RiskyProject Risk Register 7.2

Project Risk Management Software

Risk Register User Guide

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Chapter 1: Introduction to RiskyProject Risk Register

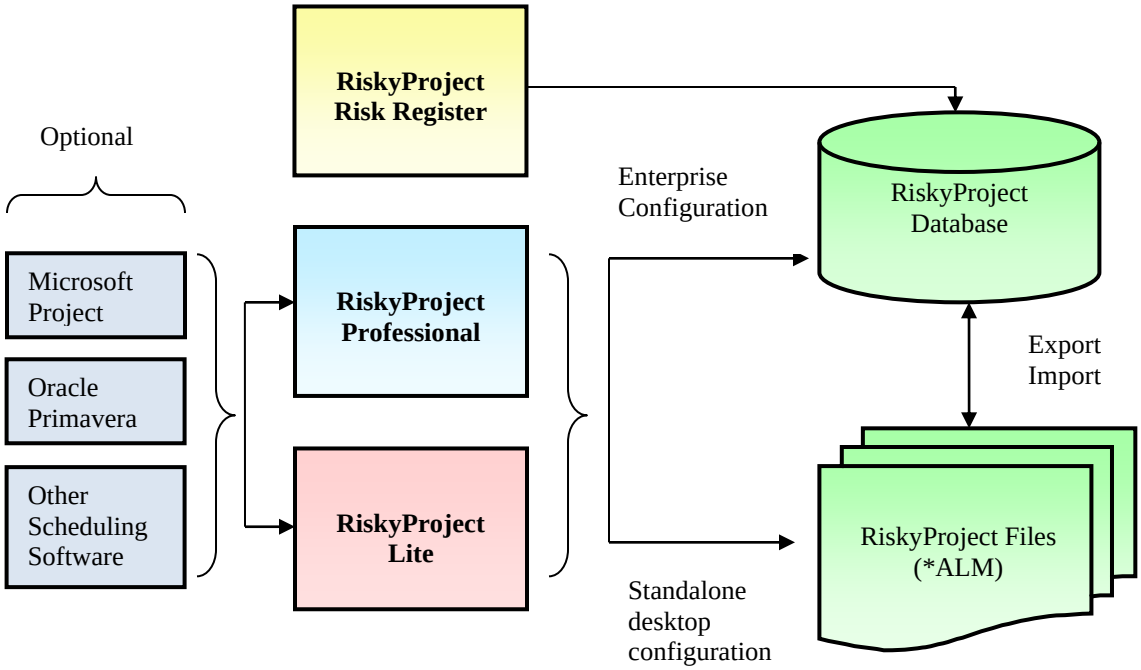
About RiskyProject Risk Register

RiskyProject is a project risk management software. RiskyProject can be configured as standalone desktop software, which saves files to the set of files for each project, or enterprise software, which saves data in the database. As the same installation package is used for both desktop and enterprise versions of the software, switching from one version to another is quick and easy. You can switch from one configuration to another using the RiskyProject License Wizard. RiskyProject Enterprise is a flexible project portfolio risk analysis and management system.

The enterprise system is comprised of three main components:

RiskyProject Server: The server contains the RiskyProject database. For the current version of RiskyProject, the server can be run on a Microsoft SQL Server. The database contains all project and risk data including Monte Carlo simulation results.

RiskyProject Enterprise Desktop Client: The enterprise client is required to perform quantitative risk analysis and management. The client used with enterprise software can be the Professional, Lite, or Risk Register modules. If enterprise client is RiskyProject Professional or RiskyProject Lite, the enterprise client includes three Portfolio views: Risked Projects view, Portfolio Gantt view and Project Portfolio view. These are portfolio-level views of project schedules and costs.



RiskyProject Installation and Configuration

Before you start working with RiskyProject Risk Register, the RiskyProject database must be configured and user names, passwords and portfolio settings must be defined. Please read the *RiskyProject Enterprise Administrator's Guide* for additional information.

Logging on to RiskyProject Risk Register

To logon to RiskyProject Risk Register, you must have a database connection set up.

To logon:

1. Launch RiskyProject. The **Logon** window opens.
2. Enter in your name and password.
3. Click **OK**.

To can recover your password if you forgot it. The temporary password will arrive to you by email. To receive your temporary password you must enter in advance your email address and your system administrator configured email system for RiskyProject. Otherwise you need to contact your administrator by other means.

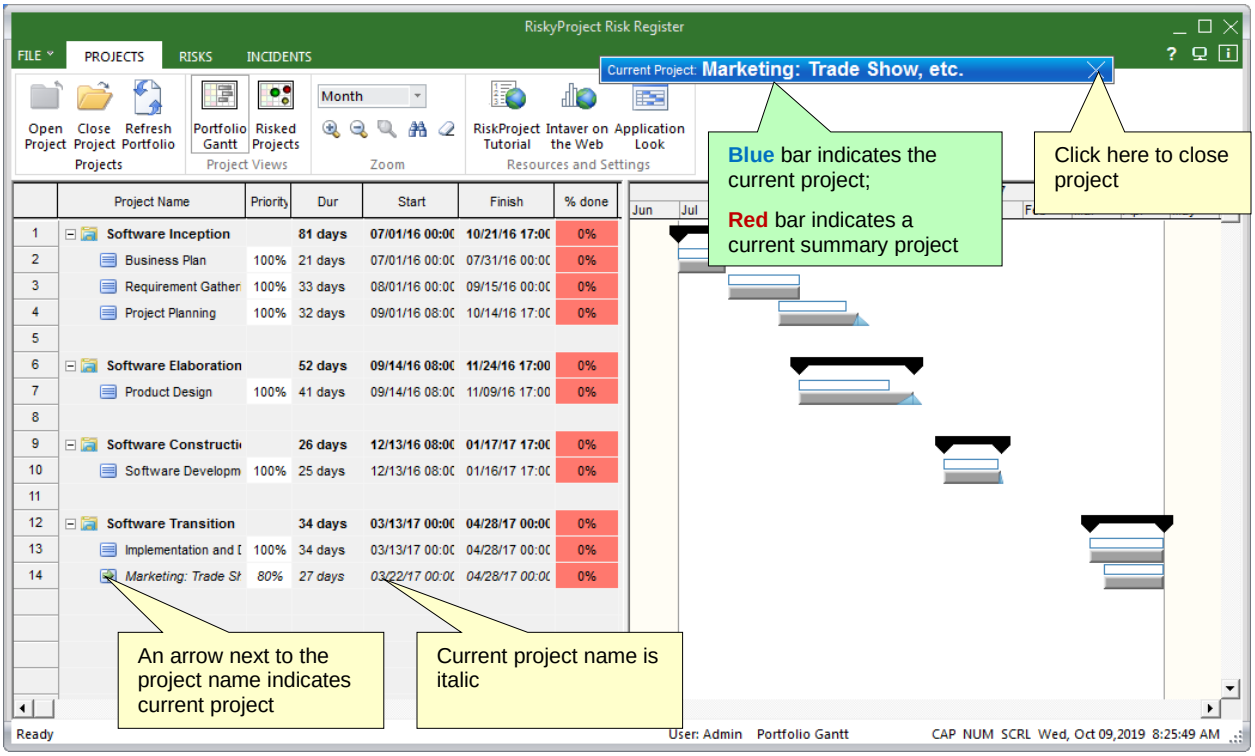
Chapter 2: Managing Projects

About Organizing Your Project Portfolio

A project portfolio is organized similarly to how you organize a project, using summary tasks and sub tasks.

Project Portfolio Hierarchy

In the Portfolio views, programs are represented as summary projects and their data is the rollup of all projects listed under the specific program. You can open and close projects, but you cannot create new project, just create a new row within a view. You can create new project using RiskyProject Professional or RiskyProject Lite linked to the same database.



Opening Projects

To open a project:

1. Select the project in one of the Project views.
2. Click the **Projects** tab, and in the Projects group click **Open Project** or,
    - Double click on Project ID or
    - Right click on Project ID and click on **Open Project** on the shortcut menu

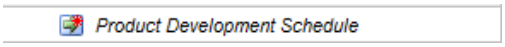
The project will open in the **Schedule > Project Views**.

You can open summary projects or subprojects as long as you have permissions to do so. However, if you open a summary project, you cannot add a project schedule or resources. You may only manage risks associated with the summary project.

If you open a placeholder project, it will not have any tasks or resources associated with it. Once you add at least one task, resource or risk, it will become an active project. Each active project is represented by a Gantt bar in the **Portfolio Gantt** view. A project can contain qualititative risks.

About the Current Project

Once you open a project it becomes the current project, and risk data that is added, modified or deleted is added at the current project level. The current project is indicated by either a green bar for project or red bar for summary project at the top of the RiskyProject workspace. The current project is indicated with *italics* and an arrow next to the project name as in the below example:



A red asterix symbol indicates that the project is currently being edited.

If the **Current Project** bar is not visible, then you are currently viewing the Portfolio. This is especially important if you are in the **Risks** views, as this would mean you are looking at the Portfolio level risk views.

Refreshing the Hierarchy

The hierarchy will be read from the database each time you open any Project view: Project Gantt, Risked Projects, or Project Portfolio. If another concurrent user has modified the hierarchy while you are in any project view, you may need to refresh the project portfolio.

To refresh the project hierarchy:

1. Click the **Projects** tab.
2. Click **Refresh Portfolio**.

Locking and Unlocking Projects

Only one user can open a project at a time. Projects will be locked for all other users if somebody opens a project. Locked projects are indicated by an icon next to the project name. A project will be automatically unlocked when a project is closed.

If a project is locked it can be unlocked by an administrator. As an example, it may be necessary to do so if a user left the project open for a long time period.

To unlock a project or group of projects:

3. Click the **Projects** tab. In the **Project Views** group, click any **Project** view.
4. Select the project you would like to unlock.
5. Right-click on the project ID and from the shortcut menu, click **Unlock Project.**

Modifying Projects

You cannot modify project schedule in RiskyProject Risk Register. It can be done using RiskyProject Professional or RiskyProject Lite linked to the same database. However you can modify project start and finish times if the project does not have a project schedule.

Closing a Project

To close the Current Project:

1. Click on the **X** on the Current Project bar at the top of RiskyProject workspace,
2. Click the **Projects** tab and then **Close Project,** or
3. Right-click on the project ID and from the shortcut menu, click **Close Project**.

If the project has not been saved, you will be prompted to save changes.

Copying and Pasting a Project

You can copy projects and paste projects in your portfolio.

To copy a project:

1. In any **Project** view, select the project that you want to copy.
2. Right-click and choose **Copy** from the shortcut.
3. Select a row in your portfolio where you want to place the copied file.
4. Right-click and choose **Paste**. The copy of the file is placed in the new location.
    - If you select a row with a project in it, the project will be inserted above the selected row. It will not overwrite the existing project.
    - By default, the copy of the project will have the same name. You should rename the copy.

Deleting a Project

Deleting a project deletes it from both the hierarchy and the database.

To delete a project:

1. In any **Project** view, select the project that you want to delete.
2. Right-click and from the shortcut menu choose **Delete**. The project will be deleted from the database.

- You cannot delete the current project. You must close a project before you can delete it.
- You must have appropriate permissions to be able to delete a project.

About the Project Views

The desktop client for RiskyProject Risk Register comes with two views:

- Portfolio Gantt
- Risked Projects

About the Portfolio Gantt View

The Portfolio Gantt view is a Gantt chart view of your project portfolio. In the Portfolio Hierarchy you can view your programs and projects. If you have permission, you can also modify the hierarchy by adding, deleting, moving etc. programs or projects.

Double-click on a Gantt bar to view detailed information about a selected project. See **Viewing Project Details in the Portfolio Views** for more information.

Using Portfolio Gantt view you can visualize:

- Projects with risks and uncertainties alongside original project schedules
- Low and high project durations
- Project performance - tracking bars will be shown
- Low and high project results, which may be shown separately

This information can be presented only if Monte Carlo risk analysis of project schedule is performed in RiskyProject Professional or RiskyProject Lite linked to the same database.

To view the different settings listed above on the Portfolio Gantt view:

- Right-click on the Gantt chart
- Make a selection from the shortcut menu: show current schedule, show both Low/High Results, etc.

About the Risked Projects View

The Risked Project view shows the relative risk associated with a project versus project duration or total project cost. The risk is expressed as:

- project standard deviation of task duration or cost
- maximum or minimum values
- ranges: the difference between maximum and minimum values
- percentiles, or Project Value at Risk (PVatR^{TM}).

In a well-balanced portfolio, different projects will have similar levels of risk. However, if the relative risk associated with a project is higher than similar projects, the project should be flagged for additional analysis. Alternatively, if a project has less relative risk, it may represent an opportunity where additional cost or schedule risk could be transferred to it to mitigate projects with higher risk in your portfolio.

Risked Projects view is implemented similarly to Risk Chart view for the project schedule. Risk Chart view shows a bubble chart for the tasks, while Risked Projects view shows a bubble chart

for the projects. To read more about how to view and use the Risked Projects view, see **Risk Chart** in *RiskyProject User Guide*.

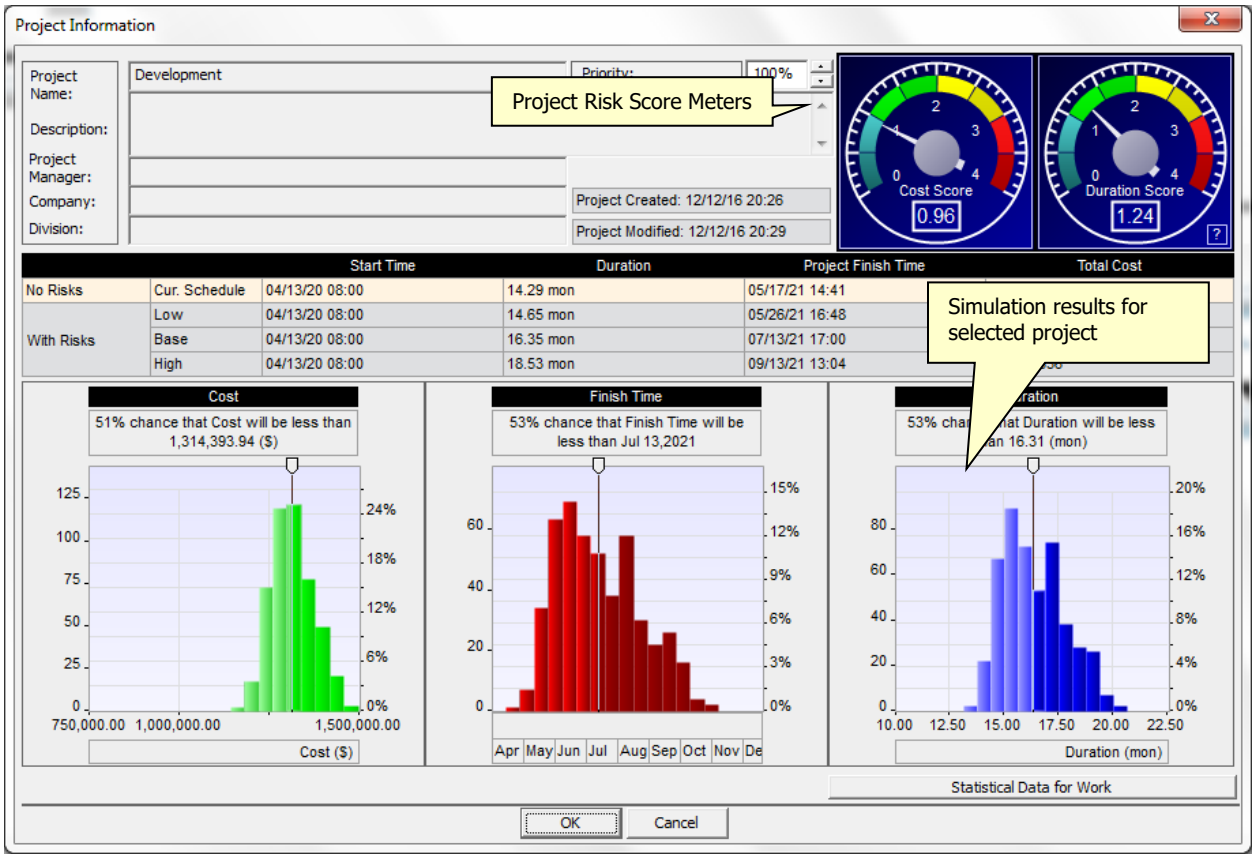
Viewing Project Details in the Portfolio Views

You can view general project information as well as the simulation results for projects .

To view project details:

- Right-click on the **Project ID** and select **Project Details** from the shortcut menu.
- Double-click on a project's Gantt bar on a **Project Gantt** view

The general project information for the selected project will open. This information shows results of Monte Carlo simulations which can be done in RiskyProject Professional and RiskyProject Lite.



- Double-clicking on any chart will bring up the detailed view for each chart.
- You may update priorities, project name, description, and other project information here.

About Project Priorities

The Priority field indicates the level of importance given to the project. The project priority is then used in calculating the risk score for the project. Projects with higher priority will be given a higher weighting in calculating the risk impact.

Priority levels range from 0% - 100%. The lowest priority is 0%. The default priority is 100%. Summary projects (programs) don't have priorities.

Priorities can be changed in any Project view: Portfolio Gantt, Risked Projects, and Project Portfolio. You don't need to open individual projects to change the project priority. You must have appropriate permissions to change a priority:

- Administrators can change priorities for any project
- Managers can change priorities in projects for which he/she has permisson
- Users cannot change priorities

Project priorities are used in the following calculations:

1. Project risk scores for non-schedule risks are multiplied on project priority. Read **The Project Risk Score and Project Ranking** for more information.
2. Risk impact is multiplied on project priority. Here is an example. The project with project priority 50% has a summary project:

Project Name	Priority
Summary Project	
Project #1	50%

Project #1 has a risk assigned to it. For Project #1, the risk register would look like:

Risk Name	Probability	Impact	Score
Risk 1	50%	80%	40%

A risk register with the same risk for a summary project would look like:

Risk Name	Probability	Impact	Score
Risk 1	50%	40%	20%

The risk impact is multiplied on Project #1 priority = 50% for the summary project only.

To reflect project priority in the risk impacts you should open, recalculate and save the project.

About Project Risk Scores and Rankings

Project risk scores represent the level of risk in the project. The project risk score allows you to compare and rank projects based on their risk exposure. Project risk scores are shown in the **Portfolio Gantt** and **Project Portfolio** views.

RiskyProject calculates three risk scores separately:

- For duration
- For cost
- For non-schedule risk categories

How Cost and Schedule Risk Scores Are Calculated

Project duration score is calculated using the following formula:

$$\text{Score} = \frac{\text{Risked Duration}}{\text{Original Duration}}$$

Where:

Risked Duration – could be mean project duration as a result of analysis, mean project duration plus a standard deviation of duration, or a certain percentile of the entire project duration.

Original Duration - Original (baseline) project duration with no risks and uncertainties

- If the project does not have duration risks, the **Duration** score will be equal 1.
- If the Duration risk score is > 1, the project has threats related to duration.
- If the Duration risk score is < 1, the project has opportunities related to duration.

How Non-Schedule and Cost Risk Scores Are Calculated

Risk scores for non-schedule or cost risks are calculated in the following manner:

1. For each project and category there is an array for risk results. For example, if there are two risks “Quality of installation” (probability 50%, impact 30%) and “Quality of manufacturing” (probability 20%, impact 40%), the array for the quality category may look like this:

Iteration	Cumulative Impact
1	0
2	30% + 40% = 70%
3	30%
4	0
5	40%
6	0

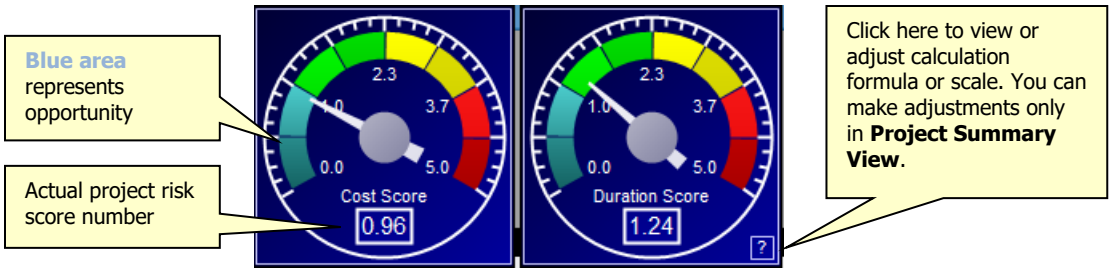
7	0
8	30%
9	30%
10	30%

2. The mean of this array is calculated and multiplied by the weight for each non-schedule risk category
3. The sum of values from Step 2 is calculated for the particular project for all risk categories; this number represents the absolute non-schedule risk score for the particular project.
4. Absolute non-schedule risk scores for all projects are normalized in such a way that:
   - if a project does not have any risks, the score will = 1
   - if a project has opportunities, the score will be < 1
   - if a project has threats, the score will be > 1.

   In this way the risk scores for non-schedule risks will be compatible with risk scores for duration and cost.

Risk Meters

Project risk score factoring in duration and cost only is displayed using the Risk Meter in Project Summary view and the Project Information dialog (see *Viewing Project Details in the Portfolio Views*).



Chapter 3: Managing Enterprise Risks and Incidents

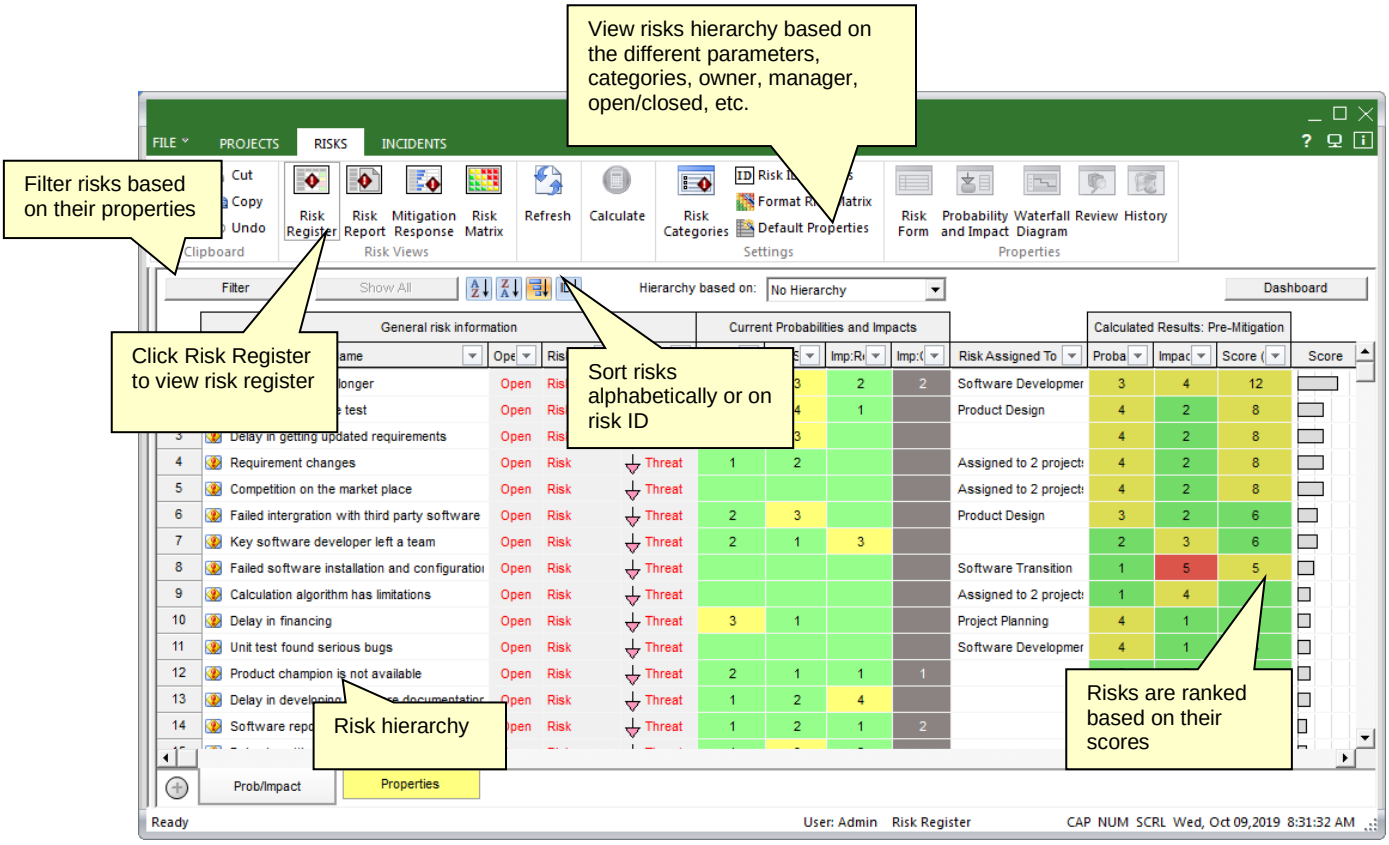
Introduction to Managing Enterprise Risks and Incidents

The Risk Register and Mitigation/Response Plans in RiskyProject Enterprise behave in a manner similar to the standalone desktop version of RiskyProject. However, there are a number of important differences:

- Each time you add a risk to the Risk Register in RiskyProject Enterprise, it will be instantly saved to the database. You can add risks using the **Risk Register** view.
- Similarly, if you add mitigation or response plans, these will be instantly saved to the database and shared between different projects.
- You must have permissions to add, modify or delete risks, mitigation, and response plans.
- Once added to the register, you can share risks among different projects based on their portfolio visibility (approval) settings.
- You may choose to assign risks to specific projects, summary projects, or the enterprise level of the project hierarchy.
- You can assign different probabilities and impacts for the same risk to different projects or levels of the hierarchy.
- Risks can be visible (approved) in some projects and hidden (not approved) in others.
- Risk may have documents associated with them - documents can be any files, including files found in Microsoft Word, Microsoft Excel, Microsoft Power Point, JPEG or Bitmap images, PDF files, among others.

Risk Register

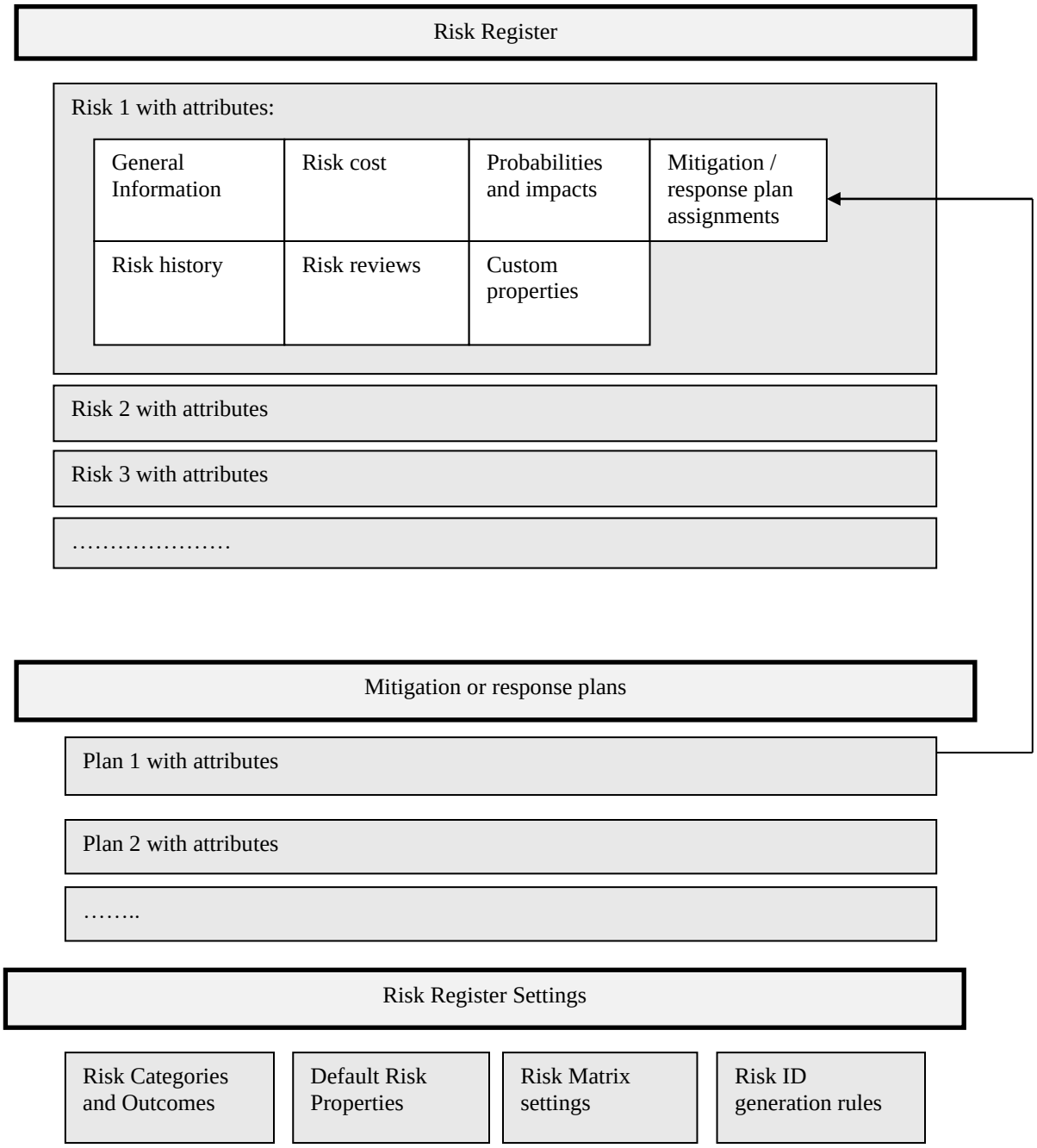
The Risk Register is a set of all the project risks. You can enter risks in either the **Risk Register** views:



Use the Risk Register to:

1. View risks with their attributes such as probabilities, impacts, scores, and properties.
2. Create a risk register hierarchy based on:
   - Risk categories
   - Open/Closed risks
   - Risk/Issues/Lessons Learned
   - Risks assigned to managers
   - Risks assigned to owners
   - Threat mitigation or opportunity mitigation strategies
   - Assigned/Unassigned Risks (active or inactive)
   - Hidden and Visible risks
3. Rank risks based on risk score.
4. Sort risks alphabetically or using risk IDs.

Data for the Risk Register can be subdivided into three categories: risk registry, risk mitigation/response plans, and settings:

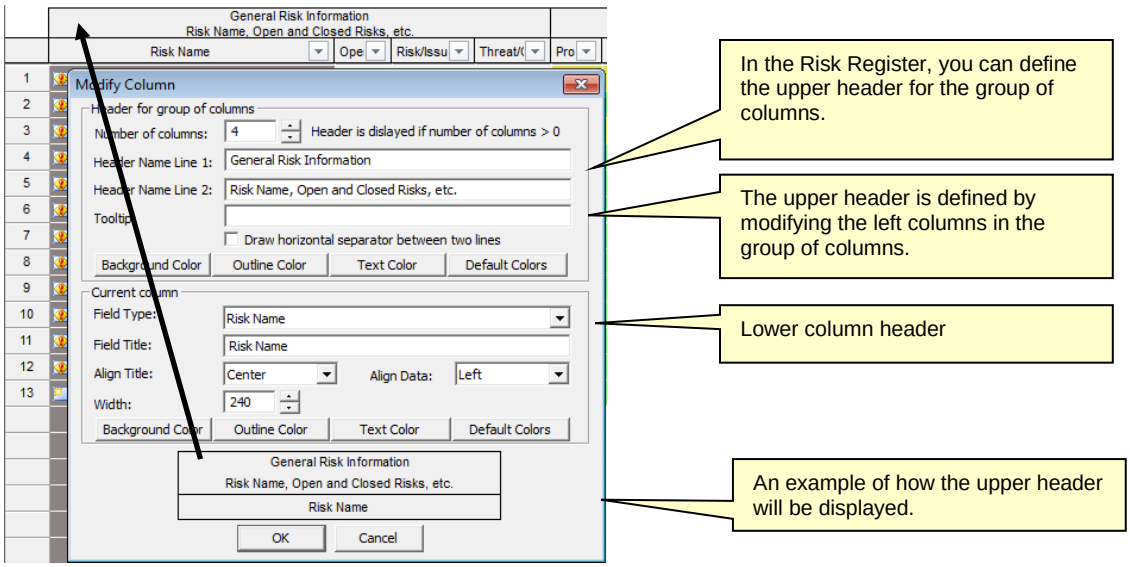


Defining columns for Risk Register

You can modify the Risk Register by inserting, modifying or hiding columns depending on the type of information you would like to view. The Risk Register view allows you to define the upper header for the group of columns. The upper header can have two rows of text and a tooltip. It can have different background colors, outline colors and text colors. There are two pre-defined upper headers: Pre-mitigation and Post-mitigation.

1. Open the Risk Register and right-click on a column header.
2. From the shortcut menu, choose how you want to modify the column:

- Hide
- Insert Column Before or After
- Modify: field type, field title, title and data alignment, width, upper and lower headers text and color, and number of columns in the group with the same upper header.



Adding risks to the Risk Register

1. Click the **Risks** tab. On the **Risk Views** group, click the **Risk Register.**
2. On the Risk Register, click an empty row.
3. Enter a unique name for the risk. The risk is now added to the register.

Deleting risks from the Risk Register

1. Click the **Risks** tab. On the **Schedule Views** group, click the **Risk Register.**
2. Select the risk you want to delete. You can select a single risk or multiple risks.
3. Right-click on the Risk ID and choose **Delete Risk** from the shortcut menu.

Updating risk properties for individual risks

To modify the risk properties using the Risk Register:

1. Open the Risk Register.
2. Click on the risk properties and make desired changes.

Updating risk properties for a group of risks

You can define the same risk properties for a group of risks at the same time.

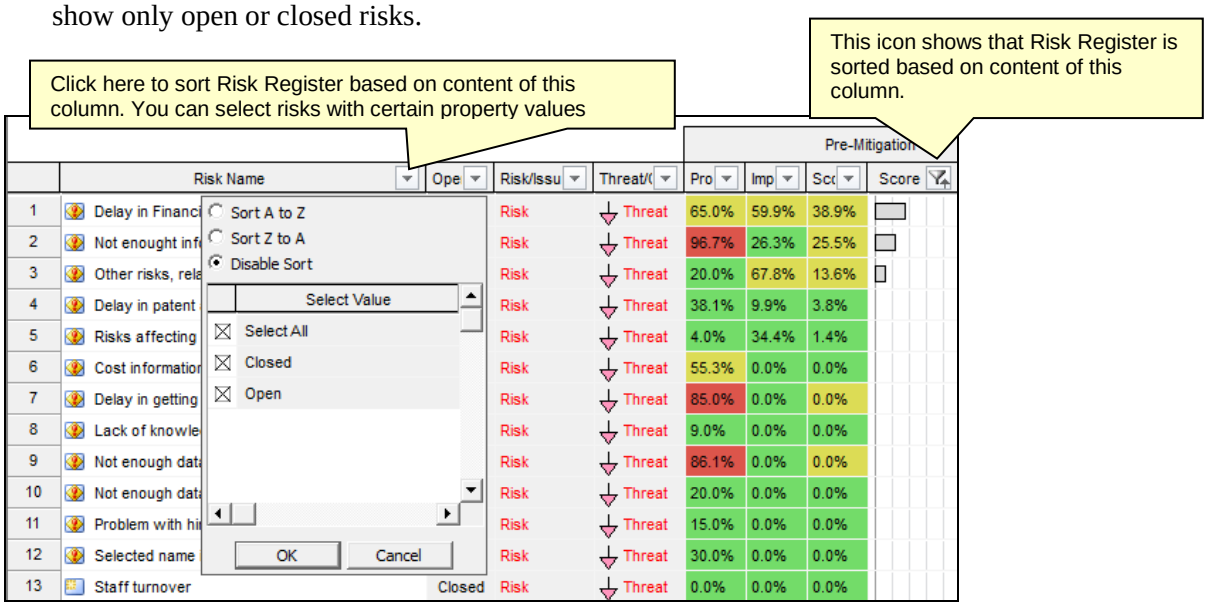
1. Open the Risk Register.

2. Select the risks to which you would like to add properties.
3. Right-click on the risk **ID** and select **Risk Properties**.
4. For each property, add a value as required. If properties are different for the selected risks, you will be shown with ********.

Filtering and sorting risks using the Risk Register

The Risk Register offers powerful tools for filtering and sorting risks:

- Filter and sort the Risk Register based on the content of each column. To filter or sort, click on the box with the arrow to the right of the column name. The Sort dialog box opens. You can sort the alphabetically or select risks with certain property values, e.g. show only open or closed risks.



- Find a risk based on the actual value of a risk property using the Find Risk dialog (Filter button) at the bottom of the Risk Register. You may combine different risk properties using AND or OR.
- Sort the risk register alphabetically using  and  buttons or based on pre-mitigation risk score using the  button. You may also sort the Risk Register based on Risk ID.

You can filter risks that affect different risk categories. Risks can affect:

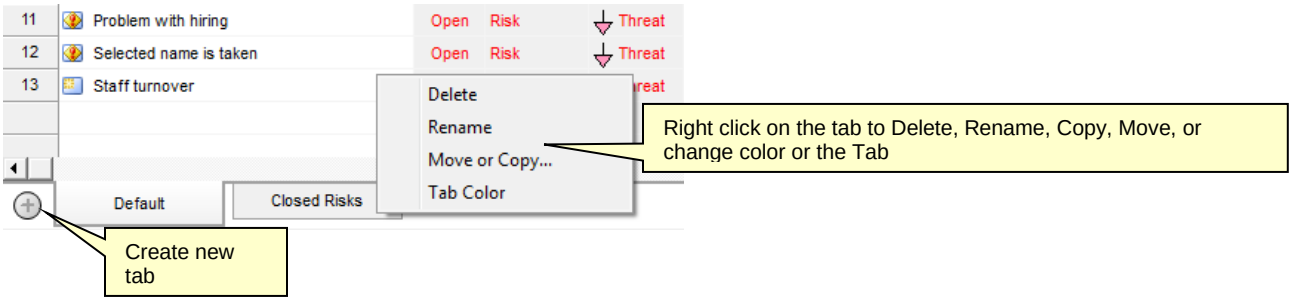
- duration
- finish time
- cost
- success rate
- non-schedule risk categories.

RiskyProject calculates the combined impact of risk on all risk categories. Pre-mitigation and post-mitigation risk impact, probability and score are displayed for selected risk categories.

Use tabs to create multiple views of Risk Register

You can create multiple tabs to create different views of the Risk Register. These tabs are shown at the bottom of risk register. Each view may have different set of columns, different headers, or

different sorting and filtering settings. For example, in one tab you can show risk names and description sorted alphabetically. In another tab, you can show risk probabilities, impacts, and scored sorted based on risk score. This way you can easily switch between different views of the risk properties. In addition, these views can be used to generate multiple risk register reports.



The Risk Register tab settings are saved for each project. You can also save the current tab settings as the default for all new projects:

- Right-click on any header
- Click on **Save Column Layout**

- With the Risk Register views you can rename risks and copy risk information to the clipboard. You may also copy and paste risks inside the Risk Register.
- You can export the complete risk register or selected risks to Excel by click on **File > Export > Microsoft Excel**

About Risk Categories, Probabilities and Impacts

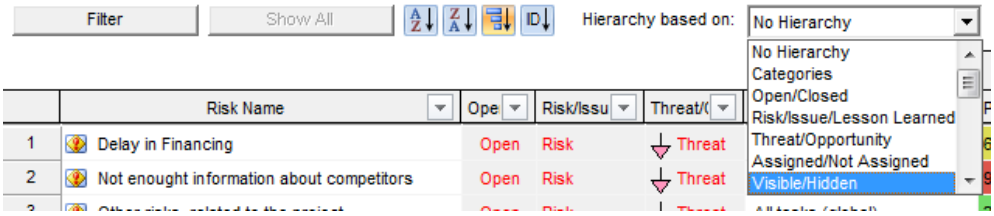
Risk Categories

Risk Categories are a group of risk outcomes. RiskyProject calculates risk probabilities, impacts and scores for each category. The default risk categories are:

- Duration
- Cost
- Safety
- Environment
- Legal
- Performance
- Technology

RiskyProject calculates the score and rank for all risks in each risk category. You can view risk scores and rankings for each risk category or for all categories.

In the Risk Register, Risk Matrix, and Risk Report you can view risks associated with a specific risk category



You can customize the risk categories in the Risk Categories dialog box. For more information about customizing risk categories, read "Managing Risk Categories and Outcomes"**.**

Risk Outcome Types

A Risk Outcome Type is the result if a risk occurs. While every risk category must have a least one outcome, they can have several. For example, one of the default risk categories is Legal. You may want to further define the outcome types as Litigation Risk, International Legal Risk, etc.

You can customize the set of outcome types using the Risk Categories dialog box.

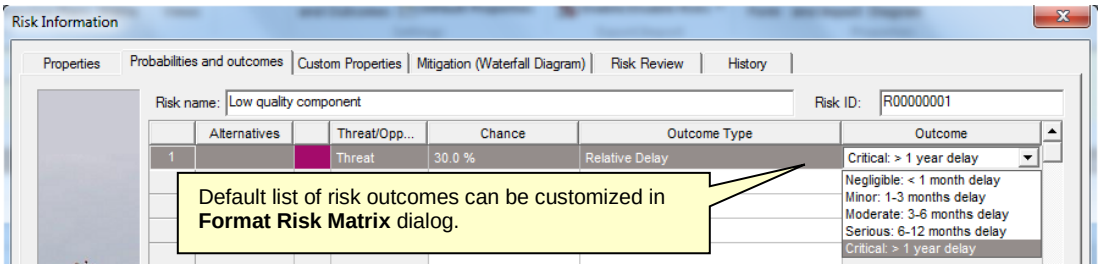
The set of risk outcome types are different for qualitative and quantitative risk analysis. For quantitative risk analysis, RiskyProject automatically adds a number of schedule-specific risk outcomes, such as restart task, fixed cost increase, etc.

Risk Probability and Chance

Risk Probability is the calculated chance that an event will occur. You can view risk probability in the **Risk Matrix**, **Risk Register**, and other views and dialog boxes. Risk Chance is the input parameter for risk probability. Risk chance (input parameter) and risk probability (calculated attribute) can be different; particularly when a risk has multiple mutually exclusive alternatives as risk chance is an input parameter for each alternative. In these cases, Risk probability is calculated based on the risk chance for each mutually exclusive alternative.

Risk Outcome

Risk Outcomes indicate the severity of a risk event for the specific risk category. You need to enter risk outcomes when you define risk chance and outcome type. For example, here are the default risk outcomes for the risk category **Schedule**:



Outcome types can be a label (e.g. Critical > 1 year delay) or a percentage (e.g. 5%), or a combination of both. You can set how you want to enter and view risk outcomes in the **Format Risk Matrix** dialog box. Each label is associated with percentage, which is the midpoint of the interval for each label:

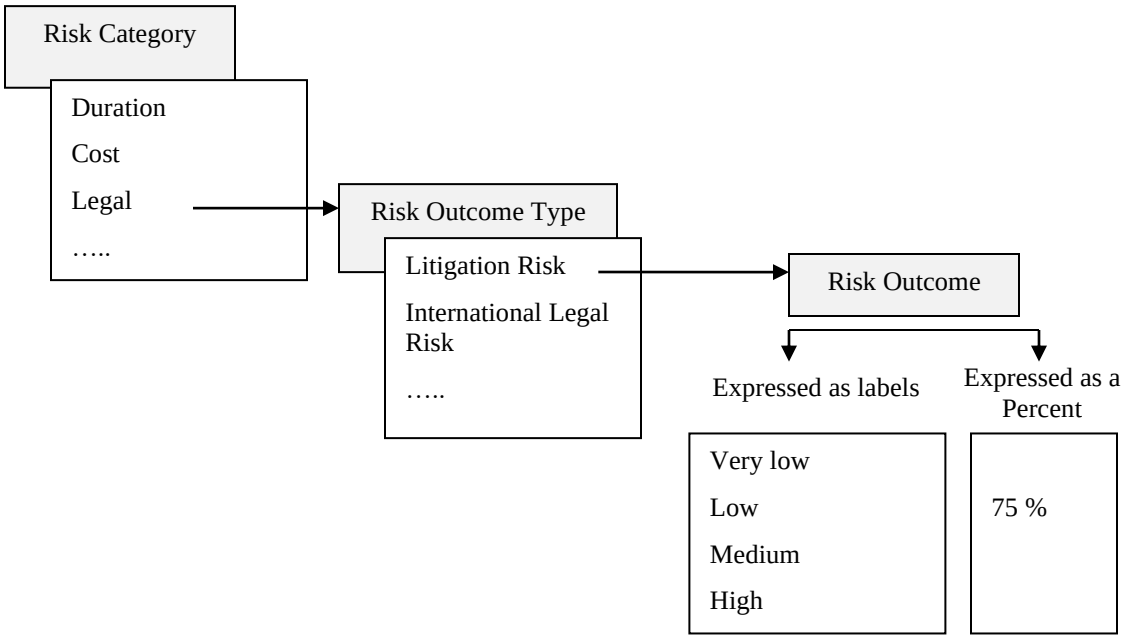
Label	Interval	Midpoint

Negligible: < 1 month delay	From 0% to 20%	10%
Minor: 1-3 month delay	From 20% to 40%	30%
Moderate: 3-6 months delay	From 40% to 60%	50%
Serious: 6-12 months delay	From 60% to 80%	70%
Critical: > 1 year delay	From 80% to 100%	90%

When you define outcome types as a percentage, you can enter it as any number from 0% to 100%. In this scenario, it will be associated with a label based on the interval to which this percentage belongs. For example, 76%, corresponds with the "Serious: 6-12 months delay" outcome type.

In RiskyProject, risk outcome types can be probabilistic. You can define a statistical distribution for outcome types and perform Monte Carlo simulation even it is part of qualitative risk analysis. For more information about probabilistic risk outcome types, read "Uncertainties in Risk Outcomes".

The diagram below shows the relationship between risk categories, risk outcome types, and risk outcomes.



Threats and Opportunities

Risks can be threats, opportunities or both. Threats and opportunities are defined for risk assignment depending on results of the risk outcome. Negative risk outcomes mean opportunities.

Example 1:

risk: Change Requirements

Outcome: Fixed Delay

Result: 2 days

This is a threat

Example 2:

risk: Change of technology

Outcome: Delay in technology introduction

Result: -10% Low

This is an opportunity: a negative number indicates that this is an acceleration rather than a delay of the technology introduction

Example 3:

risk: Chance of supplier

Outcome: fixed cost increase

Result for mutually exclusive alternative 1: $30,000

Result for mutually exclusive alternative 2: -$20,000

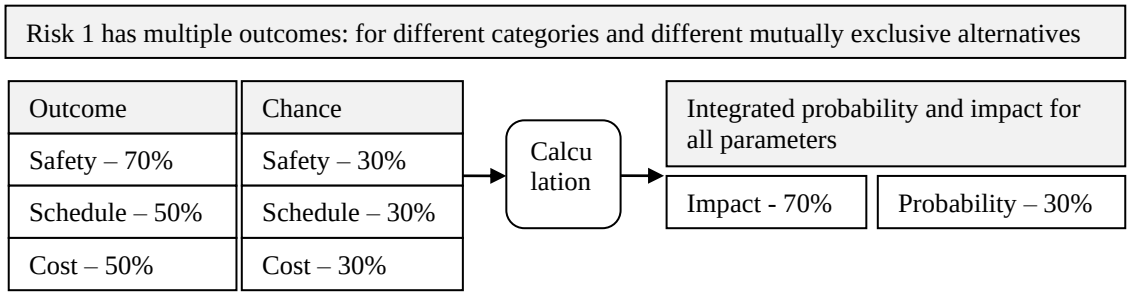
This is both a threat and an opportunity depending upon the supplier.

You can have different sets of labels for threats and opportunities for a risk category. For example, for the risk category Schedule, a threat outcome type can be "Critical > 1 year delay", for an opportunity it can be "Critical > 1 year acceleration". If you want to enter opportunities, you need to enter a negative percentage (e.g. -25%) as the outcome type.

Risk Impact

Risk impact is the calculated result of the risk event. Risk outcome (input parameter) and risk impact (calculated attribute) can be different, particularly when a risk has multiple mutually exclusive alternatives, in which case the risk outcome is a parameter of each alternative. Risk impact is calculated based on the risk chance for each alternative.

The diagram below shows the difference between risk chances and outcomes (input parameters) and risk probabilities and impacts (output parameters):



Risk Score

Risk score is a calculated parameter that equals probability multiplied by impact. Risk score is calculated for each risk category as well as all risk categories.

Original, Pre-, and Post-Mitigation Probabilities, Impacts and Scores

RiskyProject calculates four sets of probabilities, impacts and scores for each risk category as well as for all categories. You can view all sets of probabilities, impacts, and scores in the Risk Register.

1. **Original**: when risk chance and outcome are defined. This information is saved in Risk History. If you want to change original probabilities, impacts and scores, you would need to make modifications in Risk History using the History tab on the Risk Information dialog box. They are **read-only** in Risk Register.
2. **Current**: reflects most recent changes to probability and impact for each category. They are **editable** in Risk Register for pre-mitigation probabilities, impact and scores, and read-only for post-mitigation probabilities, impact and scores.
3. **Pre-Mitigation**: Pre-mitigation probability, impact and score. They are **calculated** values based on probabilities and impact of each individual category and **read-only** in Risk Register.
4. **Post-Mitigation**: Pre-mitigation probability, impact and score, with changes due to mitigation plans. They are **calculated** values based on probabilities and impact of each individual category and **read-only** in Risk Register.

To define columns click on Risk Register header and select column from drop down list. Columns for probabilities and scores are defined similarly.

Risk Properties

Risk Properties are other risk attributes, which include:

- Risk Name, ID, description, statement, objectives, assumption, cause and trigger
- Open/close risk
- Risk life cycle status: Risks, issues, lesson learned
- Risk ownership
- Risk mitigation strategy
- Risk costs
- Risk start and end date
- Other information about risk

Some risk properties are predefined as General Information about risk and Risk Costs. However, you may define any other risk properties.

Risk Mitigation and Response Plans

You can model risk mitigation or response efforts in RiskyProject using the **Mitigation or Response View**. Response plans are activities that are executed when a risk occurs and are used for quantitative risk analysis. Mitigation plans are actions that are performed to minimize risk probability and/or impact and can be visualized using the Risk Mitigation Waterfall diagram.

A mitigation or/and response plan must be assigned to a particular risk. Please read "Assigning Risk Response Plans" and "Assigning Mitigation Plans" for more information.

Creating a mitigation or risk response plan

1. Click the **Risks** tab. In the **Risk Views** group, click **Mitigation/Response Plans**.
2. Enter the mitigation or response plan name. Summary entries will help you to organize information, but they are not considered a mitigation plan.
3. Select either **Mitigation** or **Response** plan
4. For Response plans, enter an **Outcome Type** and **Outcome** of the response. The outcome types are automatically populated based on the list of outcome types.
5. Enter the **Cost** of the mitigation or response plan
6. For Mitigation plans, enter the default reduction of probability and impact if the mitigation plan is assigned to the risk.
   For example, a mitigation plan reduces probability on 5% and impact on 10%. If a mitigation plan is assigned to the risk that has 45% probability and 30% impact before mitigation, the risk will have 40% probability and 20% impact after mitigation.
7. Enter the mitigation or response plan description. If you double-click on a mitigation/response plan ID, the **Mitigation or Response Plan Description** dialog box will open.

A mitigation or response plan can be assigned to multiple risks. The cost of mitigation or response plans will be included with each risk.

Creating Summary and Sub-plans

Mitigation plans can be composed of Summary plans with associated sub-plans. This can be very useful if your mitigation plans have several activities or steps that have distinct costs and outcomes that you want to monitor items separately.

Summary plans have names only and do not have Plan Type, Outcome Type etc. Summary and sub-plans are defined using the Indent and Outdent commands similar to Summary and Subtasks on the Gantt Chart.

To create a sub-plan:

1. Enter a name for the **Summary** plan.
2. Click the row below the plan
3. Enter a name for the plan.

4. Right-click on the plan and on the shortcut menu click **Indent**. The plan now becomes a sub-plan of the mitigation plan.
5. Enter information for the sub-plan.

Risk Attributes

About Risks

Each risk in RiskyProject can have a number of attributes. Some of the most common attributes are predefined and are found in the Properties tab of the Risk Information dialog box; however, you are not required to complete all of them. The information required should be defined as part of your risk management plan.

General Information includes:

- **Risk Name:** the risk name for each risk must be unique. Names are case-sensitive.
- **Open/closed risk:** open risks are active risks that may occur. Closed risks are those risks that are no longer active because of risk response or other factors or measures taken. Closed risks may contain important information and should not be deleted from the risk register..
- **Risks, issues, lessons learned**: risks are events that may or may not occur and have a probability between 0 – 100%. Issues are events that have already occurred and require a response. Lessons learned are events that occurred in the past and have a history associated with them. When you add a new record to the risk register, by default it is a risk.
- **Risk statement, objectives, assumption, cause and trigger:** contain textual information about risks.
- **Risk ownership:** includes risk manager and risk owner. You may define other custom fields for risk reviewer, recorder, and other participants in the risk management process.
- **Risk mitigation strategy:** you can enter mitigation strategies for threats and/or opportunities. Status of threats and/or opportunities are automatically calculated when you enter risk probabilities and impacts. If the risk is only a threat, you will only be able to enter strategies for threats and vice versa. For more information about threats and opportunities, read "Risk Probabilities and Impacts".
- **Risk start and end date (risk sunrise and sunset):** dates between which a particular risk is active.
- **Risk ID:** Risk ID can be automatically generated when you create a new risk. You may sort the Risk Register based on Risk IDs. You can overwrite the automatically generated risk ID. Rules for risk ID generation are defined in **Risk Options**. To view Risk Options, click the **Schedule** tab. In the **Settings** group, click **Options**.

- In the case of quantitative risk analysis, changing a risk from **Open** to **Closed**, from **Risk** to **Issue** or **Lesson Learned** will affect risk probability and impact. For more information about this please read "Assigning Risks to Task and Resources".
- You define the default risk mitigation strategy and default time between risk sunrise and sunset in the **Default Risk Properties** dialog box (**Risk** tab of the ribbon, **Settings** pane).

Risk Probabilities and Impacts

There are two ways probabilities and impacts can be defined in RiskyProject:

- You can define chance and outcome for each risk in the Probabilities and Outcomes tab of the Risk Information dialog box.
- You can also define risk chance and outcome directly in the Risk Register grid. However, in this case, risk cannot be assigned to any tasks or resources. If risk is already assigned to at least one task or resource, you will not be able to modify chance and outcome using the grid and the Risk Information dialog box will appear. This method is preferable for qualitative risk analysis and risk management.

Defining risk chances and outcomes in the Risk Information dialog box

You must enter the risk chance, outcome type, and outcome for each risk. You may only define one alternative. Please remember that risk chance and outcome may not be equal to calculated risk probabilities and impacts in the following cases:

- For risks with multiple mutually exclusive alternatives
- If you define uncertainties in risk outcome
- In case of quantitative risk analysis (with project schedule)

To define risk chances and outcomes in the Risk Information dialog:

1. Click the **Risk** tab. In the **Risk Views** group, click **Risk Register.**
2. Double- click on a risk ID to open the **Risk information** dialog box.
3. Click the **Probabilities and Outcome** tab.
4. Enter **Chance** that will be used to calculate probability.
5. Select **Outcome Type** from dropdown list.
6. Select **Outcome** label from dropdown list or enter percent.
7. Threat/Opportunity are calculated automatically if you enter a negative outcome.
8. If required, repeat steps 5 -7 for each mutually exclusive alternative.

Use the **Format Risk Matrix** dialog box to toggle between entering risk outcomes as labels, percentages, or both.

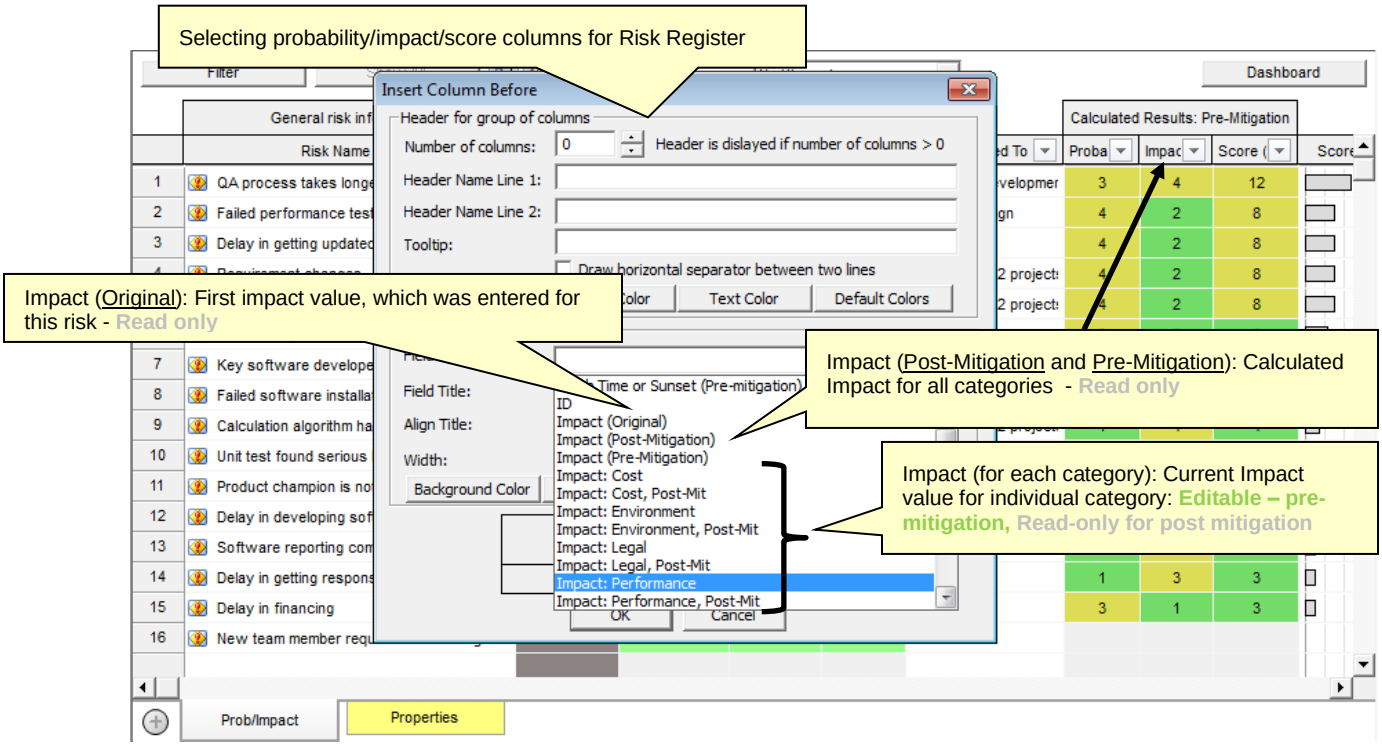
Defining risk chances and outcomes in the Risk Register grid

By default, the Risk Register's columns do not allow you to enter risk chance and outcome directly. You need to define appropriate columns first:

1. Within **Risk, Register** view, right-click on the header of the column next to which you want to define that column in order to enter chances and outcomes.
2. Click on **Insert Column Before** or **Insert Column After**.
3. Select field from the **Field Type** dropdown list. Here is the list of columns which can be presented in the Risk Register:

Field	Description	Read Only or Editable in Risk Register View
Impact Original	Impact of risk designated by user as Original	Read Only, defined in Mitigation Tab of Risk Information Dialog
Impact Current (Pre-mitigation)	Calculated risk impact for all categories based on impact of individual risk categories	Read Only, defined in Risk Form or Probabilities and Impacts tab of Risk Information Dialog for individual categories or calculated as a result of quantitative analysis
Impact Post-mitigation	Last line in Mitigation Tab of Risk Information Dialog or in Assign Mitigation view for individual risk	Read Only, defined in Mitigation Tab of Risk Information Dialog or in Assign Mitigation view
Impact: Cost	Current Impact: Cost Category	Editable. Defined in Risk Register or in Risk Information Dialog
Impact: Cost, Post-mitigation	Last line in Mitigation Tab of Risk Information Dialog or in Assign Mitigation view for individual risk related to cost category	Read Only, defined in Mitigation Tab of Risk Information Dialog or in Assign Mitigation view
Impact: Environment	Current Impact: Environment Category	Defined in Risk Register or in Risk Information Dialog
Impact: Environment, Post-mitigation	Last line in Mitigation Tab of Risk Information Dialog or in Assign Mitigation view for individual risk related to Environment category	Read Only, defined in Mitigation Tab of Risk Information Dialog or in Assign Mitigation view
Impact: ….	Current and post mitigation impacts for other risk categories	Defined in Risk Register or in Risk Information Dialog

Columns for Chance (Probability) and Score are defined the same way. After you define appropriate columns, they can then be used to enter the risk chance and outcome for each category.



Risk Form: Defining Information About Risks

The Risk Form is part of the Risk Information dialog and is used to define risk attributes. You can customize the Risk Form to create any set to risk attributes which can be entered or edited.

Risk Form has two modes:

1. **Editing Mode**: you can drag and drop different controls to Risk Form and assign properties to them. Controls such as edit boxes, drop down list, frames or static text can be selected from the left side of the Risk Form dialog box and dropped on the form. After this you need to select risk attributes associated with the control from the list of available attributes. For a **Static Text** box you the enter text to be displayed, there are no risk attributes associated with the frame.
2. **Published Mode**: when you complete design of Risk Form, click "Publish Risk Form Layout" to switch to Published Mode. In Published Mode you can no longer edit Risk Form layout, but you can enter risk attributes data. List of controls will be hidden.

To edit the Risk Form (Editing Mode):

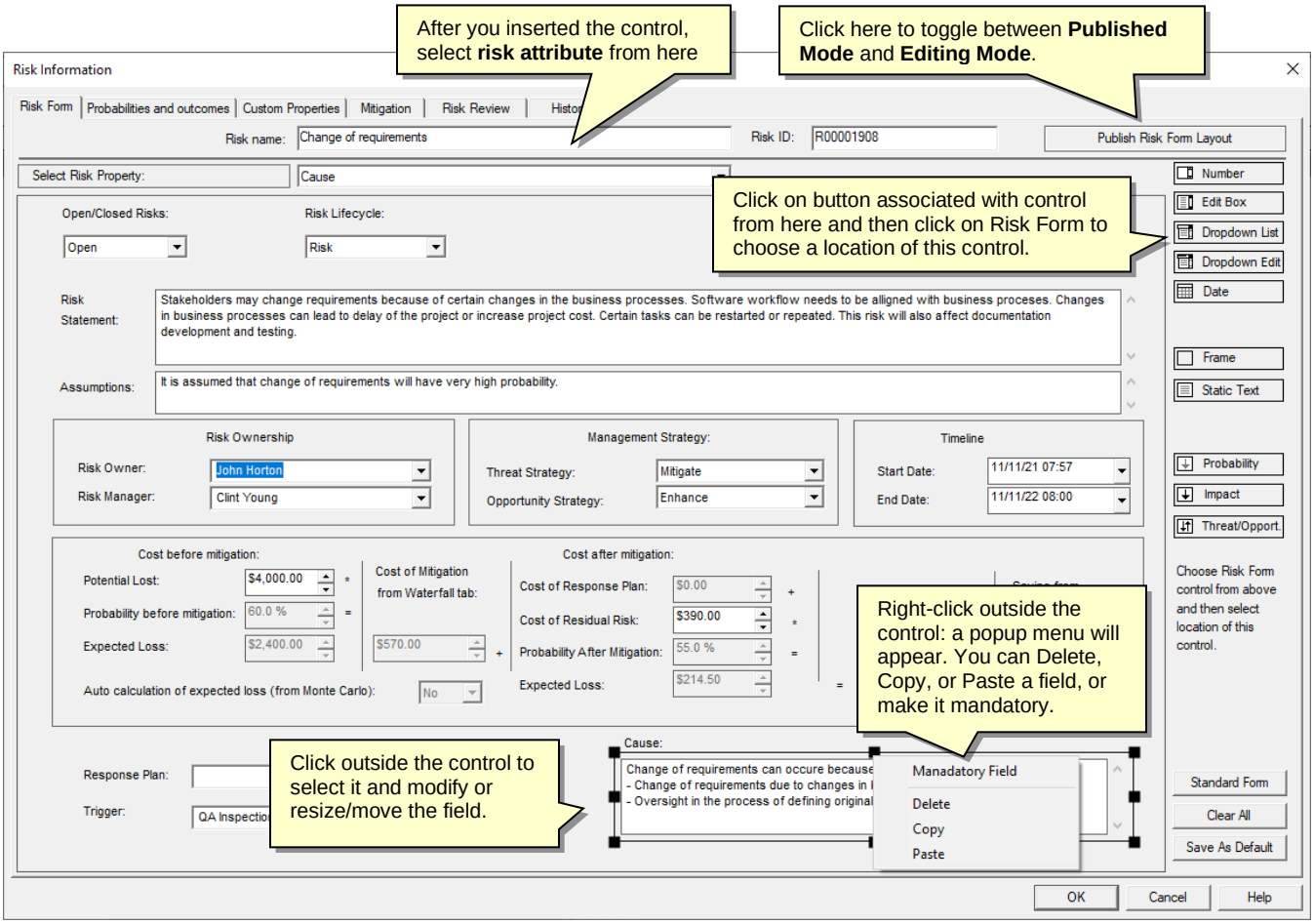
1. Click the **Risk** tab. In the Risk Views group, click **Risk Register**
2. Double- click on risk ID to open the **Risk information** dialog box
3. Go to **Risk Form** tab; default Risk Form will be presented in Published Mode
4. Go to Editing mode by clicking on **Edit Risk Form Layout**
5. Clear controls if required by clicking on **Clear All** button
6. Select control using button on the right side.
7. Click on Risk Form to select the position of the control
8. From the dropdown list above Risk Form select the property associated with selected control
9. Adjust size of the control by dragging its corners
10. Right click outside the control: shortcut menu will come up. You can Delete, Copy, or Paste control, as well as make the property Mandatory. Once in Published Mode, all mandatory fields must be filled to save data.
    - Click **Save as Default** to save newly designed Risk Form for all your new projects
    - Click **Standard Form** to restore standard if required
    - Click **Publish Risk Form Layout** to convert to Published Mode

To use Risk Form (Published Mode):

1. Click the **Risk** tab. In the Risk Views group, click **Risk Register.**
2. Double- click on risk ID to open the **Risk information** dialog box.
3. Enter risk attributes to the **Risk Form**

- You can create any other risk properties using the **Default Risk Properties** dialog box (**Risk** tab of the ribbon, **Settings** pane) and include them to the Risk Form
- Some properties, such as **Expected Loss** are calculated and will be read only

- Risk Form allows you enter probability and impact of the risk. However you cannot use Risk Form to define probability and impact for risk assigned to tasks and resources and risks with multually exclusive alternatives. Therefore it is recommended to use Risk Form to enter probability and impact for qualitative risk analysis only (when there is no schedule).

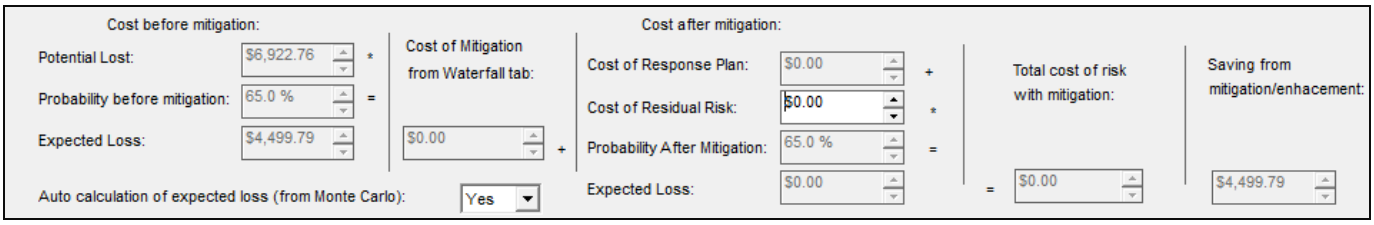


The Risk form has the following fields:

- **Number** –real numbers, integer numbers, or cost properties
- **Edit Box** –string (text) properties and organizational units
- **Dropdown List** –picklist and Yes/No Properties
- **Dropdown Edit Box** –risk, resources, and response plans
- **Date** –date properties
- **Frame** –frame or line separator; it is used to create visual separation between group of control
- **Static Text** –read only text used for prompts and annotations
- **Probability** –risk probabilities belonging to different categories
- **Impact** –risk impacts belonging to different categories
- **Threat/Opport.** –selection of threats and opportunities

About Cost of Risk Calculations

The Cost Risk calculation calculates the total cost of a risk and takes into account the risk mitigation plans linked to the risk. The Risk cost calculation is performed in the **Risk Form** tab of the **Risk Information** dialog box. The **Cost of Residual Risk** and **Potential Loss** are the only values that you can manually enter in the Risk Form. All other cost parameters are calculated. You can modify Risk Form to show or hide different fields.



Cost Before Mitigation

1. **Potential Loss** (property "*Cost before mitigation*"): the loss in monetary terms if the risk occurs. This value can be entered manually if you select No for "*Auto calculation of expected loss (from Monte Carlo)*" or if you don't open a schedule.

   For example, for the risk "low quality component", the potential loss is $50,000. You would incur this cost if a low quality component were supplied.

2. If you don't open a schedule, the **Probability Before Mitigation** value is based on the risk values entered in the **Probabilities and Outcome** tab of **Risk Information** dialog box. See **Risk Probabilities and Impacts** for more information. If you have a schedule **Probability Before Mitigation** comes from results of Monte Carlo simulations.

3. **Expected Loss** (property "*Pre-Mitigation Expected Loss*") takes into account risk probability. It is an indicator that helps you to compare the costs of different risks. Expected loss can be calculated manually or automatically depending on selection "*Auto calculation of expected loss (from Monte Carlo)*".

   a. Manual calculation of Expected Loss: You can manually calculate the expected loss for individual risks by running two simulations: one with the risk open and the other with the risk closed. The difference in the total project costs is the expected cost of the risk.

      Expected loss = Potential Loss * Probability (pre-mitigation)

      For example, probability of risk "low quality component" equals 50%. Potential loss equals $50,000. Expected loss will be $25,000 = $50,000 * 50%.

   b. Automatic calculation of Expected Loss is done based on results of Monte Carlo simulations of project schedule:

      Expected loss = (Project Cost with Risks – Project Cost Original) * Correlation Coefficient

   The correlation coefficient is calculated using project cost and cost increases due to a specific risk occurring. For example, the project cost with risks and uncertainties is $100,000. Project cost without risks and uncertainties is $90,000. In addition, the correlation coefficient for the specific risk is 0.8. Expected loss will be ($100,000 -

$90,000)*0.8 = $8,000. The automatic calculation cannot be performed at the enterprise level or on summary projects, as they do not include project activities. For automatic calculation of Expected loss of the current project, RiskyProject will calculate Potential Loss for current project = Expected loss / Probability (pre mitigation).

4. **Cost from Subprojects** (property "*Pre-Mitigation Expected Loss (Sub-Projects)*") is an expected cost from all subprojects where "*Auto calculation of expected loss (from Monte Carlo)*" is "Yes". It is calculated only for summary projects and at the enterprise level. It is always zero for subprojects.

5. **Pre-Mitigation Loss (Total Expected Loss):**

   Total Expected loss = Expected Loss on Current Level of Project Hierarchy + Cost from Subprojects

   Total expected loss is calculated at the enterprise or at the summary project level. For example, a summary project has two sub projects with expected loss $8,000 and $7,000, which are calculated automatically. The summary project itself has expected losses of $5,000, defined manually. Total expected loss will be $20,000.

   Total expected loss cannot be shown on Risk Form, but can be inserted as a column in the Risk Register.

Cost Of Mitigation

1. Cost **of Mitigation** is taken from **Waterfall** tab of **Risk Information** dialog box. It is the cost associated with efforts to reduce the probability and impact of the risk.

   For example, mitigation plans will include "Additional QA procedure" and "QA audit of supplier's operation", which would cost $10,000 in total.

Cost After Mitigation

2. **Cost of Response Plan**. Even if a mitigation plan is executed as planned, there will still be a cost associated with a risk, as it is possible to reduce risk, but not to eliminate it (an exception is when you are able to avoid the risk). The response plan may be executed if the risk occurs and will be calculated using the cost entered for the response plan associated with this risk. This cost is entered **Mitigation and Response** view.

   For example, if the risk "low quality component" occurs, this component needs to be replaced with a new one, which would cost $20,000.

3. Residual risk may still exist after the risk response and is cost is calculated as the **Cost of Residual Risk**.

   For example, the new component installed as a risk response can still be defective. The residual cost of the risk will be $10,000.

4. **Probability After Mitigation** comes from **Waterfall** tab of **Risk Information** dialog box. See "Risk Mitigation and Response Plans" for more information.

   For example: Risk Probability after mitigation equals 25% because of the execution of the mitigation plan "additional QA procedure", probability of risk "Low quality component" is reduced two times.

5. **Expected Loss After Mitigation** (property "*Post-mitigation Expected Loss*") takes in to account the fact that risk may not occur.

   Expected Loss After Mitigation = (Cost of Response Plan + Cost of Residual Risk) * Probability After Mitigation

   For example, probability of risk "low quality component" after mitigation equals 25%. Expected loss after mitigation will be $7,500 = ($20,000 + $10,000) * 25%.

Other Cost Indicators (Properties)

1. **Cost After Mitigation = Expected Loss After Mitigation + Cost of Mitigation**

   For example: Total cost after mitigation of risk "low quality component" will be $17,500 = $7,500 + $10,000

2. **Saving from Mitigation/Enhancement** is the difference between costs with and without mitigation. If this number is negative mitigation efforts will not lead to cost saving.

   Saving from Mitigation = Expected Loss – Total Risk Cost after Mitigation

   For example, total cost after mitigation of risk "low quality component" will be $17,500. Expected loss $25,000. Saving from Mitigation is $7.500. Because this number is positive, it makes sense to perform mitigation efforts.

Custom Risk Properties

All risks properties including pre-defined risk properties and custom properties can be viewed and edited using the Custom Properties tab of Risk Information dialog box.

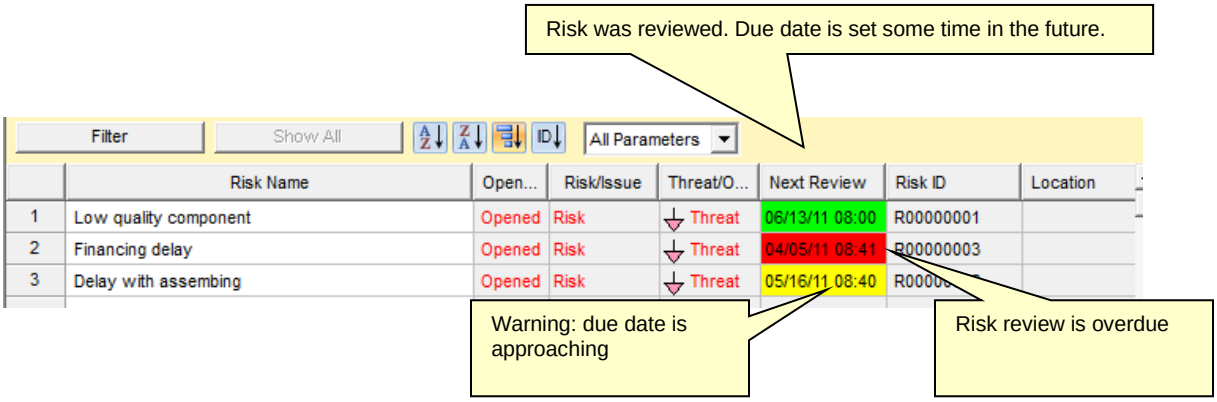
1. Click the **Risks** tab. In the **Risk View** group, click **Risk Register**.
2. Double- click on risk ID to open the **Risk information** dialog box.
3. Use **Custom Properties** tab to enter general information about risk. Enter or update values of properties. You can assign a set of custom risk properties using the **Default Risk Properties** dialog.

Risk Reviews

RiskyProject helps you to facilitate regular risk reviews. You can define the risk review periodicity (weekly, monthly, quarterly). RiskyProject will notify you before review is scheduled. During the risk review, you may analyze all risk attributes, make necessary changes, and write notes. Risk reviews are important components of the risk management monitoring and control process as the status of risks and their attributes, such as probabilities and impacts, are in constant flux during the course of a project.

Risk review due date

Each risk review has a due date. The risk must be reviewed on or before a due date. A few days before due date RiskyProject will notify you regarding the scheduled review. The notification will come in the form of a changing color of the **Next Review** property.



You may also view the Next Review date on **Properties** and **Risk Review** tab of Risk Information dialog box. You may also insert a **Next Review** column to the **Risk Register** view.

The default risk review frequency and number of days before incoming risk review is defined in **Default Risk Properties** dialog (**Risk** tab of the ribbon, **Settings** pane).

Entering and viewing risk reviews

You may enter information regarding risk review using **Risk Review** tab of the Risk Information dialog box. The Risk Review tab offers greater flexibility to view all risk reviews for the project, as well as allowing you to modify or delete risk reviews.

To enter a risk reviewing:

1. Click the **Risks** tab. In the **Risks View** group, click **Risk Register**.
2. In the ribbon**,** click the **Risk** and then the **Risk Register** view.
3. Double-click on risk ID to open the **Risk information** dialog box.
4. Use **Properties** tab to enter general information about risk.
5. Click **Submit Review** button
6. In **Risk Review** dialog box enter who submitted review, review notes, and click OK.
7. If necessary update due date for the next review using **Next Review** field or update frequency of review for this risk using **Review Frequency** dropdown list.

Assigning Risk Response Plans

Response plans defined in the **Mitigation and Response** view can be assigned to risks. Only one response plan can be assigned to a particular risk.

Assigning Response Plan:

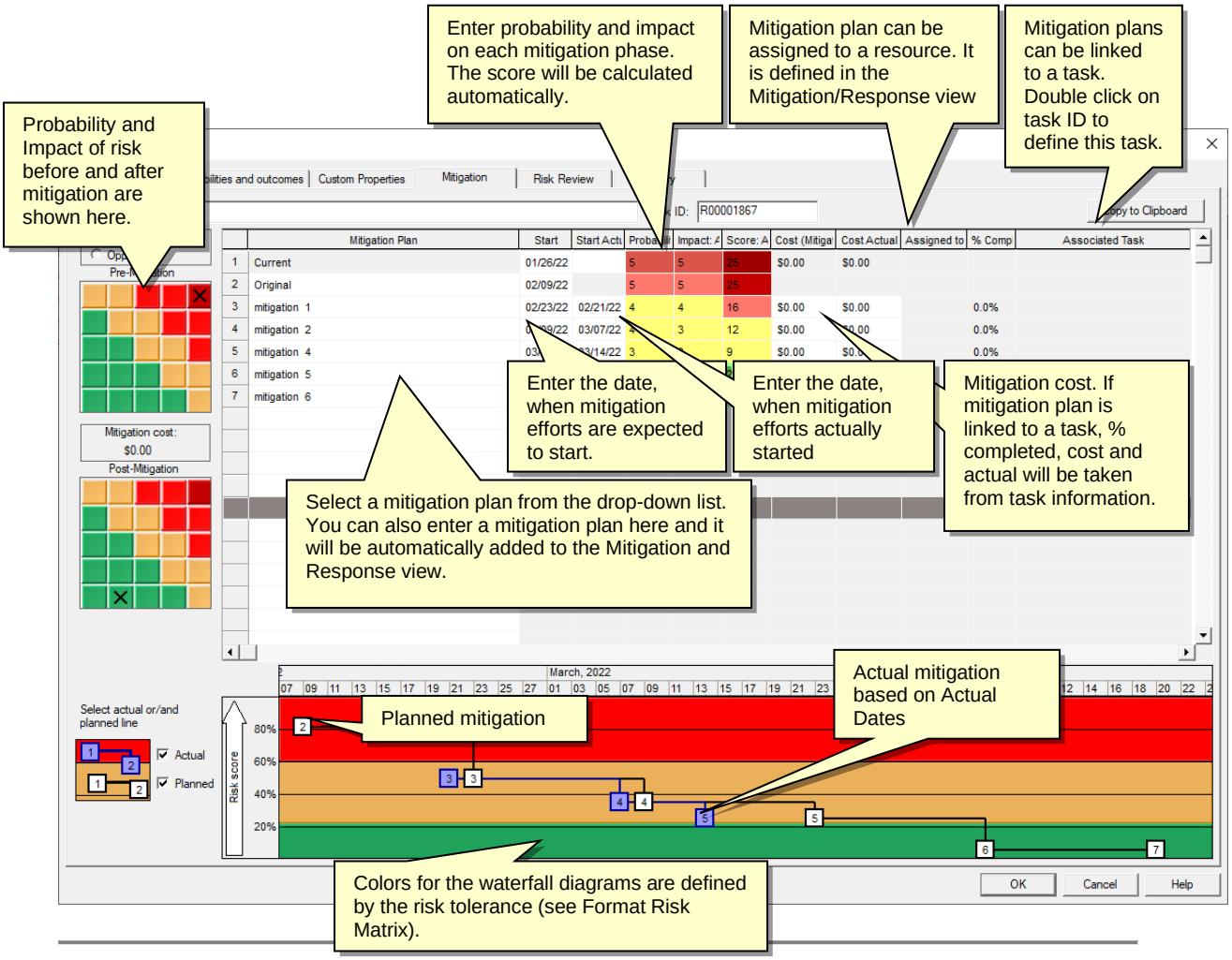
1. Click the **Risks** tab. In the **Risks View** group, click **Risk Register**.
2. Double- click on risk ID to open the **Risk information** dialog box.
3. Click the **Properties** tab
4. Select **Response Plan** from defined in Mitigation and Response View from dropdown list.
5. You may define a new response plan by clicking on **New Response** button.

6. You may update a response plan description by clicking on the **Response Description** button.

Assigning Mitigation Plans

You can assign mitigation plans defined in the **Mitigation and Response** view to your risks. One risk may have multiple sequential mitigation plans. They can be shown as a Waterfall diagram.

Waterfall diagrams can be used to visualize the timing of mitigation efforts over the course of the project.



- Pre-mitigation probability and impact are the results of calculation. Therefore, they cannot be updated in the waterfall tab.
- Probability, impact, and score for the last mitigation effort are converted into the post-mitigation probability, impact, and score and will be shown in the Risk Register.
- You can view Planned and Actual risk mitigation efforts. Actual mitigation efforts are shown based on actual dates entered the table above.

Viewing and editing waterfall diagrams:

1. Open the **Risk Register** view.
2. Double-click on Risk ID. The **Risk Information** dialog box opens.
3. Click the **Mitigation (Waterfall diagram)** tab.
4. Enable or disable Actual and Planned mitigation lines using check boxes on the left bottom corner.
5. Double click on Mitigation Plan ID; the Mitigation Plan Properties dialog box opens.
6. Enter a mitigation description.
7. Select the task or summary task to assign it the mitigation plan. If mitigation plan is linked to the task, cost, actual cost, and percent completed of the mitigation plan will taken from task.
8. To delete the task assignment, click **Clear task selection**.

Risk History

The Risk History records any changes made to the risk over time. Risk history is automatically updated when you save the project.

View a risk history:

1. Click the **Risks** tab. In the **Risk Views** group, click **Risk Register**.
2. Double- click on a risk ID to open the **Risk information** dialog box.
3. Click the **History** tab to view risk history
4. To copy a risk history record to the clipboard, Right-click on a record ID and select **Copy Data**.
5. To delete record, Right-click on record ID and select **Delete Item.**

- You can modify the date of the history record. Other fields are read-only, so you cannot modify them, but you can delete the risk history record.
- Risk history is used to present the history on the Risk Matrix, as well as to determine the Original risk probability and impact.

Risk Matrix and Risk Trend Chart

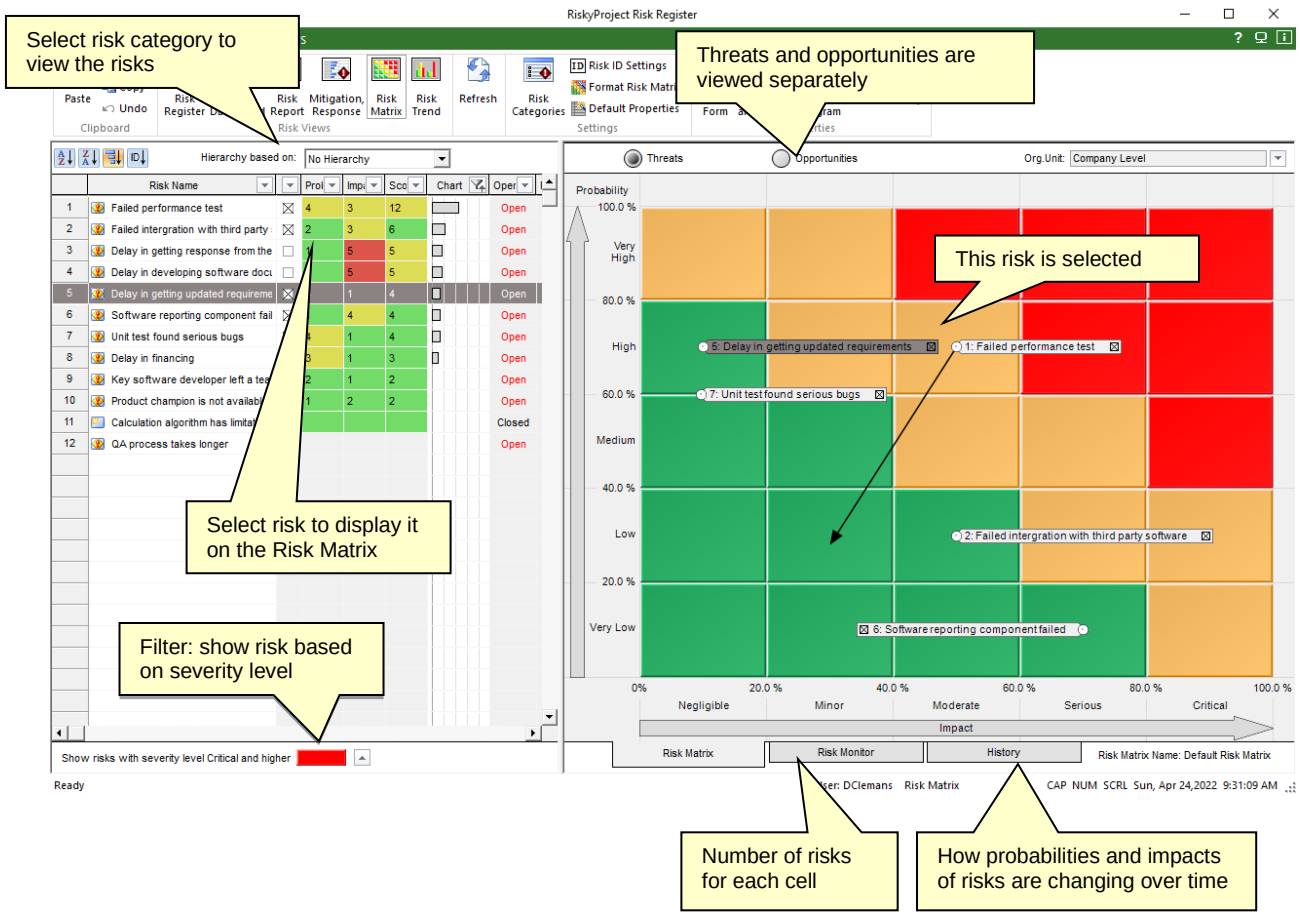
Risk Matrix and Risk Trend views allow you to determine the severity of a risk and analyze how risks are changing over time:

- The **Risk Matrix** is a tool that allows you to determine the severity of a risk. The Risk Matrix view shows this using the risk probability (y-axis) vs. calculated risk impact (x-axis) of the project risks. The Risk Matrix view is divided into two sections: a table with a list of risks with their actual calculated values for probability, impact, and score. When you select these risks, they are shown visually on a matrix, which provides a visual comparison of this data put as well as putting each risk into the context of your organization's risk tolerance.
- The **Risk Trend** shows how project risk change over time. The Risk Trend can be presented as bar chart, stack area chart, or in table format (**Total Risks**).
- The **Risk History** shows how the probability and impact of an individual risk has changed over time.
- The **Risk Monitor** shows the number of risks per cell in the risk matrix.

Viewing the Risk Matrix and Risk Trend Chart

1. Click the **Risks** tab. In the **Risk Views** group, click **Risk Matrix**.
2. Select type of chart you want to view at the bottom of risk matrix.
3. Select the **Threats** or **Opportunities** option at the top of the matrix. You cannot view Threats and Opportunities at the same time
4. Select a risk category from the **Risks affected** dropdown list, if you do not select. Lists of all risks associated with the selected risk category are shown in the table. Select **All Parameters** to view the overall risk score (sum of all risk categories) for selected risks.
5. Select the check boxes beside the risk names to view the risks on the Risk Matrix. To hide a risk, clear the check box. By default, risks with zero impact cannot be selected. Use the filter at the bottom of the list ("Hide a risk if Score is < " or "Show risks with severity level…") to show/hide risks below the entered threshold. Severity level is defined in **Risk Trend Chart Settings** dialog. Essentially in the color of risk matrix.

To format the Risk Matrix, right-click on the **matrix** and choose **Options**. For more information about formatting the Risk Matrix, read "Formatting the Risk Matrix".

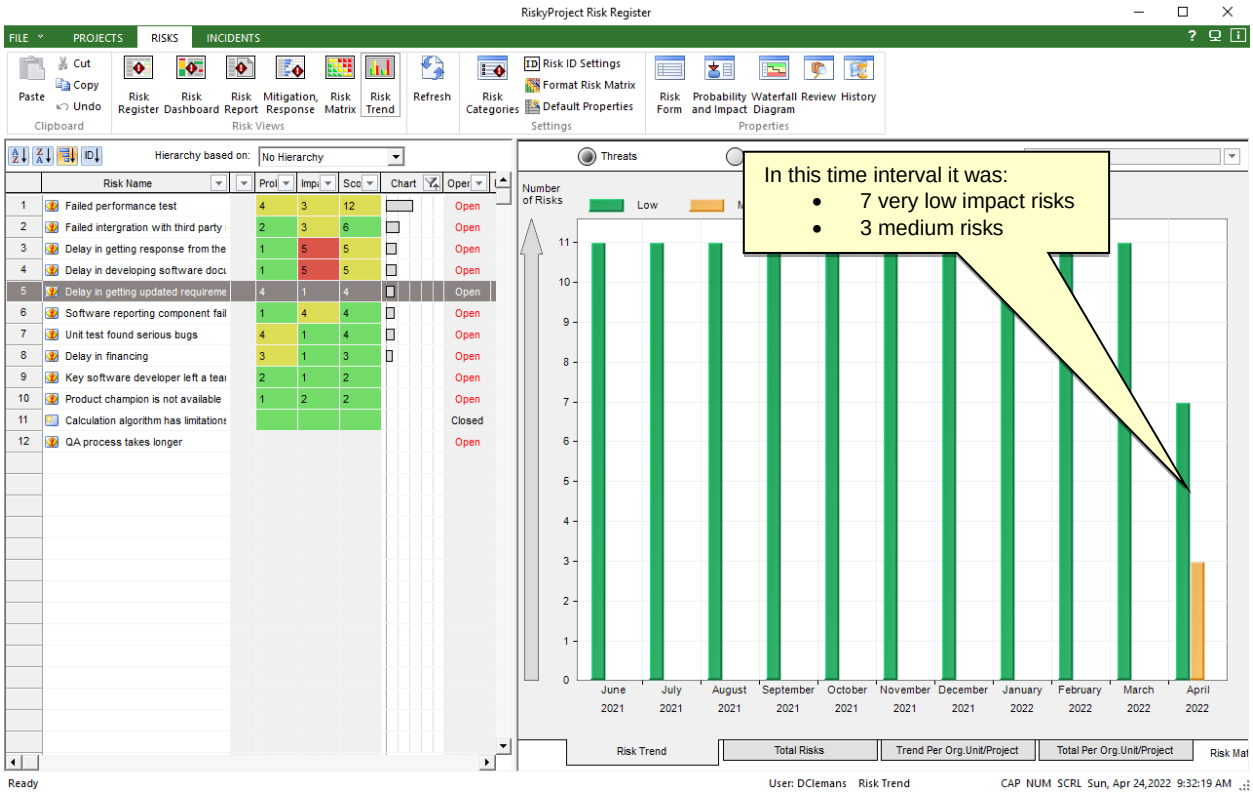


Viewing the Risk Trend Chart

Risk Trend shows how many risks belonging to different severity levels (colors) existed in a certain time period. To view Risk Trend Chart:

1. Click the **Risks** tab. In the **Risk Views** group, click **Risk Trend**.
2. Select a chart type from the tabs at the bottom of the of chart.
3. Select the **Threats** or **Opportunities** option at the top of the chart. You cannot view Threats and Opportunities at the same time
4. Select a No Hierarchy or a specific risk category from the **Hierarchy based on** dropdown list. Lists of all risks associated with the selection are shown in the table. **No Hierarchy** shows the calculated overall risk score (sum of all risk categories) for selected risks.

To format the Risk Trend chart, right-click on the chart and choose **Format Trend Chart**. For more information about formatting the Risk Trend Chart, read, “Format the Risk Matrix and Risk Trend Chart”.



Copy the risk matrix and risk trend chart to the clipboard or save as a JPEG file

1. Right-click on the **Risk Matrix**.
2. Choose **Copy to Clipboard**, or **Copy Chart to File (JPEG, PNG, GIF…)**.
3. If you chose to create a file, you will be prompted to select file format and save it to a directory.

Risk Report

Risk Report is a view, which presents attributes of selected risks. The report for one risk may contain one or many pages. The total number of pages per report equals the number of selected risks multiplied by the number of pages per risk. The Risk Report includes six sections:

1. General Properties
2. Pre- and post- mitigation probabilities, impact and score
3. Cost of Risk
4. Custom Properties
5. Waterfall Chart
6. Mitigation Plans

Each page of the risk report contains a header and footer. The header and footer may include up to three lines of text and a logo located on the left or right side.

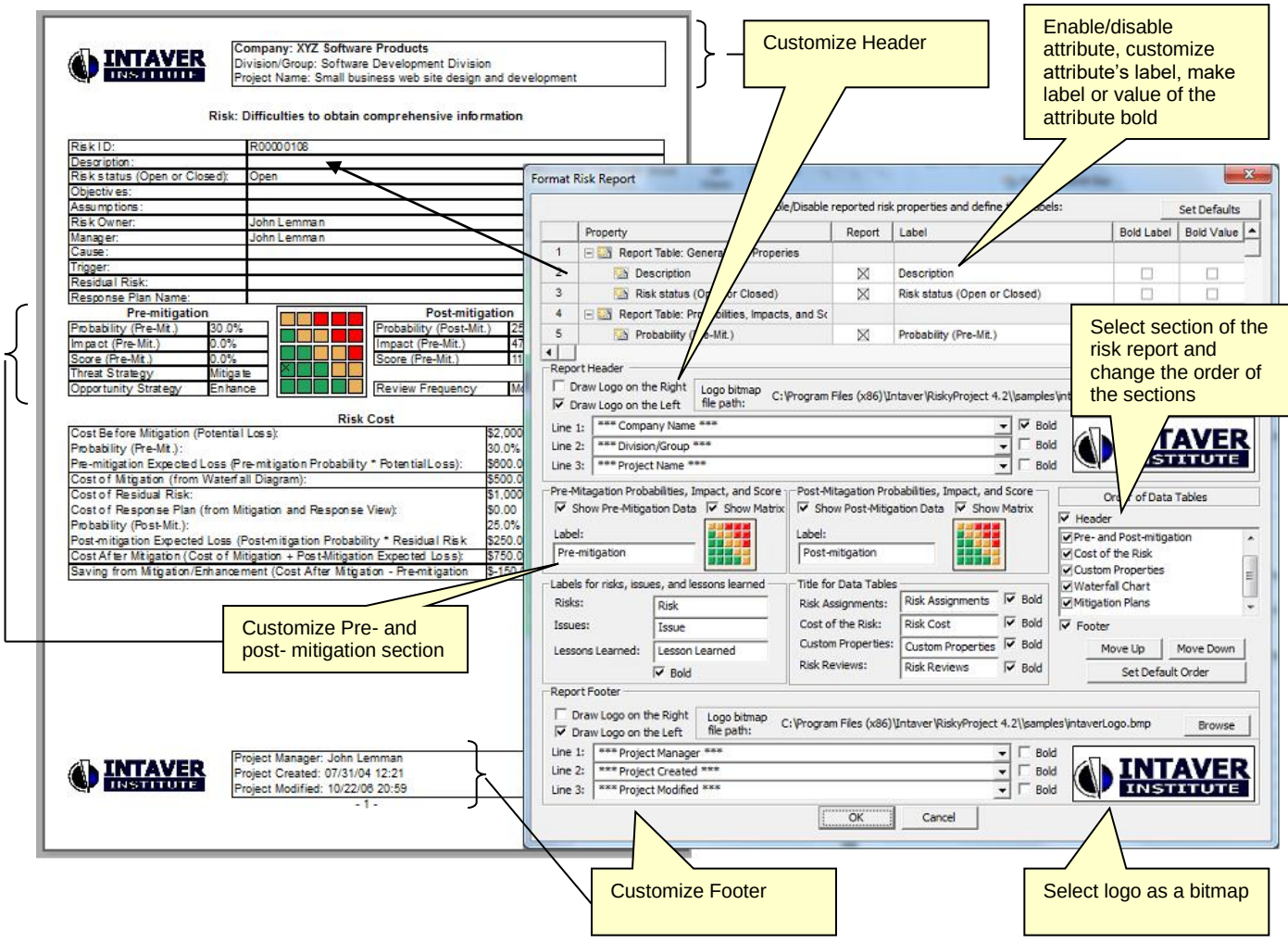
Customize the Risk Report

You can customize the Risk Report in the following ways:

- Select the order and turn on and off any section of the report
- Customize any particular section by enabling or disabling any attribute and customizing labels of the attribute. For example, by default the label for risk detailed description is called “Description”. Instead you may use “Information about risk”.
- Customize headers and footers. Specifically, you can select a logo (company) that can be placed in the header and/or footer.
- Modify attribute values or labels.

To customize the risk report

1. On the **Risks** tab click **Risk Report**.
2. At the bottom of the view, click **Customize Risk Report**.
3. Enable/disable attributes, customize attribute’s label, make label or value of the attribute bold
4. In the **Order of Data Tables**, select the data tables you want to include in the report and use the **Move Up** and **Move Down** buttons to change the order of the sections
5. For “Pre- and post- mitigation probabilities, impact and score” of the report enable or disable pre and post mitigation matrixes.
6. Click **OK**. The report will be regenerated to reflect the changes.


Customize Header
Enable/disable attribute, customize attribute's label, make label or value of the attribute bold
Select section of the risk report and change the order of the sections
Customize Pre- and post- mitigation section
Customize Footer
Select logo as a bitmap
Format Risk Report
Company: XYZ Software Products
Division/Group: Software Development Division
Project Name: Small business web site design and development
Risk: Difficulties to obtain comprehensive information
Project Manager: John Lemman
Project Created: 07/31/04 12:21
Project Modified: 10/22/06 20:59
- 1 -

Risk Dashboard

The fully customizable Risk Dashboard allows you to present hundreds of different KPIs and charts related to your risks. You can create any number of dashboards with different information, which are shown as different tabs within Risk Dashboard View. You can select from 7 types of charts: line, area, pie, scatter, bar (including frequency histogram), different types of meters, and risk matrixes. You can place them in different areas on the dashboard, adjust their size, colors, and other properties. You can also annotate your dashboard with text, lines, and images.

When you modify your risk data, the charts and KPIs are automatically updated. This date includes risk properties, mitigation and response plans, and project schedules. Annotation is not updated when we update risk data.

To add a chart, KPI, or annotation to the Risk Dashboard:

1. Select the type of chart or KPI from the toolbar on the right side.
2. Click on the dashboard and drag the line or rectangle to select the position of the chart, KPI, or Properties annotation.
3. Right click on chart, KPI, or annotation.
4. Select **Properties** from shortcut menu; **Properties** dialog opens.
5. Enter properties of the chart, KPI, or annotation; it includes type of chart or what type of data this chart, KPI or annotation will represent as well as graphic properties.
6. Click **Close** to close the Properties dialog box.

To modify a chart, KPI, or annotation

1. Click on the chart, KPI, or annotation; chart, KPI, or annotation you want to modify.
2. Move or expand the area to adjust size or position of the chart, KPI, or annotation
3. Right click on chart, KPI, or annotation and click **Properties** from shortcut menu; **Properties** dialog opens.
4. Modify properties of the chart, KPI, or annotation; it includes type of chart or what type of data this chart, KPI or annotation will represent as well as graphic properties.
5. Click **Close** to close the Properties dialog box.
6. To enter text or update font and alignment, right click on KPI and Annotation rectangle and select **Edit or Format Text** within a shortcut menu.

To export dashboard

1. Right click in any place of dashboard, and from the shortcut menu click **Copy Dashboard to Clipboard** or **Copy Dashboard to File**.
2. In you export dashboard to file, you can select file format: JPEG, PNG, GIF, BMP, or TIFF

- Many KPIs and charts are based on results of Monte Carlo simulations. Therefore you need to perform calculation to see results of analysis on the dashboard.
- RiskyProject comes with default dashboard. To Generate default dashboard right click in any place of dashboard and select Create Standard Dashboard from shortcut menu.
- To completely clear dashboard click in any place and select Clear Dashboard from shortcut menu
- You can save dashboard in system registry for all new project. To do then click in any place and select Save Dashboard as Default from shortcut menu
- You can modify background color of dashboard by clicking in any place and selecting Dashboard Setting from shortcut menu
- You can copy and paste selected chart, KPI, or annotation. To do that right click on any selected chart, KPI or annotation, and select Copy from shortcut menu. Then right click on any area of dashboard where you want to paste it and select Paste from shortcut menu.
- Risk Dashboard can be printed. To Print dashboard click on File > Print

Setting up Defaults for Qualitative Risk Analysis

Risk ID Settings

You can generate Risk IDs automatically. Alternatively, you can enter the Risk IDs manually, in the same manner as you enter any other risk property. If a Risk ID is generated automatically, you can overwrite it manually. Risk IDs will be incremented each time you enter new risk.

Risk IDs may include four components

1. **Prefix** – any symbols (optional)
2. **Number** – from 4 to 16 digits (optional)
3. **Suffix** – any symbols (optional)
4. **Date** – date format can be defined (optional)

Risk ID can be unique for all projects on your computer or unique only for a particular schedule. For example, if Risk ID is unique for all projects on your computer:

- Project A will have risks R0001, R0002, R0003, R0004
- Project B will have risks R0005, R0006, R0007

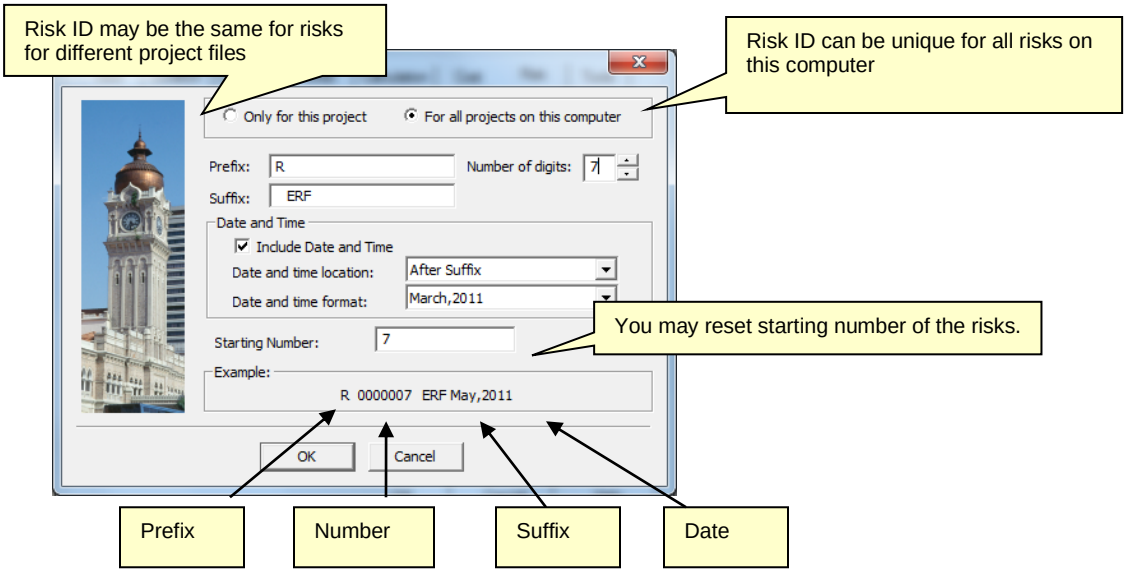
If Risk ID unique only for the particular schedule:

- Project A will have risks R0001, R0002, R0003, R0004
- Project B will have risks R0001, R0002, R0003

You can always reset the starting number. The starting number only affects new risks and does not affect risks, which had been previously entered. However, if you update the starting number the Risk ID may not be unique. In addition, the Risk ID may be not unique if you manually overwrite automatically generated risk ID.

To enable automatic generation of Risk ID and define format of Risk ID:

1. Click the **Schedule** tab. In the Settings group, click **Options**.
2. Click the **Risk** tab.
3. Select the **Generate Risk ID automatically** check box.
4. Click on **Risk ID Format** to define rule of Risk ID automatic generation; **Risk ID Format** dialog box opens.
5. In the **Risk ID Format** dialog select how Risk ID will be generated: for particular project or for all projects on your computer.
6. Define the Risk ID prefix and suffix.
7. Define the number of digits for Risk ID generation.
8. Enable / disable date as part of the Risk ID format.
9. If date is enabled, define the date format and position.
10. Define the starting number for generating Risk IDs.



Managing Risk Categories and Outcome Types

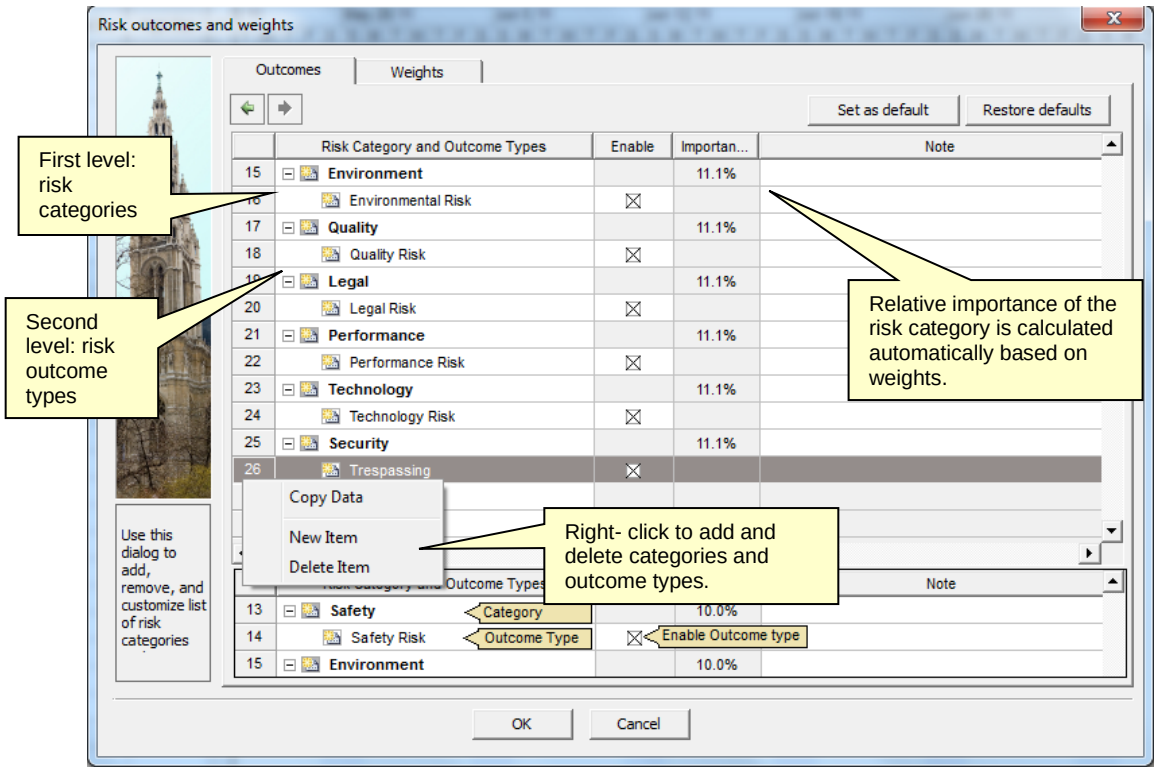
RiskyProject has a default list of risk categories and outcome types. You may customize risk categories and outcome types: add new outcomes or delete existing categories or outcome types.

For example, you add the category Security, which is not in the list of predefined categories:

Category:	**Security**
Outcome Type 1:	Trespassing
Outcome Type 2:	Information Security Failure

Categories are shown at the top of Risk Register, Risk Matrix, and Risk Report views. You are able to filter risks based on category. Outcome types are filtered based on the risk probabilities and outcomes. For example, you enter the risk "Failure of security procedure." It will have probability 60%, outcome type "Information Security Failure" and outcome "Low."

Risk categories related to project duration are referred to as "Schedule and Scope." This category is shown Risk Register as the "Duration" category. Risk categories related to project cost are referred to as "Cost and income" and are shown in the risk register as the "Cost" category. Under both these categories, you will find a number of outcome types. Most of these outcome types are reserved for quantitative risk analysis (read "Quantitative Risk Analysis" for more information). For qualitative risk analysis only two outcome types are available: "Relative Delay" for "Schedule and Scope" and "Relative Cost Increase" for "Cost and income category."



- One risk may have different outcomes type and categories. For example, "Low quality supplies" can affect quality and safety. RiskyProject will calculate the impact of this risk on safety and quality separately, and the combined impact on all risk categories.
- You can enable/disable risk outcomes. Once disabled, risk outcomes will no longer be available on the **Probabilities and Outcome** tab of **Risk Information** dialog box.
- You may save a customized set of risk categories and outcome types to the system registry for all future projects on your computer by clicking the **Set as Default** button. This new default set of risk categories and outcome types will not affect existing projects. You may also restore a pre-defined set of categories and outcome types by clicking the **Restore Defaults** button.
- You may copy the risk category and outcome type data to the clipboard. To do this, select a row under which you want to add a copy risk outcome, right-click on the row number and choose Copy Data

Adding risk categories

1. Click the **Risks** tab. In the **Settings** group, click **Categories and Outcomes**.
2. Click the **Outcomes** tab.
3. Select a row above where you want to add a new risk category.
4. Right-click on the row number and choose New Item.
5. Provide a name.
6. Click the **Outdent** arrow. By default, all new rows are considered risk outcomes, by moving the outcome to the left the outcome is converted into a risk category. This is indicated when the name is bolded and the Task and Resource check boxes disappear.

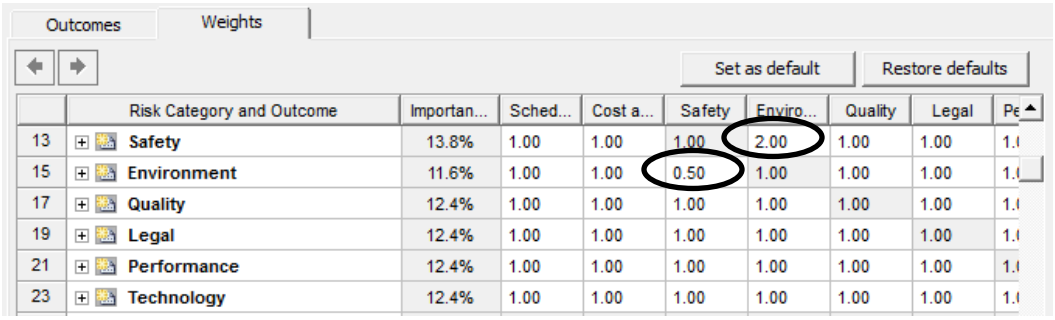
Risk Weighting

Risk Weighting is a method of assigning the relative importance of a particular risk category to an organization and is important when dealing with multi-criteria decision-making. RiskyProject uses a form of the Analytical Hierarchy Process (AHP) to weigh the relative importance of one risk category over another. By default, weights for all risk categories are equal.

AHP is a two-step process:

1. Develop a list of your risk categories and criteria.
2. Perform a pair-wise comparison to establish consistent ranking or priorities for each risk category.

For example, after determining your organization's risk preferences, you determine that Safety risk is twice as important as Environment; you would enter a 2 into the cell where the Environment category row intersects the Safety column.



	Risk Category and Outcome	Importan...	Sched...	Cost a...	Safety	Enviro...	Quality	Legal	Pe
13	Safety	13.8%	1.00	1.00	1.00	2.00	1.00	1.00	1.(
15	Environment	11.6%	1.00	1.00	0.50	1.00	1.00	1.00	1.(
17	Quality	12.4%	1.00	1.00	1.00	1.00	1.00	1.00	1.(
19	Legal	12.4%	1.00	1.00	1.00	1.00	1.00	1.00	1.(
21	Performance	12.4%	1.00	1.00	1.00	1.00	1.00	1.00	1.(
23	Technology	12.4%	1.00	1.00	1.00	1.00	1.00	1.00	1.(

Notice that the relative importance of the Safety Category has increased to 13.8 while the rest of the categories have decreased.

These weights will be used in the calculation of the risk impact on all categories.

Weighting risk categories

Before you can add risk weights, you should perform a risk weighting analysis to determine the relative importance of each risk category to your organization.

1. Click **Risks** tab. In the **Settings** group, click **Categories and Outcomes**.
2. Click the **Weights** tab.
3. Select the risk category to which you want to add the weighting factors.
4. Enter the risk-weighting factor for each risk category (column).
5. Repeat Steps 3 and 4 for each risk category.

Managing Default Risk Properties

Risk Properties

Each risk may have risk properties. These properties are useful for storing any information about the risk. You can use risk properties to search and filter search the Risk Register. Risk properties can be different types:

- String – text information
- Integer number

- Real number
- Resource – can be taken from list of resources
- Date
- Picklist: dropdown list with values
- Mitigation Action: used to import data from Excel, see "Importing Risk Register from Microsoft Excel"
- Threats or Opportunities: used to import data from Excel, see "Importing Risk Register from Microsoft Excel"
- Yes/No

Integer numbers and real numbers have maximum and minimum values.

The list of risk properties is hierarchical; the risk properties are subdivided into separate groups.

Editing the default risk properties

1. Click the **Risks** tab. In the **Settings** group, click **Default Properties**.
2. Select a row under which you want to add a new risk outcome.
3. Right-click on the row number and choose **New Property** Item
4. Type in the name.
5. Select type, maximum and minimum values for the new property.
6. Use the **Indent** and **Outdent** arrows  to create groups of risk properties.
7. If you have Picklist type risk property double-click on risk property ID; Picklist dialog box will opens where you can enter the list of values.

Default risk properties are automatically saved in the system registry and can be used for all projects. You may use the **Restore Default** button to overwrite changes in default risk properties you made with standard set of risk properties.

Format the Risk Matrix and Risk Trend Chart

You can modify the Risk Matrix to define the risk matrix's number of row and columns, define labels and the risk tolerance display. These settings will be used in Risk Matrix view.

Risk Tolerance

The level of risk tolerance is displayed using color-coding (for threats: green: low risk, yellow: medium risk, red: high risk). A high number of green cells on the chart indicates a high-risk tolerance. A high number of red cells on the chart indicates a low risk tolerance. Color-coding for opportunities is the opposite.

Number of Rows and Columns, Labels for Probabilities and Impacts

In the Format Risk Matrix dialog box, the number of rows in the Probability table corresponds with number of rows of the risk matrix, and the number of rows in the Impact table corresponds with the number of columns in the risk matrix. Therefore, to add or remove a row or column in the risk matrix, simply add or remove the label in the probability or impact table.

You may define probability and impact for different labels for each risk category. In addition, you may define different labels for threats and opportunities.

For example, if, in the Duration category, the impact label for "Threats" is "Low: 1 month delay", the impact label for the opportunity in the same category is "Low: 1 month acceleration". If you do not define labels for a risk category, the default set of labels will be used. You may modify the default set of labels by selecting "Default" from the dropdown list and then editing as required.

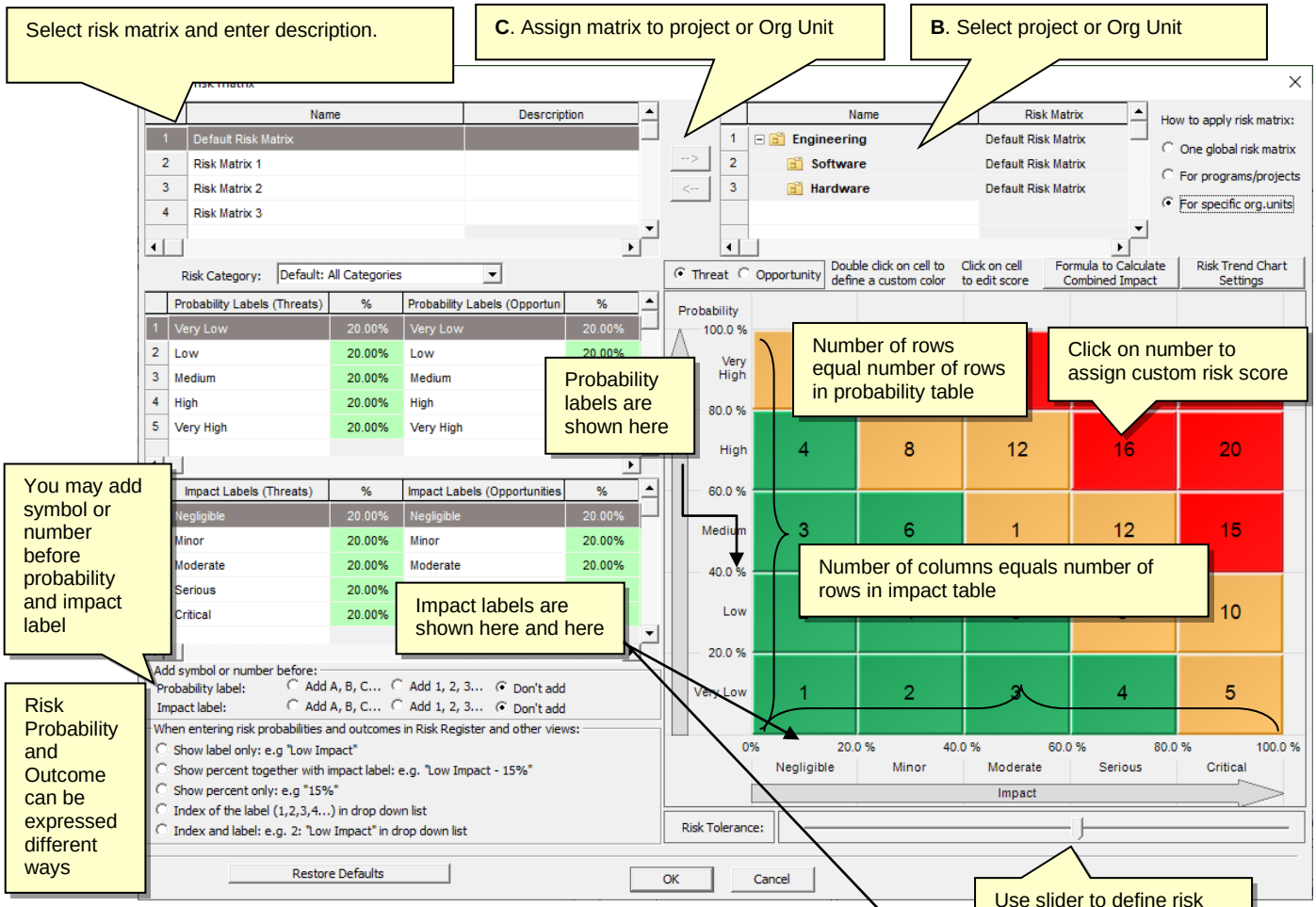
Probability labels are used only in the Risk Matrix; impact labels used appear in the Risk Matrix as well as to define outcomes of each risk in the **Probabilities and outcomes** tab of the **Risk Information** dialog box.

For example, an impact label "Low: 1 month delay" will be shown on the horizontal axis of the Risk Matrix. In addition, when you define the impact of a risk, which has an outcome type "Relative delay", you will be able to select the outcome "Low: 1 month delay".

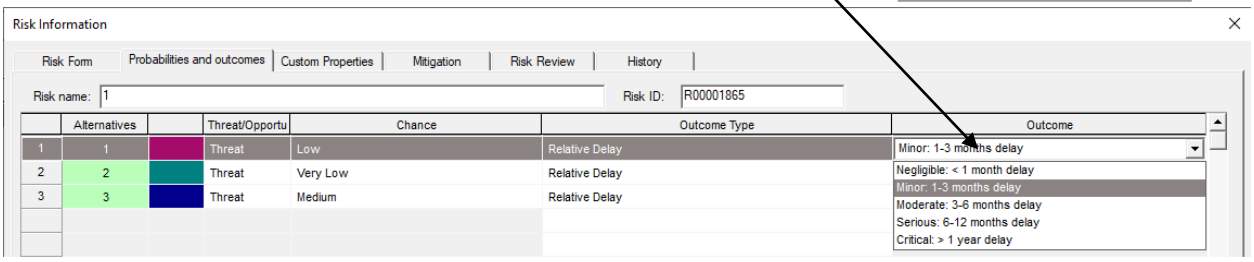
Risk Matrixes for Organizational Units and Projects

If you the risk matrix is set for Organizational Unit, when you logon, the risk matrix setting will be based upon you organizational unit membership. If a risk matrix is not defined for an a specific Organizational Unit project, RiskyProject will use the default risk matrix.

If Risk Matrixes are defined by project, RiskyProject will be present different risk matrixes based upon the project settings. If the risk matrix is not defined for a project, RiskyProject will use the default risk matrix.



In Risk Information dialog box:



Define Custom risk scores

Risk scores are usually calculated as Probability * Outcome. However, if you have risk probabilities and outcomes expresses as index (1,2,3,4….) index and label (2: "Low Impact") in the drop down list you may define custom nonlinear scores. These scores are shown in Risk Matrix in **Format Risk Matrix** dialog as number from 1 to 99 on each cell. For example,

- index of low probability is 2 - second row from the bottom of risk matrix
- index of critical outcome is 5 - last columns of risk matrix
- score based on these indexes equal 2*5 = 10
- it is possible to assign a number to this cell different than 10. To do just click on number and enter different number, for example 11.

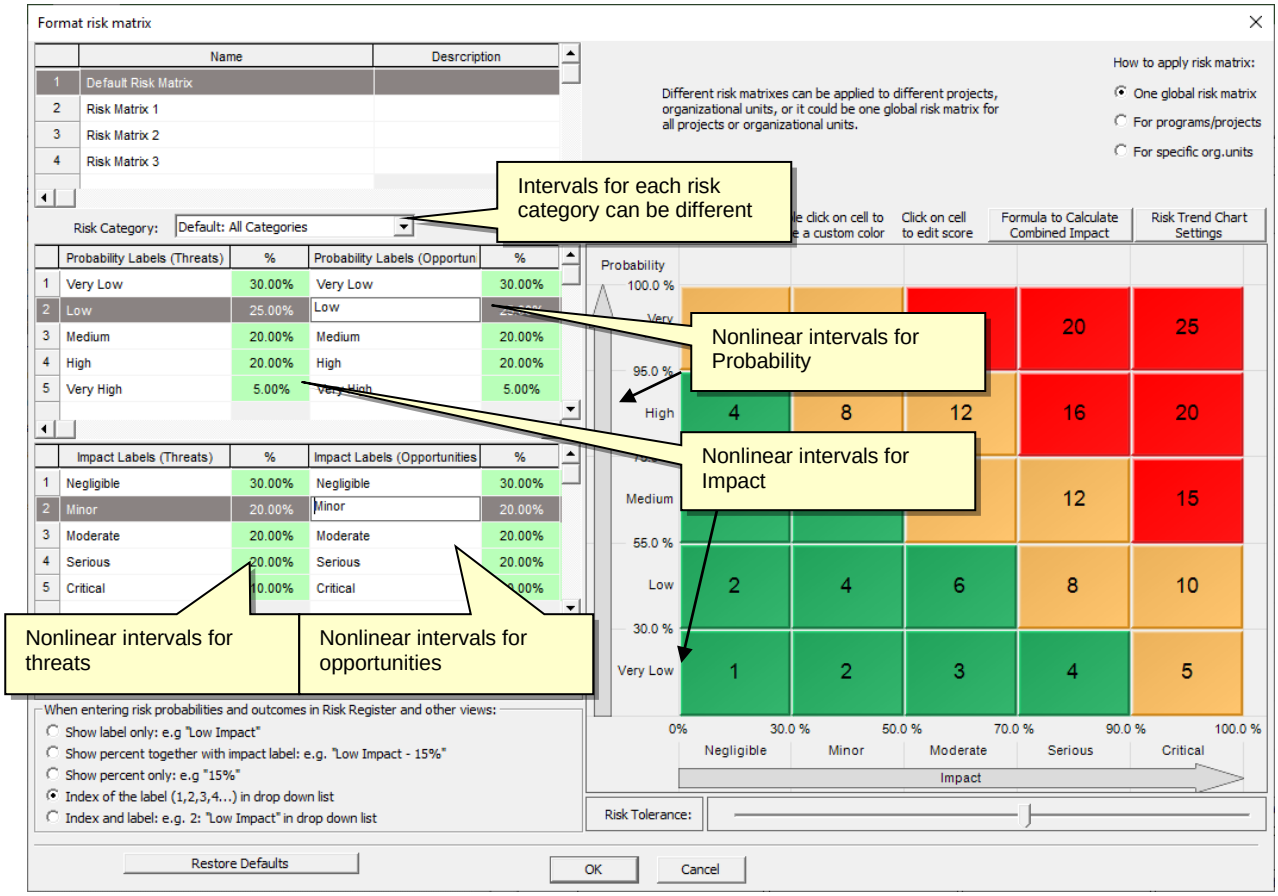
Nonlinear intervals for probability and impact

In standard risk impact and probability matrixes, intervals can be non-linear. For example, in some 5x5 risk matrixes, Very High probability often indicates a probability of 10 - 70%, High 70 -50%, Moderate 50-30 %, Low 30-20% and Very Low is >10%. The risk matrix can be setup so that the matrix "intervals" can be modified so that each interval can represent a different scale for both probability and impact. The sum of all intervals must be equal to 100%. When you are modifying the ranges, if the sum is not equal to 100%, the background color will be pink. Once the sum equals 100%, the color changes to green.

Very Low	10%
Low	20%
Medium	20%
High	20%
Very High	30%

The same process can be used to customize your impact matrix

Negligible	1%
Minor	4%
Moderate	5%
Serious	10%
Critical	80%



The example below shows how this would appear in the Format Risk Matrix dialog box.

Risk Severity Levels

Each color on risk matrix represents a particular risk severity level. By default, there are only three ranges: "**Low**" – green, "**Medium**" – yellow and "**Critical**" red. Each severity level can be associated with certain risk mitigation and response actions. For example, risks that appear on green cells are low risk and can be accepted.

You may change color of each cell by double-clicking on the cell. You may also define a name of each range, and order how different ranges are shown in the Risk Trend Chart, as well as the periodicity of the risk trend chart.

Steps to Format Risk Matrix

To format the Risk Matrix:

1. Click the **Risks** tab. In the **Settings** group, click **Format Risk**.
2. Select a risk category from dropdown list. "Default" category is used if you did not explicitly define labels for specific risk category.
3. Modify the **Intervals** for **Impact** and **Probability** for the selected risk category.
4. Modify the **Impact** and **Probability** labels as required for the selected risk category.
5. Drag the **Risk Tolerance** slider to the left to set a low risk tolerance or to the right to set a high-risk tolerance.
6. Toggle between **Threat** and **Opportunity** to view how the risk matrix will look like for threats and opportunities.
7. Define how risk outcomes in Risk Information dialog box or Risk Register will be shown:
   - As label only (e.g., "Low Impact")
   - As percent together with label (e.g., "Low Impact – 15%")

- As percent only (e.g., 15%)
- As index of the label (1,2,3,4…) in dropdown list
- As index and the label: e.g. 2: Low Impact in dropdown list

8. Add symbol or number before probability or impact label. For example, instead of "Very Low" label you may use "A: Very Low".
9. The define properties of the severity level by clicking on "**Risk Trend Chart Settings**"
10. **Formula to Calculate Combined Impact** allows you define algorithm for impact calculation.

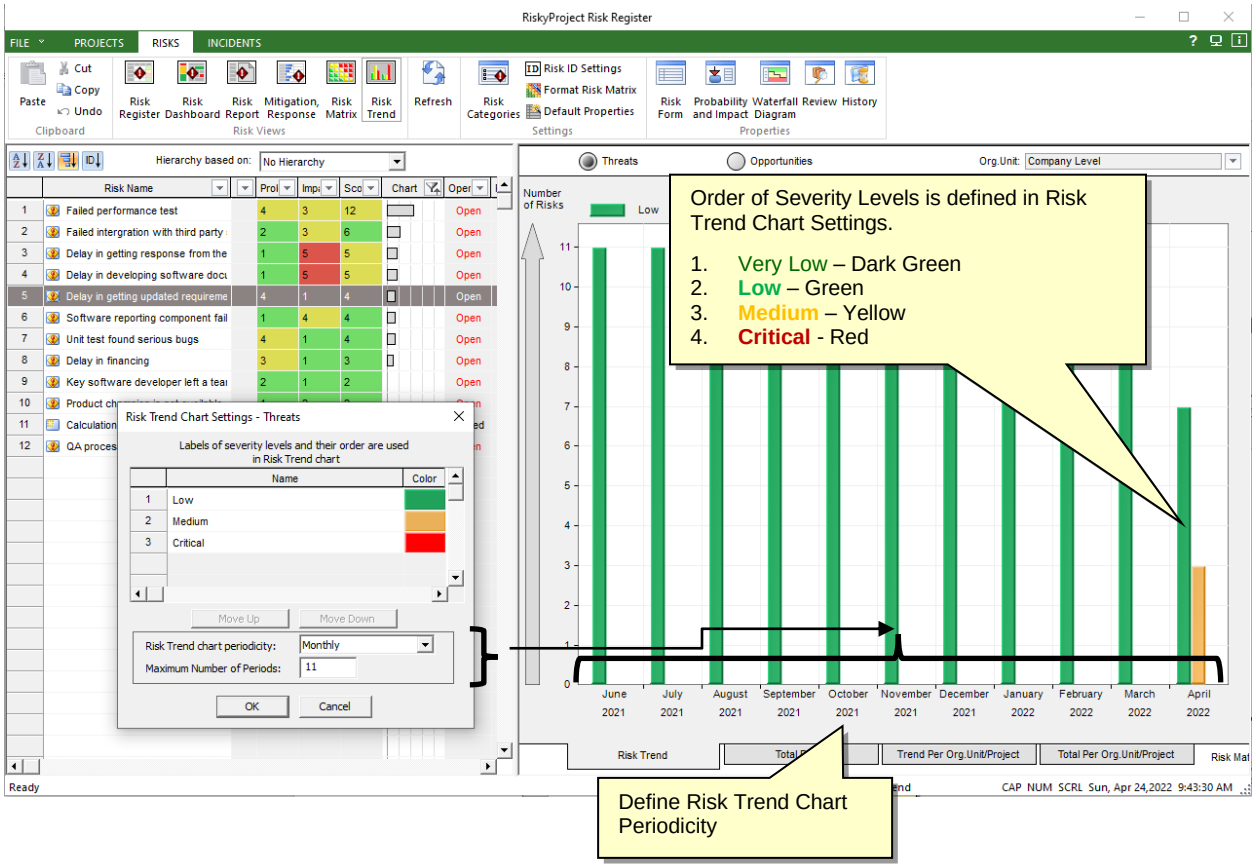
Your settings will be saved to the system registry for all new projects on your computer. These new defaults will not affect any previous projects. You can also restore the pre-defined set of categories and outcome types by clicking on the **Restore Defaults** button.

Risk Trend Chart Settings

Using Risk Trend Chart settings dialog box, you can define:

1. Order of bar on Risk trend chart associated with particular risk **severity level**. For example, for each time period **Low** risks (Green color) will first, **Medium** risk (Yellow color) will be second and **High** risks (Red color) will be third. You can use Move Up and Move down buttons to define the order.
2. Name of each range.
3. Risk trend chart periodicity (Monthly, Quarterly, Yearly, etc.)
4. Maximum number periods in in Risk Trend Chart. For example, Risk trend will show 10 month back starting from the current month.

Risk Trend chart settings can be invoked from Format Risk Matrix dialog or by right click on Risk Trend Chart.



Algorithm for Impact Calculation

You may define algorithm for impact calculation using **Formula to Calculate Combined Impact** button. There are two algorithms:

- Combined impact = maximum impact of all categories; for example, Cost Impact is 30%, Schedule Impact is 40%, and Safety Impact is 10%. Total impact is 40%
- Combined impact = sum of impacts in each category and then normalize. For example, Total impact will be 70%. However, if total impact for at least one risk in risk register with exceed 100%, all impacts for all risk register will be proportionally reduced to ensure that on impact is greater than 100%.

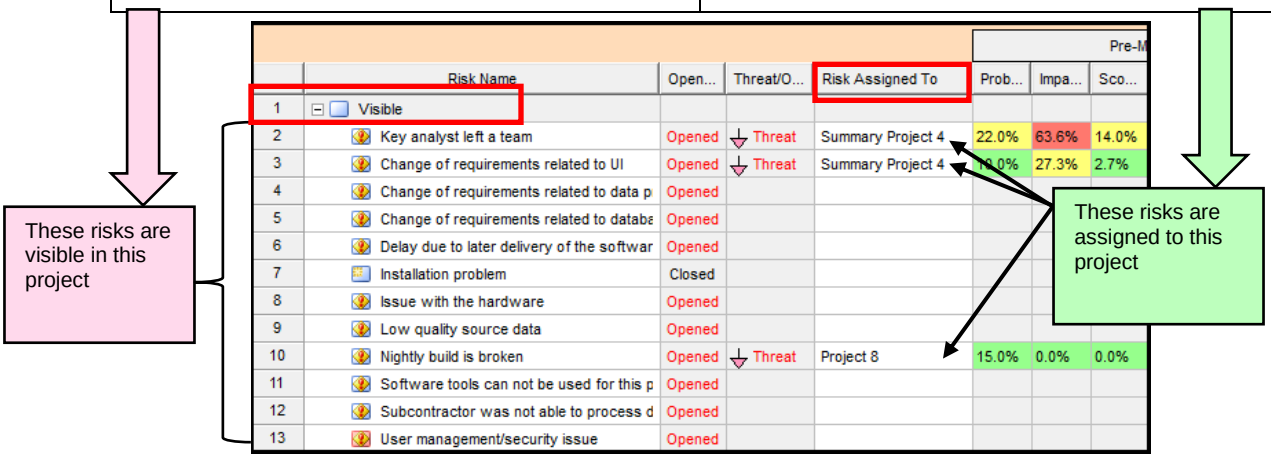
To define algorithm for impact calculation:

1. Click the **Risks** tab and then click on Format Risk Matrix
2. Click on **Formula to Calculate Combined Impact**
3. Select **Calculation of combined risk impact for all categories:** maximum impact or normalized sum of impacts.

About Risk Visibility and Risk Assignment

Each risk can be visible and assigned to specific projects. Visibility and assignment are not identical:

Visibility	Assignment
Visibility means that a risk can be accessible for the specific project, summary project and at the enterprise level. If a risk is not visible, it cannot be assigned to any project.	**Assignment means that a risk may occur (affect) the specific project, summary project or at the enterprise level.** The user specifically attaches a risk to a project. Only a visible risk can be assigned.



When you create a new risk, it will inherit the default visibility settings. Default visibility is defined in **Portfolio Options**. See **Risk Visibility (Approval) Rules** for more information.

Default visibility can be set for:

- Projects which are currently opened (Current Project)
- Only the Immediate Summary Project
- All Summary projects for this project
- At the Enterprise Level

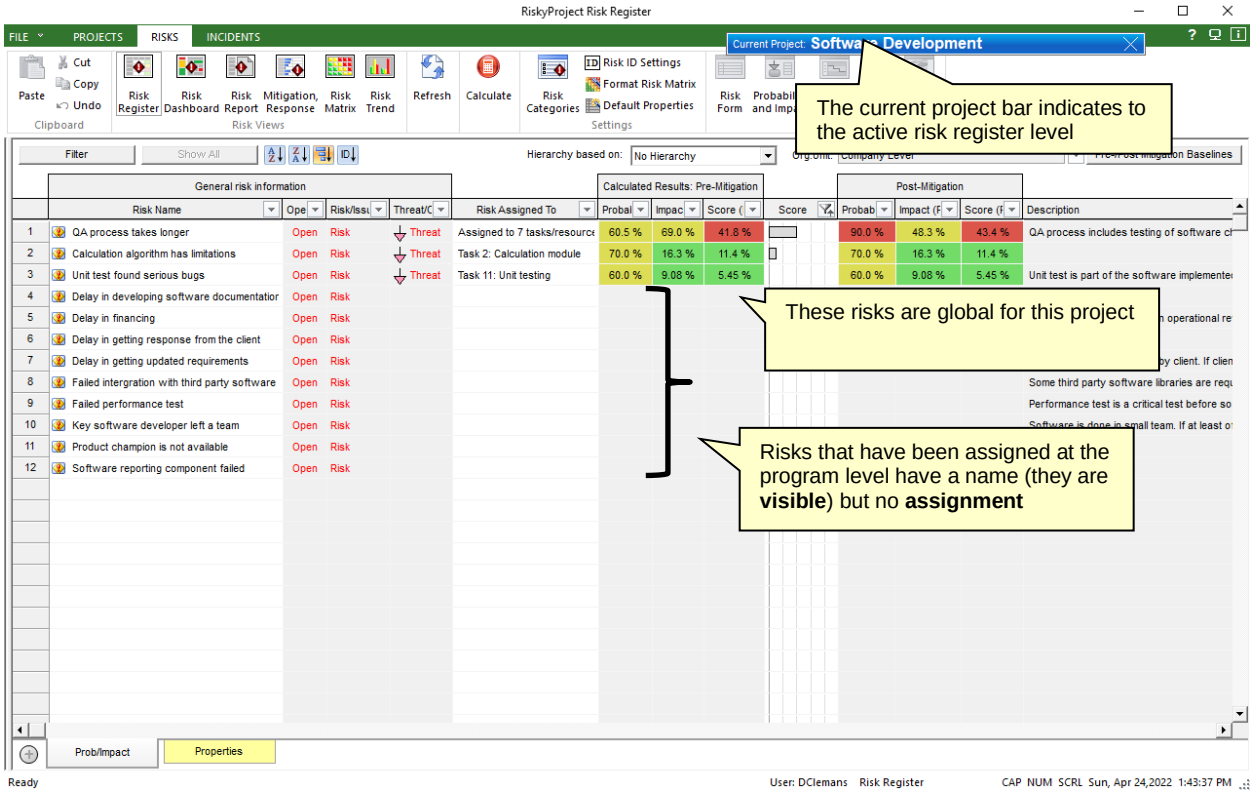
After a risk is created, you can change the visibility if you have permissions to the projects in which you want to make this risk visible.

Assigning Risks to Projects

Risk must be assigned to a specific project, a summary project, or at the enterprise (upper) level of the project hierarchy.

To assign a risk to a project or program:

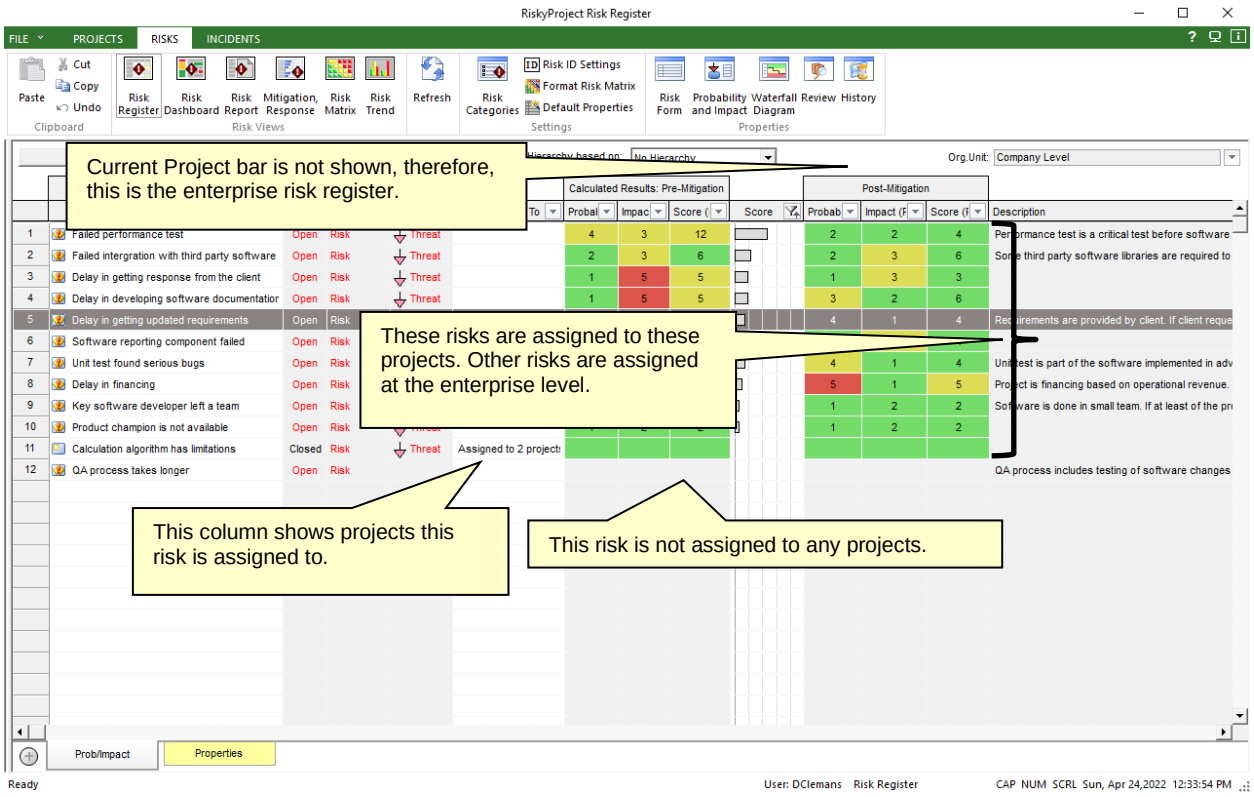
1. Open the project to which you want to assign the risk; if you do not open a project or program, the risk will be assigned to the enterprise (upper) level of the project hierarchy.



2. Click the **Risks** tab and then in the **Risk Views** group, click **Risk Register**
3. Double-click on a Risk ID to open the Risk Information dialog box.
4. Enter all risk properties including probabilities and impacts; you may define different risk alternatives, risk categories, moment of risk (if a risk is assigned to a task or resource). For more information, please read the *RiskyProject User Guide*.
5. Click **Calculate** button
6. Click **OK**.

To view Risk Register on Enterprise level:

If you do not have an open project or program (no blue or red bars), this indicates you are looking at the Enterprise Risk Register:



To view the projects to which a risk is assigned:

When viewing the portfolio or program risk register, the **Risk Assigned To** field displays the projects (or programs) to which a risk is assigned.

In the above example, the Current Project bar is not open, which indicates that the you are looking at the Enterprise level risk register. If the risk is assigned to more than one project, the **Risk Assigned To** will become a drop-down list. Click on the list to view all of the projects to which the risk is assigned.

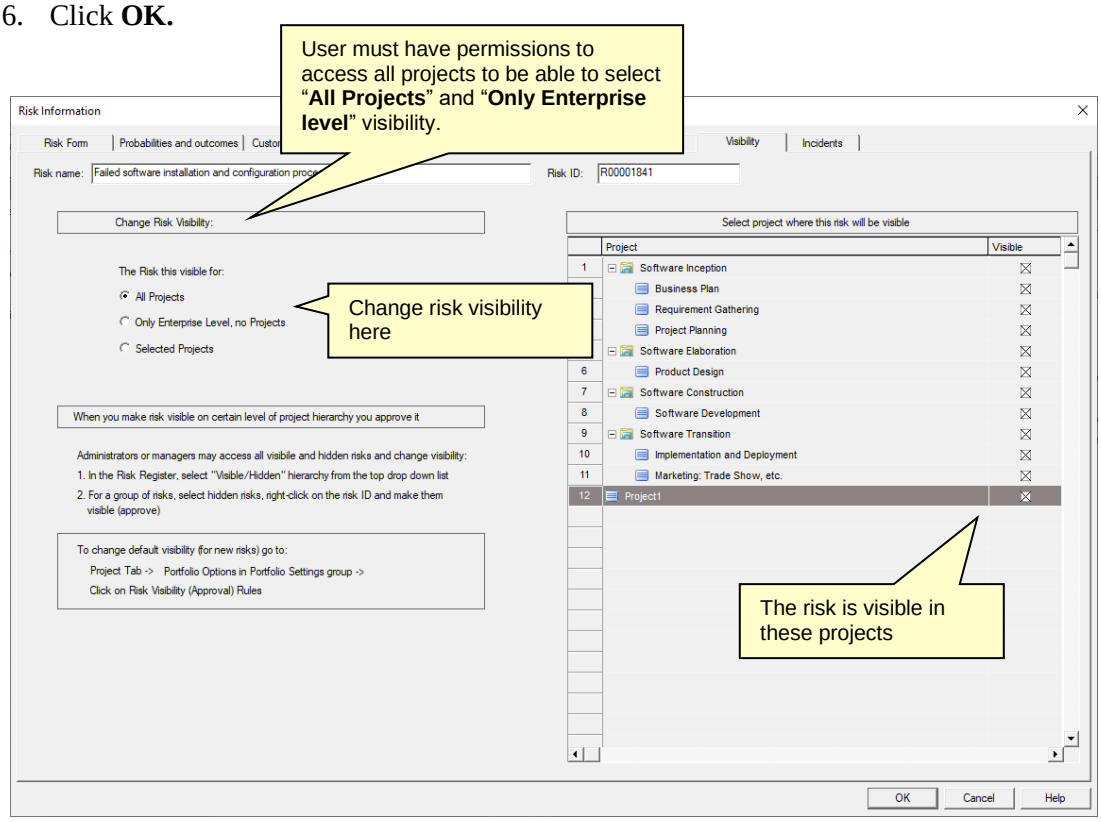
Changing Risk Visibility

After a risk is created, you may change the list of projects within which the risk is visible.

To change risk visibility:

1. Click the **Risks** tab and then in the **Risk Views** group, click **Risk Register**
2. Double-click on a Risk ID to open the **Risk Information** dialog box.
3. Click the **Visibility** tab.

4. Select a visibility level. You may choose to make this risk visible:
   - For all projects/all levels of the hierarchy
   - Only at the enterprise level of the hierarchy
   - For specific projects
5. If you need to make your risk visible for a particular project, select projects in which you would like your project to be visible.
6. Click **OK.**



Automatically Assign Risks to Upper Levels of the Hierarchy

In the above example, the risk "Issue with the hardware" is visible for Project 7 and for Summary Project 7. Here is an important rule:

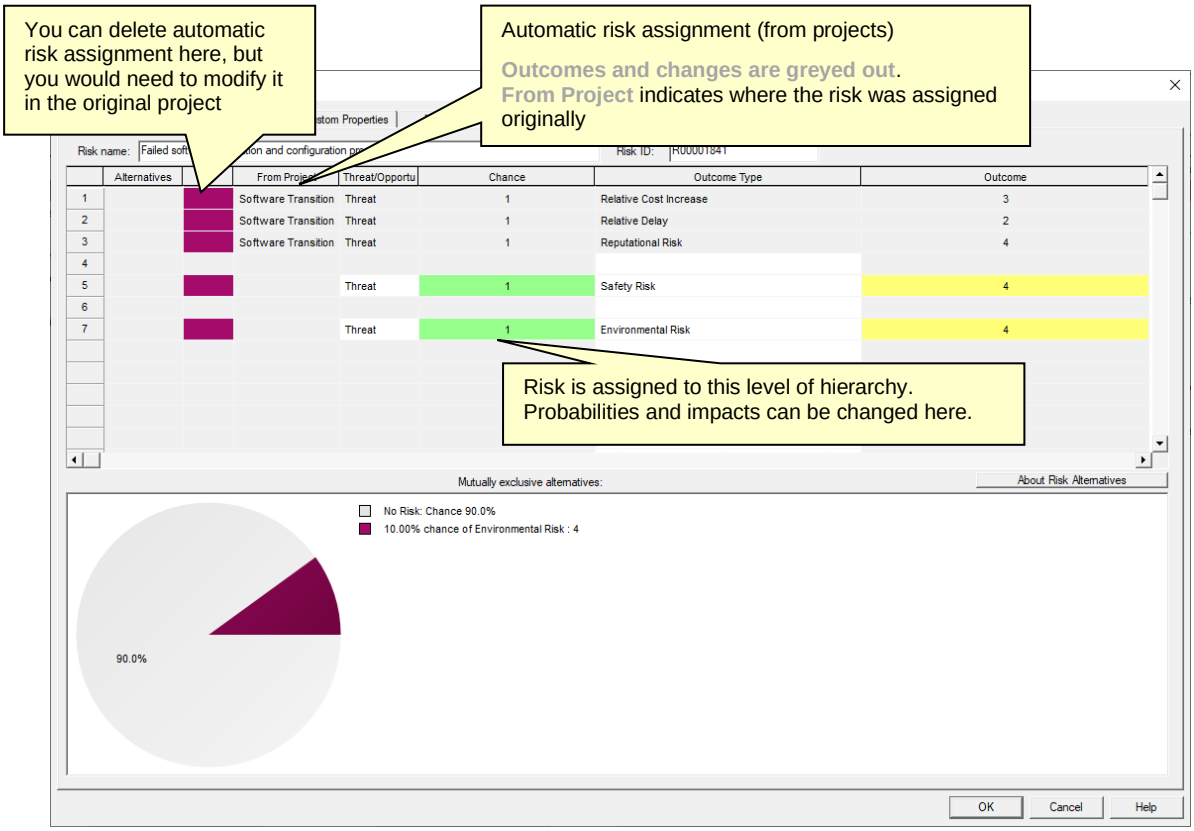
> **If you assign a risk to a low level of the hierarchy, it will be automatically assigned to levels directly above it unless visibility is explicitly limited to the project.**

In our previous example, if you assign the risk "Issue with the hardware" to Project 7, it will be automatically assigned to Summary Project 3.

To view the projects or programs to which a risk is assigned:

1. Open a **summary project** (Summary Project 3 in our example).
2. Click the **Risks** tab and then in the **Risk Views** group, click **Risk Register** or **Risk Properties**.
3. Double-click on a Risk ID to open the **Risk Information** dialog box.

4. Click the **Probability and Outcome tab** (if you do not have a project schedule) or **Assign to Tasks or Resources Tab** (if you have a project schedule).
5. You will be able to see the risk, which is automatically assigned to the summary project. Column **From Project** indicates where the risk was assigned originally. The original assignment can be changed here. You would have to go to the sub project (Project 7 in our example) to make any changes to the risk assignment.



The same process of automatic risk assignment also works at the enterprise level. Therefore, if a risk is visible at the enterprise level and you assign it to a particular project, the risk will be automatically assigned to the enterprise level.

You may assign the risk to a summary level, even it is already assigned to the project level. This is useful in situations where the project level and summary level risk is assigned to different categories. For example, at the project level "Pipeline Crack" is a quality risk, whereas on the portfolio level the same risk can also be defined as a public relations risk.

- When you change the visibility for the risk, it will automatically be assigned to the associated summary project or to the enterprise level.
- You must have appropriate permissions to make a risk visible for a summary project or at the enterprise level. If you do not have these permissions, your risk will not be automatically assigned to the upper level of the hierarchy.
- Automatic risk assignment only goes upward from lower to higher levels of the hierarchy (summary project and enterprise level), but not from summary projects down to sub projects.

- Original risk assignments may have multiple mutually-exclusive alternatives with different probabilities and impacts. These risk assignments may also have a particular distribution of risk outcomes. When a risk is automatically assigned to the upper levels of the hierarchy, one integrated risk assignment will be generated, the impact and probability of which will be equivalent to the original risk assignment.

About Hidden Risks

Risks that are not visible for certain projects will be flagged as hidden for those projects. They will still exist in the risk register, but only administrators, managers and the particular owner/manager of the risks will be able to see them.

To see a hidden risk:

1. Click the **Risks** tab and then in the **Risk Views** group, click **Risk Register** or **Risky Properties**.
2. From **Hierarchy based on** drop-down list select **Visible/Hidden**.
3. You will be able to see all hidden risks for the current project or at the enterprise level, if no projects are opened.

About the Risk Approval Process

Risks entered into the system may need to be **approved** by a manager before they become visible to other users. The manager or administrator can make risks assigned to specific projects visible in other projects. There are two methods to make projects visible:

1. Using the **Risk Information** dialog box (see **Changing Risk Visibility**) - using this method you can only change the visibility for one risk at a time.
2. Using the **Make Visible (Approve)** command - you can modify the risk visibility for a group of risks.

To make a hidden risk visible:

1. Open the project where you want the risk to be visible. If you don't open any project, the risks will be visible at the enterprise level.
2. Click the **Risks** tab and then in the **Risk Views** group, click **Risk Register** or **Risky Properties**.
3. Select a single risk or a group of risks.
4. Right-click on the **Risk ID**.
5. Click **Make Visible** (Approve).

You must be an administrator or a manager to make risks visible. Even if you are the manager or owner of a particular risk, you cannot make the risk visible for other levels of the hierarchy.

Deleting Risk Assignments

Risks can be deleted using the same process as in the standalone RiskyProject (see the *RiskyProject User Guide* for more information). You may:

- select a risk in the risk register and press **Delete** , or
- select a risk or group of risks, right-click on a risk ID and click **Delete Risk**.

All risk assignments will also be deleted. If these risks are assigned to the projects you need to open projects individually, recalculate them and save them. This will allow the project risk score and other information related to project uncertainties to be updated.

Calculating Risk Probability and Impacts

Risk probability, impact and scores for all risks associated with a particular project or at the enterprise level are updated each time the risk register is loaded or refreshed:

- When you click the **Refresh** button
- When you close the current project or load a new project
- When you input a new risk
- When you switch views to Risk Register, Risk Matrix, RiskyProperties, or Risk Details

To update the risk register, Monte Carlo simulations are automatically performed. This is required to statistically calculate the cumulative impact of each risk. Monte Carlo simulations are required because the same risk may be assigned to different projects and within a project's various tasks and resources. The process of impact calculation is outlined in **The Project Risk Score and Project Ranking**.

The probability for each risk is based on the maximum probability of all risk assignments.

Locking and Unlocking Risks

Only one user can edit a risk at a time. Risk editing is done in the Risk Information Dialog box. Once a user opens a risk, this risk will be locked for all other users. Locked risks have the icon  next to the risk name. The risk will be automatically unlocked once risk editing is complete (once the user closes the Risk Information Dialog box).

If a risk is locked it can be unlocked by an administrator. As an example, it may be necessary for an administrator to intervene if a user has a risk opened for a long time period.

To unlock a project or a group of projects:

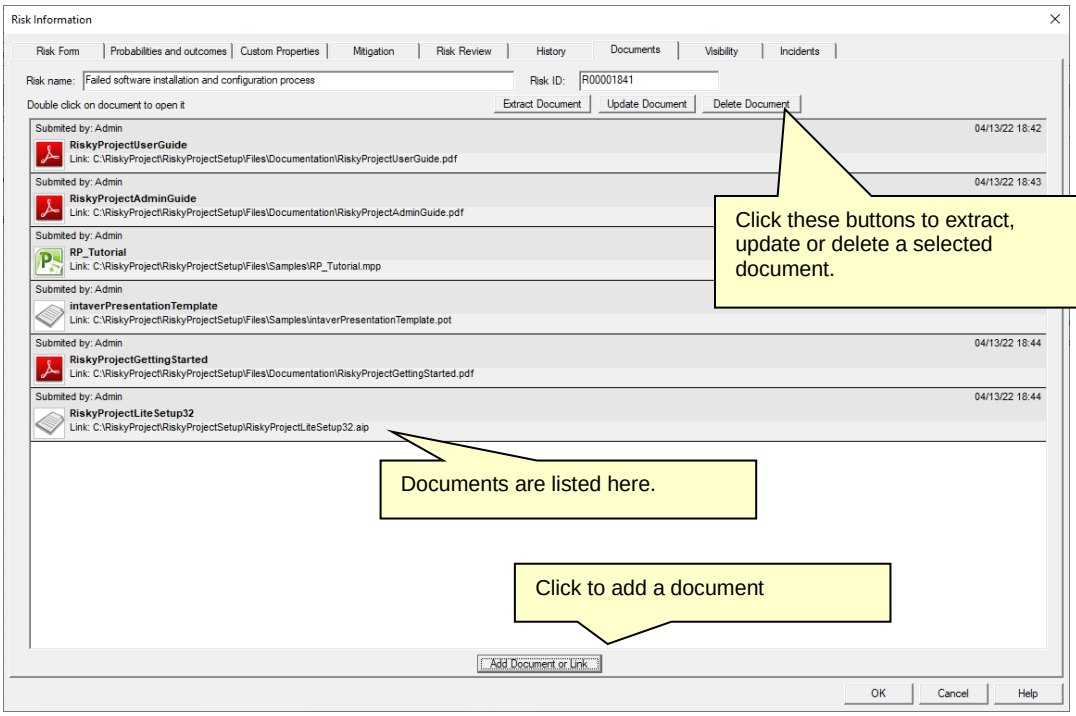
1. Click the **Risks** tab. In the **Risks Views** group, click **Risk Register** or **Risk Properties** view.
2. Select the risk or multiple risks you would like to unlock.
3. Right-click on the project ID and from the shortcut menu, click **Unlock Risk**.

About Risk Documents

You can add documents related to a risk to the risk register as part of your risk management process. This can be useful in order to add artifacts that were used during risk identification, assessment or other processes that are considered important to managing the current risk, but also for future reviews.

To add a document to a risk:

4. Open the risk register.
5. Open the risk to which you want to add the document.
6. Click the **Documents** tab.
7. You can manage existing documents using the following buttons:
    - **Extract Document**: Click to extract a copy of a document saved to the database onto a local drive.
    - **Update Document**: Click to update a linked document.
    - **Delete Document**: Click to delete a document from the risk.



Adding a Document to a Risk

To add a document to a risk:

1. Open the **Document** tab.
2. Click the **Add or Link Document** button. The Document Description dialog box will open.
3. Type in a document name in the **Document Name** box.
4. Type in a description of the document in the **Document Description** box.
5. Select either the **Add link** or **Save document** in the database option.

   There are some considerations you should note in regards to these options:

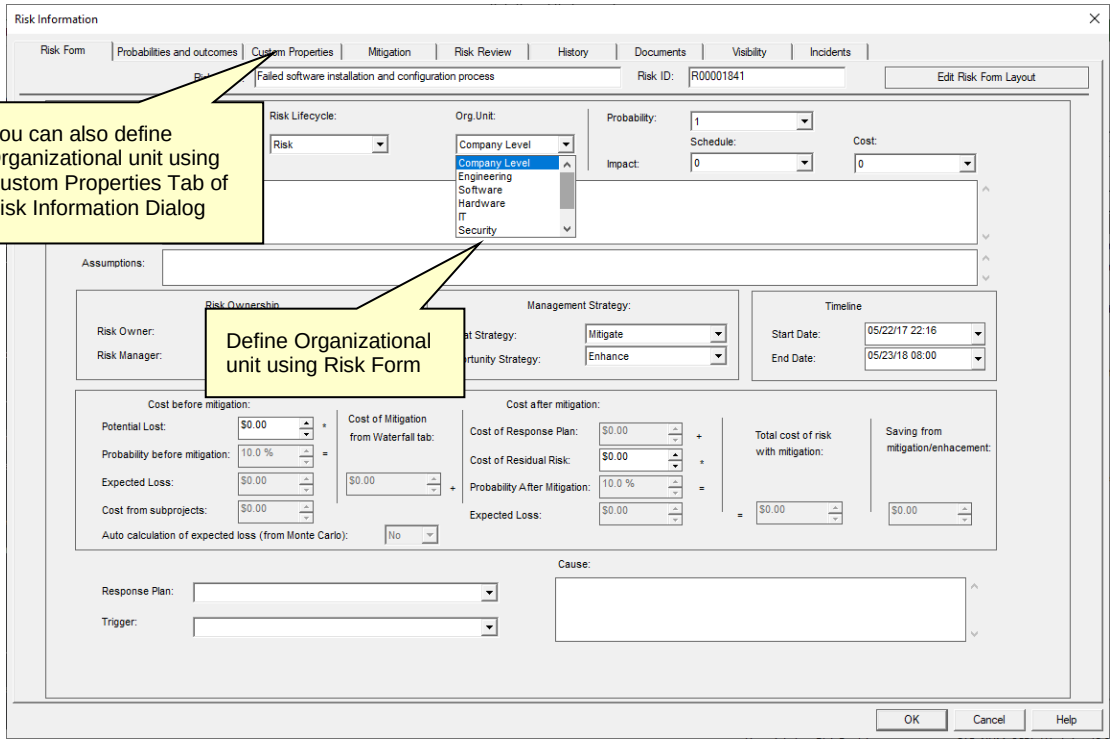
   - If you choose to link a document, this provides a path to the local computer. Therefore, it may not be valid for other system users.
   - If you select **Add to database**, over time this can potentially impact database size and may lead to decreased performance.
6. Click the **Browse** button to locate the file.
7. Click **OK**.

Risk Register and Organizational Units

The Risk Register can be filtered based on organizational units. The Organizational breakdown structure is defined in User Management console. For more information about organizational breakdown structures, please refer to The *RiskyProject Enterprise Administrator's Guide.*

Each risk can have organizational unit as a risk property. Organizational Unit risk property is a dropdown list defined in User Management dialog. It is possible to assign Organizational Unit properties:

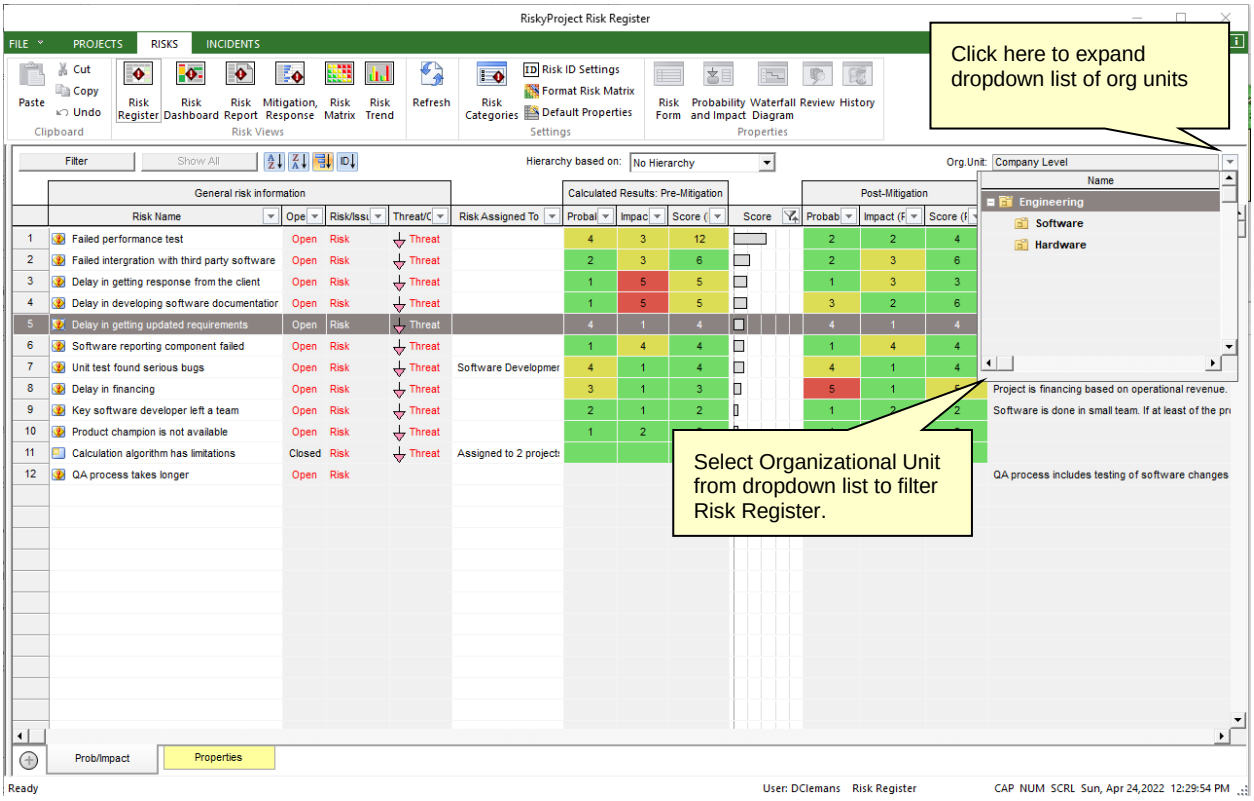
- In the Risk Form (Risk Information Dialog)
- In the Custom Properties tab of Risk Information Dialog
- In the Risk Register view directly by inserting Organizational Unit column in Risk Register grid.



Once Organizational Units are defined, you can filter the Risk Register based on organizational units. The Organizational Units are selected using the drop-down list located at the right top corner of the Risk Register, Risk Matrix, and Risk Trend views.

Filtering the Risk Register based on an organizational unit takes into account the Organizational Hierarchy or Organizational Breakdown Structure. For example, if you have Organizational Unit "Administration" and it has two subunits "Accounting" and "HR". In this case, in the Risk Register, if you select "Administration"from drop down list, risks that belong the the organization untils "Accounting" or "HR" will be shown.

If you select "Company Level" from "Organizational Unit" downdown list, you will be presented with all visible (approved) risks in Risk Register.


RiskyProject Risk Register
Click here to expand dropdown list of org units
Select Organizational Unit from dropdown list to filter Risk Register.

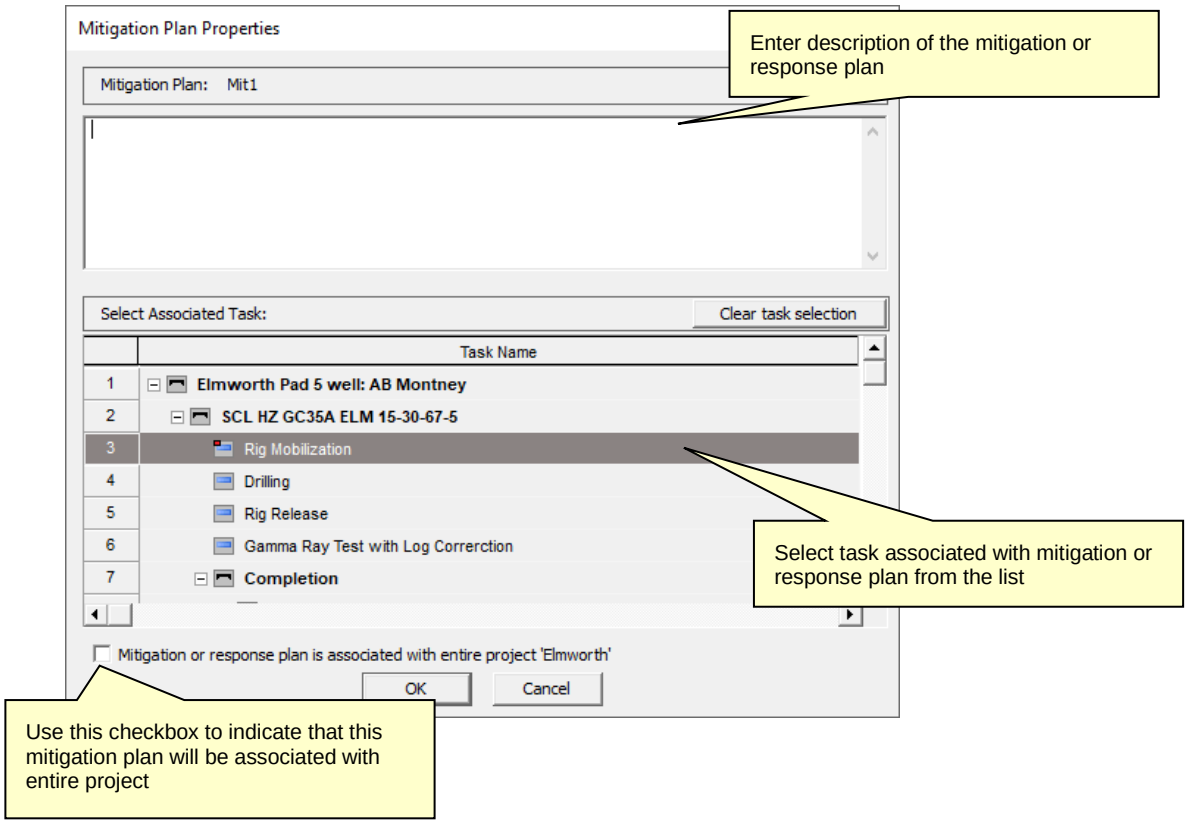
Managing Mitigation and Response Plans

In RiskyProject risk mitigation and response plans are available for all projects and organizational units. Risk Mitigation and response plan can be entered and edited in **Mitigation and Response View**. RiskyProject Enterprise allows linking mitigation and response plans not only to individual task as in standalone desktop version, but also to a project. If you associate plan with entire project cost, actual cost, and percent completed of entire project will be used in mitigation plan.

To link mitigation or response plan with a project or a task:

1. Open a project. This project will become current
2. On the Risks tab, click **Mitigation and Response** to open the view.
3. Double click on the **Mitigation** or **Response Plan ID**; the Mitigation of Response Plan properties dialog box opens.
4. Select task from the list of tasks; only one task can be selected.
5. If you want this mitigation and response plan to be associated with the current project, select the checkbox the at bottom of dialog box.

To reset the selection of the task and project, click **Clear task selection**.



Managing Incidents

Incidents are events that can be recorded, viewed and reported in RiskyProject. In RiskyProject, incidents are managed similarly to risks. RiskyProject has an **Incident Register**. This register is similar to Risk Register. Each Incident has a list of customizable properties that are a different set than risk properties. Risks and incidents can be linked to each other: one risk may have different incidents, while one incident may have multiple risks. Incidents have customizable impact classifications such as Severe Impact, Moderate Impact, Low Impact. The Incidents feature is only available in RiskyProject Enterprise and requires connection to a database.

These views can be accessed using Incident tabs within the workflow bar or ribbon:

1. **Incidents** in the Incident Register
2. **Incident Statistics** as a chart showing occurrence of incidents over time

Enabling Incident Register

Incidents must be enabled in RiskyProject Professional connected to the same database as RiskyProject Risk Register.

Incident Classification

You can define incident classifications and how incidents appear on the **Incident Statistics** chart. The order of the bars on the Incident Statistics are associated with particular incident classes (groups). For example, for each time period **Low** (green), **Moderate** (yellow), and **Severe** (Red color) are first, second, and third respectively.

Using Incident Classification Settings dialog box you can define:

1. The order using the **Move Up** and **Move Down** buttons.
2. The class name (group).
3. Chart periodicity (monthly, quarterly, yearly, etc.)
4. Maximum number of periods on the Statistics chart.

To open the Incident Classification Settings in Incidents tab, click **Classification** in the **Settings** group.

About Incident Properties

Similarly, to risks each incident has properties that record information about the incident. You can use incident properties to search and filter the Incident Register. Incident properties can be have the following types:

- String – text information
- Integer number
- Real number
- Resource – can be taken from list of resources
- Date
- Picklist: dropdown list with values

Integer numbers and real numbers have maximum and minimum values.

The list of incident properties supports a hierarchy and organized into groups.

Customizing the default incident properties

To customize the incident properties:

1. Click the **Incident** tab > **Settings** group > **Default Properties**.
2. Select a row under which you want to add a new incident property.
3. Right-click on the row number and choose **New Property Item.**
4. Type in the name.
5. Select the type and required values (i.e maximum and minimum values).
6. Use the **Indent** and **Outdent** arrows  to create groups of incident properties.
7. If you have Picklist type incident property double-click on incident property ID; Picklist dialog box will opens where you can enter the list of values.

Default incident properties are saved in the database and can be used for all projects. You may use the **Restore Default** button to overwrite changes in default incident properties you made with standard set of incident properties

Incident ID Settings

You can generate Incident IDs automatically. Alternatively, you can enter Incident IDs manually in the same manner as you enter any other incident property. If an Incident ID is generated automatically, you can overwrite it manually. Incident IDs will be incremented each time you enter a new incident.

Incident IDs can include four components:

1. **Prefix** – any symbols (optional)
2. **Number** – from 4 to 16 digits (optional)
3. **Suffix** – any symbols (optional)
4. **Date** – date format can be defined (optional)

The Incident ID may be not unique if you manually overwrite automatically generated IDs.

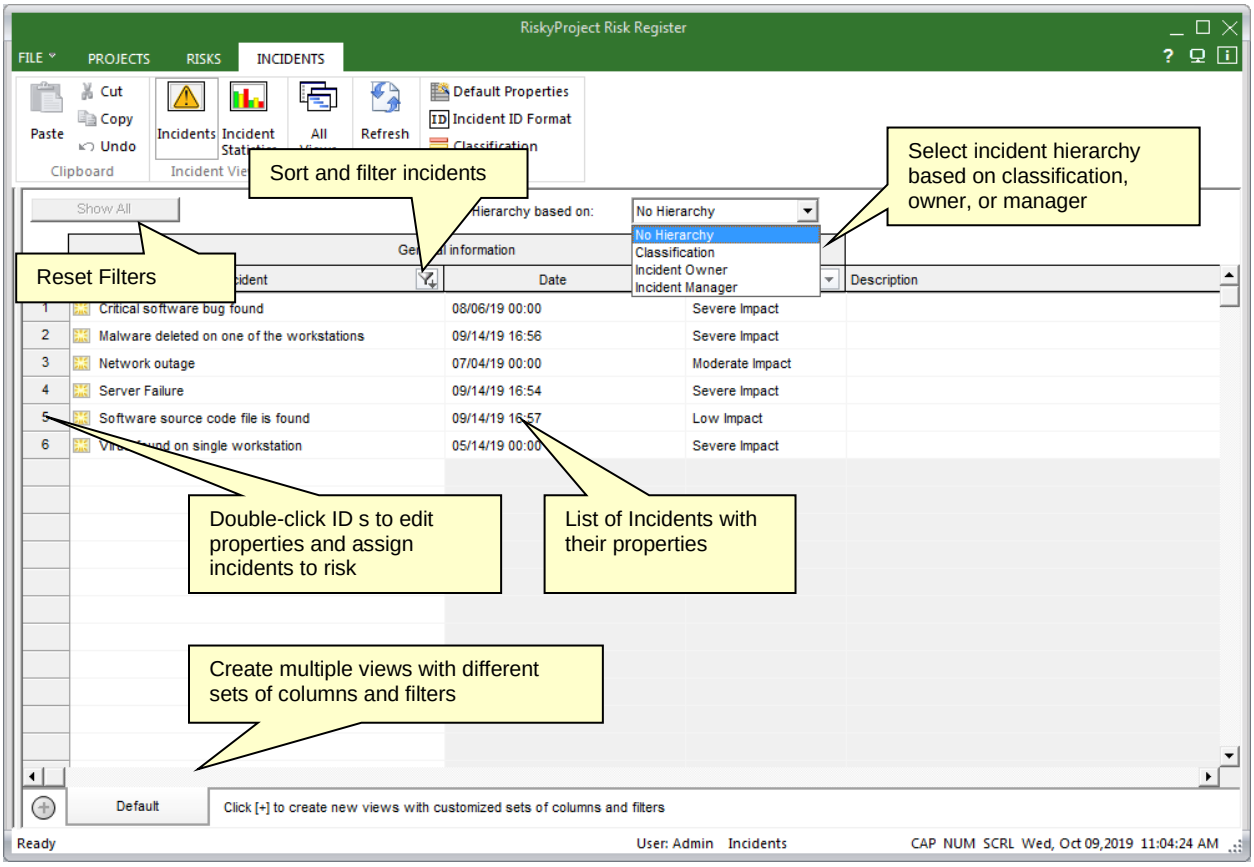
To enable automatic generation of Incident ID and define the format of Incident ID:

1. Click the **Schedule** tab. In the **Settings** group, click **Options**.
2. Click the **Incident** tab.
3. Click on **Incident ID Format** to define rules for Incident ID automatic generation; **Incident ID Format** dialog box opens.
4. Define the Incident ID prefix and suffix.
5. Define the number of digits for Incident ID generation.
6. Enable / disable dates as part of the Incident ID format and define the date format and position.
7. Define starting number of Incident ID

Viewing the Incident Register

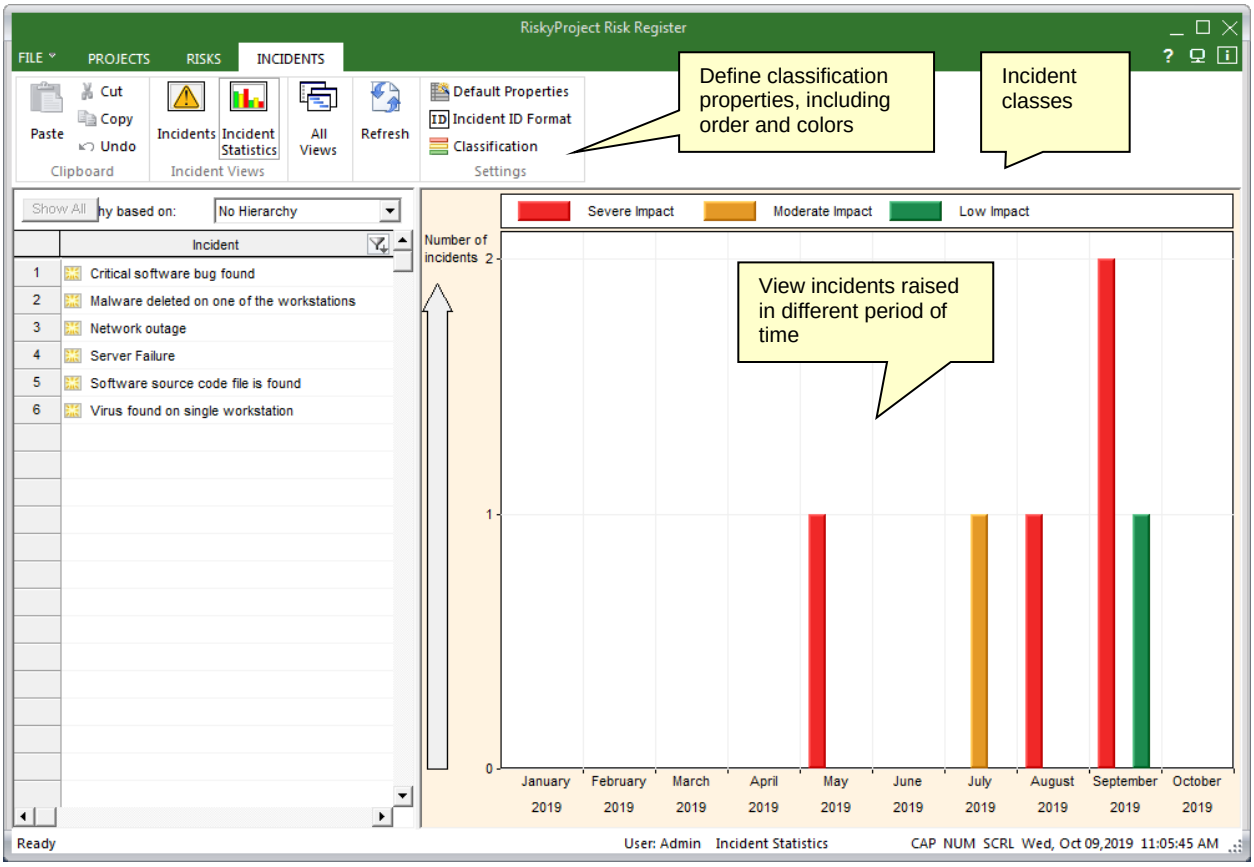
The **Incident** view allows you to:

- View a list of incidents with their properties; you can use different incident hierarchies based on classification, owner, or manager
- Sort and filter the Incident Register by clicking on the icon on the right corner of the column header; to undo filtering click on Show All in left corner of the view.
- Insert or delete columns with incident properties, define headers for any individual column or group of columns;
- Create multiple views or tabs shown at the bottom of the view; each view may have different sets of columns and filters
- Edit incident properties either within a view directly or using Incident Information Dialog (double click on Incident ID)
- Print the Incident Register
- Export to Excel


RiskyProject Risk Register
FILE
PROJECTS
RISKS
INCIDENTS
Paste
Cut
Copy
Undo
Clipboard
Incidents
Incident Statistics
All Views
Refresh
Default Properties
Incident ID Format
Classification
Incident Views
Sort and filter incidents
Select incident hierarchy based on classification, owner, or manager
Show All
Reset Filters
Hierarchy based on:
No Hierarchy
No Hierarchy
Classification
Incident Owner
Incident Manager
General information
Incident
Date
Description
1 Critical software bug found 08/06/19 00:00 Severe Impact
2 Malware deleted on one of the workstations 09/14/19 16:56 Severe Impact
3 Network outage 07/04/19 00:00 Moderate Impact
4 Server Failure 09/14/19 16:54 Severe Impact
5 Software source code file is found 09/14/19 16:57 Low Impact
6 Virus found on single workstation 05/14/19 00:00 Severe Impact
Double-click ID s to edit properties and assign incidents to risk
List of Incidents with their properties
Create multiple views with different sets of columns and filters
Default
Click [+] to create new views with customized sets of columns and filters
Ready
User: Admin Incidents
CAP NUM SCRL Wed, Oct 09,2019 11:04:24 AM

Viewing the Incident Statistics Chart

The Incident Statistics view is used to show the number of issues raised over time for each particular classification. Each classification can be modified. To edit colors, order, number of periods, and periodicity (yearly, monthly, etc) use the **Incident** -> **Classification** dialog box.



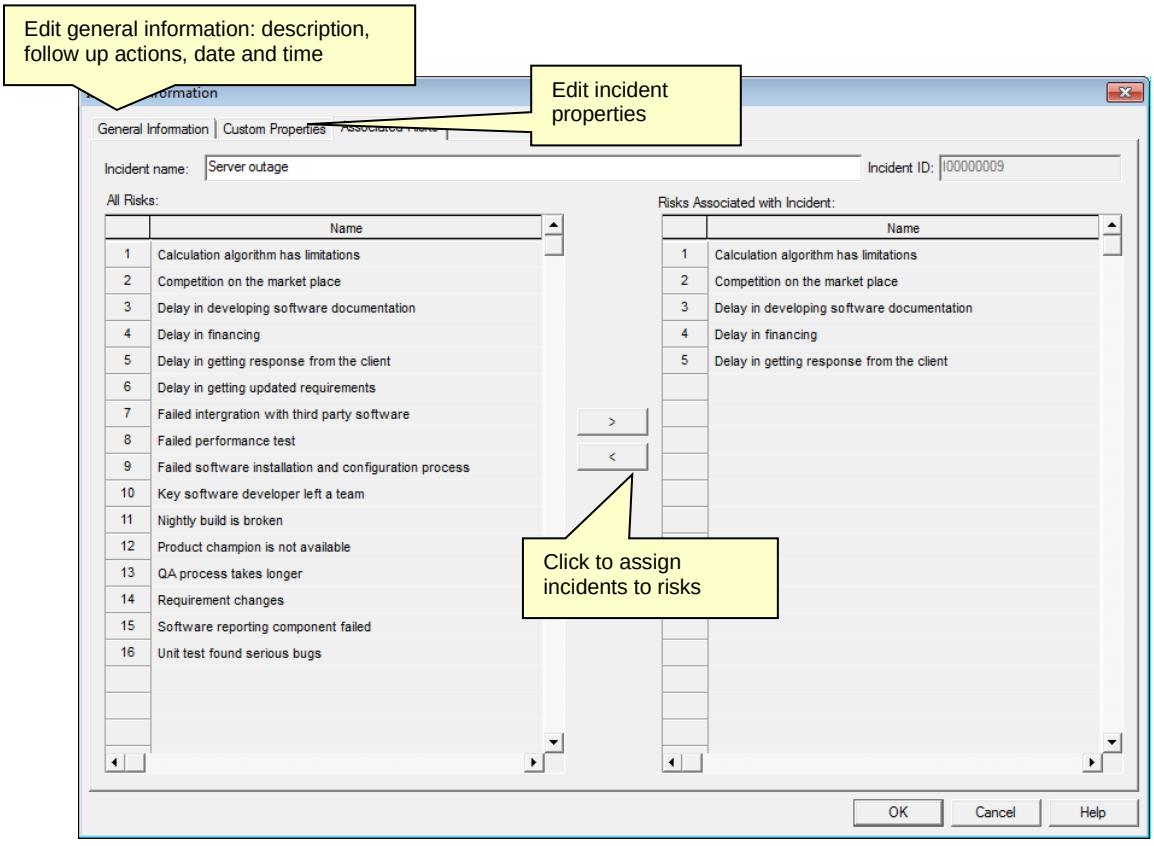
Editing Incident Information

To edit incident information:

In Incident view or Incident Statistics view double click on incident ID. The **Incident Information** dialog box will open.

Incident Information Dialog box includes the following tab:

- **General Tab**: allows you to edit Incident Name, Incident ID, Date and Time of Incident, Incident description, Incident follow up actions.
- **Custom Properties:** allows you to edit all individual custom properties.
- **Associated Risks**: allows you to assign risks to the incident.



You can assign incidents to risks in the Incidents tab of the Risk Information dialog box. When in the Risk Register you can double-click on a risk ID and go to Incident tab.

Chapter 4: User Management and RiskyProject Configuration

About User Management

In RiskyProject Enterprise, user management is based on users, roles and permissions. Each individual who accesses the system should be assigned user logon credentials which are defined in the User Administration panel. Users can be assigned one of three roles: Administrator, Manager or User. The *RiskyProject Enterprise Administrator's Guide* describes the user management process. This section describes only how the user can define personal information.

About Roles

RiskyProject Enterprise has 3 defined roles that can be assigned to users: Administrator, Manager and User.

- **Administrator**: the administrator has full access to RiskyProject functions.
- **Manager**: the manager may have full access to RiskyProject, except for the ability to manage users and change user permissions. The manager's permissions can be limited by the administrator.
- **User**: the users cannot edit managers, users, modify portfolio settings, or delete projects. In addition, the administrator can limit a user's permissions.

Only administrators can edit user information. A user can only edit their own information, including passwords. The administrator cannot set or modify user passwords. Only administrators and managers can change risk visibility information.

Updating Personal Information

To update personal information:

1. From the **File** menu, click **Users**. The **User Management** panel will open.
2. Review your permissions - permissions cannot be changed by users.
3. Update your personal information.
4. Click **OK.**

About Permissions

Each user has different permissions:

- Create, modify and delete risks
- Create, modify and delete mitigation and response plans
- Create projects

By default, the Administrator role has all available permissions. Only administrators can change permissions for users and managers. For more information about how to change user permissions, please read the *RiskyProject Enterprise Administrator's Guide.* All administrators, managers and users can view all projects and all visible risks. However, if a user does not have permission to modify a risk or a mitigation/response plan, the Risk Information or Mitigation Plans will be read-only. If a user attempts to open the project to which they do not have permission, they will be prompted that they do not have permission to perform this action.

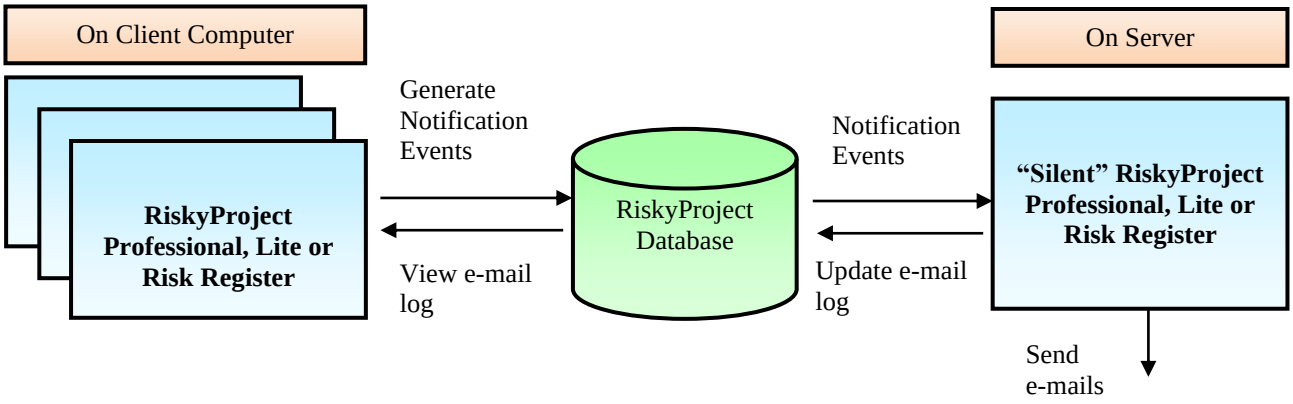
- You can always create risks in projects to which you have permission. However, you need permissions to create risks at the enterprise level.
- Both managers and administrators can approve (make visible) risks at each level of the project hierarchy.
- A user can always modify risks as soon as he or she is listed as an owner or a manager for this risk.
- A user or manager must have permissions for all projects (the entire portfolio) to be able to create risks at the enterprise level.
- If you use the RiskyProject add-in in Microsoft Project and the project does not exist in the RiskyProject database, it will automatically be created in RiskyProject regardless of user permissions.

Notification Manager

In RiskyProject, you can configure emails which will be sent to users to notify them regarding the status of risks, changes in their properties and upcoming risk reviews. Who needs to receive messages, what those messages are and when they will be sent are all fully configurable by administrators.

RiskyProject can be executed using Windows Task Scheduler every 5 – 15 minutes without preventing user interface and can send out notification e-mails. Notifications can be configured using **Notification Manager**. Notification Manager is accessible from **Tools** -> **Notification Manager** or from **File** -> **Users** -> **Users Tab** -> **Notification Manager**. After notifications are configured, RiskyProject can read data from notification messages in the RiskyProject database and send them.

To execute RiskyProject using Windows Task Scheduler to send notification messages, it is recommended to install RiskyProject Professional, Lite, or Risk Register on the server. This installation can be done exactly the same way as on a client's computer. A dedicated user can be created to execute RiskyProject for notification messages. The user name and password for RiskyProject installed on the server will be encrypted and saved in the registry. When RiskyProject is executed by the Task Scheduler, no interface will be prevented and user name and password will not be asked. For more information about how to configure a Windows Task Scheduler, please read the *RiskyProject Enterprise Administrator's Guide.*



Configuring Notification Messages

To start **Notification Manager**:

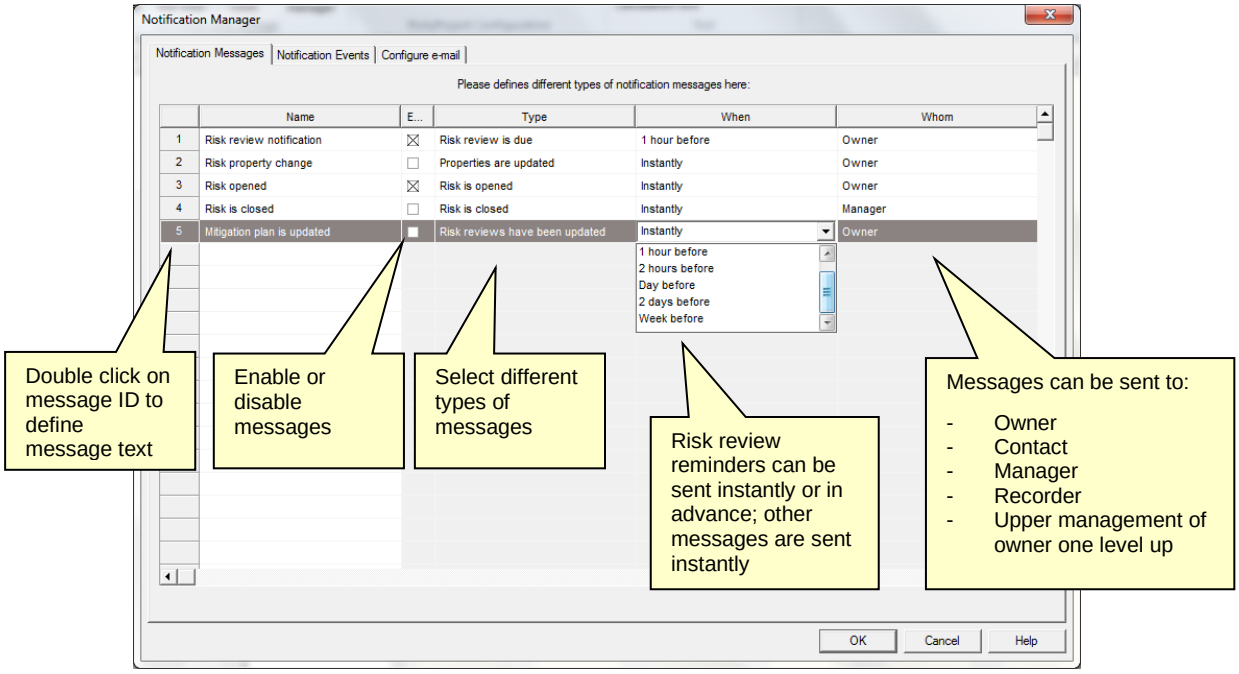
1. Go to **Tools**
2. Click on **Notification Manager**

Or

1. Go to File
2. Click on **Users** - the User dialog will come up
3. Go to **Users Tab**

4. Click on **Notification Manager**

The Notification Messages tab allows you to configure individual messages. Double-click message ID to enter text for the message. You can use the buttons Risk, First Name, Last Name to substitute the message text with risk name and name of the message recipient.



You can define multiple risk review reminder messages if you you want to send reminders at different times, for example, one hour, one day or one week in advance.

Viewing Sent Notification E-mails

You can view all notification event e-mails which have been sent using the **Notification Events** tab of **Notification Manager**. To copy, delete or view details of notification messages:

1. Right click on the message ID
2. Select copy, delete or view details of notification messages from the dropdown menu
3. If you select **View details**, you will be presented with a dialog which will include an error if a message was not sent.

You can click the **Sent** button if you wish to force sending notification messages without waiting for the execution of a scheduled process.

You can also limit the number of records of sent messages stored in the RiskyProject database. Each time the scheduled process to send messages is executed, it will delete the oldest messages.

Configuring E-mails

You can configure how to send notification messages using the **Configure E-mail** tab of **Notification Manager**. This tab consists of two sections:

1. The upper section allows you to configure email server settings. It includes information about your e-mail server, port, encoding, etc. E-mail settings will be saved in the system registry.
2. The lower section allows to you send test e-mails to ensure that settings are correctly configured.