

Autodesk®
Inventor™

Content Center (R11 – SP2+) Stand-Alone User Guide

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♦ - Look for this symbol for performance advice for Content Center.

Introduction

This document provides guidance for tuning the Autodesk Inventor® Content Center to meet your company’s specific needs. Initially focusing on the stand-alone designer and expanding to larger workgroups, it will follow with a second document to address more detailed advice on large centralized server installations.

Content Center: Short Description

The Autodesk Inventor Content Center provides designers with the ability to access an extensive library of Inventor™ software parts (fasteners, steel shapes, fittings, and so on) and features that can be utilized in design.

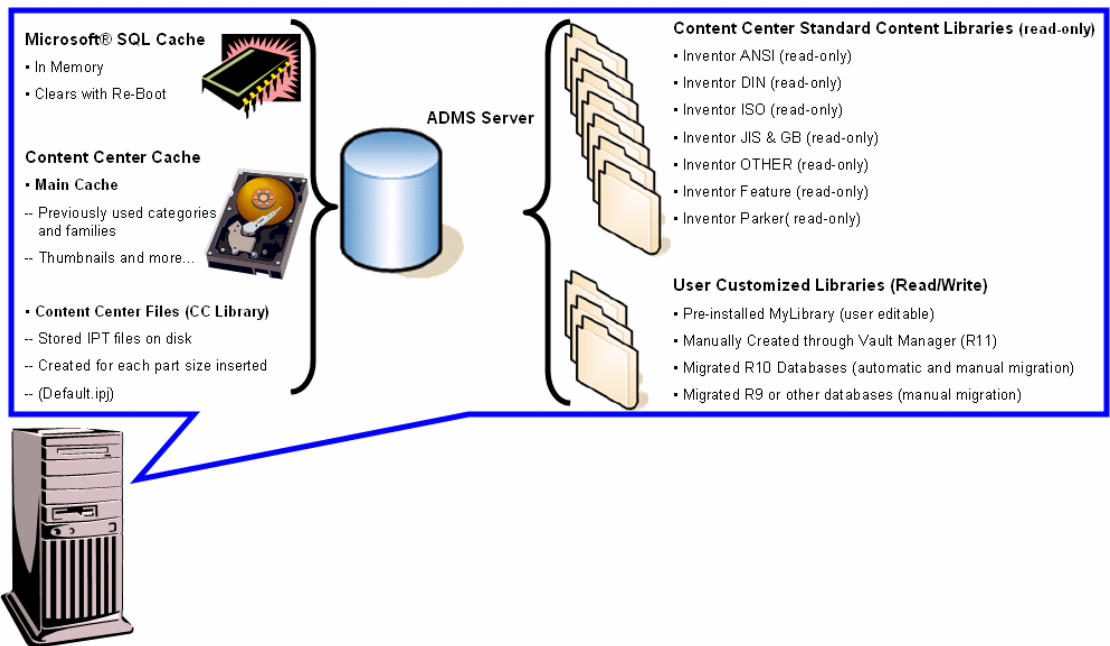
As more and more design automation is introduced to the Inventor product lines, quality Content Center functionality becomes more and more critical to search and place the appropriate functional content for each design project.

The Content Center is more than a data storage environment. The data is organized and published with functional intelligence (additional parameters and properties utilized by Design Accelerator and Inventor Professional tools to guide, create, and validate design). Content can be searched, edited, and organized in groups for quick access through Content Center Favorites in the browser bar.

For the workgroup or larger installation, the Content Center can be deployed as a centralized content repository. You can customize the content data (part number, descriptions, and more) based on company preferences so designers work with the same approved data.

Understanding Content Center: Stand-Alone

The stand-alone installation of Content Center incorporates the Autodesk® Data Management Server (ADMS), a database engine, to manage the search logic required for the 750k components under 18 international standards that ship with Inventor applications.



Standard content is grouped into seven libraries (ANSI, DIN, ISO, JIS&GB, Other, Feature, and Parker) situated in categories (nuts, bolts, washers, and more) and component families. The Standard Content Libraries are read-only, but customization is allowed by using the Content Center Editor to override content properties and store the information in read/write libraries created with Autodesk® Vault Manager software. Additional libraries can be created through the Vault Manager and added to the Inventor project for use with Content Center.

Autodesk Data Management Server and Vault Manager

The Content Center uses the Autodesk Data Management Server (ADMS) as the data storage technology of all standard content. The ADMS is the common data storage mechanism for the Autodesk Inventor Content Center, Autodesk Vault, and other Autodesk applications. Built on Microsoft® SQL Server, ADMS is a management interface for Autodesk libraries built on SQL.

Note: There are three database mechanisms designed to help with performance as you use Content Center: the Microsoft SQL Server memory cache, the Content Center Main cache, and the Content Center Files library. As you launch and browse Content Center, both the SQL cache and Main cache are recording the creation of icons, thumbnails, categories, and family information utilized in the browser. Additionally, the SQL cache and Content Center Files library store information on each part opened or created from the Content Center database.

As more categories and families are browsed, information is stored in memory and the Main cache to save time on future uses of the same information. Additionally, as parts are inserted from Content Center, a copy of each created component is stored on disk in the Content Center Files (Part Instance cache) location. Both the Content Center Main cache and the Content Center Files library are searched first to optimize performance in future sessions of Inventor. The SQL cache is a redundant backup and clears when the system is re-started.

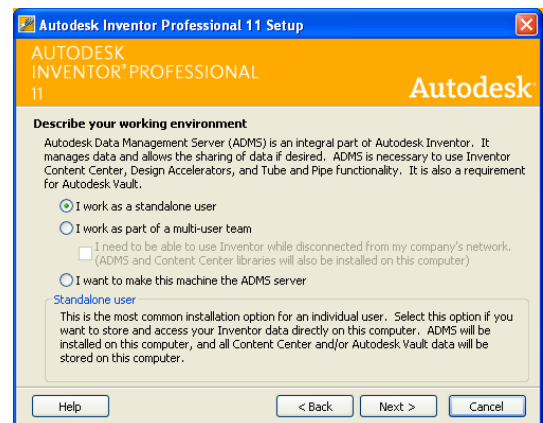
Single-User Installation

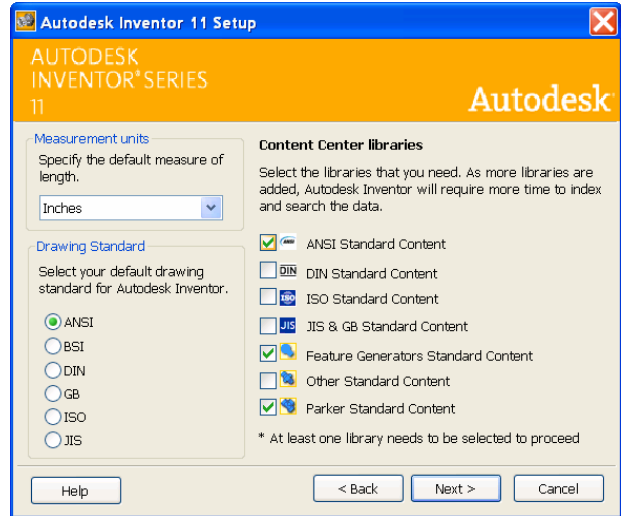
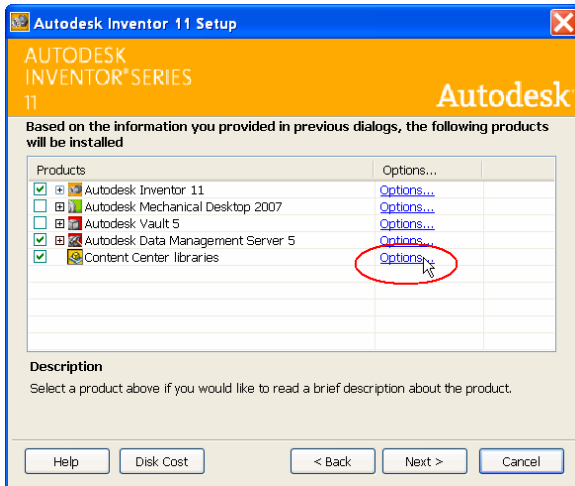
A single user, or independent member of a design workgroup, who is not interested in sharing content libraries, should select the “stand-alone user” profile during installation. This installation sets up Content Center (and ADMS) on the same machine with Autodesk Inventor.

◆ Choosing Content Center Libraries

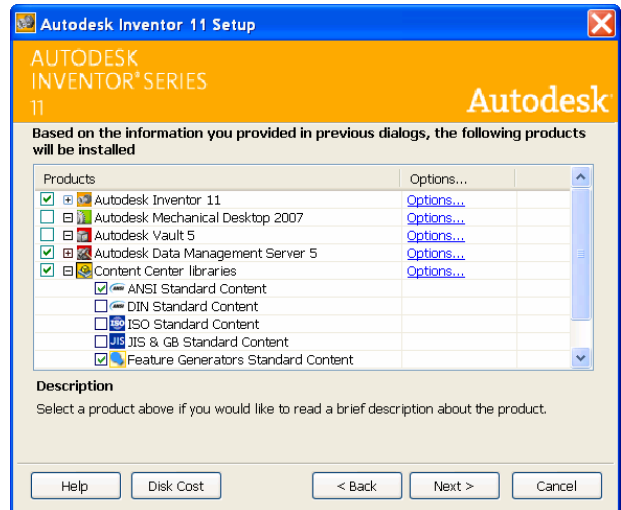
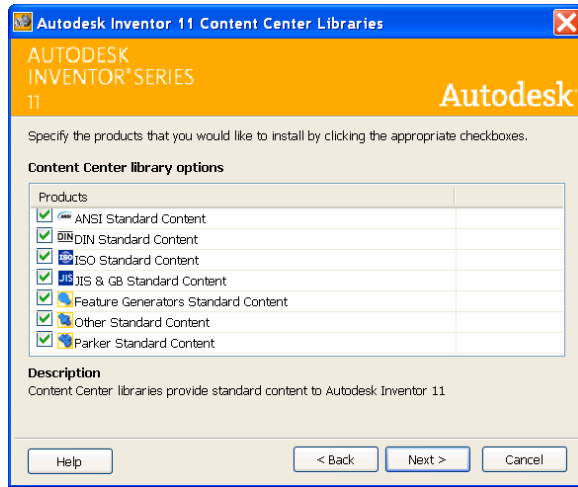
The Content Center database is extensive and covers 18 international standards with over 750k components. To optimize hard disk space and enhance performance using Content Center, it is recommended that designers install only required libraries.

Note: You can install additional libraries at a later time through the installer.

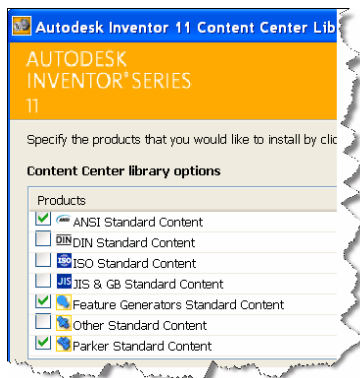




R11-SP2 Installation Prompts



R11-SP1 Installation Prompts



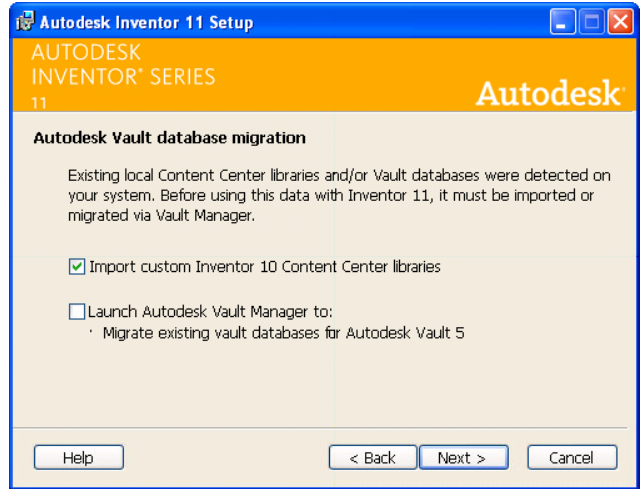
Note: Autodesk Data Management Server 5 (ADMS) must be installed to use Content Center, some Design Accelerators, and Tube & Pipe fittings. Removing ADMS from the Autodesk Inventor installation prevents access to the library data.

Moving R10 Customized Libraries to R11

The Autodesk Inventor installation wizard automatically detects previous Content Center or Vault databases.

If Autodesk Inventor 10 read/write customized libraries are detected on the computer, the installer displays a dialog box. Check the import option to migrate the libraries for use within R11. Additionally, all previous Autodesk Vault databases are recognized for update.

Note: If the migration of the Inventor R10 databases is postponed during installation, use the Autodesk Vault Manager (included when ADMS is installed) after the installation to perform migrations.



Setting up Content Center

Ensure that the Autodesk Inventor 11 installation with ADMS and Content Center has been completed. At this point, the following components are installed:

- Autodesk Inventor software
- Autodesk Data Management Server installed (with Microsoft SQL services)
 - Autodesk Vault Manager
- A select set of Content Center libraries
- A read/write library, MyLibrary or a read/write library updated from Autodesk Inventor R10

Note: A MyLibrary read/write library is setup automatically as part of the Inventor installation.

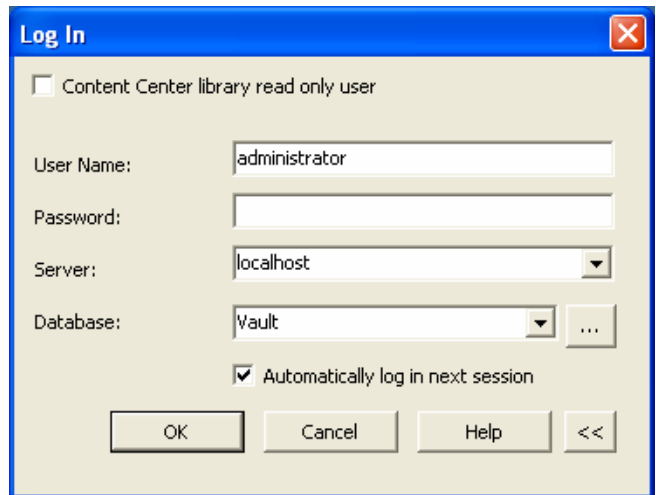
After the initial installation, you can start Content Center through Content Center commands, several Design Accelerator tools, and Tube & Pipe.

Log-in to Autodesk Data Management Server

The first activation of Content Center prompts the designer with an introduction dialog box for ADMS. Selecting Log-In, the designer is presented with the Log In dialog box (right).

For the stand-alone user, the login access is automatically set to user name “administrator” with a blank password. This stand-alone default user profile represents Content Center administrator permission. It includes read/write access to Content Center data and administrator rights to manage Content Center Libraries on the Vault Manager.

Note: If the install media indicates R11 – SP2, the log in is automated and you may not see the Log In dialog. In this case, the Log In dialog will only show when the ADMS connection is broken, manually logged off, or the “Automatically log in next session” check box has been disabled.

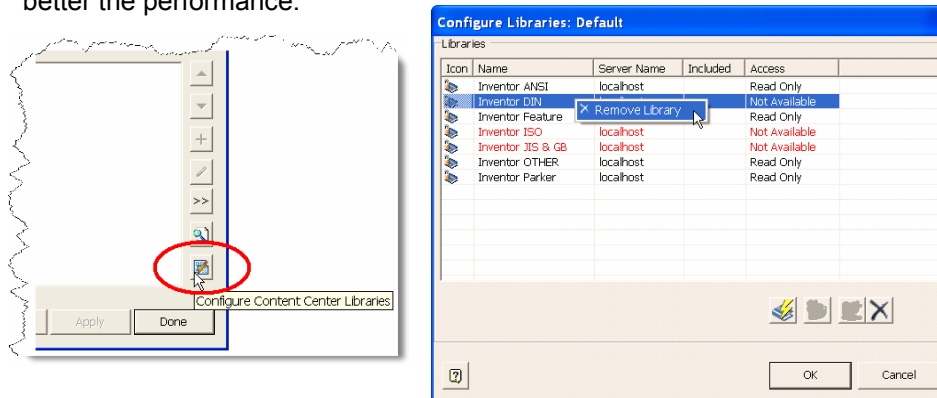


◆ Content Center Configuration in Autodesk Inventor Project

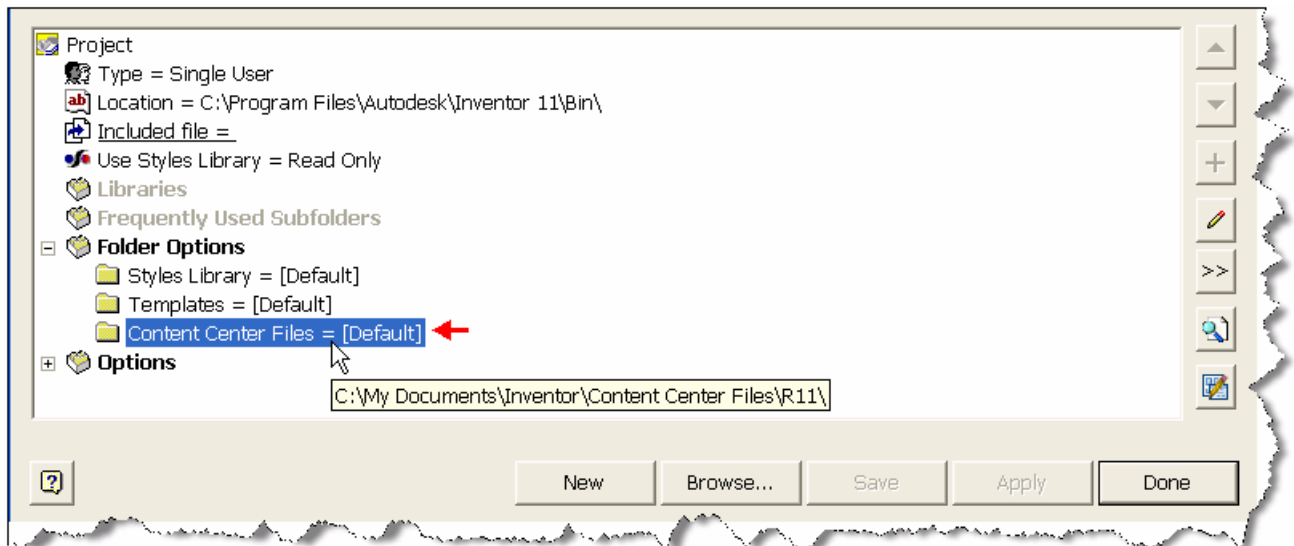
The Autodesk Data Management Server can support a large quantity of content libraries. Configured libraries are dynamically accessed by Content Center and related tools. Therefore, maintaining fewer libraries visible in a project configuration, leads to better performance of Content Center.

Library configurations are managed through the Inventor Project Editor using the Configure Libraries command introduced in Inventor 10.

Note: In general, the fewer libraries actively searched by Content Center, the better the performance.

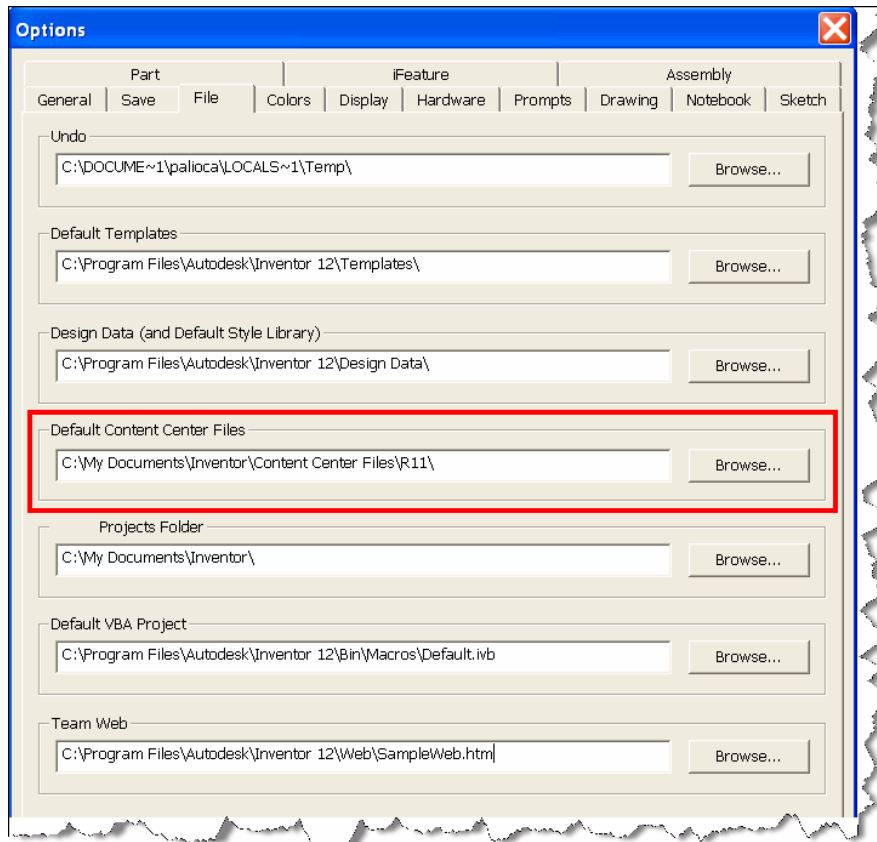


Content Center standard components are created in the “Content Center Files” location defined within an Inventor Project file.



When Content Center creates a component, it first searches a cache of previously utilized content located in the Content Center Files location in order to improve access time to commonly used components. Although it is possible to set a different Content Center Files location per Autodesk Inventor project, we recommend using the same Content Center File location for every project to optimize performance.

You can define the “default” Content Center Files location in the Inventor Application Options dialog box. The default Content Center files location is automatically applied to every project that has the “Content Center Files” location set to **[Default]**.

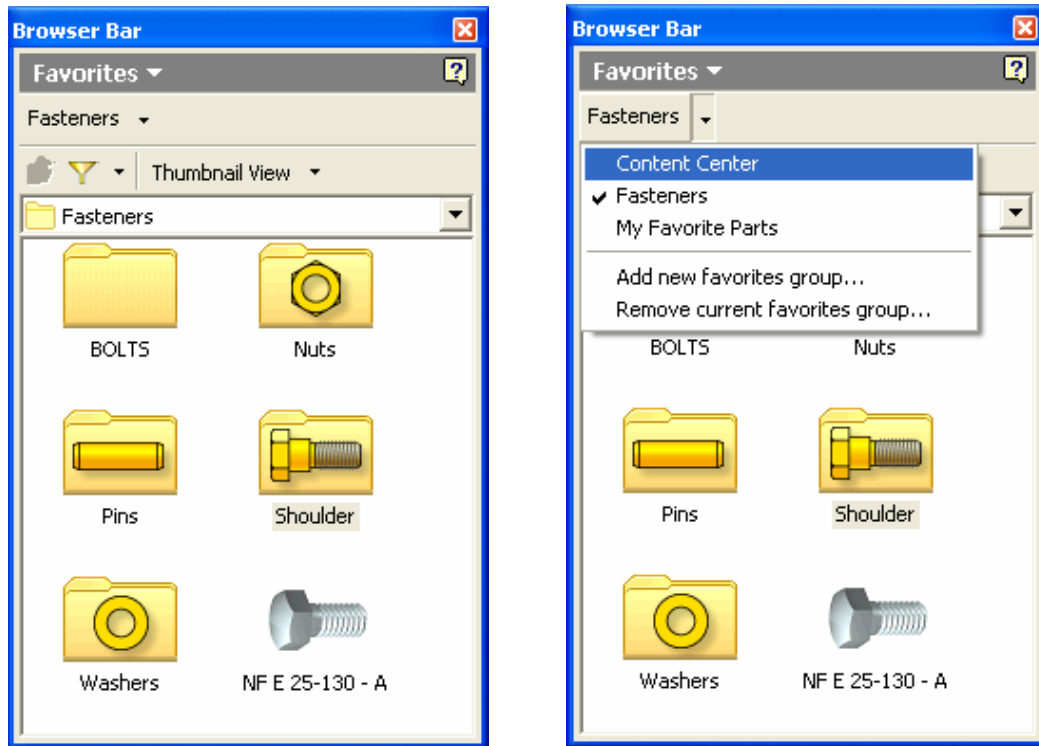


How to Use Content Center

As Inventor functionality grows, more design automation tools require quick searchable access to Content Center data integrated within the model creation workflow. This section highlights four access points for standard components common to all Autodesk Inventor solutions. These include drag and drop access to commonly used components with Favorites, new AutoDrop functionality for automated sizing and constraining of components directly on the model, Design Accelerator Component Generators for selecting and placing content based upon functional intent, and standard access to selecting, placing, editing, and customizing content directly from the Content Center.

◆ Favorites

Use Content Center Favorites to create groups of commonly used parts for quick placement from the Assembly browser bar. By default, a Favorites group including all configured Content Libraries is pre-assigned after installation. More groups can be added and managed through the Content Center Editor dialog box available in the Tools pull-down menu.



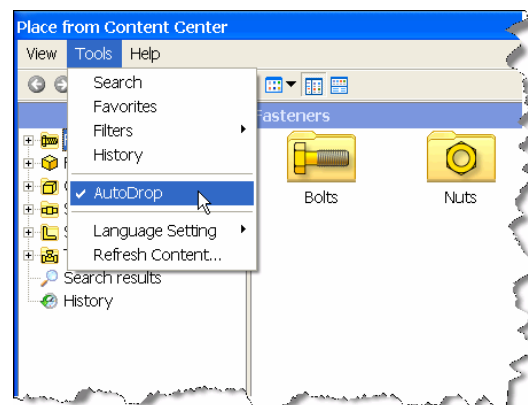
Favorites are easily customized by dragging a part family or a whole category into the Favorites pane from the Place from Content Center or Content Center Editor dialog boxes. Favorites groups are available in the Autodesk Inventor browser bar and in the Content Center dialog box. Adding or removing an item from Favorites in one place results with the same change in the other place.

◆ AutoDrop

The AutoDrop functionality was introduced to reduce design time when sizing and placing components within an assembly. Benefits include:

- Smart placement
- Automatic sizing
- Drag from Content Center Favorites

For example, a designer nears completion of an assembly design and must insert required standard components. Instead of taking the time to measure existing holes and distances, the designer can select a fastener family (for example, Hex Head bolt) and drags a preview of a fastener over the area of interest. AutoDrop highlights edges and compatible geometry. As the fastener pauses for a moment over the geometry, the fastener resizes to fit the location. Selection of the geometry locks the size (for example, bolt diameter) and activates 3D Grips for length adjustment. Once sizing is satisfied, the fastener is placed and



constrained in place. If the designer's intention is to size and constrain content, AutoDrop usually completes the job in less time than most other workflows.

Note: AutoDrop is the default behavior for content placement. In R11-SP2 you can disable the AutoDrop behavior through the Place from Content Center...>Tools>AutoDrop drop down menu.

◆ Design Accelerator Generators

The standard content of Content Center is used by several of the Design Accelerator design tools. These tools guide you through the process providing automatic sizing, patterning, creation, and placement of mechanical connections (bolted, pinned, and keys) and bearings. These tools are driven by the functional requirements and use Content Center for the latest available purchased components.

Place a Part from Content Center

The most common access points for Content Center standard components are available in the assemblies and weldments Assembly Panel Bar as a command Place from Content Center. This enables the designer to browse available libraries, search for specific content, manually select sizes, and place components within assemblies. Once the components are placed within the assembly, they can be constrained into their logical positions on the model.

Note: Additional capabilities include:

- **Open from Content Center...**; directly opens the standard component chosen into a part environment where it can be reviewed or edited and saved as a new component.
- **Change Size...**; enables access to the component Family Dialog for editing size. Component constraints are retained with the model.
- **Replace from Content...**; allows replacement of components with other component types within Content Center.

Place from Content Center Command

1. In an assembly file, click Place from Content Center on the Assembly panel bar.
2. Login to the Autodesk Data Management Server if required (you may already be logged in).
3. Select the part family that you want to place and click OK or double-click to activate AutoDrop.
4. Press the Alt key and OK or double-click to open the Family Dialog box to select a particular part size. Click OK to place the part within the assembly.

Place Multiple Parts from Content Center

Use the Place from Content Center command to place multiple parts.

1. In an assembly file, click Place from Content Center on the Assembly panel bar.
2. Login to the Autodesk Data Management Server if required (you may already be logged in).

3. Select the part family that you want to place and press the Alt key and OK or double-click to open the Family dialog box.
4. Select the required member size and click Apply.
5. After the part is placed, the Family dialog box displays. You can select another part member and place it in the assembly by clicking Apply again.
6. Click Cancel to return back to Content Center dialog box.
7. You can select another part family and repeat the previous steps to place the required part.
8. Click OK in the Family dialog box to place the selected part.

Tips and Tricks

◆ Internet Information Services 5.1 Verses Web Services

Stand-alone implementations of Content Center often perform faster when IIS has been installed previously to ADMS. Before you can use IIS, you must install it separately after you have installed Microsoft® Windows® XP Professional on your computer. IIS is available for installation from your Windows XP Professional media. IIS is not available in Windows XP Home Edition.

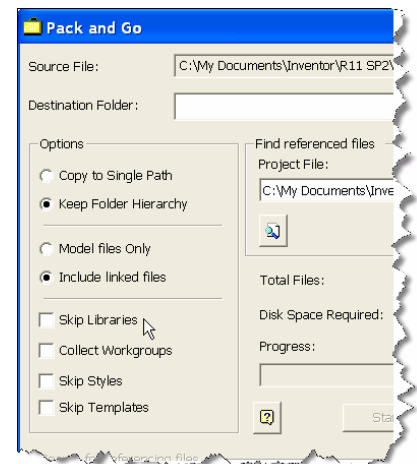
◆ Content Center Preparation – Immediately Following Installation

The following workflow assumes that the installation of Autodesk Inventor 11 with Content Center was recently completed.

1. Follow the advice provided in Section 2.2 to optimize the number of active libraries (if you choose)
2. Open a new empty assembly and launch the Place from Content Center... command.
3. Navigate through all of the Content Center Families allowing the thumbnail previews to finish compiling. **Note:** Thus, the software establishes a cache to improve performance while you work.
4. Establish your Favorites as described in Section 3.1 if desired.
5. Restart your system. This clears memory caches for the database and improves both resources and performance behavior.

◆ Sharing Content Center Files

When designing as part of a workgroup, team members may be forced to resolve links for Content Center components when loading each others assemblies. Therefore, it is recommended that workgroups share a common Content Center Files location on the server (e.g., \\Workgroupserver\Engineering\Content Center Files) for all team members to use. In this manner, each designer will benefit from components used by others on the team improving creation time and minimizing hard disk space on the local system.



Additionally, when using Pack-N-Go, always choose to include libraries when sharing assembly designs with standard content. This practice packs up standard content used in the design for sharing.

Content Customization

Autodesk Inventor Content Center Libraries are read-only and cannot be modified directly. However, the standard content categories and families can be copied into a read/write library for customization.

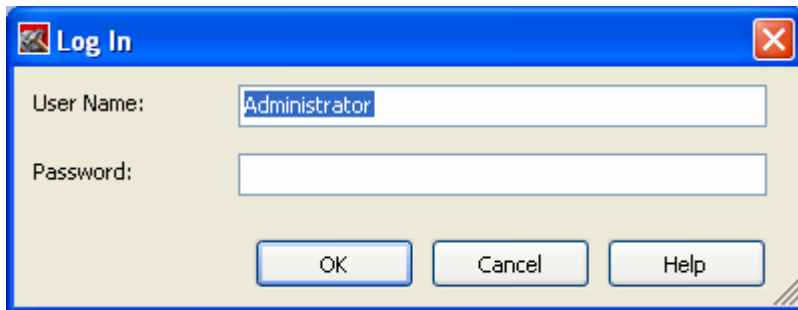
You can create a read/write library, and then use the Copy-To command to copy content from a read-only library into a read/write library for subsequent customization. A read/write library is also required for publishing new content. If you created standard parts for your Company that you want to add to the Content Center, you must have a read/write library that you can publish to.

How to Create a User Read/Write Library

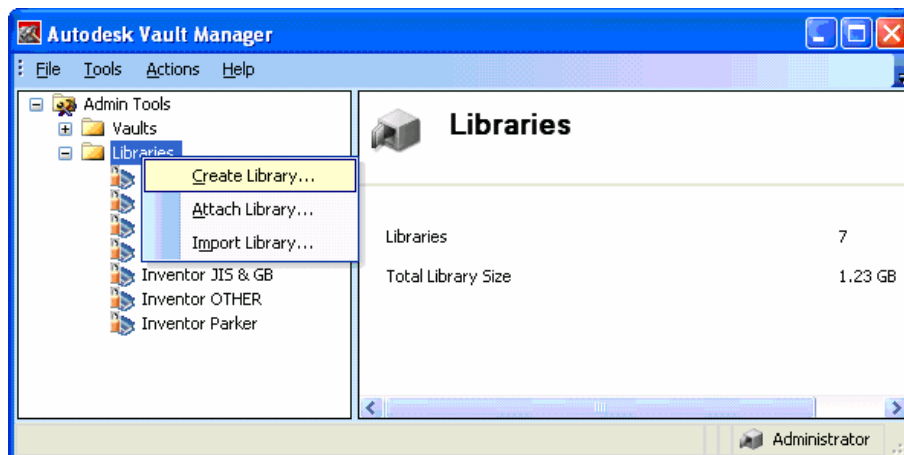
You must use the Autodesk Vault Manager to create a read/write library. Click Start menu > Autodesk > Autodesk Data Management > Autodesk Vault Manager).

Vault Manager

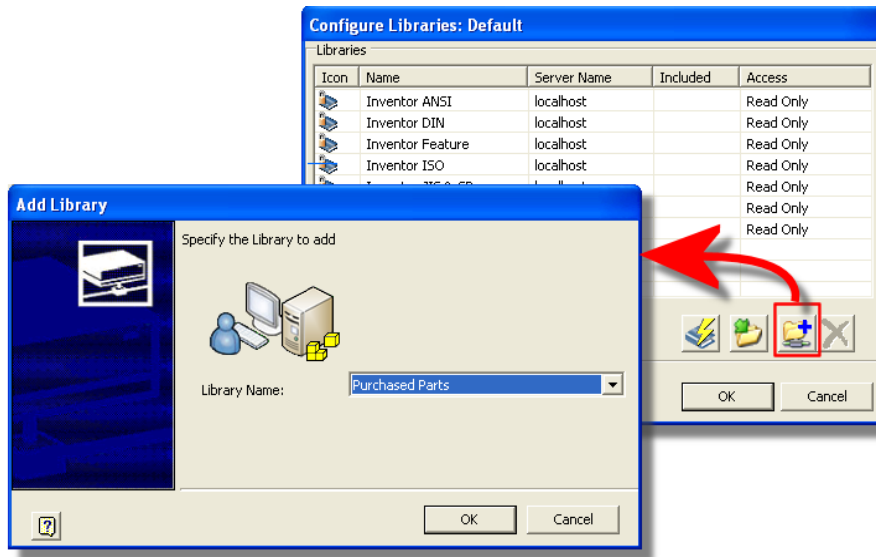
Log in to the server using your administrator access information. For the stand-alone user, the default User Name is “Administrator” and the Password is blank.



Content Center Libraries are listed under the Library folder. Right-click the Library folder to create a new library.



Note: ADMS provides the storage for Content Center Libraries but the Autodesk Inventor Project File controls which libraries are actively available to Content. If a new Content Center library is added on the server or a library is removed from the server, the Content Center Library configuration must be updated manually in the project file (*.ipj).



Questions and Answers

ADMS

Q1 – Am I required to install and use Autodesk Vault software?

A1 – No, the Content Center does not require Autodesk Vault. While both components require ADMS, they can work independently of each other. It should be noted that Vault Manager is present for any installation of ADMS in order to help manage the databases, including library databases.

Q2 – Are all my Content Center libraries stored in ADMS?

A2 - Yes, all Content Center libraries are stored within ADMS and are supported by backup and restore tools available in the Vault Manager.

Q3 – I've noticed that system memory is consumed as I use Content Center. How do I clear this memory for Inventor?

A3 ♦ The important information needed to enhance Content Center performance is stored on disk, but Microsoft SQL keeps a redundant backup cache in memory. Therefore, consumed resources can be minimized by periodically rebooting the system when Content Center is heavily used. Any additional references to the previously accessed content information will not consume additional memory in the SQL cache since the

information is found locally in the XML and Part instance cache. The reboot clears the SQL cache.

Content Libraries

Q1 – I use one standard but occasionally need access to another for special projects. What is the recommendation?

A1 – We recommend that you install both standards and detach the less used standards for projects which do not need them. This is covered in Section 2.2.

Q2 – I installed a minimum library set, but later found I needed an additional library. What should I do?

A2 – Insert the installation disk and use the installer to add additional libraries.

Q3 – If I chose not to install ADMS, can I install it later?

A3 – Yes, insert the installation disk and use the installer to add ADMS and libraries.

Q4 – We are still using Autodesk Inventor 10 with Content Center. Should we accept the migration?

A4 – Yes, the original Autodesk Inventor 10 libraries are retained. The migration imports and creates a new library for R11.

Q5 – We added additional customization to our Inventor R10 Content Center and want to update the already migrated (Inventor) R11 library. How do we accomplish this?

A5 – You will first need to rename the library on the hard disk. Then Autodesk Vault Manager can be used to import the R10 library.

Q6 – How do I move my content directly from Autodesk Inventor 9?

A6 – The Autodesk Inventor 9 database can be imported through the R11 Project file (*.ipj) using the Import Library command.

Setup

Q1 – I occasionally get prompted with a login dialog box in the middle of my Inventor design session. What is causing this and what is my next step?

A1 – The Log In dialog box appears when the Content Center database (ADMS) access has been interrupted or disabled.

To log in to ADMS (for Stand-alone installation):

- User Name is “administrator.”
- Password is blank.
- Server is “localhost.”

- Database is “Vault.”
- Check “Automatically login next session” to get automatically logged in the next Autodesk Inventor session.

Q2 – The Content Center will not continue and the login is failing. What do I do?

A2 – Please contact your Autodesk Support specialist (Reseller or Autodesk Support). Additionally, a post to the Autodesk Inventor Discussion News Group may provide some good advice to resolve the issue.

Q3 – How do I manually login in or log out of ADMS?

A3 – The manual ADMS Log In, Log Out command is in the Autodesk Inventor File drop-down menu.

Using Content Center

Q1 – I’ve noticed that there is a Favorites area in the Content Center dialog box in addition to the Browser Bar Favorites. How do these differ when placing content?

A1 – The Favorites in the Browser Bar (Assemblies) has the unique capability to drag Content Center families directly into the 3D window using AutoDrop.

Q2 – When I double-click or drag from a bolt family in Favorites, I see a preview of the ghost image of a bolt. What do I do next?

A2 – What you are seeing is AutoDrop behavior described in section 3.2 of this document.

Q3 – Are all Content Center families supported by AutoDrop?

A3 – AutoDrop presently supports most fasteners (bolts, pins, nuts, and washers), bearings, and retaining clips.

Q4 – How do I access AutoDrop functionality?

A4 – Place from Content Center...

- Navigate to a fastener, bearing, or retaining ring family and select it.
- Double-click or click OK.

Content Center Favorites

- Navigate to a fastener, bearing, or retaining ring family and select it.
- Drag the family into the assembly or double-click.

Q5 – Can I create my own content for use with AutoDrop?

A5 – Yes, Inventor part and iPart components can be authored and published for use with AutoDrop and Design Accelerator. The Component Authoring command is located in the Part Features Panel Bar. Parts authored using the Tube & Pipe Authoring tool are not supported by AutoDrop.

Q6 – Which Design Accelerator tools require access to Content Center?

A6 – The Bolted Connection Generator, Pin (Clevis, Secure, Cross, Radial, Joint) Generators, Key Connection Generator, and Bearing Generator utilize Content Center for components.

Q7 – How do I access Design Accelerator functionality?

A7 – The Design Accelerator Generators and Calculators are available through the Assembly Panel Bar selection list.

Q8 – Can I author and publish my own parts and iParts for use with Design Accelerator?

A8 – Yes, Inventor part and iPart components can be authored and published for use with AutoDrop and Design Accelerator. The Component Authoring command is located in the Part Features Panel Bar.

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