Live Coaching
FOR CIVIL ENGINEERING
About Accelerators
Accelerators help you unlock the potential of Autodesk® technology.

**Accelerators**
Easy-to-access services built on Autodesk best-practices

**Capabilities**
Your technology, workflow, data, and organizational abilities

**Outcomes**
Measurable goals your business wants to achieve
Accelerators

How do adoption Accelerators work?

Meet with your CSM and a subject matter expert to contextualize the content for your team.

Discover Session

Meet with your CSM and a subject matter expert to contextualize the content for your team.

(30-60 minutes)

Coaching Session

Sessions are led by an Autodesk expert, introducing users to new technology or demonstrating workflows with Q&A.

(60-120 minutes)

Materials & Feedback

We'll provide the session recording and presentation materials, and participants are encouraged to provide feedback on the Accelerator through a survey.

(10 minutes)
Accelerators

Easy-to-access coaching sessions from Autodesk

**Introduction to**
Get familiar with the latest technologies & features

**Examples**
- Introduction to: BIM 360 Design
- Introduction to: Forge (General)
- Introduction to: Parameters in Revit

**How to**
Learn key workflows that solve specific challenges

**Examples**
- How to: Set up Revit for AEC Projects
- How to: Create hi-end visualizations using Arnold
- How to: Conduct Upfront CFD Fundamentals
If your company has an Enterprise plan with Autodesk, you can schedule Accelerators with your Autodesk Customer Success Manager (CSM)

If you are unsure of how to contact your Customer Success Manager, submit a request and we will connect you

Find Accelerators for more industries and learn more about Autodesk Customer Success
Accelerator Details
Coaching Session

Introduction to

- IT Readiness for BIM 360
- Forge (General)
- BIM 360 Design
- Conceptual design with FormIt Pro
- Parameters in Revit
- Dynamo for linear structures
- InfraWorks for site planning and logistics
- Computational Fluid Dynamics (CFD)
- BIM 360 Account Admin module

How to

- Set up a project in BIM 360 Docs
- Create issues and manage documents in BIM 360 Docs
- Communicate changes in BIM 360 Docs
- Optimize BIM data for visualization
- Start and administer a project in BIM 360 Design

- Collaborate in BIM 360 Design (Part 1)
- Collaborate in BIM 360 Design (Part 2)
- Collaborate in BIM 360 Design (Part 3)
- Set up Model Coordination in BIM 360
- Coordinate and resolve clashes in BIM 360
- Automate Revit design workflows with Dynamo
- Set up Revit for AEC projects
- Create a continuity plan for Revit cloud worksharing
- Manage Revit Families
- Visualize Revit models in 3ds Max
- Detect and resolve clashes in Revit
- Review models with visualized walkthroughs
- Review models and identify coordination issues with Navisworks
- Create high-end visualizations using Arnold
- View Digital Twins with Augmented Reality
- Manage data with Forge
- Get people moving with confidence (COVID-19)
- Plan space for health guidelines (COVID-19)
- Design for safer air quality
- BEP - Foundational Framework for Roads and Highways projects
- Are you sure the team is following the standards you set?
- Enhance BIM Data in Civil 3D Using Property Set Styles
- Automate grading tasks using Grading Optimization in Civil 3D
- Review & Approve Documents in the cloud using Autodesk Docs
- Upload Models and Documents to the cloud using Autodesk Docs
- Comment On & Markup Designs Using BIM Collaborate or Pro
- Issue Document Sets using Transmittals in Autodesk Docs
- Upload/share Project Models Using Autodesk BIM Collaborate
- Synchronize changes with cloud
- Set Folder Structures & Permissions in Autodesk Docs
- Set Folder Structures & Permissions in Autodesk BIM Collaborate
- Reduce field conflicts with clear 3D Coordination Standards
- Adopt AutoCAD’s Latest Design Productivity Enhancements
- Improve Design Review Efficiency in AutoCAD
- Modernize Collaboration when using AutoCAD
- AutoCAD Graphics Improvements
- AutoCAD User Interface Enhancements
- AutoCAD Performance Enhancements
Learn how the BIM 360® Docs ecosystem works, how to set up a project folder structure with permissions, and how to upload record documents.

**Topics**
- BIM 360 Docs modules
  - Document Management
  - Desktop Connector
  - Project Home
  - Insight
- Creating a project
- Project settings
- Folder structure
  - Plans vs. project files
- Folder permissions
- Plans upload

**Who it’s for**
- VDC Manager
- Project Engineer
- Field Engineer
- Project Manager
- Project Controls

**Prerequisites**
- Enterprise Success Program
- Attendees should have basic knowledge of BIM 360 Docs

**Capabilities**
- Coordination
- Quality Management
- Cost Management
- Design Collaboration
- Commissioning
- Document Management
Learn how to use BIM 360® Docs to log issues on site, approve and send documents, and use record documents in the field.

### Topics
- **Mark-ups**
  - Permissions
  - Creation and visibility
  - Reviewing mark-ups
- **Issues**
  - Permissions
  - Creating an issue
- **Reviews**
  - Creating an approval workflow
  - Submitting documents for review
  - Monitoring reviews
  - Reviewing and approving documents
- **Transmittals**
  - When and how to use transmittals
  - Creating a transmittal
- **Accessing documents on mobile devices**

### Who it’s for
- VDC Managers
- Project Engineers & Field Engineers
- Project Managers
- Project Controls
- Architects

### Prerequisites
- Enterprise Success Program
- Attendees should have basic knowledge of BIM 360 Docs

### Capabilities
- Design Collaboration
- Document Management
Learn how to organize, update, and compare project documents and resolve issues in BIM 360® Docs.

Topics
- Sets
  - How to categorize file sets
  - The sets module
  - Creating new sets
- Versioning and comparing
  - Creating a new version of a document
  - Comparing documents
  - Versioning of model files
- Markups
  - How to use markups and hyperlinks together
  - Using attachments to markups
- Reports

Who it’s for
- VDC Manager
- Project Engineer
- Field Engineer
- Project Manager
- Project Controls

Prerequisites
- Enterprise Success Program
- Attendees should have basic knowledge of BIM 360 Docs

Capabilities
- Document Management
- Design Collaboration
Introduction to: Forge (General)

Get familiar with functionalities of Autodesk Forge™, what tools are required to use it, and how to set up a team for application development.

Topics
- Understanding APIs
- Forge Overview
  - Common applications of Forge
  - The Forge business architecture
  - Adding Forge to an EBA
- Building online workflows and experiences around your design data
- Practical Forge use cases
- Setting up a team
- Where to get development and support resources
- Functionalities of each component of Forge

Who it’s for
- Project Managers
- BIM Managers
- BIM Leads
- Project Engineers

Prerequisites
- Enterprise Success Program
- Attendees have access to Forge

Capabilities
- Cloud-based Process Automation
- Data Enrichment, Management and Delivery
Learn how to create and navigate a federated model, control visibility, create viewpoints, create mark-ups, and run clash detection between trades using Navisworks®.

### Topics
- Why you should use Navisworks for federated models
- Types of Navisworks files
- Appending models in Navisworks
- Creating a federated model demo video
- Navigating a model
- Controlling visibility
  - Toolset options
  - Sectioning plane and box
- Managing toolset options for viewpoints and mark-ups
- Running clash detection between trades

### Who it’s for
- BIM Manager
- VDC Manager
- BIM Manager
- IT Manager
- Design Technologist

### Prerequisites
- Enterprise Success Program
- Basic knowledge on any BIM authoring tool such as Revit® is recommended

### Capabilities
- Coordination
- Design Coordination and Review
Get familiar with conceptual design using generative design, BIM workflows, simulation, and visualization in FormIt®.

**Topics**

- Understanding the state of the industry
  - Conceptual design in architecture
  - Interoperability with BIM processes
- Working smarter with BIM-based conceptual design
- Creating design concepts with intuitive tools
- Analyzing designs early in the process
- Sketching on tablets and mobile devices
  - Transitioning between tablet and desktop applications
- Integrating FormIt with Dynamo Studio
  - Advanced geometry for generative design
- Connecting FormIt and Revit Modeling
  - Introduction to modelling
  - Advanced modelling
  - Sketching and manipulation
  - Advanced geometry
- Visualizing models
- Simulating and visualizing water tightness
- Performing insight integration for energy analyses

**Who it’s for**

- Design Principals
- Architects
- Designers
- Computational Designers

**Prerequisites**

- Enterprise Success Program
- Basic knowledge on any BIM authoring tool such as Revit® is recommended

**Capabilities**

- Conceptual Design
Learn how to connect and store GIS data using BIM methodologies and Autodesk Connector.

**Topics**
- Adopting the concept of “data at the center” to drive better project workflows
- Bringing GIS for capital portfolios together with BIM for capital projects
- Integrating geography as a common language for collaboration
- Understanding the requirements for bidirectional BIM/GIS integration
- Autodesk’s partnership with ESRI

**GIS data formats**
- Shapefiles
- Geodatabases

**Autodesk Connector for ArcGIS**
- Accessing ArcGIS organizational portals and ArcGIS online directly from InfraWorks
- Connecting layers from ArcGIS to InfraWorks and Civil 3D
- Analyze data to add location insights to infrastructure sites and their surroundings

**Who it’s for**
- GIS Engineer
- Civil Engineer
- Project Manager
- Civil Technician

**Prerequisites**
- Enterprise Success Program
- Attendees should have a basic knowledge of GIS data exchange principles

**Capabilities**
- Existing Conditions Modeling
- Data Enrichment, Management and Delivery
Learn how to make data visualization easier by analyzing the contents of your scene and applying different optimization methods.

Topics
- Understanding the need for optimization
  - Overview
  - Hardware constraints
  - VR
  - Rendering
- Analyzing the contents of your scene files
  - CAD to 3ds Max® workflow
  - Revit import
  - Large objects & groups
- Optimization approaches
  - Automatic optimization
  - Tools
    - Replacing objects
    - Asset libraries
    - Optimization results
  - Material workflow
    - Improving visual fidelity
    - Lights
    - Export from 3ds Max

Who it’s for
- BIM Manager
- Visualization Specialist
- Architectural Designer
- Lighting Designer

Prerequisites
- Enterprise Success Program
- Attendees have a basic understanding of Revit® and 3ds Max

Capabilities
- Visualization
- Design Authoring
- Design Detailing
- Visualizations & Animations
- Rendering
Get familiar with setting up and managing a BIM 360 Site, BIM 360® Administration capabilities, and administration and deployment of the next-generation BIM 360 platform.

**Topics**
- BIM 360 Account Administration
- Account Set Up & Project Creation
- Best Practices for Members
- Roles
- Data Connector
- BIM 360 Admin APIs – Capabilities & Example Integrations

**Who it’s for**
- BIM 360 Site Account Administrators

**Prerequisites**
- Enterprise Success Program

**Capabilities**
- Document Management
- Data Hosting
- Licensing and User Management
- Document Management
- IT Infrastructure Readiness
Introduction to: BIM 360 Design

Get familiar with BIM 360® Design features and workflows including account and project administration, Revit® cloud worksharing, document management, and design collaboration.

Topics

- The BIM 360 Platform
- Introduction to BIM 360 Design
  - Desktop Connector
  - Security
  - Autodesk Health Dashboard
- Revit Cloud Worksharing
  - Syncing and initiation
  - Managing cloud models
  - Publishing
- Account and Project Administration

Who it’s for

- Architects
- Engineers
- Administrators
- Project Managers
- Job Captains
- BIM Managers

Prerequisites

- Enterprise Success Program
- Attendees have access to BIM 360 Design

Capabilities

- Document Management
  - Plans and project files
  - Document sets
  - Folders and organization
- Design Collaboration
  - Publishing, sharing, and consuming
- BIM 360 Design accelerators
Learn how to administer the BIM 360® account site and start a BIM 360 Design project.

**Topics**
- BIM 360 roles
- Autodesk account roles and entitlements
- Account admin tasks
  - Adding to the account member directory
  - Importing members by spreadsheet
  - Editing account members
  - Account IDs
- Project set-up
  - Adding admins and members
  - Creating folders
  - Folder structure
  - Creating folders with Desktop Connector
  - Administration best practices
  - Managing teams
  - Adding members to teams and folders
  - Folder permission levels
  - Setting the Revit® release version

**Who it’s for**
- Administrators
- Project Managers
- Job Captains
- BIM Managers

**Prerequisites**
- Enterprise Success Program
- Attendees should have basic knowledge of BIM 360 Design

**Capabilities**
- Model Co-authoring
- IT Infrastructure Readiness
Get familiar with InfraWorks® features and workflows including Model Builder, cloud collaboration, conceptual design and visualization.

**Topics**
- Getting started with InfraWorks
- Building with Model Builder
- Collaborating with models in the cloud
- InfraWorks for conceptual design and visualization
- InfraWorks for:
  - Roads and highways
  - Bridges, tunnels, and structures
  - Site, landscaping, and environmental design

**Who it’s for**
- VDC Managers
- Designers
- Urban and Master Planners
- Architects
- GIS Analysts
- Civil Engineers

**Prerequisites**
- Enterprise Success Program
- Attendees should have basic knowledge of InfraWorks

**Capabilities**
- Concept Design
- Existing Conditions Modeling
- Civil Structure Model Authoring
Introduction to: InfraWorks for road and highway design

Get familiar with InfraWorks® features and workflows for designing roads and highways.

Topics
- Deploying component roads
- Adding details such as intersections
- Analyzing designs to ensure they are safe and cost-effective
- Model housekeeping
- Importing data from civil design applications
- The roadway design toolset
  - Planning roads, component roads, and design roads
  - Detailed alignment and profile geometry
    - Road conversion
    - Adding a component road
    - Editing horizontal road geometry
  - Conceptual design
  - Design visualization, validation, and communication
  - Preparing data for editing in InfraWorks

Who it’s for
- VDC Managers
- Designers
- Urban and Master Planners
- Architects
- GIS Analysts
- Civil Engineers

Capabilities
- Concept Design
- Road and Highway Model Authoring

Prerequisites
- Enterprise Success Program
- Attendees should have basic knowledge of InfraWorks
Get familiar with InfraWorks® features and workflows for modeling sites and existing conditions.

**Topics**
- Settings required for success
- Building and refining existing conditions
- Sketching and design capabilities
- Adding and using GIS, CAD, C3D, and Revit
- Styling and theming data
- Creating visualizations and flyovers
- Using BIM 360 with InfraWorks

**Who it’s for**
- VDC Managers
- Designers
- Urban and Master Planners
- Architects
- GIS Analysts
- Civil Engineers

**Prerequisites**
- Enterprise Success Program
- Attendees should have basic knowledge of InfraWorks

**Capabilities**
- Concept Design
- Existing Conditions Modeling
- Site Model Authoring
Get familiar with InfraWorks® features and workflows for designing bridges, tunnels and civil structures.

Topics
- Improving your existing workflow
- The civil structure toolset
- Getting familiar with bridges
- Working with bridge components
- Bridge analysis
- Working with tunnel components
- Exchanging data
- Parametric modelling

Who it’s for
- VDC Managers
- Designers
- Urban and Master Planners
- Architects
- GIS Analysts
- Civil Engineers

Prerequisites
- Enterprise Success Program
- Attendees should have basic knowledge of InfraWorks

Capabilities
- Concept Design
- Civil Structure Model Authoring
Learn how to optimize data exchange between Civil 3D®, Revit®, and InfraWorks® to minimize coordination errors.

**Topics**

- Coordinate Systems
  - Product overviews
  - Coordinate systems overview
  - Applying coordinate systems by product
- Collaborative with Civil 3D
  - Collaboration and data exchange
  - InfrAWorks and Revit to Civil 3D
  - Preparing Civil 3D drawings for export
- Collaborate with Revit
  - Collaboration and data exchange
  - Assign, Acquire, Publish Coordinates to Revit
  - Preparing Revit models for export
- Collaborate with InfrAWorks
  - Collaboration and data exchange
  - Revit, FBX, IFC & Civil 3D to InfrAWorks
  - Preparing InfrAWorks models for export

**Who it’s for**

- BIM Managers/Coordinators
- Project Managers
- End Users

**Prerequisites**

- Enterprise Success Program
- Basic knowledge on InfrAWorks, Civil 3D and Revit is recommended

**Capabilities**

- Data Enrichment
- Management and Delivery
Learn the best ways to work with Civil 3D® objects, use data shortcuts, and prevent performance issues with the style reference manager.

### Topics
- System requirements
- Optimizing your workspace settings
- Care and feeding of .dwg files
- Planning for Civil 3D success
  - Civil 3D data shortcuts
  - Comparing DREFs to XREFs
  - Surface modeling tips
  - Corridor modeling tips
  - Improving Civil 3D performance

### Who it’s for
- Superintendents
- Project Engineers
- Field Engineers
- Project Managers

### Prerequisites
- Enterprise Success Program
- Basic knowledge on Civil 3D is recommended

### Capabilities
- Road and Highway Model Authoring
- Rail Track Model Authoring
Get familiar with the collaboration features of AutoCAD Plant 3D and workflows for projects teams in distributed locations.

**Topics**
- Why Collaboration for AutoCAD Plant 3D
- How Collaboration for AutoCAD Plant 3D works
- BIM 360 Docs and the Collaboration Cache
- Sharing a Plant 3D Project
- Project file & folder actions
- Creating a P&ID and 3D Model
- Editing a Project Drawing
- Creating an Isometric Drawing
- Removing a Project Drawing
- Editing a Piping Spec

**Who it’s for**
- Drawing/Design
- Office Manager
- CAD Administrator
- Project Manager
- Plant 3D Users
- Piping/Plant Designers

**Prerequisites**
- Enterprise Success Program
- An understanding of the administration of plant design in Autodesk Plant 3D

**Capabilities**
- Model Co-authoring
## How to: Work with point cloud data in Civil 3D and InfraWorks

Learn how to extract and manage meaningful objects from point cloud data sources to capture existing conditions for infrastructure projects.

### Topics
- Using point clouds in Civil 3D® and InfraWorks®
  - How point cloud data originates
  - The importance of point cloud specifications
  - Size management
  - Creating accurate topography
  - Extracting linear and vertical geometry
- Using Recap and Recap Photo
  - Importing, indexing, and registration
  - Creating and exporting regions
- How to extract and create 3D models from point clouds
- How to build accurate surface topography from point clouds

### Who it’s for
- Superintendents
- Project Engineers
- Field Engineers
- Project Managers

### Prerequisites
- Enterprise Success Program
- Basic knowledge of Infraworks and Civil 3D is recommended

### Capabilities
- Existing Conditions Modeling
- Reality Capture
Introduction to: Generative Design in Fusion

Get familiar with generative design for weight reduction and component consolidation in Fusion 360®.

**Topics**
- Manufacturability
- Light-weighting
- Preserve regions
- Obstacle regions
- Loads
- Materials
- Constraints
- Manufacturing methods
- Design exploration

**Who it’s for**
- Project Managers
- Designers
- Tool Makers
- Engineers

**Prerequisites**
- Enterprise Success Program
- Attendees have a general knowledge of design tools

**Capabilities**
- Product Generative Design
How to: Build a digital product catalog in Forge

Learn how to build a proof-of-concept web application for publishing CAD models to a digital product catalog with Autodesk® Forge® & Fusion 360®.

Topics
- Fusion 360® & Forge Platforms
  - App Capabilities
  - Digital Catalog
- Interactive Instructions
- Solution Architecture
- App Deployment
- Expansion Ideas

Who it’s for
- Product Marketing
- Sales Engineers
- Field Engineers

Prerequisites
- Enterprise Success Program
- Attendees have a basic understanding of document management in Fusion Team

Capabilities
- Product Configuration
Introduction to: InfraWorks for conceptual design and visualization

Get familiar with Autodesk® InfraWorks® workflows for developing design alternatives and predicting performance in the built environment.

Topics

- The rapid and conceptual design workflow
- Model housekeeping
  - Road design standards and units
  - Model regeneration
  - GIS data
- Gathering project data
  - Building your existing model
  - Model Builder
- Design and analyze functionality
  - Adding features
  - Aggregation
  - Animated 3D objects
  - Collaborating with InfraWorks
  - Setting up an InfraWorks model on BIM 360
  - Design visualization
  - Terrain view setting
  - Atmospheric effects
  - Presentation tools
  - Re-use
  - Data exchange
  - Design visualization

Who it’s for

- VDC Managers
- Designers
- Urban and Master Planners
- Architects
- GIS Analysts
- Civil Engineers

Prerequisites

- Enterprise Success Program
- Attendees should have basic knowledge of InfraWorks

Capabilities

- Visualizations & Animations
- Concept Design
Learn how to connect CAD data streams to rich AR/VR environments using Autodesk® Forge®.

**Topics**
- Achieving digital transformation with Forge platform
- Preparing CAD models for AR/VR workflows
  - The AR/VR toolkit
  - The administration console
  - The translation pipeline
  - gITF output
- Authoring AR/VR instructions
- Solution architecture

**Who it’s for**
- IT Managers
- Manufacturing Engineers
- Field Engineers
- Service Technicians

**Prerequisites**
- Enterprise Success Program
- Attendees should have basic knowledge of the Forge platform and AR/VR technologies

**Capabilities**
- AR / VR / Immersive Design
Learn how to set up model coordination, perform clash detection, and resolve coordination issues in Autodesk® BIM 360®.

Topics

- Setting up coordination spaces
  - Creating coordination spaces
  - Overview of coordination spaces
- Assigning permissions
- Managing models
- Working with Revit, AutoCAD, and IFC files
- Creating saved views

Who it’s for

- VDC Managers
- VDC Engineers
- Architects
- MEP Engineers

Capabilities

- Coordination
- Construction Administration
- Design Coordination and Review

Prerequisites

- Enterprise Success Program
- Attendees understand how the Plans Folder works within Document Management
- BIM 360 Tenant enabled
Get familiar with Autodesk® Civil 3D® workflows for managing complex corridor geometry with Sub-Assembly Composer (SAC).

**Topics**
- Why sub-assembly composer?
- Overview of the SAC Interface
- Developing a custom sub-assembly
- Composing simple sub-assemblies
- Importing and modelling corridors using a custom sub-assembly in Civil 3D
- SAC Tips & Tricks

**Who it’s for**
- Civil Designer
- Civil Engineer
- Civil Technician
- Civil Drafter

**Capabilities**
- Road and Highway Model Authoring
- Rail Track Model Authoring

**Prerequisites**
- Enterprise Success Program
- A detailed understanding of Corridor Design within Civil 3D, including:
  - How Subassemblies and Assemblies are combined
  - How Assemblies are used within corridor modeling
  - How Targeting is used during the Corridor generation process
- Civil 3D 2013 or later installed
- Civil 3D Subassembly Composer installed
How to: Set up Civil 3D for AEC projects

Learn about project structures, the Civil 3D object catalog, data management best practices, and the importance of purpose-driven drawing templates in Autodesk® Civil 3D®.

Topics

- Setting up for data management
  - Data management overview
  - XREFs in Civil 3D
  - DREFs (data shortcuts)
  - Data management applications
  - Civil 3D and BIM 360®
- Standardized templates, styles, and catalogs
  - Why Civil 3D needs templates
  - Why Civil 3D projects use more than one template
  - Display and label styles for intent and purpose
  - Sharing styles across drawings
  - Special templates for plans production
  - How to use reference templates
  - Accommodating BIM mandates
  - Sharing Civil 3D object catalogs
  - Why Civil 3D needs object catalogs
  - Overview of tool palettes
  - Pipe network catalogs
  - Corridor modelling and subassemblies catalogs
  - Review of the Design Center function and tools

Who it’s for

- BIM Managers
- Civil Engineers

Prerequisites

- Enterprise Success Program
- Attendees have completed “How To: Optimize large data sets in Civil 3D”

Capabilities

- Road and Highway Model Authoring
- Data Enrichment, Management and Delivery
- Rail Track Model Authoring
Introduction to: Dynamo for linear structures

Learn how to use Dynamo to access Autodesk® AutoCAD® and Civil 3D® data, build your own graph, and automate repetitive tasks.

Topics
- Computational BIM overview
- Dynamo for Civil 3D
  - AutoCAD nodes
  - The Civil 3D node hierarchy
- Examples
  - From linear to cartesian system
  - Discrete element placement
  - Transformation
  - Adding attributes
  - Geometry creation

Who it’s for
- BIM Managers
- Civil Engineers

Prerequisites
- Enterprise Success Program
- Attendees should have a basic understanding of Civil 3D & Dynamo

Capabilities
- Computational Design
Learn how to review models, resolve clashes, and address problems before they reach the construction site with BIM 360®.

**Topics**
- Aggregating models
- Creating model views
- Navigating models
- Viewing clashes
- Creating issues from clashes
- Distributing issue reports
- Model updates

**Who it’s for**
- VDC Managers
- VDC Engineers
- Architects
- MEP Engineers

**Prerequisites**
- Enterprise Success Program
- Attendees understand how to enable Model Coordination
- Attendees have BIM 360 Tenant enabled

**Capabilities**
- Coordination
- Design Coordination and Review
How to: Automate Revit design workflows with Dynamo

Learn how to identify relevant Revit® tasks for Autodesk® Dynamo®, build a graph, organize and document graphs, and automate repetitive structural tasks.

Topics
- Understanding the BIM workflow
- Visual programming and textual code
- Managing Revit parameters
- Creating Revit elements
- Connecting Revit with Excel
- Lists and lacing
- Code block syntax
- Overview of Dynamo versions and Dynamo Player

Who it’s for
- BIM Managers
- Advanced Revit Users

Prerequisites
- Enterprise Success Program
- Attendees should have advanced knowledge of Revit

Capabilities
- Process Automation
- Computational Design
Learn how to set up Autodesk® Forge™ and develop applications using the authentication, data management, and BIM 360® APIs.

**Topics**

- Setting up Forge
  - Your Autodesk ID and Forge account
  - Forge apps
  - Securing Forge apps
  - Tracking usage
- The authentication API
  - Using OAuth2
  - Overview of OAuth
  - Client IDs and secrets
  - Types of authentication
  - Access tokens
  - Authentication scopes
- The data management API
  - Transferring data between Autodesk and storage
  - Uploading objects
  - Uploading files
- The BIM 360 API
  - Adding custom integration
  - BIM 360 Issues Editor
  - Supported operations

**Who it’s for**

- Web Developers
- Desktop Programmers
- Project Managers
- BIM Specialists
- BIM Managers

**Prerequisites**

- Enterprise Success Program
- Attendees should have a basic understanding of Forge

**Capabilities**

- Cloud-based Process Automation

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Accelerators

Learn how to set up Autodesk® Forge™ and develop applications using the authentication, data management, and BIM 360® APIs.
Get familiar with Autodesk® CFD workflows to predict product performance, optimize designs, and validate product behavior before manufacturing.

Topics

- Overview of workflows and CFD set-up
  - Geometry
  - Materials
  - Boundary Conditions
  - Meshing
  - Solve
- Results interpretation for CFD studies and decision making
- Understanding CAD to CFD interoperability
- Applying relevant changes to optimize a model for Simulation

Who it’s for

- Project Managers
- CAD Managers
- Architects/Engineers

Prerequisites

- Enterprise Success Program

Capabilities

- Simulation
- CFD Analysis
Learn about project templates, coordinate systems, model strategy, model maintenance, working with links, and performance best practices in Autodesk® Revit®.

Topics
- Before starting a project
  - Project Templates
  - View Templates
  - Transfer Project Standards
  - System Family files library
- Coordinate Systems
- Model Strategy
  - Model size - Split Model
  - Concept of Model file / Layout file
  - Worksharing and Worksets
- Model Maintenance
  - Audit / Purge / Compact
  - Warnings
  - Review using Schedules
- Working with Links
  - About linking *.rvt
  - Levels and grids. Copy/Monitor
  - About linking *.ifc
  - About linking *.dwg
- Performance Best Practices
  - Revit Updates
  - Revit Links
  - Model Groups
  - Rooms & Spaces
  - Views
- Automation with Dynamo
  - Excel data transfer
  - Family Management: Bulk load from folder
  - Export warnings and impacted element’s ID to Excel

Who it’s for
- BIM Manager
- Revit Users
- Project Manager

Prerequisites
- Enterprise Success Program
- Attendees should have a basic understanding of Revit

Capabilities
- Model Authoring
- Civil Structure Model Authoring
- Design Detailing
- Design Authoring
Learn how to use established Civil 3D® workflows to collaborate on Civil 3D data shortcut projects including design files, data shortcuts, and external references in BIM 360®.

**Topics**
- Collaboration for Civil 3D
- What’s required
- Working with Projects in BIM 360
- Document Locking in Civil 3D
- Project Management
  - Entity vs. Object Management
  - Data Management
  - Drawing & Object Relationships
  - Project Collaboration
- Referencing Data
  - Data Shortcuts 101
  - High Level Workflow
  - Setting Up your Project
  - Using data references
  - Migrating existing projects
- Best Practices
  - Desktop Connector
  - BIM 360
  - Civil 3D
  - Data Management

**Who it’s for**
- Superintendents
- Project Engineers & Field Engineers
- Project Managers
- BIM Managers
- Civil Engineers
- Civil Designers

**Prerequisites**
- Enterprise Success Program
- Attendees should have:
  - A basic level of how to build a corridor model using Civil 3D
  - Attended Introduction to BIM 360 Design for Civil 3D

**Capabilities**
- Model Co-authoring
How to: Set up a Civil 3D project in BIM 360 Design

Learn best-practices for setting up Civil 3D® projects in BIM 360® Design, including roles and responsibilities and how to migrate existing projects to the cloud.

Topics
- End-User Requirements
- Role of Account Administrator
- Creating a project as Account Admin
- Role of Project Administrator
- Adding users to the project
- Adding folders and permissions
- Migrating existing Civil 3D projects to the cloud
  - “Packing” for the move to BIM 360
  - Desktop Connector Overview
- Moving the Project Directory
- Migrating existing project folders
- Desktop Connector Syncing
- Connecting to a project as an Invited User
  - Opening files from the Hub
  - Locking, Versioning, and Syncing
  - Opening Civil 3D files from BIM 360
  - Data shortcuts in the cloud

Who it’s for
- Superintendents
- Project Engineers
- Field Engineers
- Project Managers

Capabilities
- Model Co-authoring

Prerequisites
- Enterprise Success Program
- Attendees should have a basic understanding of Civil 3D
How to: Plan productions in Civil 3D

Learn how to produce 2D plan-profiles to supplement 3D models in Civil 3D®.

Topics

- Styles
  - Civil 3D object styles
  - Corridor styles
  - Label and table styles
  - Band styles
- Templates
  - View scale
  - Title block
- 2D Plan deliveries
  - Plan and profile view
  - Cross section view
  - Tips and tricks

Who it’s for

- Civil Engineers
- BIM Managers

Prerequisites

- Enterprise Success Program
- User should know have a basic knowledge in infrastructure design

Capabilities

- Digital Drafting
- Road and Highway Model Authoring
- Rail Track Model Authoring
Get familiar with using project, family, shared, and global parameters to define and modify elements and communicate model information in Revit®.

Topics
- Overview of Revit parameters
- Selecting which parameter to use
- Types of parameters
  - Shared parameters
  - Project parameters
  - Global parameters
  - Family parameters
  - The Dynamo managing parameter
- Managing parameters
- Best practices

Who it’s for
- Building Engineers
- MEP Engineers
- Structural Engineers
- BIM Managers
- BIM Designers

Prerequisites
- Enterprise Success Program
- Attendees should have a basic understanding of AEC design and Revit

Capabilities
- Model Authoring
- Civil Structure Model Authoring
- Design Detailing
- Design Authoring
Learn how to create Revit® families, use advanced loading techniques, and work with families within a project.

**Topics**
- Overview of Revit families
- Revit elements
- Kinds of families
  - System families
  - Loadable families
  - In-place families
- Host-based and standalone families
- Cuttable and non-cuttable families
- Working with solids and voids
- Creating Revit Families
- Family parameters
- Reference planes
- Reference lines
- Advanced loadable Revit family techniques
  - Nesting families
  - Work plane-based families
  - Vertical families
  - Room-aware families
- Revit family and project interaction
  - Replacing a family
  - Loaded families
  - Type catalogs
  - Upgrade families
  - Automation with Dynamo

**Who it’s for**
- Building Engineers
- MEP Engineers
- Structural Engineers
- BIM Managers
- BIM Designers

**Prerequisites**
- Enterprise Success Program
- Attendees should have basic knowledge in Revit

**Capabilities**
- Model Authoring
- Civil Structure Model Authoring
- Design Authoring
- Design Detailing
Learn how to quickly plot, print, and publish the entire project site into multiple sheets as tiles.

**Topics**
- Map book overview
- Why map books are needed
- Where the map book tool can be used
- Setting up a map book
- Creating a map book
- Publishing a map book

**Who it’s for**
- BIM Manager
- BIM Coordinator
- Project Manager

**Prerequisites**
- Enterprise Success Program
- Attendees should have a basic understanding of AutoCAD®, Map 3D, and Civil 3D®

**Capabilities**
- Data Enrichment, Management and Delivery
- Existing Conditions Modeling
Learn how to review models, mark-up, create issues, and compare versions on infrastructure projects with BIM 360® Document Management.

Topics
- Model Reviews
  - Storage in Document Management
  - 3D & properties
  - Structured Review Workflows within BIM 360
- Mark-ups and Issues
  - Mark-up Permissions
  - Creation and visibility
  - Reviewing mark-ups
  - Issue overview
  - Issue permissions
  - Issue configurations
  - Creating an issue
  - Visual clash detection
  - Measuring validation
  - Mobile application
  - Compare versions

Who it’s for
- Project Leads
- Project Managers
- Project Engineers

Prerequisites
- Enterprise Success Program
- Attendees should have a working knowledge of Navisworks

Capabilities
- Design Coordination and Review
Learn best-practices for starting new projects with AutoCAD® Plant 3D including planning, training and administration.

**Topics**
- Executive Summary / Project Kick-off Timeline Example
- Planning, support and setup checklist
- Network infrastructure for Plant 3D projects
- Project team collaboration using the cloud

**Who it’s for**
- Project Managers
- CAD Admins
- Pipe Design Leads

**Prerequisites**
- Enterprise Success Program
- Attendees should have a basic knowledge of process pipe design (previous experience with AutoPLANT, CADWorx, SmartPlant 3D, etc.)

**Capabilities**
- Model Authoring
Introduction to: Data extraction with Dynamo for Civil 3D

Learn how to enhance design data by importing and exporting to Microsoft Excel from Dynamo and Civil 3D®.

Topics
- What Dynamo for Civil 3D is and where to get it
- Overview of Dynamo
- Interrogating your Civil 3D geometry and models from within Dynamo
- Linking Dynamo and Excel
- Enriching your design with elements and information
- Dynamo for data extraction and linking in Civil 3D

Who it’s for
- Project Lead Engineers
- Design (CAD) Managers
- Discipline Specialists
- BIM Managers
- Civil Engineers

Prerequisites
- Enterprise Success Program
- Attendees should have a basic understanding of Civil 3D, Dynamo, and Excel

Capabilities
- Data Enrichment
- Management and Delivery
Learn how to coordinate, review, and present your infrastructure models with Navisworks®.

**Topics**
- Navisworks file types and model aggregation
- Clash detection
- TimeLiner
- Model review
- Walkthroughs

**Who it’s for**
- Project Managers
- Civil Engineers/Designers

**Prerequisites**
- Enterprise Success Program
- Attendees should have a basic understanding of workflows for trades and disciplines coordination and the file types they provide to General Contractors

**Capabilities**
- Design Coordination and Review
- Visualizations & Animations
Learn how to identify and resolve clashes in Revit models using 2D overlays, Navisworks®, BIM 360®, and Dynamo.

**Topics**
- Reviewing clashes using 2D DWG overlay
  - Checking detection in Revit
  - Interference check in Revit
  - Revit warnings on overlapping elements
- Integrating Revit with Navisworks and BIM 360 for clash detection
  - Clash detection features in Navisworks
  - Uploading Revit files to BIM 360 model coordination
- Detecting and resolving clashes with Dynamo
  - Viewing clashes in Revit
  - HTML interference report exported from Revit
  - Parsing and extracting the element IDs
  - Creating a generic model to be placed at clash locations
  - Placing the clash family and filter by levels

**Who it’s for**
- Architects
- Design Engineers

**Capabilities**
- Design Coordination and Review
- Coordination

**Prerequisites**
- Enterprise Success Program
- Attendees should have a working knowledge of Revit
Introduction to: BIM 360 Design Collaboration

Get familiar with the relationship between Document Management and Design Collaboration in BIM 360® Design.

**Topics**

- Benefits Design Collaboration
- Activating Design Collaboration
- Integrating Design Collaboration into a project
- Workflow best-practices
  - Setup
  - Project Administration
  - Data Recovery

**Who it’s for**

- Owners
- VDC Managers
- Architects
- Project Managers
- Engineers
- End Users

**Prerequisites**

- Enterprise Success Program
- Basic knowledge of Design Collaboration, Document Management, Revit Cloud Worksharing

**Capabilities**

- Design Collaboration
- Model Co-authoring
Learn how to set-up and manage team members, folders, and permissions and get familiar with the basic functionality of BIM 360® Docs for infrastructure projects.

### Topics
- Getting started with BIM 360 Docs
- Folder set-up and permissions
- Project member management
- Mark-ups and issues
- File versioning
- Comparing design documents
- Viewing 2D and 3D models
- OCR tools for plans production
- Mobile devices for commissioning and communication
- Tools for topographic surface exchange between Civil 3D® and Revit®
- Tools for collaboration with InfraWorks®

### Who it’s for
- MEP Engineer/Designer
- Visualization Specialist
- IT Manager
- Structural Engineer/Designer
- Civil Engineer/Designer
- Bridge Engineer/Designer,
- Roads & Highways Engineer/Designer
- BIM Manager

### Prerequisites
- Enterprise Success Program
- Attendees should have a basic understanding of civil engineering design tools

### Capabilities
- Model Co-authoring
Get familiar with creating animations & realistic renders for infrastructure models in 3ds Max®.

### Topics
- Exporting infrastructure models from Civil 3D
- Importing into 3ds Max
- Model optimization
- Creating animations
- Rendering with Arnold

### Who it’s for
- Visualization Specialist
- BIM Manager
- Design Engineers
- Visualizers

### Prerequisites
- Enterprise Business Agreement (EBA)
- Attendees should have a basic working knowledge of Civil 3D

### Capabilities
- Visualizations & Animations
Get familiar with planning construction sites in a live environment in InfraWorks® using design data, proposals, and traffic simulation.

**Topics**
- InfraWorks
- Civil 3D
- Traffic simulation
- Point Cloud

**Who it’s for**
- Site Execution Managers
- Schedulers
- Designers

**Prerequisites**
- Enterprise Business Agreement (EBA)
- Attendees should have a basic working knowledge of Civil 3D and InfraWorks

**Capabilities**
- Visualization
Learn how to model how people move in closed spaces to assess social distancing and adherence to WHO guidelines.

**Topics**
- Introduction to Mobility Simulation
- Modelling People's movement in large, enclosed public spaces
- Modelling People's movement in small, enclosed public spaces
- COVID-19 challenges constraining design
- Mobility simulation’s applications to COVID-19 challenges

**Who it’s for**
- Architectural Designers
- Site/ Resident Engineers
- Land/Site Designers
- Landscape Architects
- Urban Planners
- Municipal/Urban Engineering

**Prerequisites**
- Enterprise Success Program

**Capabilities**
- Simulation
- Mobility Simulation
Get assistance from Autodesk® experts to review and evaluate your IT infrastructure readiness for Autodesk BIM 360® cloud services.

**Topics**

- Discovery of your current system and network infrastructure
- Identifying offices/sites that will adopt Autodesk cloud services
- A detailed walkthrough of system and network requirements
- Best practices for Autodesk cloud services
- Metrics and data gathering with technical tools

**Who it’s for**

- IT Managers

**Prerequisites**

- Enterprise Success Program

**Capabilities**

- IT Infrastructure Readiness
Learn how to develop deeper insights into the tools, project framework, and roles and responsibilities expected for roads and highways projects.

**Topics**

- Define Employers Information Requirements for the Project
- Select the right tools for the job
- Define communication and collaboration methods to be used to improve information flow
- Set roles and responsibilities for the project
- Identify long term goals for the project
- Assess operation & management requirements
- Define the project delivery life cycle from survey to handover
- Determine code compliance
- Determine the design requirements for road safety and sustainability for optimal roadway designs

**Who it’s for**

- Contract Managers
- BIM Managers
- VDC Managers

**Prerequisites**

- Basic understanding of BIM and project requirements

**Capabilities**

- BIM Standards Management
Are you sure the team is following the standards you set?

Learn how to set the standards your team should follow for consistency between projects, and how to ensure the team follows those standards.

**Topics**
- Create your drawing to use as a standard checker
- Perform a standards audit
- Use the Batch Standards Checker application
- Associate a standards file with the current drawing
- Change order of standards files
- Learn about Layer Translations

**Who it’s for**
- CAD Managers
- CAD Drafters
- CAD designers

**Prerequisites**
- Basic understanding of AutoCAD

**Capabilities**
- BIM Standards Management
Enhance BIM Data in Civil 3D Using Property Set Styles

Learn how to add user-defined information to your Civil 3D Model and manage that data in your expanded workflows.

**Topics**
- Properly define your Property Sets using the Style Manager
- Assign Property Sets to your objects
- Automatically assign Property Sets to NEW Objects
- Access and utilize the custom properties within your expanded BIM workflows

**Who it’s for**
- Designers
- Engineers
- GIS
- Contractors

**Prerequisites**
- Basic understanding of Civil 3D
- Basic understanding of how to model Civil 3D design objects (recommended)

**Capabilities**
- Information Management
Grading Optimization automates time-consuming grading tasks in Autodesk Civil 3D. Autodesk Grading Optimization is an interactive tool that facilitates grading various land areas such as sites, ponds, road interchanges, and around structures.

### Topics
- Prepare your Drawing for Grading Optimization
- Understand the User Interface and Object Browser
- Assign grading objects to your geometry
- Apply proper settings and constraints, and add those to your drawing
- Work in and understand the Visualization Display
- Perform a grading optimization and return the results to your drawing

### Who it’s for
- CAD Managers
- CAD Drafters
- Designers
- Engineers

### Capabilities
- Drainage Model Authoring

### Prerequisites
- Autodesk Civil 3D 2022 or newer with Grading Optimization add-in installed
- AutoCAD knowledge (all levels)
- Autodesk Civil 3D knowledge (beginner to intermediate)
Accelerators

Markups speed up the decision-making process with the ability to instantly communicate questions, changes, and other information regarding the project drawings and models. You’ll learn how to allow team members to provide comments and mark-up in Autodesk Docs, and how to track issues and a document's status.

Topics

- Learn how to create an approval workflow
- Learn how to create a Review in Autodesk Docs
- Learn how to review the documents using comments and markup
- Understand how to take a document set through the review process

Who it’s for

- CAD Managers
- BIM Managers
- Project Managers
- BIM 360 Admins

Prerequisites

- Autodesk Docs
- Know how to create a project in Autodesk Docs
- Know how to invite and configure users
- Know how to upload files and set permissions

Capabilities

- Document Management
Upload Models and Documents to the cloud using Autodesk Docs

Uploading project files and setting permissions is key to a successful document management process. In this Accelerator, you learn how to upload your project data and set permissions to access the data in Autodesk Docs.

**Topics**
- Create folders in Autodesk Docs
- Evaluate where to upload data based on its type and requirements
- Upload project data to the Project Files Location
- Set permissions on folders in the Project Files location
- Upload construction data to the Project Files Location
- Set permissions on folders in the For the Field location

**Who it’s for**
- CAD Managers
- BIM Managers
- IT Admins
- BIM 360 Admins

**Prerequisites**
- Autodesk Docs
- Know how to create a project in Autodesk Docs
- Know how to invite and configure users

**Capabilities**
- Document Management
Markups speed up the decision-making process with the ability to instantly communicate questions, changes, and other information regarding the project drawings and models. Learn how to allow team members to provide comments and mark-up in Autodesk BIM Collaborate, and how to track issues and document status.

**Topics**
- Learn how to create markups
- Learn how to create Issues
- Understand how to review issues and markups
- Understand relationship between WIP and Package issues and markups
- Understand how to use issues and markups to communicate with teams

**Who it’s for**
- CAD Managers
- BIM Managers
- BIM Collaboration Admins
- Design Team

**Capabilities**
- Document Management
- Design Review

**Prerequisites**
- Autodesk Docs
- Autodesk BIM Collaborate
- Design Collaboration Module
- Know how to create a project in Autodesk Docs
- Know how to invite and configure users
- Know how to upload files and set permissions
In this Accelerator, you learn how to create a transmittal inside Autodesk Docs to issue document sets to the wider project team. Create an audit trail that tracks the nature of the transmittal, including specific document versions included, the members involved in the transmittal, and when any actions around it took place.

**Topics**
- Create a folder structure for consuming transmittal data
- Create a new transmittal
- Learn to configure a transmittal
- Understand how to consume a transmittal

**Who it’s for**
- CAD Managers
- BIM Managers
- Project Managers
- Project Team leads

**Prerequisites**
- Autodesk Docs
- Know how to create a project in Autodesk Docs
- Know how to invite and configure users
- Know how to upload files and set permissions

**Capabilities**
- Document Management
**Upload/share Project Models Using Autodesk BIM Collaborate**

Uploading and sharing project files is the first step in establishing a successful document management process, and it’s essential to ensure the right people have access to the right information inside Autodesk BIM Collaborate. Learn how to share your project models with other Teams using Autodesk BIM Collaborate.

### Topics
- Create packages in Design Collaboration
- Understand how to view other teams’ packages
- Consume a package in Design Collaboration

### Who it’s for
- CAD managers
- BIM Managers
- IT
- BIM 360 Admins

### Prerequisites
- Autodesk Docs
- Autodesk BIM Collaborate
- Design Collaboration
- Know how to create a project in Autodesk Docs
- Know how to invite and configure users
- Know how to upload files
- Know how to enable Design Collaboration
- Know how to create Teams and setup folders in Design Collaboration

### Capabilities
- Document Management
Synchronize changes with the cloud to make sure all updates on the model can be accessed by everyone on the internal/external teams.

**Topics**
- Learn how to sync Revit changes back to the cloud central file
- Learn how to initiate collaboration to the cloud on a Revit model

**Who it’s for**
- BIM Managers
- Revit users

**Prerequisites**
- Autodesk Docs
- Autodesk Revit
- Autodesk BIM Collaborate Pro
- Know how to create a project in Autodesk Docs
- Know how to invite and configure users to Autodesk Docs
- Know how to create a Revit model

**Capabilities**
- Document Management
In this Accelerator, learn how to create a project site in Autodesk Docs and define the folder structure. You’ll also apply folder permissions to ensure the right people have access to the right data.

**Topics**
- Learn how to accept invitations to Autodesk Docs
- Understand how to create an organized folder structure
- Understand how to assign permission and access to folders
- Learn how to subscribe to folder changes

**Who it’s for**
- CAD Managers
- BIM Managers
- IT
- BIM 360 Admins

**Prerequisites**
- Autodesk Docs
- Know how to create a project in Autodesk Docs
- Know how to invite and configure users
- Know how to upload files

**Capabilities**
- Document Management
In this Accelerator, learn how to create a project site in Autodesk BIM Collaborate and define the folder structure. You’ll also apply folder permissions to ensure the right people have access to the right data.

**Topics**
- Understand how to enable Design Collaboration for a project
- Learn how to create Teams in Design Collaboration
- Understand how to assign permission and access to Team folders
- Learn how to enable email notifications for changes to team packages.

**Who it’s for**
- CAD Managers
- BIM Managers
- IT Admins
- BIM 360 Admins

**Prerequisites**
- Autodesk Docs
- Know how to create a project in Autodesk Docs
- Know how to invite and configure users
- Know how to upload files

**Capabilities**
- Document Management
In this accelerator, you learn how to establish clash detection and review standards involving establishing roles and responsibilities for the key project personas, documenting priorities in the project’s BEP and Clash Detection Matrix.

**Topics**
- Define and Assign roles and responsibilities for BIM managers, coordinators, project managers and designers to participate in a coordination process
- Deploy a repeatable and automated (where appropriate) approach for clash avoidance between disciplines
- Streamline collaboration between disciplines
- Collaboratively work on the clash matrix to identify clashes and prioritize them

**Who it’s for**
- BIM Managers
- Coordinators
- Project Managers
- Design Leads
- Architects
- Mechanical Designers
- Structural Engineers

**Prerequisites**
- Autodesk Revit
- Navisworks
- BIM 360 Model Coordination
- Autodesk Construction Cloud Collaborate (Pro)
- Completion of “Coordinate and resolve clashes with BIM 360” Accelerator
- Completion of “BIM Execution Plan”

**Capabilities**
- Design Review
Learn how to take advantage of the latest design productivity enhancements in AutoCAD that have been introduced to automate key design processes.

### Topics
- Display multiple drawings as separate floating windows.
- Measure distances, angles, and areas of objects using the Quick Measure tool.
- Remove and extend certain parts of objects in a drawing.
- Insert blocks into the current drawing using the various tabs of the Blocks Palette.
- Remove unused or unreferenced elements in a drawing.
- Compare drawings to highlight differences between them.
- Compare the original and the modified externally referenced drawings.
- Create different types of revision clouds and modify their arc length property.
- Create named views and insert them as viewports.
- Modify the viewports in the layout using grips.
- Convert geometric objects that were originally SHX text into Mtext string objects.
- Work with the layer property overrides of the externally referenced drawing files.
- Learn about the various AutoCAD specialized toolsets.

### Who it’s for
- Engineers
- Designers

### Prerequisites
- Autodesk Account
- Autodesk AutoCAD

### Capabilities
- Mechanical Drafting
Learn how to take advantage of the latest features in AutoCAD that have been designed to streamline the design review process.

**Topics**
- Save different versions of the drawing on cloud storage services.
- Compare drawings to highlight differences between them.
- Compare the original and the modified externally referenced drawings.
- Count the blocks and objects in a drawing.
- Mark up a drawing using the Trace tool in the Autodesk AutoCAD web app and review those markups in the AutoCAD desktop software.
- Measure distances, angles, and areas of objects using the Quick Measure tool.
- Remove unused or unreferenced elements in a drawing.
- Create different types of revision clouds and modify their arc length property.

**Who it’s for**
- Engineers
- Designers

**Prerequisites**
- Autodesk Account
- Autodesk AutoCAD

**Capabilities**
- Mechanical Drafting
Achieve better collaboration with both internal and external stakeholders by adopting the latest collaboration tools within AutoCAD.

**Topics**
- Share a copy of the current drawing on the cloud.
- Open, review, mark up, and edit a shared drawing in the Autodesk AutoCAD web app.
- Share views in the cloud and then to analyze and mark them up in the Autodesk Viewer.
- Save drawings to the cloud to be opened using Internet-connected mobile devices.
- Open the drawings that are saved to the cloud in the AutoCAD desktop software.
- Discover the various cloud collaboration enhancements, such as sharing and managing your files on Autodesk Drive and AutoCAD’s connectivity with Autodesk Drive and other cloud storage providers.
- Understand the Autodesk Docs feature.
- Upload drawing layouts from multiple drawings to an Autodesk Docs project as PDFs.

**Who it’s for**
- Engineers
- Designers

**Prerequisites**
- Autodesk Account
- Autodesk AutoCAD

**Capabilities**
- Mechanical Drafting
AutoCAD Graphics Improvements

Understand what graphical improvements you will benefit from by updating to a newer version of AutoCAD.

Topics
- Learn about the various 2D and 3D graphics display enhancements.
- Learn about the improvements for supporting high-resolution (4K) monitors.
- Learn about the all-new 3D graphics system that is being developed for AutoCAD and for which a technical preview is provided.
- Learn about the enhancements for a better touch experience in AutoCAD using a touch-enabled screen.

Who it’s for
- Engineers
- Designers

Prerequisites
- Autodesk Account
- Autodesk AutoCAD

Capabilities
- Mechanical Drafting
AutoCAD User Interface Enhancements

Learn how the AutoCAD user interface has evolved to increase efficiency and improve the user experience.

Topics
- Learn about the redesign of the Start window.
- Display multiple drawings as separate floating windows.
- Learn about the improvements to the dark theme.
- Learn about the enhancements to the basic layout and features of the AutoCAD software's user interface.
- Learn about enhancements to the software while selecting objects in the drawing window.
- Learn about the preview enhancements to various commands in the AutoCAD software.
- Use the various tabs of the Blocks palette to insert blocks into the current drawing.
- Add multiple dimensions using the DIM command and add Center marks/centerlines to objects.
- Learn about the improvements for supporting high-resolution (4K) monitors.
- Learn about the enhancements for a better touch experience in AutoCAD using a touch-enabled screen.

Who it's for
- Engineers
- Designers

Prerequisites
- Autodesk Account
- Autodesk AutoCAD

Capabilities
- Mechanical Drafting
AutoCAD Performance Enhancements

Understand what performance enhancements you will benefit from by updating to a newer version of AutoCAD.

**Topics**
- Set the various security options to protect against malicious executable files.
- Learn about performance enhancements to the software for better efficiency and enhanced display quality.
- Learn about the enhancements to the software while selecting objects in the drawing window.
- Learn about the preview enhancements to various commands in the AutoCAD software.
- Create named views and insert them as viewports.
- Add multiple dimensions using the DIM command and add center marks/centerlines to objects.
- Learn about the enhancements for a better touch experience in AutoCAD using a touch-enabled screen.

**Who it’s for**
- Engineers
- Designers

**Prerequisites**
- Autodesk Account
- Autodesk AutoCAD

**Capabilities**
- Mechanical Drafting
## How to: Collaborate in BIM 360 Design (Part 1)

Learn how to package, link, and publish Revit® models in BIM 360® Design.

### Topics

- Review of BIM 360 Design modules
- 4 methods for getting Revit models and data into a BIM 360 project
- Linking methods for cloud-initiated Revit models
  - Live linking
  - Shared linking
  - Consumed linking
  - Sharing and consuming a package
  - Linking methods for other files
- Publishing workflows

### Who it’s for

- Administrators
- Project Managers
- Job Captains
- BIM Managers

### Prerequisites

- Enterprise Success Program
- Attendees should have basic knowledge of BIM 360 Design

### Capabilities

- Model Co-authoring
Learn advanced file sharing workflows in BIM 360® Design including data exchange, hyper-model navigation, and how to create and review issues.

### Topics
- Managing data exchange
- Aggregated project model navigation
- Create and review issues
- Review model changes

### Who it’s for
- Administrators
- Project Managers
- Job Captains
- BIM Managers

### Prerequisites
- Enterprise Success Program
- Attendees should have basic knowledge of BIM 360 Design

### Capabilities
- Model Co-authoring
How to: Collaborate in BIM 360 Design (Part 3)

Review best-practices for collaborating in BIM 360® Design and learn how to backup/recover files and troubleshoot issues.

Topics
- The Revit cloud worksharing platform
  - Edge caching
  - Compliance
- Folder structure
- Project set-up and management
- Linking (live, shared, and consumed linking)
- Revit modeling
- Hosting and parametric relationships
- Model maintenance
- Requirements for hardware and bandwidth

Who it’s for
- Administrators
- Project Managers
- Job Captains
- BIM Managers

Prerequisites
- Enterprise Success Program
- Attendees should have basic knowledge of Revit and BIM 360 Design

Capabilities
- Model Co-authoring
- Collaboration
  - PAC and collaboration cache
  - Publishing from Revit®
  - The design automation API for Revit
- Backup and recovery
  - Restoring and downloading
  - Force relinquish of element ownership
- Troubleshooting strategies
- How to read and gather GUID information
Learn how to create a company strategy for handling a Revit® cloud work sharing outage with minimal disruption to your business.

**Topics**
- What a cloud outage means for your project infrastructure
- Checking Revit Cloud Worksharing status
  - How to verify a service outage
  - How to secure a project
- Solutions for cloud outages and their consequences
- Establishing your own company strategy

**Who it’s for**
- BIM Managers
- VDC Specialists
- Project Managers
- Revit Designers
- Design Leads
- Operational IT

**Prerequisites**
- Enterprise Success Program
- Attendees should be familiar with the connected workflows between Revit and BIM 360® Design

**Capabilities**
- Model Co-authoring
How to: Visualize Revit models in 3ds Max

Learn how to quickly create beautiful renderings of Revit® models in 3ds Max® using the Arnold Renderer.

Topics
- Model preparation in Revit
- Setting up 3ds Max
- Importing Revit files into 3ds Max
- Setting up scenes in 3ds Max
- Scene Converter
- Arnold Lighting
- Arnold Rendering

Who it’s for
- Architectural Designers
- Project Architects
- Visualization Specialists

Prerequisites
- Enterprise Success Program
- Users have basic knowledge of 3ds Max and Revit

Capabilities
- Rendering
How to: Review models with visualized walkthroughs

Learn how to navigate an immersive, animated walk-through of a federated model to identify problems using Navisworks®.

Topics

- Preparing federated models for review
  - Navisworks file formats
  - Appending and merging models
  - Transforming models
  - The Appearance profiler
  - Grid and levels
  - Sectioning
- Real-time navigation
  - Steering Wheels
  - View Cube
  - Controlling the realism of your navigation
  - Custom avatars
- Viewpoints
- Reviewing models
- Selecting objects and finding models
- Output viewports and resolving issues

Who it's for

- Project Leads
- Project Managers
- Field/Site Engineers
- Superintendents

Prerequisites

- Enterprise Success Program
- Attendees should have a working knowledge of Navisworks

Capabilities

- Coordination
- Visualization
- Design Coordination and Review
How to: Create high-end visualizations using Arnold

Learn how to create realistic visualizations with your CAD data in the Arnold Renderer for 3ds Max®.

Topics
- Arnold Renderer Overview
- Installing the Arnold Renderer
- Setting up a 3ds Max scene
- Setting up a render
- Denoise solutions
- Switching between rendering on the GPU and CPU

Who it’s for
- Project Managers
- Visualization Specialists
- CAD Engineers

Prerequisites
- Enterprise Success Program
- Users have basic knowledge of 3ds Max and Revit®

Capabilities
- Rendering
# How to: Plan space for health guidelines (COVID-19)

Learn how to plan workspaces that adhere to health guidelines with generative design in Revit®.

## Topics
- Aligning space planning with health guidelines
- Generative design in Revit
- Understanding the generative design approach
- Exploring and integrating selected outcomes
- Understanding space planning tools in Revit
- Sample study in Dynamo

## Who it’s for
- Architectural Designers
- Generative Designers
- Computational Designers

## Prerequisites
- Enterprise Success Program
- Attendees should have a basic familiarity with Revit

## Capabilities
- Generative Design
Learn how to identify areas of risk in buildings and explore mitigation strategies for occupant safety using Autodesk® CFD.

**Topics**
- Overview of safer air quality
- CFD for air quality applications
- CFD for IAQ simulations
  - Setting up CFD for indoor air quality
  - Geometry detail
  - Geometry generation
  - Materials
  - Boundary conditions
  - Meshing
  - Solve Dialog
- Determining the Local Mean Age (LMA) of air
- Using Traces
  - Distancing optimization
  - Office layout comparison

**Who it’s for**
- Site Execution Manager
- Preconstruction Managers
- Simulation Consultant
- Preconstruction Planner/Manager
- Project Manager
- BIM Manager
- Mechanical Engineer
- Project Manager
- Project Leaders
- Project Lead

**Capabilities**
- Simulation

**Prerequisites**
- Enterprise Success Program
- Attendees should have a basic knowledge of Fusion 360 and Revit