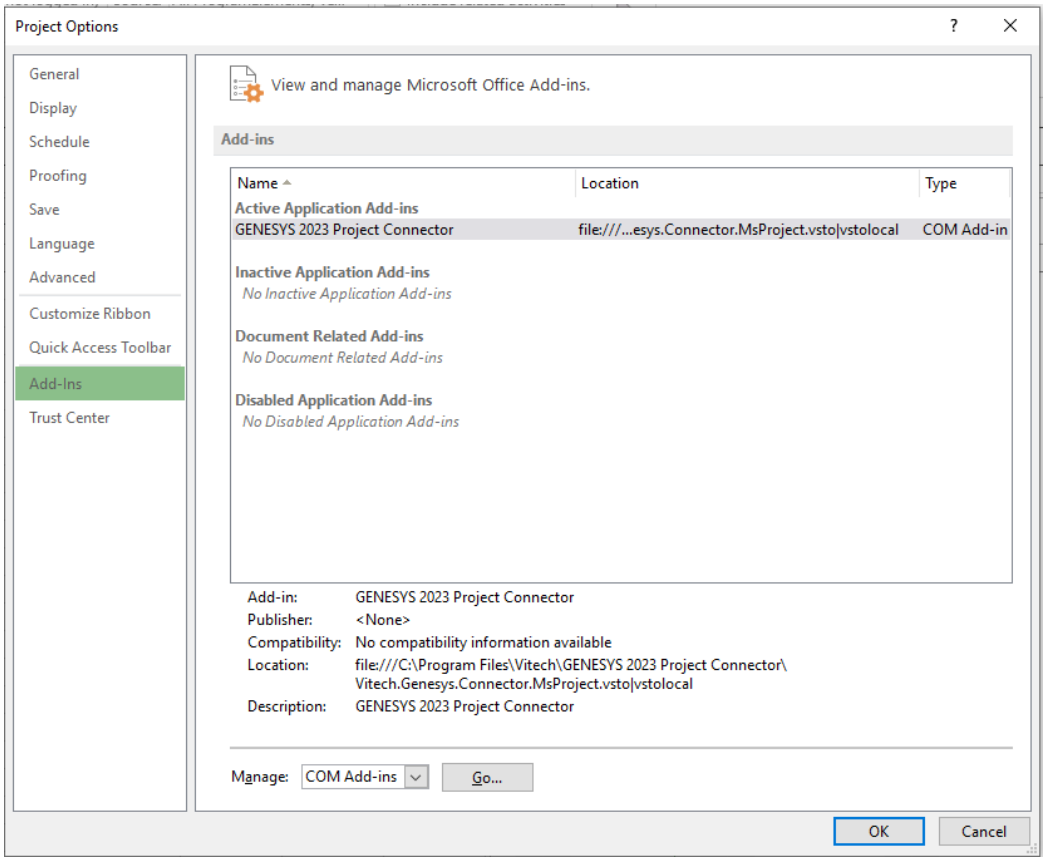

Figure 9 Project Add-ins Dialog, Manage COM Add-ins Option

In the COM Add-ins dialog that opens, select the GENESYS Project Connector item. Any of three actions can be performed:

1. The GENESYS Connector can be unchecked. Clicking “OK” will then disable the connector from running in workbooks.
2. If the GENESYS Connector is unchecked, it can be checked. Clicking “OK” will then enable the connector to run in workbooks.

3. The GENESYS Connector can be selected, and the “Remove” button can be clicked. The connector will be uninstalled.

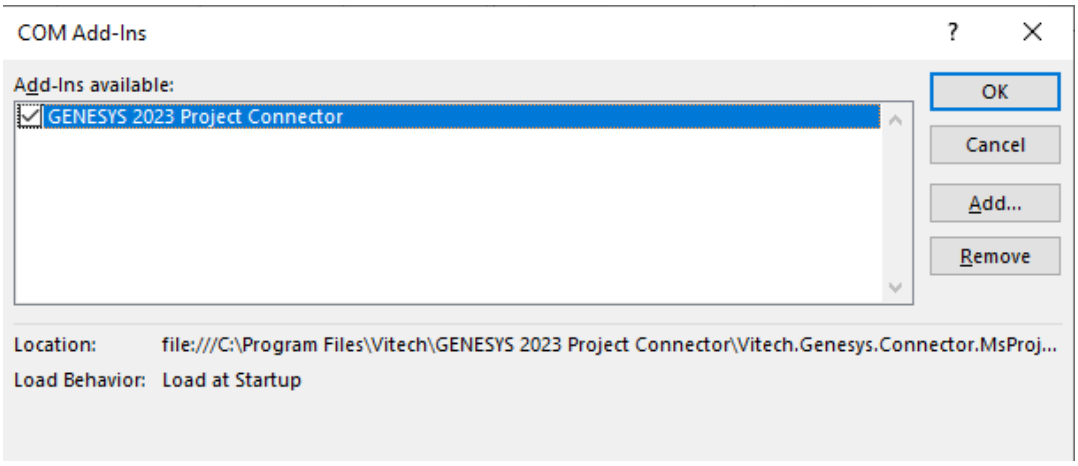

Figure 10 COM Add-ins Dialog, Managing the GENESYS Connector

CONNECTING PROJECT WITH GENESYS

1.3 Connecting to GENESYS from Project

With Project opened on your desktop, navigate to a blank project, or open a new project. Select the GENESYS tab on the ribbon. You can then ‘connect’ Project by logging in to GENESYS using the icon on the left-hand side of the ribbon.

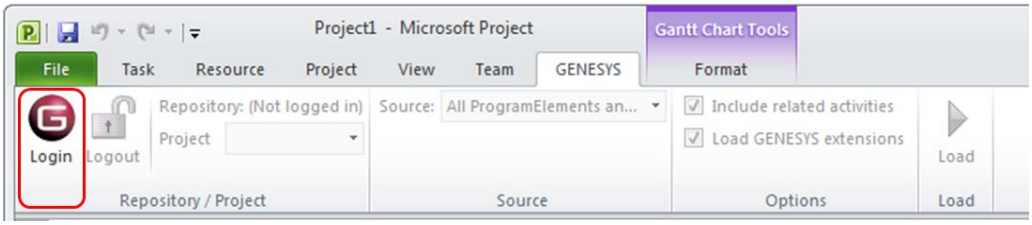

Figure 11 GENESYS Login in Project Using Ribbon Button

Clicking on the GENESYS Login button will launch and bring up the GENESYS login screen.

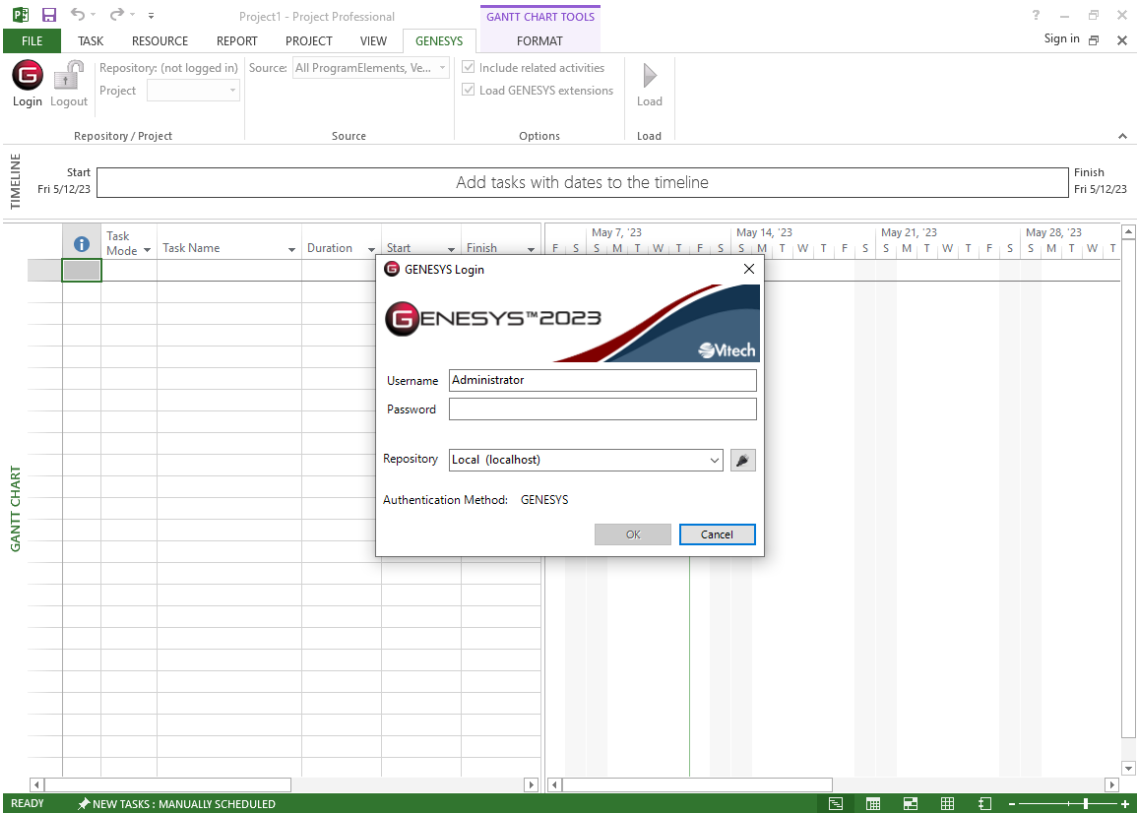

Figure 12 Project with GENESYS Login

Login to GENESYS using the appropriate Username and Password. This connects Project with the Repository. Once logged into GENESYS, the controls on the GENESYS ribbon will be “active” and no longer be grayed out.

1.4 The GENESYS Ribbon in Project

There are several sections on the GENESYS ribbon in Project which are used to control access to the GENESYS database.

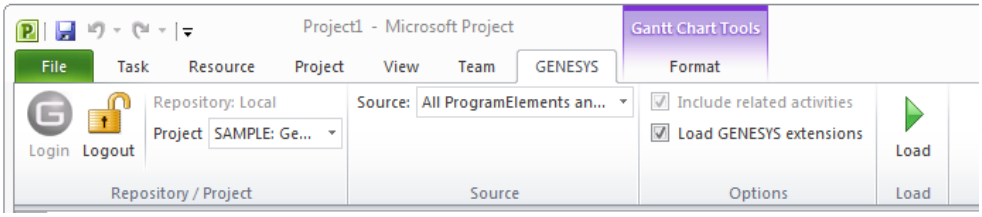

Figure 13 GENESYS Ribbon in Project

The Repository / Project section of the ribbon controls access to a particular system design project in the GENESYS repository. Within this section the “Project” selection provides a drop-down menu where the user can select the particular project within the database repository from which diagrams will be extracted. This is the project from which all information extracted into Project will be associated.

The “Source” section of the ribbon allows the user to select individual class information from the selected project in GENESYS. This allows the user to import Program Elements and Program Activities as well as Verification Events and Test Activities in a number of ways. The user can import by choosing:

- All ProgramElements, VerificationEvents, ProgramActivities, and TestActivities (this option will select all of the listed entities in the project model).
- All Program Elements and VerificationEvents
- All Program Activities (this option will select the ProgramActivity entities only)
- Program Elements in a selected Folder
- Program Activities in a selected Folder
- Program Elements and Program Activities in a selected Package

When using the selections in the ribbon, the connector iterates through the selected entities and imports the entities into Project.

The “Options” section of the ribbon controls the information added to Project when items are imported from GENESYS. “Include related activities” (when checked) will import those Program Activities and Test Activities associated with a Program Element of Test Event. “Load GENESYS extensions” will import the items into Project and include several attributes for identifying the entity in GENESYS. The attributes included are: GENESYS Number, GENESYS ID and, GENESYS Class.

The Project Connector provided in GENESYS includes a Project file which can be used to add the GENESYS attributes. The Project extension is located in the folder: C:\Program Files (x86)\Vitech\GENESYS 2023 Project Connector\Templates. The user can import this template in to a project file to extend the attributes of a project task and provide traceability to the GENESYS project file.)

IMPORTING INFORMATION INTO PROJECT FROM GENESYS

1.5 Example of importing a set of WBS entities from GENESYS into Project

This section provides guidance and an example of importing a set of GENESYS Program Elements and Program Activities into Project. The current Project Connector provided with GENESYS 2021 R2 provides a one-way export out of GENESYS into Project.

In a typical use case, the design team has populated the Program Element and Program Activities (and/or Verification Events and Test Activities) in GENESYS that the team plans to use for the system design. The goal is to export these entities from GENESYS into Project for review and use by the project control team.

The Project Connector should be installed and set-up as discussed in Sections 1.1 and 1.2 above.

Then, with Project open, the user can connect to the GENESYS project as discussed in Section 1.3 by selecting the GENESYS Login button (on the left-hand side of the GENESYS tab) and entering the appropriate login credentials.

Next, the user should select the appropriate Project from the drop-down menu.

The user must then select the source of the entities to be imported. The user will make one of the selections (as listed in Section 1.4) to import the information desired to be imported into Project.

The following figure provides an example ready for import into Project.

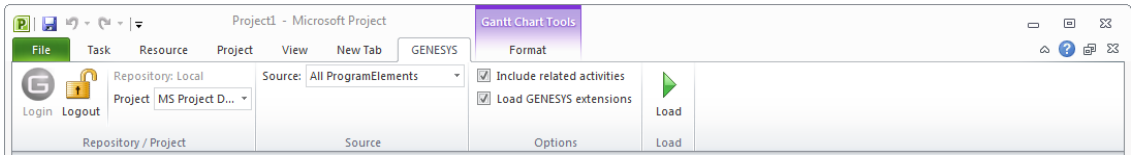

Figure 14 Importing Entities into Project

Selecting the "Load" button will import the entities into Project. In the example shown, the Program Elements and related Program Activities will be imported into Project. The Start Date and End Date attributes in GENESYS are used to establish the Start and Finish Dates in Project. The hierarchy of Program Elements and the construct-based relations of Program Activities established in GENESYS are captured when the information is imported into Project. Figure 15 shows an example of Program Element, Test Event, Program Activities, and Test Activities imported into Project.

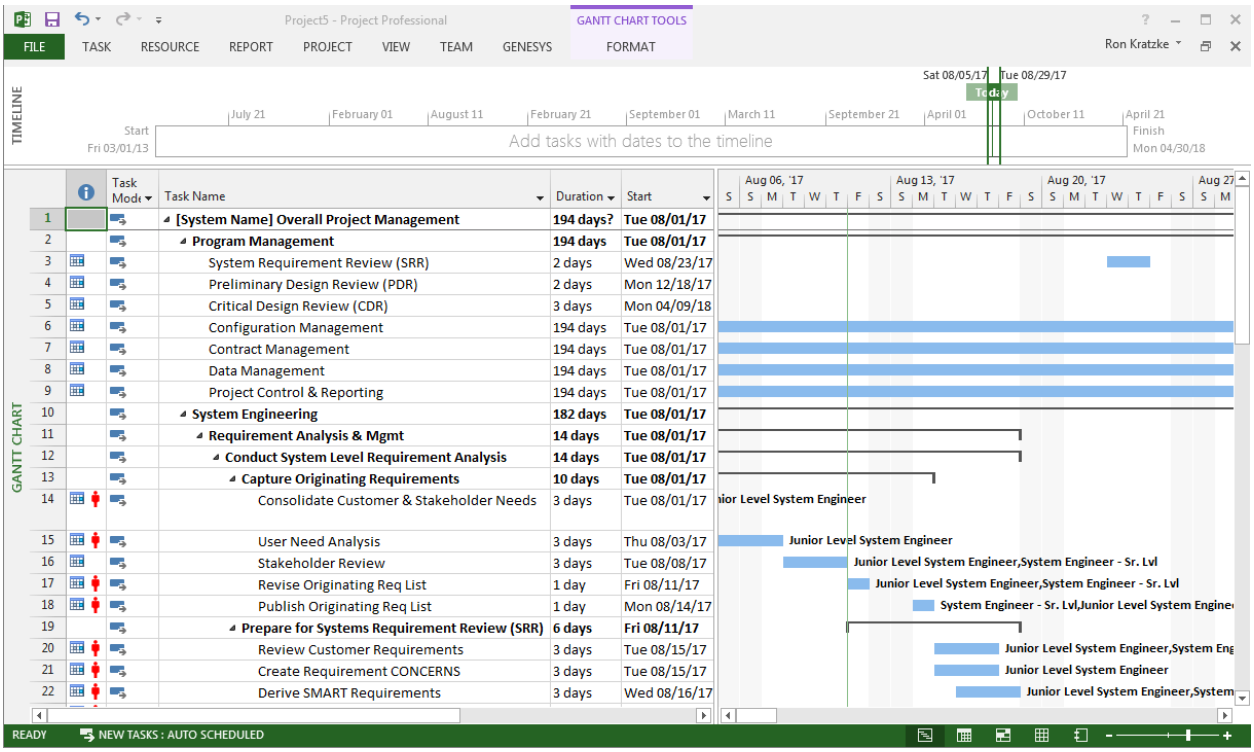

Figure 15 Example GENESYS Project Imported into Project

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