



University Edition Installation Guide



University Edition Installation Guide

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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.

Our team has also created resources libraries customized for your experience level:

All Resources	Advanced
Beginner	IT / Sys Admin
Intermediate	Student

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GETTING STARTED

Welcome to the GENESYS 2021 R2 University Edition Installation Guide. This guide is intended to assist you with the three steps required for getting started using GENESYS University Edition:

- installing the software,
- activating a GENESYS University license, and
- starting GENESYS.

If you have any problems or questions regarding installation or licensing, contact us:

For installation or general product support

support@vitechcorp.com

University Program Manager

+1 540.951.3322 x1113

universityprogram@vitechcorp.com

For information on systems engineering and GENESYS

Visit our website at www.vitechcorp.com

WHY USE GENESYS?

Developing complex systems requires more than today's office software and requirements tools can deliver. Product engineering and architecting demand a powerful support environment for life-cycle design. Whether designing a commercial product, an IT service, or a military system, satisfying diverse customers under schedule and budget constraints requires an integrated solution—a solution to synchronize requirements, analysis, and architecture; a solution to guarantee consistency and reduce risk; a solution to deliver technical and management insight into complex issues. That solution is GENESYS.

GENESYS is a fully integrated, flexible approach to collaborative product design specifically developed by systems engineers for systems engineers. In fact, 9 out of the 10 top U.S. defense contractors are Vitech customers, along with many of the Fortune 500 companies. Supported by an experienced staff of engineering professionals with real-world knowledge of the latest approaches and proven project experience, GENESYS puts project success first.

Moving beyond the document-centric or view-centric packages of the past, GENESYS delivers a truly collaborative design-centric approach to product development. GENESYS provides comprehensive traceability from need definition through requirements and analysis to architecture and test. Built upon a proven approach and a central integrated design repository, GENESYS includes: extensive function and behavior modeling notations to help you better understand the dynamics of your design; integrated product simulation derived directly from your models; on-demand automatic document and view generation. With numerous views tailored to the multitude of engineering and management tasks, GENESYS enables your team to focus on engineering and architecting your system.

Whether your project requires formal design specifications or informal web-based documentation, strict processes or agile design explorations, top-down approaches to a new system or middle-out/bottom-up reengineering of existing systems, GENESYS supports your needs.

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GENESYS in the Classroom

Each year thousands of students are able to use the University Edition of either GENESYS or CORE at no cost in their classrooms. Vitech offers this option because we truly believe that investing in education is the best way to accomplish our global mission of changing the systems engineering world. At Vitech, we believe system thinking and our solutions can help address many of the challenges facing society. We understand that we are opposed by strong “forces of nature” such as apathy, complacency, ignorance, expediency, and preconceived notions of systems disciplines, but students who are ready to learn are partners in resisting those forces.

By using GENESYS in your learning environment, you are taking part in the greater mission to change how we all operate for the better. GENESYS is more than a software tool – it is a partner in your endeavors to take full advantage of a different way of thinking – model-based systems engineering (MBSE).

For those students who are not familiar with the concepts behind MBSE, or who would like to know more about it, we invite you to download the free PDF copy of *A Primer for Model-Based Systems Engineering* by David Long and Zane Scott at the following link: <https://www.vitechcorp.com/mbse-primer/>.

Or, you can purchase a bound copy from [Amazon.com](https://www.amazon.com).

Learning GENESYS

As a software product that is powerful enough to handle the most complex of design, simulation, modeling, and documentation needs, getting the most out of the product requires some training. In particular, Vitech advises students new to GENESYS to use the various resources listed under GENESYS Help and Documentation in this document. In addition, students have access to the following areas:

<https://www.vitechcorp.com/online-resources/> - Includes screencasts, webinar recordings, white papers, technical studies, and case studies regarding GENESYS and general systems engineering

<http://systems-wise.com> - This page is full of great tips, tricks, and discussions revolving around GENESYS and MBSE.

In addition, support is available every weekday at the contact info listed on page 1.

Want to see GENESYS where you work?

Many of our University Program participants are continuing their education while they work in a variety of industries, ranging from defense to energy, and from software development to healthcare. For the students who aren't already working, they often find themselves employed post-graduation in these same industries. After getting a taste of what GENESYS can do in class projects, our students quickly realize the possibilities of what it could mean for complexity management at their workplaces.

If you'd like to bring Vitech to your office in the form of GENESYS software, training, or professional services, Vitech will work with you to provide demonstrations, evaluation copies of the software, and other information on designing a custom MBSE solution for you. Just send an email to UniversityProgram@vitechcorp.com to get started!

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What's included - GENESYS University Edition

This University Edition of GENESYS is provided under a special agreement for academic use only. It is identical to the commercial version of GENESYS Spectrum with the following exceptions:

- The license will expire in alignment with the instructor's class schedule.
- The University Edition will import/export GENESYS project files in a GNUX format.
- Users are limited to opening a single project at a time. Multiple projects can be loaded into the local repository, but only one may be open at a time.
- Each class is limited to 2,000 elements.
- Each project is limited to 10,000 entities.
- All diagram outputs have a watermark stating "University Edition – Academic Use Only."

Functional Capabilities	University License	Commercial License (Essentials and Spectrum)
Data exchange with other tools	X	X
Completeness checks	X	X
Design Integrity checks	X	X
Customized tabular output	X	X
System description document	X	X
Web page (HTML) output	X	X
Database size	2,000 objects for each data class 10,000 objects for each project	Unlimited
Custom reports	X	X
Simultaneous projects		X
Schema changes	Unlimited	Unlimited
Government specifications	X	X
Model-based systems engineering	X	X
Business process modeling	X	X
Comprehensive traceability	X	X
Behavior modeling and analysis	X	X
Behavior model simulation	X	X
Embedded simulation operands	X	X
Resource modeling	X	X
Requirements management and analysis	X	X
Risk management	X	X
Program management	X	X
Verification and validation	X	X
Work breakdown structures	X	X
Product/component structure	X	X
Item and data flow	X	X
Traditional (structured) and SysML representations	X	X
Model integration	X	X
Import and export of change files	X	X
Connectivity with external connectors	X	X

If you wish to use GENESYS for commercial or other purposes, please contact Vitech at +1.540.951.3322 or via e-mail at info@vitechcorp.com. Vitech has an official price list which provides for indefinite and subscription licenses for GENESYS and CORE as well as systems engineering training classes and purchased technical services.

STEP 1: INSTALLING GENESYS 2021 R2 UNIVERSITY EDITION

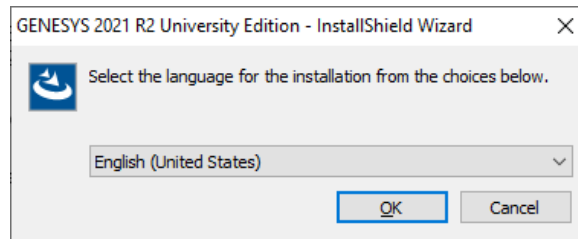
The following section provides step-by-step instructions for installing the University Edition of GENESYS. If you have any questions or need assistance at any point during this process, please contact Vitech Customer Support at +1.540.951.3999 or via email at support@vitechcorp.com.

Following product installation, please refer to Step 2: Licensing GENESYS University Edition.

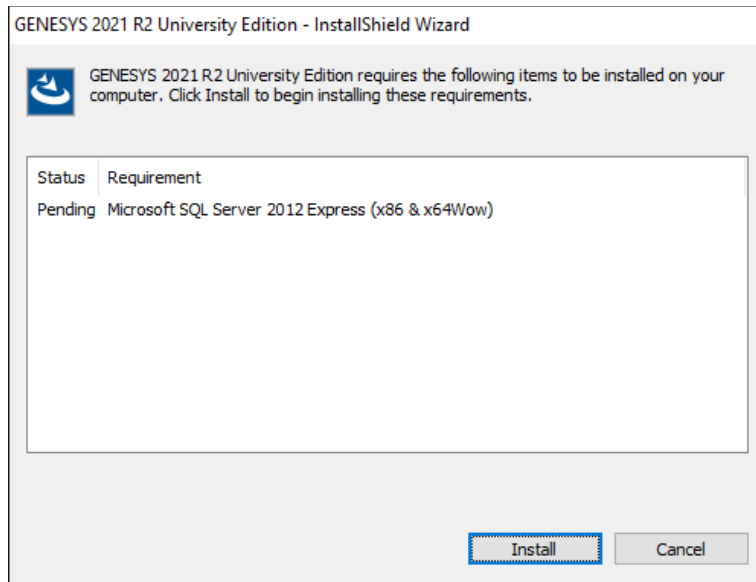
Installing GENESYS University Edition

Note: GENESYS University Edition requires connection to the Internet to download SQL Server Express. If you are installing GENESYS onto a machine which does not have Internet access, you will have to obtain SQL Server Express and install it separately. Please contact Vitech Customer Support for instructions.

1. Download the GENESYS 2021 R2 University Edition installer from the Vitech website and open the file. The InstallShield Wizard will launch.
2. 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".



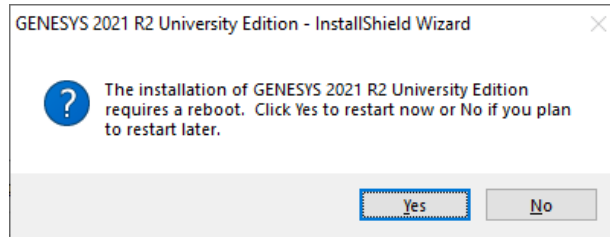
3. The installer will look for an installation of SQL Server Express on the machine. If it does not find one, it will prompt you to install SQL Server 2012 Express. Click **Install**.



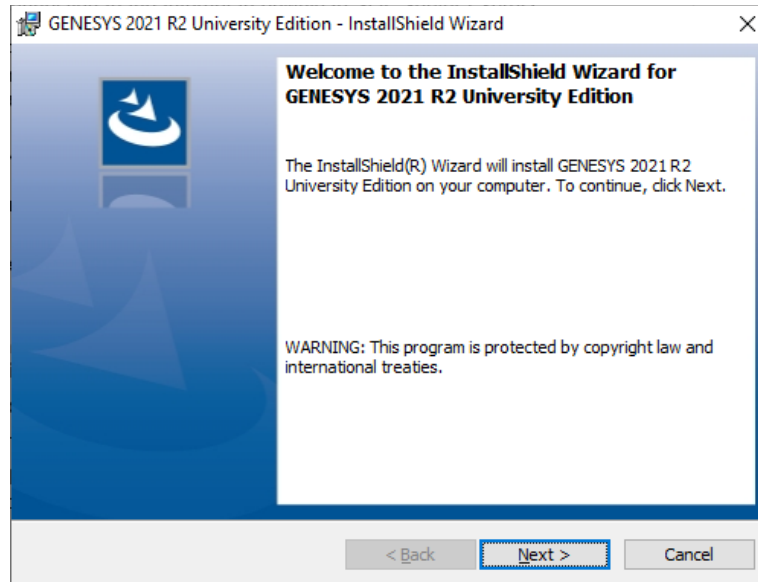
4. Downloading and installing SQL Server Express will take some time. There will be various screens presented while this installation takes place. After a permission check, no action is necessary by the user.

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- When prompted, click **Yes** to reboot the computer. In most cases, the installer will restart. If it does not, then please start the installer again.

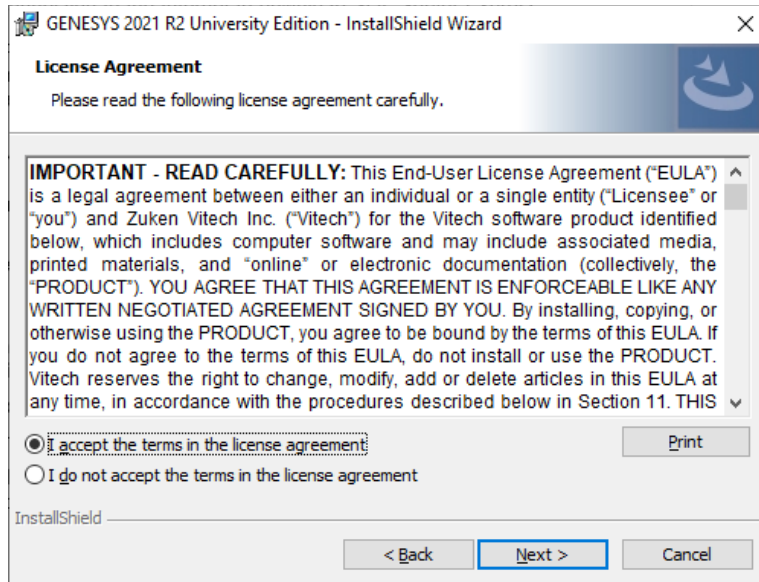


- In the InstallShield Wizard window, click **Next**.

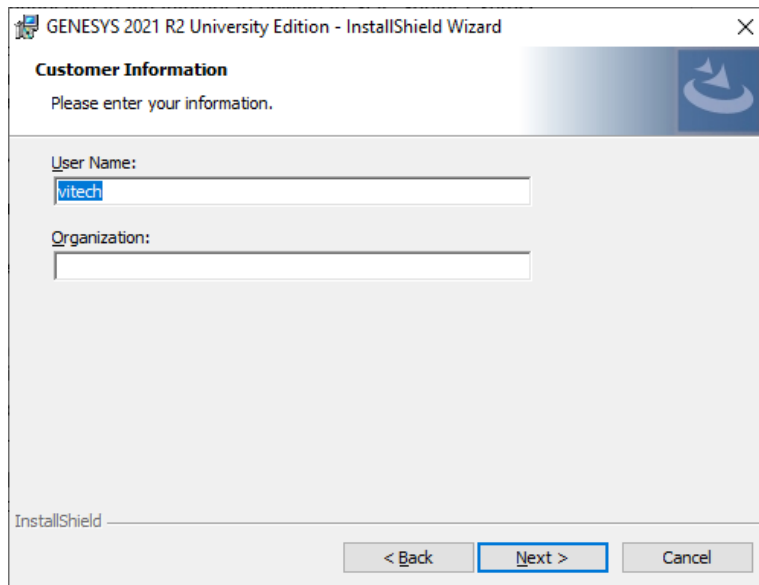


- Review the end-user license agreement which governs the use of the GENESYS University Edition.
 - If you accept the terms of the license agreement, click the radio button next to “*I accept...*” and then click **Next** to proceed with the installation.
 - Or, if you do not accept the terms of the license agreement, click **Cancel** to end the installation.

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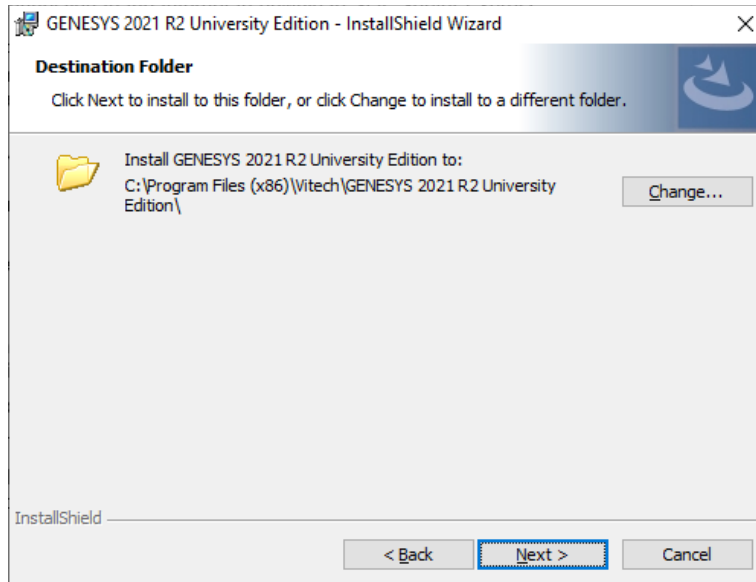


- Optionally, type your name in the User Name field and type your organization's name in the Organization field. Click **Next**.

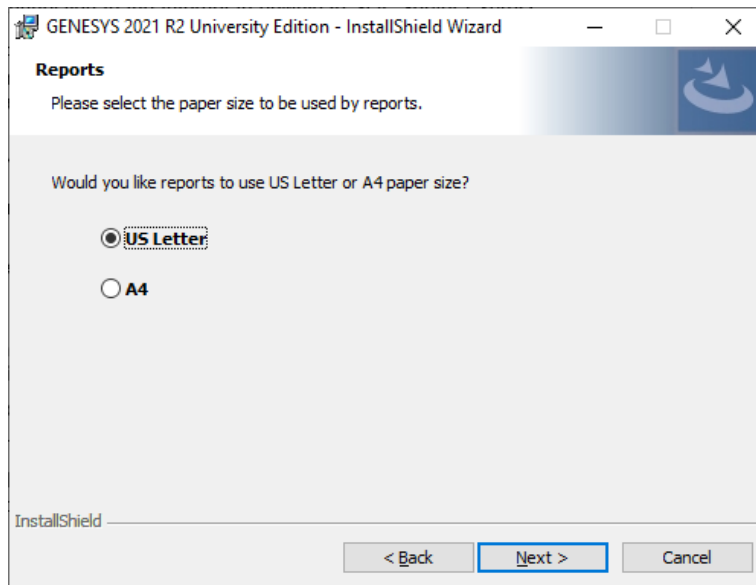


- The installation wizard prompts you for the location to install GENESYS University Edition. By default, Windows applications are installed to the program files directory. You can either:
 - Confirm the location and click **Next**.
 - Or, click **Change** to select a different installation location; then click **Next** after selecting the alternate location.

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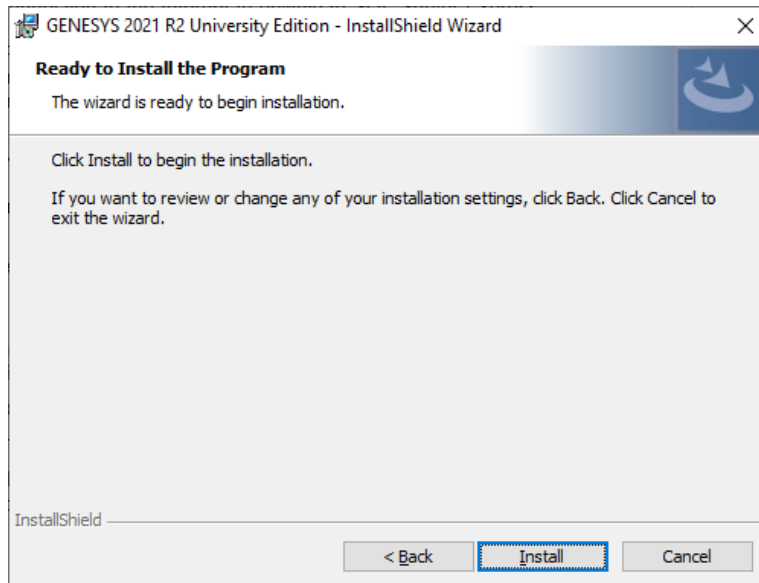


10. GENESYS reports can be configured to use either US Letter or A4 paper. Select the appropriate paper size and click **Next**.

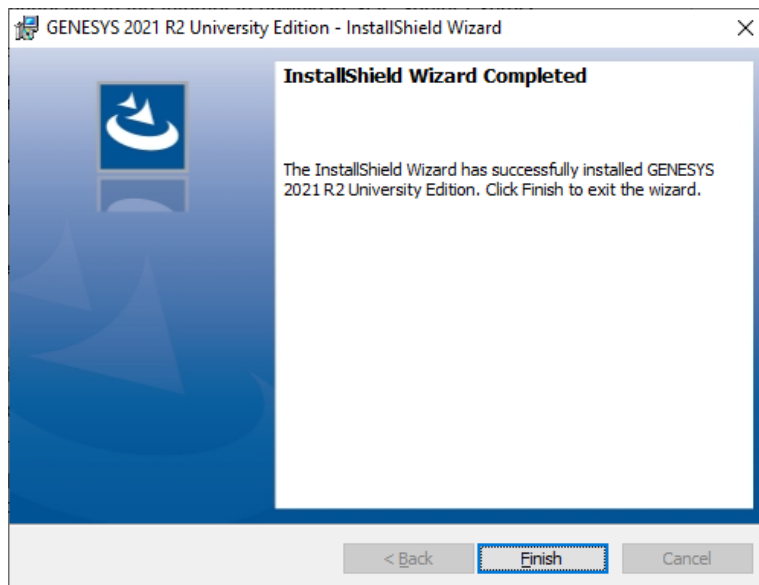


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11. Click **Install** to begin the installation or click **Back** to change settings.



12. After the installation routine completes, click **Finish**.



Configuring Microsoft Windows Firewall for GENESYS

If the Microsoft Windows Firewall is being used within your enterprise, you may need to create firewall exceptions.

GENESYS 2021 R2 University Edition

Firewall exceptions for GENESYS 2021 R2 University Edition are needed only when connecting to a repository on another machine. This is true for connections to another installation of GENESYS 2021 R2 University Edition.

Please note that all instructions below are for Windows 7 Firewall. If you are using a different version of Windows or another firewall program, your process may differ.

Create a new Inbound Rule to allow TCP port access.

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1. Click **Start**, then type “*firewall*” and press **Enter**. The Windows Firewall with Advanced Security window will open.
2. In the left-hand pane, click **Inbound Rules**.
3. In the Actions pane (on the right), click **New Rule**. The New Inbound Rule Wizard will open.
4. Select **Port**, and then click **Next**.
5. Select **TCP**.
6. Specify port number “*39111*.” (Note: Port 39111 is the default port used by GENESYS for remote repository communication. If you changed this default, you must use the changed port number here.)
7. Click **Next**.
8. Select **Allow the connection**, then click **Next**.
9. Select the network profile to which you would like this rule to apply. (If you are unsure which to select, please contact your IT organization.)
10. Click **Next**.
11. In the Name field, enter “GENESYS 2021 R2 Repository Communication,” then click **Finish**.

If you are using a network-enabled license and are having trouble accessing your license through your network, you may need the following firewall exception on the computer that hosts the license.

1. Click **Start**, then type “*firewall*” and press **Enter**. The Windows Firewall with Advanced Security window will open.
2. In the left-hand pane, click **Inbound Rules**.
3. In the Actions pane (on the right) click **New Rule**. The New Inbound Rule Wizard will open.
4. Select **Program**, and then click **Next**.
5. Click **Browse**.
6. Navigate to the **C:\Windows\System32** folder and select the **hasplms.exe** file.
7. Click **Open**, then click **Next**.
8. Select **Allow the connection**, then click **Next**.
9. Select the network profile to which you would like this rule to apply. (If you are unsure which to select, please contact your IT organization.)
10. Click **Next**.
11. In the Name field, enter “*Sentinel LM*,” then click **Finish**.

STEP 2: LICENSING GENESYS PRODUCTS

You should have been given a product code by either your professor or Vitech. If you have any questions or need assistance at any point throughout this process, please contact Vitech Customer Support at +1 540.951.3999 or support@vitechcorp.com.

General Instructions for Activating a GENESYS License

1. Install GENESYS University Edition.
2. Upon first launch, you will be prompted to complete the Product Activation.
3. Select the Licensing Mode as specified by your professor and click **Next**. In most cases you will choose to have a local license.

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Product License Activation

Product requires activation. Please select licensing options.

Activation Wizard

Step 1 of 5

Select Licensing Mode

This machine does not have an activated license. If your organization uses networked licenses, select the 'Use a Network License' option below, otherwise select the 'Use a Local License' option.

Use a local license.

Use a network license.

Cancel << Back Next >>

4. Enter your email address.
5. Copy and Paste the Product Key provided by either your professor or Vitech into the blank field and click **Next**.

Product License Activation

Product requires activation. Please select licensing options.

Activation Wizard

Step 2 of 5

Please enter the email address you want associated with your Vitech support account.

Email:

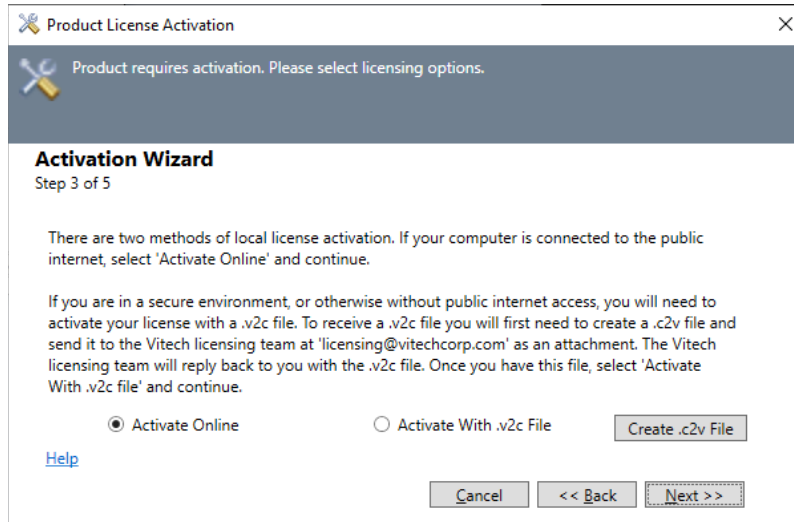
Please enter the product key you received from Vitech or your professor.

Product Key:

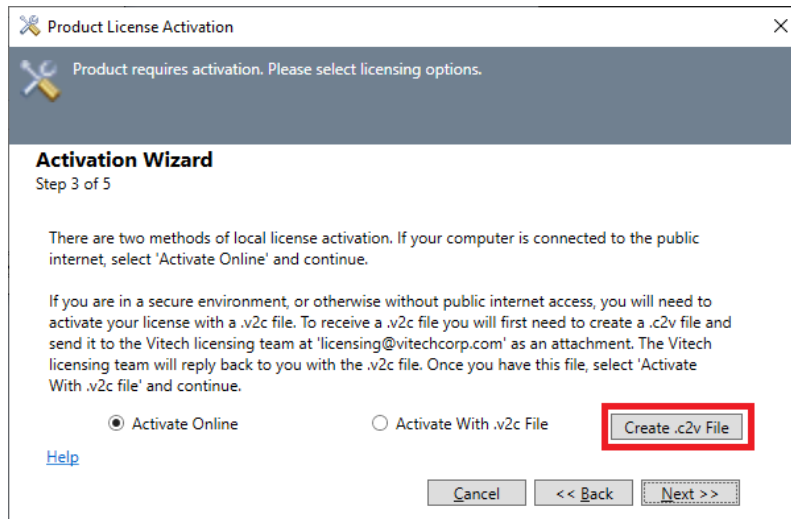
Cancel << Back Next >>

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6. Select your activation method. In most cases, **Activate Online** will be used. Click **Next**.

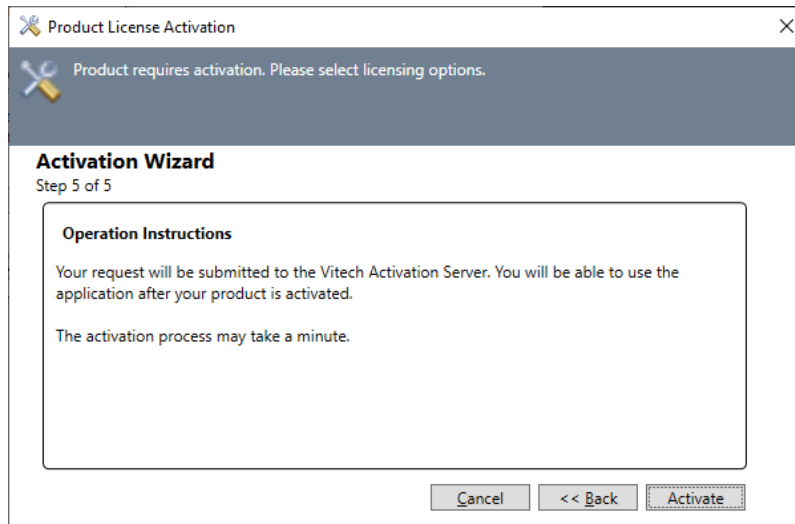


- a. If for some reason you cannot activate online, please choose **Create .c2v File**, save the file, and then send it to licensing@vitechcorp.com with a note that you require a manual activation. Once our licensing team receives the request, we will send you a corresponding .v2c file. Once that file is received, save it to disk, and select **Activate With .v2c file**.

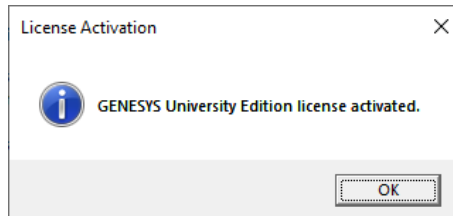


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- Click **Activate** to apply the Product Key.



- You should receive a confirmation message that the software has been activated successfully.



STEP 3: GETTING STARTED WITH GENESYS 2021 R2 UNIVERSITY EDITION

This section describes the basic steps required to launch GENESYS and log in.

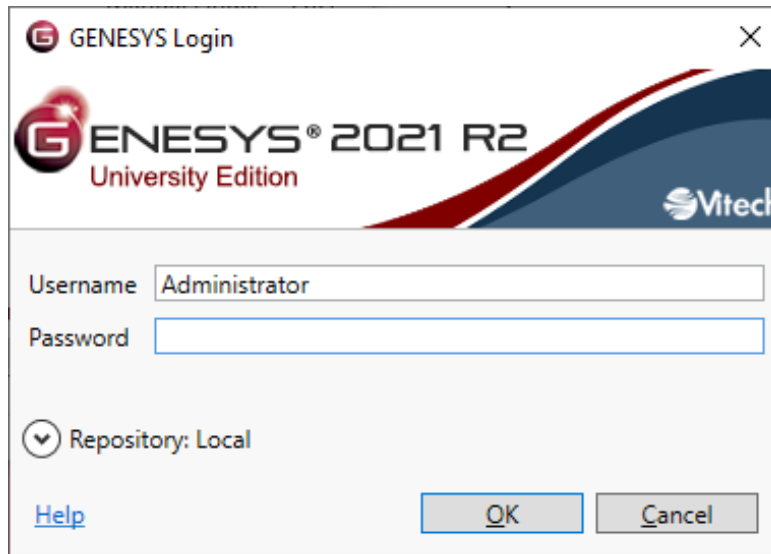
Logging in to a Local Repository

The installation program creates a new program group entry on the start menu with the title "GENESYS 2021 R2 University Edition." It contains an entry labeled "GENESYS 2021 R2 University Edition." Simply click on this menu item.

Note: If the Microsoft Windows Firewall is being used and you are using a network-capable license, a firewall window will appear when you start GENESYS for the first time. Windows Firewall will ask you to choose to either block or unblock. Select **Unblock**. The GENESYS Login window will then appear.

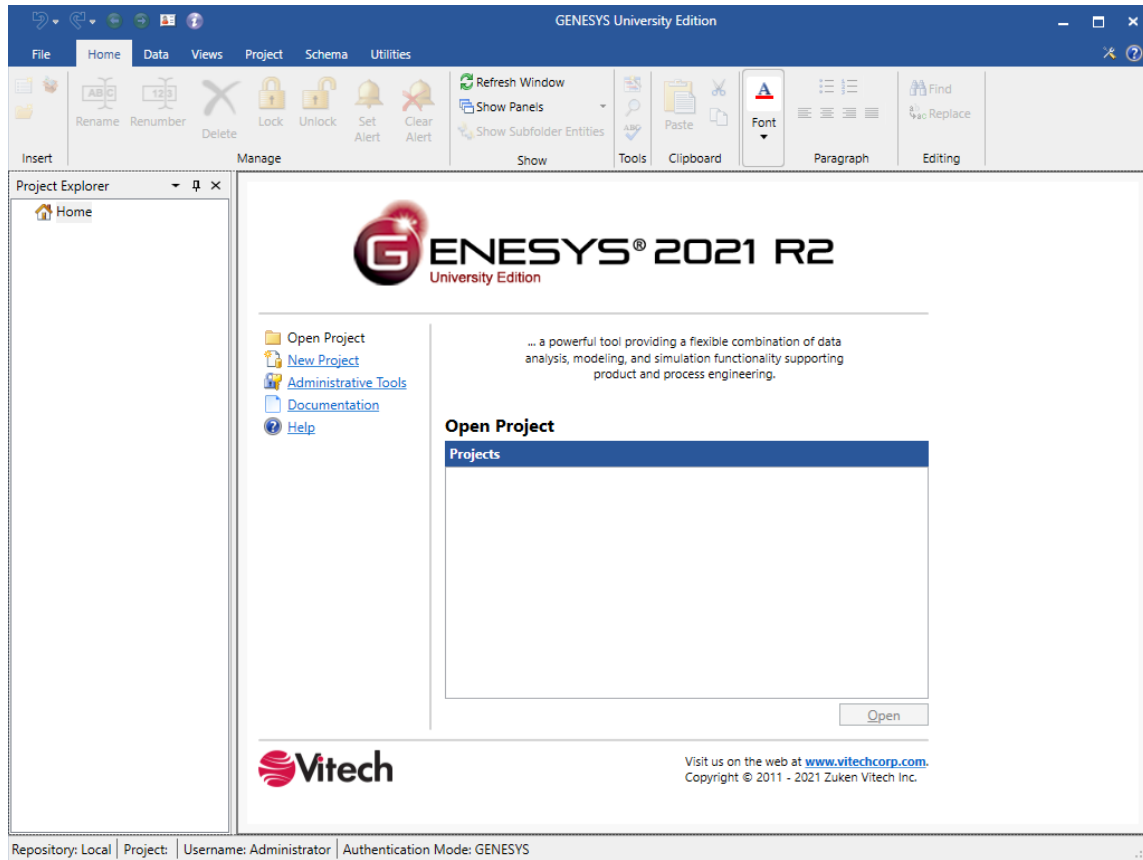
The GENESYS Login window shown below will open. GENESYS is configured with one initial user account—the Administrator account. The username and password are case sensitive. Log in as shown below:

Username: Administrator
Password: admin




By default, GENESYS will access the repository located on the local machine. If you would like to access a repository on another machine, please reference the next section (Logging into a Remote Repository).

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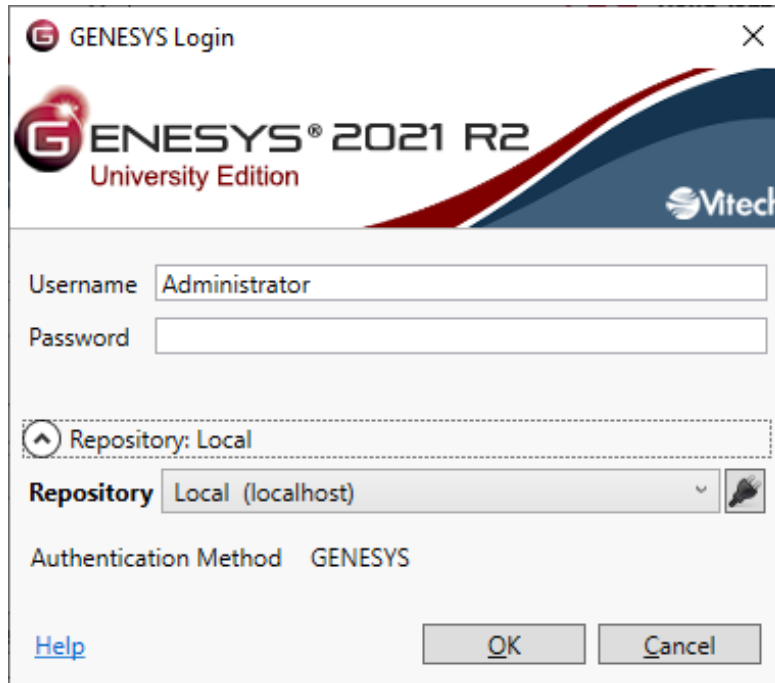


After logging in, new user accounts can be created and passwords may be changed via the User/Group Tool accessible via the Administrative Tools link.

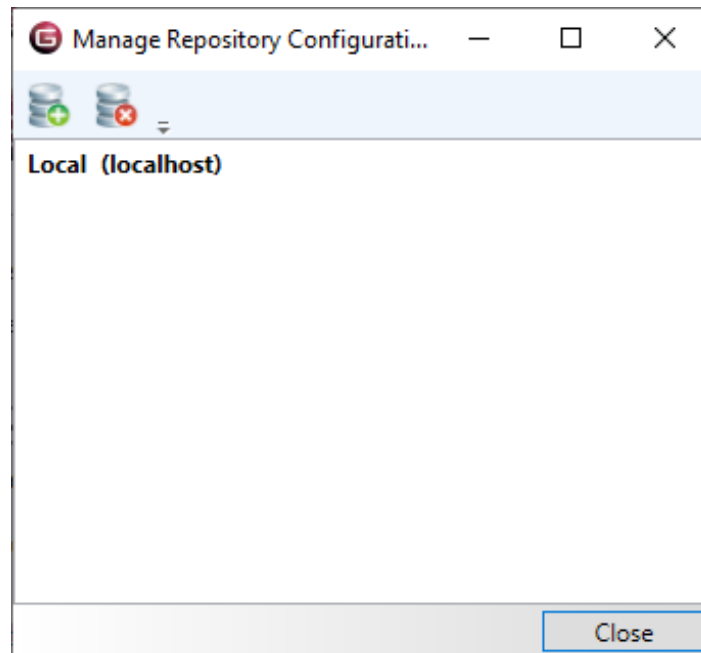
Logging in to a Remote Repository

On the GENESYS University Edition login screen, click the **Arrow** next to Repository. This will reveal the Repository selection field. Click the **Plug** icon  to add a repository.

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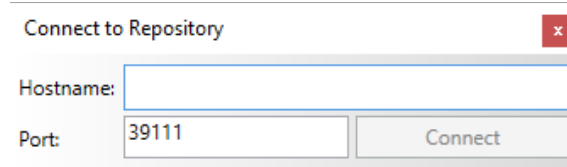
Click the **Add Repository**  icon.



Enter the machine name where the repository is hosted. This must be another instance of GENESYS 2021 R2 University Edition.

Leave the Port designation as the default unless you are certain that this setting was changed.

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Connect to Repository ✕

Hostname:

Port:

Click **Connect**, then **Close**. You can then select that repository from the drop-down list.

ADDITIONAL TIPS

The sections below provide useful information to support your use of GENESYS.

Check for Latest Service Packs

Periodically Vitech provides service packs to upgrade the GENESYS University Edition. Please check to ensure that you have the latest service pack by visiting the Software page at <https://www.vitechcorp.com/software-downloads/>.

GENESYS Training

Vitech offers ongoing training to help users learn more about using GENESYS in support of systems engineering and architecture frameworks, including:

- Model-Based Systems Engineering with GENESYS — You will learn the interfaces of GENESYS and how best to apply them to the management of system design. You will learn how the GENESYS .NET interface and capability allows you to intuitively create robust system models. You will build complete design models using the designer-friendly user interface.
- Fundamentals of Writing Reports in GENESYS — You will learn the intuitive and user-friendly reporting capability of the new GENESYS tool. You will craft custom reports from “scratch” as well as through basic templates. Your reports, created through GENESYS’ Visual Basic .NET reporting tools, will say what *you* need to say about *your* models. This course shows you the way.

GENESYS Help and Documentation

The GENESYS user reference guide is accessible within GENESYS using the Help icon in the upper-right-hand corner. If you prefer to navigate by volume, flip through the index, or simply perform an electronic search, the help tool will meet your needs.

Sample Solutions

The Samples directory within your GENESYS installation provides three sample projects. These files can be imported into GENESYS to view and manipulate.

You will also find two API Samples to demonstrate the use of the GENESYS API.

Disaster Prevention/Recovery

In GENESYS University Edition, your data is maintained by SQL Server Express. It is recommended that you use your organization’s file backup system to create copies of your data and archive them on another machine. You will need to back up the entire contents of the \ProgramData\Vitech\GENESYS 2021 R2 University Edition\Data folder.

Should you have complete failure of the machine on which you have GENESYS University Edition installed and have backup files available, follow these steps to restore your data:

1. Install GENESYS University Edition on the desired machine.
2. Locate the archived files and save them to the C:\ProgramData\Vitech\GENESYS 2021 R2 University Edition\Data, overwriting the blank files currently in that folder.

Uninstalling GENESYS

To remove GENESYS from your system, select **Add/Remove Programs** from the Windows control panel. Select GENESYS University Edition from the list of applications available to uninstall and click the **Add/Remove** button. Follow the instructions provided by the installer to remove the application.

Please note that this will not remove the repository itself as GENESYS repositories are maintained by SQL Server Express. These must be removed separately.

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Reporting Problems / Making Product Suggestions

All customer observations and recommendations are valuable to us. If you should encounter a problem with the software (either an error, a deficiency, a feature that works in a manner other than you expected, or a problem with any associated documentation), please notify us via e-mail, phone, or fax as indicated below. Any information you can provide in your report regarding the hardware and software configuration of the host machine, the circumstances in which the problem occurred, conditions to reproduce the problem, and such test data as you can reasonably provide to assist Vitech in reproducing the problem would be greatly appreciated.

We hope that you enjoy the new capabilities of GENESYS 2021 R2 University Edition.

Vitech
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support@vitechcorp.com
www.vitechcorp.com

APPENDIX

Prerequisites for Installation

GENESYS 2021 R2 University Edition requires that the Microsoft .NET Framework 4.6 be installed on the computer. This must be installed before running the GENESYS 2021 R2 University Edition installer.

Most computers will already have this prerequisite installed. If you do not have this installer and run the GENESYS 2021 R2 University Edition installer, you will be prompted with an alert of the need to install the prerequisite.

In this situation, if your computer has Internet access, our installer will obtain the installer for you. If you do not have Internet access on this computer, you'll need to retrieve the installer from another computer and install it separately.

Should you need to obtain and install Microsoft .NET Framework 4.6, you can access the installer and installation instructions here: <https://www.microsoft.com/en-us/download/details.aspx?id=48130>.



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