CrewPlan User Manual

Version 8.1.0 July 2018

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Modified By	Date	Version	Changes
Darryl Horton	16 November 2013	1.4	Removed embedded workflow document
Cherie Elpel	05 February 2014	1.5	Updated screenshots, edit
Cherie Elpel	11 September 2014	1.6	Integrate Qualification Management Workflow
Emgee Taute	10 November 2014	1.6	Review
Bea Tabuñar	31 May 2016	6.6.6	Updates from previous releases
Bea Tabuñar	21 June 2016	6.6.7	Final
Bea Tabuñar	14 July 2016	6.6.8	Final
Bea Tabuñar	29 August 2016	6.6.11	Standard pairing descriptions, transaction mode changes, totals columns setup
Bea Tabuñar	21 October 2016	6.7.2	Find Reserve, Direct Open, Rule Limit Summaries, Course Assignment from Gantt, Allocation Filter
Cy De Guzman	08 December 2016	6.7.3	Added Print and Export options to Excel for Manage Expiry Information.
Cy De Guzman	23 February 2017	6.8.1	Updated Framework Applications - UI Activity Log
Cy De Guzman	7 March 2017	6.8.2	Updated Framework Applications - Memory Monitoring Tool
Cy De Guzman	16 Aug 2017	7.1.0	Activity Panel –updated screenshot, Flights tab – updated screenshot, added Onward Flight column Standard Pairings – updated table with OPD. Tools > added Open Training Form section, Course Gantt > Right Click Menu screenshot Course Gantt> course> right click menu as screenshot
Cy De Guzman	04 December 2017	7.2.1	Pay Credits on the Day of Operations – updated Pairing Panel title to Pairing Details Panel, Modified Pairing Details Panel subtopic titles, Added Cancel Pairings topic, texts and screenshots, updated Pairings screenshot, updated Action Buttons
			Remove Employee-Related Options from Allocation Gantt Right Click Menu - updated Right Click Options – Allocation Gantt > Open Crew Allocation History and Employee Qualification Summary
			Opening Courses, Students and Instructors from Different Panels – added Open Course topic and Loading Employee Rosters in a Course sub-topic
			updated Right Click Options - Pairing > Crew Allocation History and Pairing Allocation History screenshots, included gold day allocations
Cy De Guzman	31 January 2018	7.3.0	Additional Split Pairing Functionalities – added Split Pairing section in Pairing Details Panel, added scenarios updated Pairing Details Panel > Pairing Panel and Grid > Complement screenshot added Equipment Group in Complement columns updated Assigned Crew table > Split updated Complement list > Split
			Visual Indicator for Non-Acclimatized Crew - added Toggle Non-Acclimatised Period topic in Gantt Options moved Toggle Required Rest Indicator topic to Gantt Options

			added Non-acclimatize periods in Gantt Display table with screenshot
			Find Employees Based on Port - changed Advanced to Advanced Filters in Tools Menu > Direct Open rearranged Advanced Filters table fields and descriptions added Include out of base Employees in Direct Open table updated Direct Open > Advanced Filters screenshot updated Right Click Options > Find Reserves screenshot
Cy De Guzman	08 Mar 2018	7.3.1	Updated activity panel - main screenshot Updated filtering screenshot Added Retain layout on refresh in Criteria for Filter table Added new subtopic Retain Layout on Refresh
Cy De Guzman	08 Mar 2018	7.3.1	Added Merging of Courses and Flights section in CrewPlan Workflow
Cy De Guzman	30 April 2018	8.0.0	CrewPlan Allocation Gantt Grouping – Updated Allocation Panel screenshot Updated Crew Selection screenshot Updated screenshot in Applying a Filter, set to center alignment, added boarder. Updated Filters section text. Updated Applying a Filter text Added Course Assignment Groupings topic Added the following sub-topics Sorting Crew in the Allocation Gantt thru Course Gantt > Open Training Plan Form, Sorting Crew in the Allocation Gantt thru the Course Gantt and Sorting Crew in the Allocation Gantt thru the Course Panel Updated Open Training Plan text
			Managing Courses with Multiple Pairing Assignment – added Managing Courses with Multiple Pairing Assignment in CrewPlan Workflow
Cy De Guzman	11 July 2018	8.1.0	Include Out of Base Employees Filter for Crew Applications - updated the ff: allocation panel screenshot - UMAllocationPanel Crew Selection - UMCrewselection crew selection table - added include out of base employees Applying a filter screenshot - UMapplyingfilters added 3.(Optional) To include out of base employees in the filter, enter a pairing type in the PairingType field. This will enable the Include out of base Employees option. in how a filter can be applied to the Allocation Gantt. removed The list of YUL CPT that are active between 01-31 January 2016, inclusively, are displayed in the filtered crew list. in how a filter can be applied to the Allocation Gantt. Applying a filter screenshot for #5 - UMapplyingfilters5 removed All 45 rosters will be displayed in the Allocation Gantt. Details on the Allocation Gantt will be discussed in a later section.

			Advanced Filters screenshot replaced Direct Open allocation gantt filters to allocation panel filters moved allocation filter to allocation gantt section renamed allocation filter to allocation gantt filter
Bea Tabuñar	11 July 2018	8.1.0	Updated colour definitions for Activity Panel > Flights tab Removed Requires Validation column references

DISCLAIMER:

This user guide is for training purposes only. The information contained in this user guide is current at the time of publication. It can be used to reference and may be subject to change.

Table of Contents

What are merlot's applications?

The merlot.aero suite is a complete organizational management solution offering all aspects of airline resource planning and control to ensure the safety, efficiency and quality of your crew and operational environment.

merlot.aero is a comprehensive suite of applications covering all aspects of your airline needs. It has been developed with the entire business process in mind, including the customer process from the moment ticket sales are planned until the point the passenger reaches their destination.

For your convenience, merlot applications are divided into two main categories:
- Aircraft Applications
- Crew Applications

There are a number of applications under these two main categories.

Aircraft applications include:
- AircraftSchedule
- AircraftFollow
- AircraftPortal
- AircraftMobile

Crew applications include:
- CrewPlan
- CrewBuild
- CrewRoster
- CrewPortal
- CrewMonitor
- CrewFollow
- CrewPayroll
- CrewMobile

Framework Applications

The merlot.aero suite of applications eliminates the use of text commands by employing a Graphical User Interface (GUI). You are presented with the following options available in all applications across the merlot.aero suite.
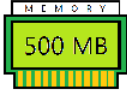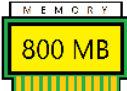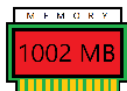
These are Framework Applications that will follow you throughout the merlot suite.

This icon is the Job Engine . If red, this means the job engine has stopped. If green, the job engine is running.

This icon is the signal strength of your connection to the Internet.

The Memory Monitoring tool displays memory utilization for merlot applications in real time.

Memory utilization is displayed in three different levels:

Icon	Level	Range
500 MB	Low (Green)	0MB-700MB
800 MB	Moderate (Yellow)	701MB - 1000MB
1002 MB	High (Red)	1001MB and above

Hovering the mouse over the tool icon displays the following information:

- Icon label - Memory Monitor
- Memory consumption in MB with KB conversion e.g. 64 MB (65660 KB)
- Level of memory consumption e.g. Low
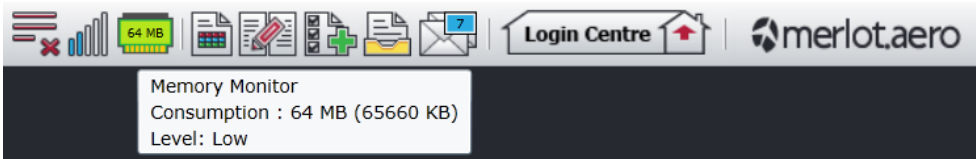
This icon is Ad Hoc Reports . Ad hoc reports are available in all the applications and modules across the merlot.aero suite while specific application reports are available in the Reports drop-down menu.
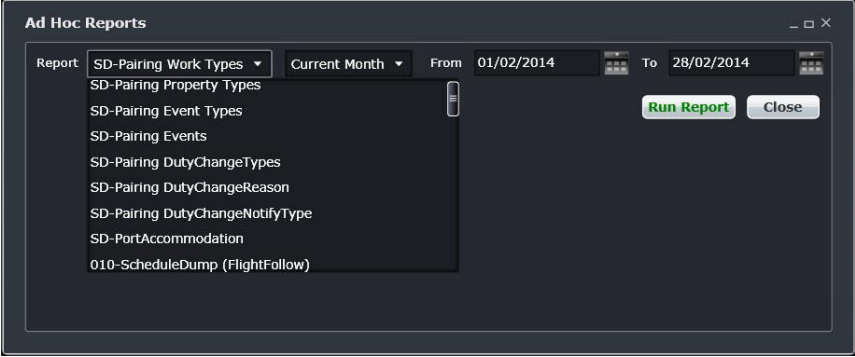
This icon is the Shift Log . You can add notes to the Shift Log for any system user to view.
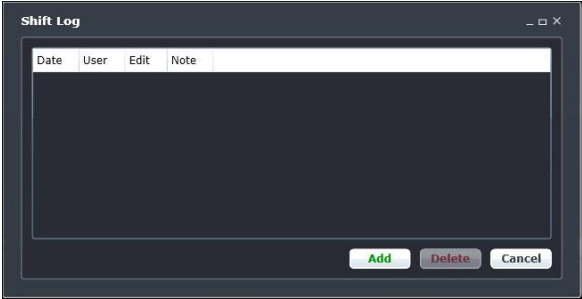
This icon is to Add Task . Set a daily or one-time reminder for everyday activities (i.e.: Accommodation Check).

This is the send documents icon. Send a document to a crew member or to a fellow merlot.aero user.
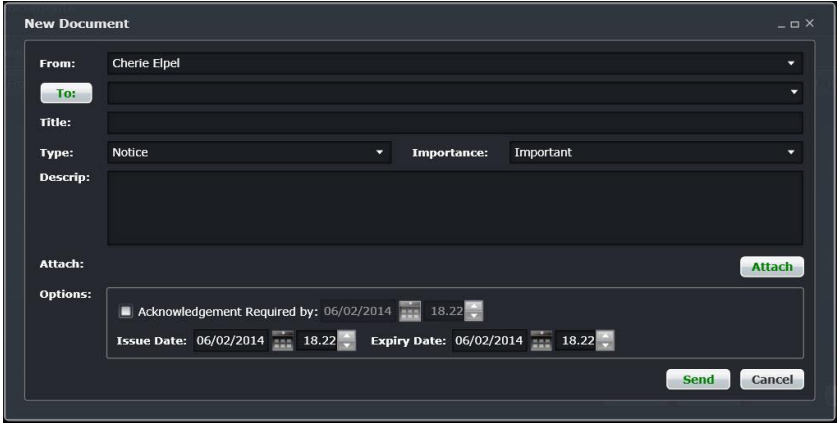
This is the mail icon. Send messages to crew or co-workers via SMS, email or directly within the merlot.aero suite.
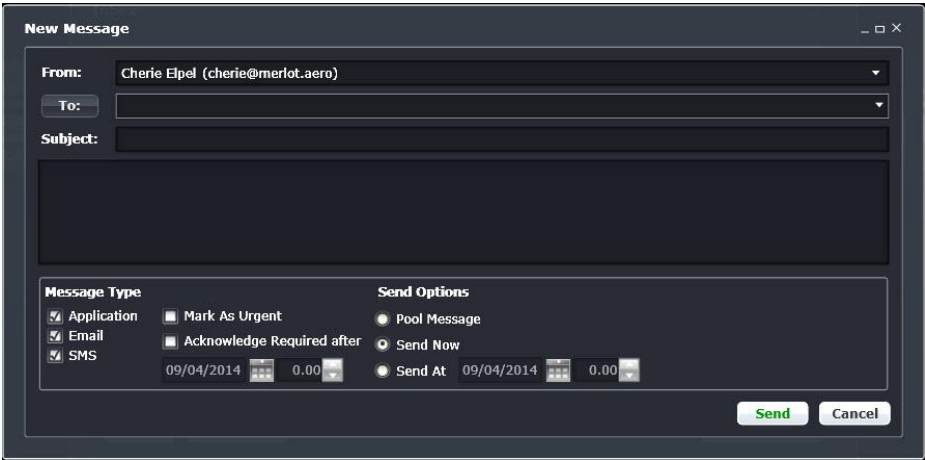
This icon allows you to navigate through the entire merlot.aero suite.

When the application setting *UseUIDebug* is set to True, the New Activity Log menu will be visible under the **Login Centre** and available for use. All incoming Merlot UI Error Logs will not be displayed in the existing error log in the application nor trigger the alert unless the error is related to *Insert/ Add/ Delete rows*.
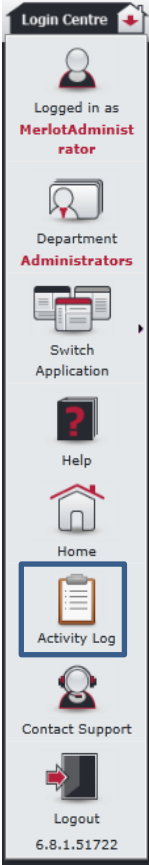
Example of a collapsed Activity Log form:
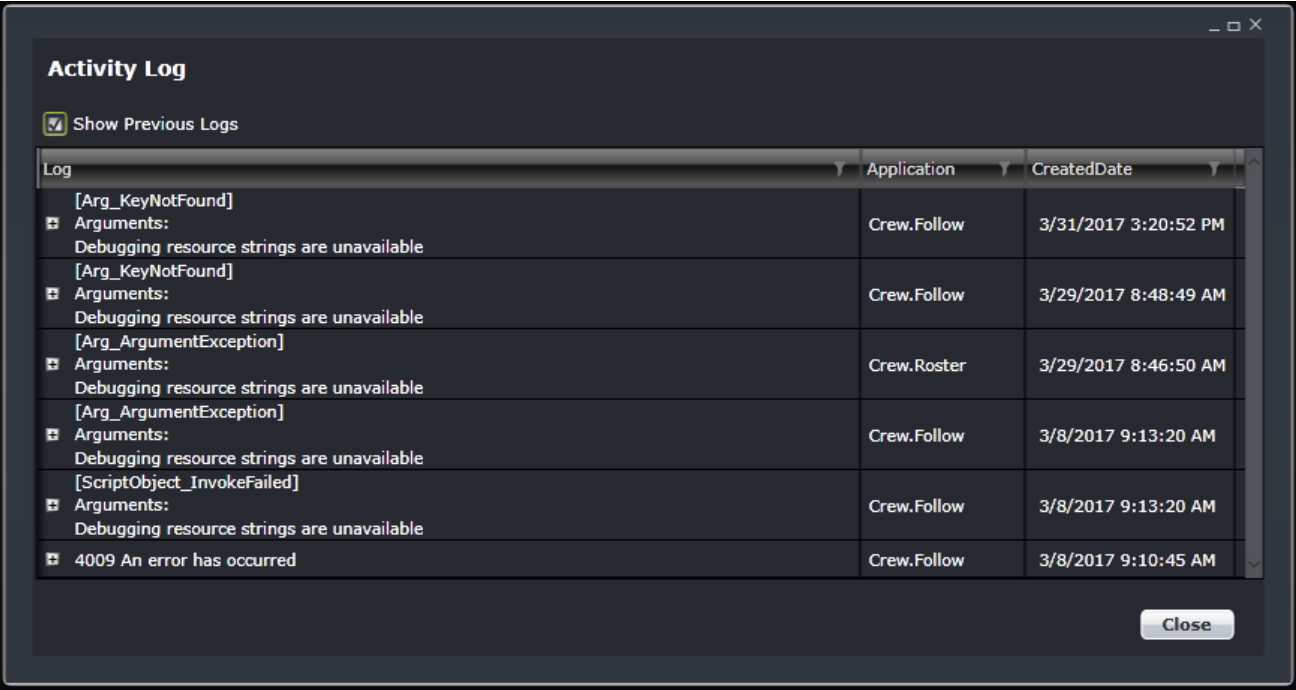
When a user expands the log value, the complete details of the selected UI error log will be displayed.

Example of an expanded Activity Log form:
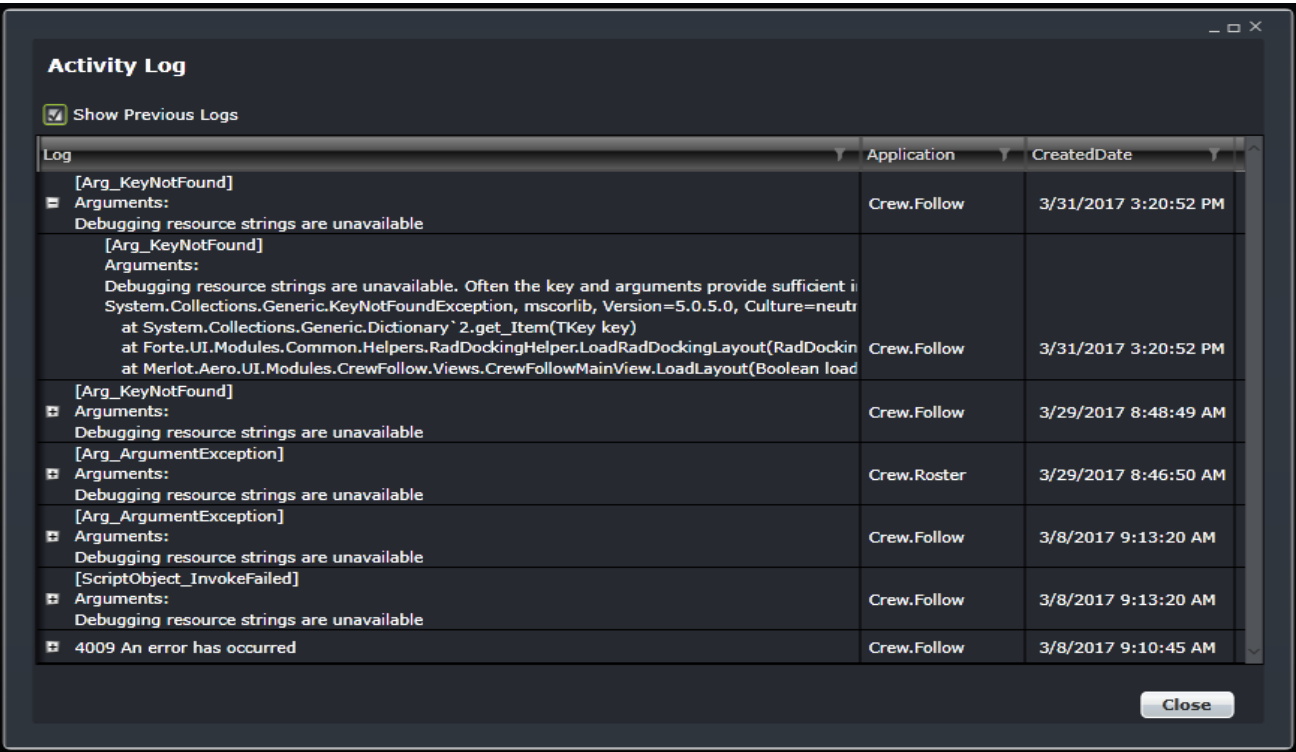
Logging into CrewPlan

With your merlot.aero credentials simply log in and select CrewPlan.

What is CrewPlan?

CrewPlan is a solution framework for airline qualification management. It enables users to plan, track and manage the various events and data which comprise the airline's training and qualification programs.

Crew planners/schedulers are the typical users of CrewPlan.

CrewPlan Prerequisites

There are no prerequisites for CrewPlan, however qualifications have to be created and crew must be associated with a course before training can be assigned.

The Graphical User Interface (GUI)

The merlot.aero suite of applications eliminates the use of text commands by employing a Graphical User Interface (GUI). Let's explore the CrewPlan GUI:
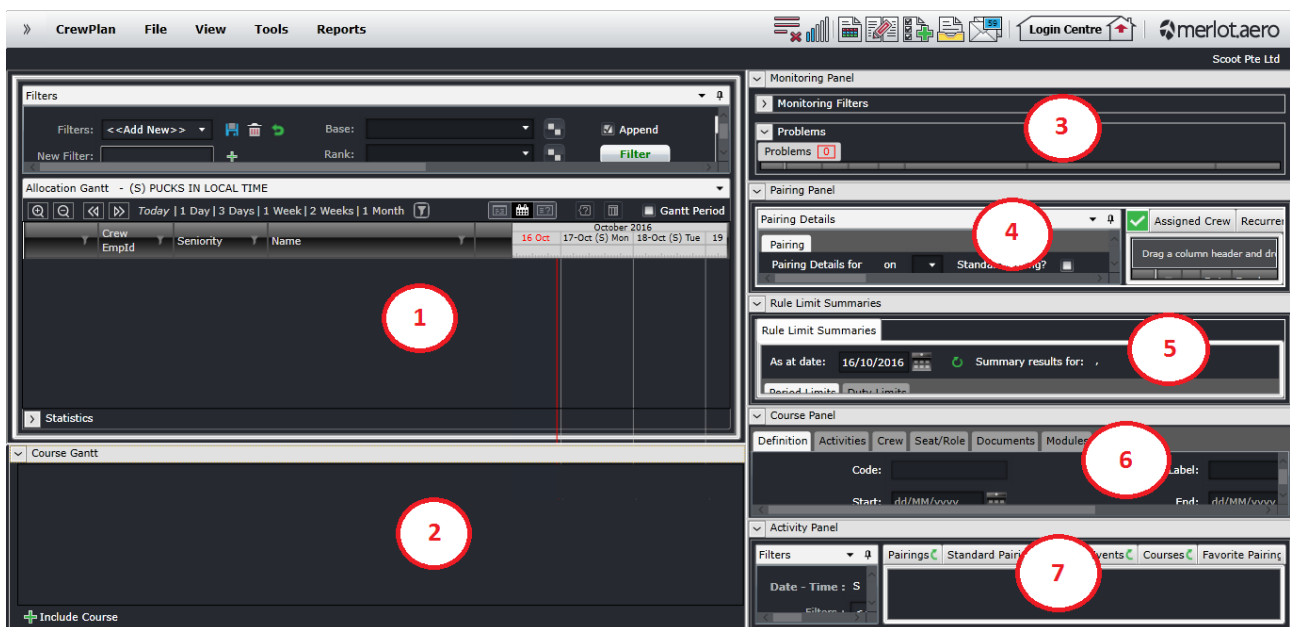
1. **Allocation Gantt:** Crew member assignments are displayed and allocated here
2. **Course Gantt:** Displays the courses allocated for each day
3. **Monitoring Panel:** Identify and monitor changes that could result in legal violations or problems
4. **Pairing Panel:** View and modify the details of the pairings
5. **Rule Limit Summaries:** Displays the cumulative flight and duty hours until a certain date
6. **Course Panel:** Contains the facility to modify course instances
7. **Activity Panel:** List of pairings, flights and activities that can be allocated to the crew

The next section discusses how qualifications are managed in CrewPlan. The succeeding sections discuss from a crew scheduler perspective how rosters are manipulated in the application. It may or may not be a task for training planners, but it is beneficial to know how the application works.

CrewPlan Workflow

CrewPlan enables users to plan, track and manage the events and data which comprise the airline's training and qualification programs.

System users define courses, set up expiry rules, and manage crew associations with courses. In preparation for live courses, system users create course instances, manage resources, assign crew to the courses and manage the expiry process.

After system users complete the initial setup in CrewPlan, courses are defined, and course instances are ready to be created and assigned to crew. System users will monitor course associations for invalid or missing associations on an ongoing basis and enter course grades and validate new expiry dates as crewmembers complete the courses.

CrewPlan Flow Diagram

|	
Manage Qualification Definitions	Users create course and certification templates which define the courses that need to be monitored. Rules will be applied to each qualification in order to maintain compliance. Frequency: Set up before the system is made available to all users. This must be reviewed once a year prior to an audit.
Manage Course Associations	Users manage course associations in order to correctly associate crew with the appropriate qualification records. Frequency: This can be done once a month or whenever crew come online or offline.
Manage Resources	Users setup training rooms, simulators and other resources for training courses. Frequency: Set up before the system is made available to all users. This must be reviewed once a year prior to an audit or when new resources become available or not available.
Create a Course Instance	Users create course instances for live course offerings. Frequency: At least once a month
Assign Crew to a Course Instance	Users assign course instances to crewmembers who need to take the specified training. Frequency: At least once a month
Manage Crew Expiries	Users enter grades and validate the new expiry dates. Frequency: Daily

Each step in the diagram above is discussed in the next subsections. The other functions of CrewPlan are discussed in the next section.

Manage Qualification Definitions

The qualifications management process in CrewPlan is designed to properly manage all qualification requirements in order to maintain reliable and accessible qualification-related information.

The first step in the qualification management workflow is to define the qualification itself through the creation of a training or certification template. Qualification definitions are used to create course instances so that courses can be scheduled, planned, tracked and managed.

To access the Manage Qualification Definitions template, click on **Manage Qualification Definitions** in the Tools menu.

The Manage Qualification Definitions template stores the following information:

- The qualification definition
- The employees considered as students of the qualification
- The activities associated to the qualification (SIM, Ground Activities etc)
- Instructors qualified to train on the qualification (Line Indoc Captain etc)

This is set up before the customer goes live with merlot.aero and needs to be revisited once a year for audit purposes, or when a new qualification is required for monitoring. It is recommended that the settings in this form are not to be changed frequently as it will affect compliance evaluation.

The form is divided into two parts: courses and certifications. Courses are qualifications that need to be scheduled as part of the crew's roster. This means that it is the company's responsibility to block off some days for crew to undergo training or retraining and it is considered as work for the crew. An instructor evaluates the crew before he can pass the course. Certifications are qualifications that are taken or renewed in the crew's own time. Taking or renewing a certification will not be part of the crew's roster. Examples of a certification are passports and visas.

The Manage Qualification Definitions template has two categories which include Courses and Certifications, as shown in the two tabs at the top of the template.

Courses

This section contains details on the Courses tab.

Filter

There is a filter at the top of the Manage Qualifications Definitions form.

| Field	Description
From/To	Date range for the search. This defaults to the current date until the next day. This date range looks for the courses that are active within the dates.
Base	A drop-down field that displays the active crew bases
Rank	A drop-down field that displays active ranks and / or rank groups
Equip	A drop-down field that displays the active aircraft or equipment types or groups that crew operate
Operator	The Operator drop-down menu filters the grid to show information based on selected airline operators
Department	A drop-down field that displays active departments. It is an area within an airline or company that is tasked with providing particular services of a similar type. For example, Flight Operations (i.e. the manning and operating of aircraft), Maintenance (ensure the aircraft are able to operate safely), Ramp (the parking and coordination of aircraft resupply between flights).
Course	A drop-down field that displays a list of the available courses.
Active	A checkbox to determine if active or inactive courses will be filtered. Active courses are filtered by default.
Filter	Click this button to display courses based on the filter criteria.

More than one value can be selected in all the fields above except the dates.

Prior to adding a new course, it is suggested that the user uncheck the Active checkbox and filter to see if an inactive record already exists. This will avoid duplicates in the system.

Leaving the fields blank will display all active courses for the day.

Adding a Course Definition

To add a course definition, click **Add** in the Courses panel. The tabs in the right will be empty and ready for user entry. If there is a filtered list of courses, they will remain on the left side.
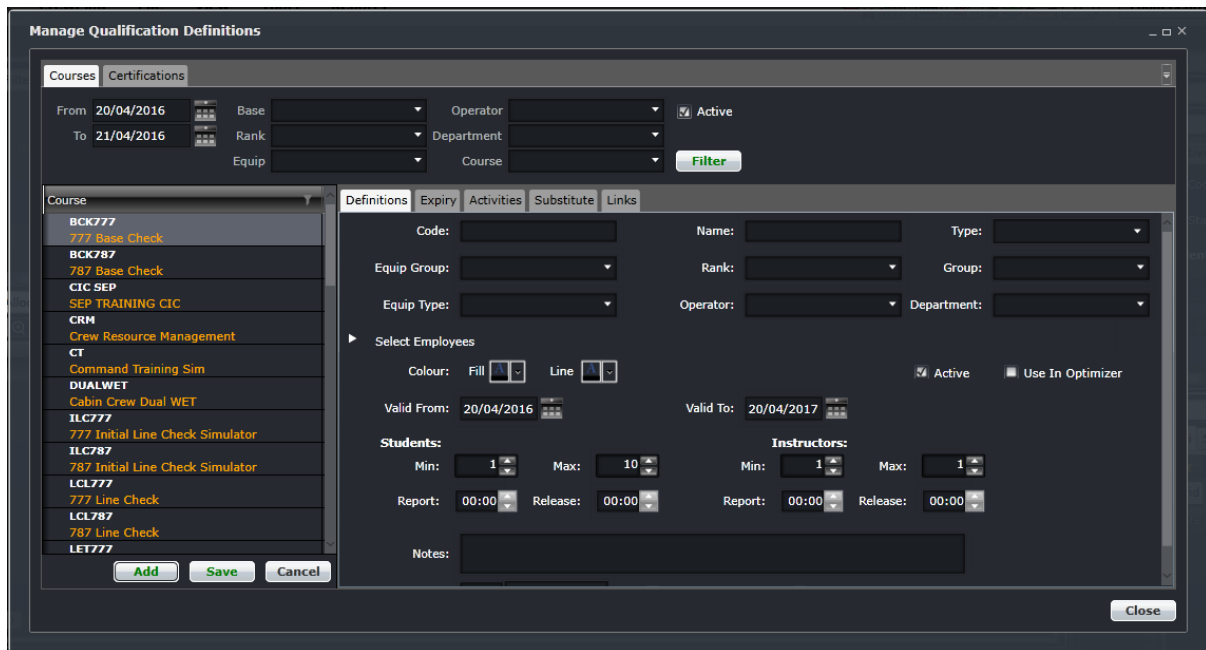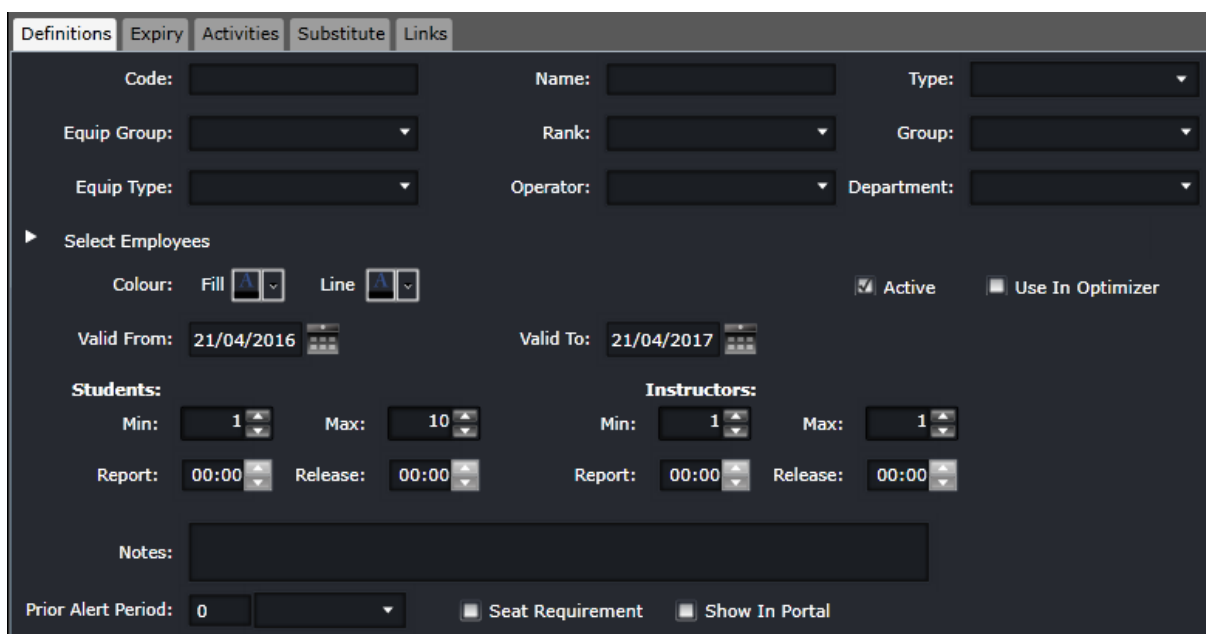

There are six tabs in the course template that need to be filled out. These will be discussed in the next section.

Click **Save** before moving on to another tab.

Definitions Tab

The Definitions tab enables you to define the basic details of the course.

The first section with fields sets up the applicability of the course. These fields describe to which group of crew the course applies to.

Field	Description
Code	Short identifier of the course. This is displayed on the Gantt when allocated to a crewmember. This is also seen in several reports. One example is CRM as a code for Crew Resource Management.
Name	Full description of the course. Using the example above, Crew Resource Management.
Type	Identifies the type of course including: • Imported Course – when the system is initially set up for a customer, some of the courses will be imported from another system. This is the default for those courses and needs to be updated to any of the options below. • Flying Course – a course that needs to be taken while operating an aircraft. Assigning a course instance of this type to a crewmember will require an assignment of the crewmember to a flight. • Simulator Course – a course that requires a simulator. • Ground Course – a course that requires a classroom or training room. No flying or simulator involved.
Equipment Group	Defines the equipment groups to which the course applies. For example, if EMJ (Embraer) is selected, the crew rated for EMJ are required to take this course, but crew rated for 737s are not.
Rank	Defines the set of ranks to which the course applies. For example, if the course is for pilots only, pilot ranks will be included.
Group	When crewmembers are assigned to groups or profiles configured in the system, you are able to choose to which groups the course applies to.
Equipment Type	Defines the equipment type to which the course applies. For example, if A330 is selected, the crew rated for A330 are required to take this course, but crew rated for A320 are not.
Operator	Where multiple operators are loaded into the merlot.aero suite, you may define the operator to which the course applies.
Department	Crewmembers associated with different departments in the system can be associated to a course. This is a quick way of adding a specific group of employees to a course.

More than one value can be selected in all the drop-down fields.

It is important to note that the more parameters entered in the Definitions tab, the more restrictive the course. The **Select Employee** option helps to restrict course attendance to only those crew members who need to attend the course. This is used only if there is a specific set of crew required to take the course. If course attendance is more broadly defined to include different groups and crew members, then the Select Employee option should not be used for course definition purposes.

Additional fields in the Definitions tab:

Field	Description
Colour: Fill and Line	These colors will be used in displaying the course in the Gantt.
Active checkbox	Indicates that the course is to be monitored in the system. Unchecking the box indicates that the course is no longer required.
Use in Optimizer check box	Allows the course template's details to be exported as part of an XML file when sending roster data to an optimizer or solver. The optimizer can include this course as a qualification requirement that needs to be considered in the roster.

Valid From/To	Use the drop-down calendars to specify the date range of validity. These dates refer to the length of time a course should be active in the system. It is recommended that the date range be set for an indefinite period (31-12-2999) to prevent the course from being prematurely deactivated in the application.
Min/Max	Allows the user to restrict the number of students or instructors to attend the course. The system will warn the user on allocation when the maximum attendee limit is reached. This warning will also be duplicated in the Monitoring Panel.
Report/Release	These are not report times for crewmembers or instructors, but rather additional time buffers that are added to the start and end of proceedings as added in the activities page. For example, if you add 01:00 for Report time, it basically states that the attendees should report one hour before the activities commence. The same logic applies to the instructor(s).
Notes	Additional notes may be entered against the course in this text box.
Prior Alert Period	If an alert period for course expiries is required, the number of days or months is entered here. Warnings will appear in CrewPortal and CrewMonitor to advise the users and crewmembers of upcoming expiries. A yellow line will also appear at the bottom of the crew's roster from the start of the alert period up to the day before the expiry.
Seat Requirement check box	When selected, crewmembers associated to this course will require a valid expiry or pass validation to operate on a flight. If a crewmember has either failed this course or their current expiries have expired, the system will give out violations and will prevent the crewmember from signing on for a pairing in CrewPortal.
Show In Portal check box	Allows associated crew members to view expiry information for the course in CrewPortal.

Click **Save** before moving on to another tab.

Expiry Tab

The Expiry tab is where expiry calculation rules are set up per the course or company requirements. The expiry calculations contain several rule options allowing for expansive and accurate expiry calculations.

	Group Open	Period Type	Period (Value)	Unit of Time	Rule Level	Validation Type	Initial Recalc Type	Inside Recalc Type	Outside Recalc Type	Fail Behaviour		Operator	Group Close	Group Operator
		Initial	37	Months	CRITICAL	Negative	First Passed			Disallow Positive Slippage		Then		
		Recurrent	36	Months	CRITICAL	Negative	First Passed	Existing Expiry	Last Passed	Disallow Positive Slippage		And		
		Negative Slippage	90	Days										

The Expiry tab contains the following columns:

Column	Description
Group Open	Option allowing the user to group rules together by using an open bracket.
Period Type	The period type that should be considered on when and how often expiry recalculation should occur. • Initial: Automatic expiry information with course creation. The expiry rule for the first time the course is passed. • Recurrent: Indicates that this course needs completion in a certain defined period. Also indicates that validation would be required. • Negative Slippage: Allows tes he crewmember to attend or sit a course earlier than the expiry date. • Positive Slippage: Allows the crewmember to attend or sit a course later than the expiry indicates. Also defined as a grace period.
Period (Value)	A numeric value associated against the unit of time.
Unit of Time	Unit of time against the period (value), options such as months, years, etc.

Rule level	Defines the severity of the expiry when a violation is raised upon the expiration date of the course: • Allow Override: The violation can be overridden by a supervisor • Critical: The violation cannot be overridden. Crew cannot be assigned to operate a flight. • Critical Planning: Crew cannot be assigned to a flight during roster planning if the pairing is past the expiry date
Validation Type	Allows the user to enter which type of validation is required. • Positive Validation: The system will assume that the crew member has failed his or her next-planned course and will not allow the crew member to report for duties after the expiry date. Validation that the crewmember has passed is required. • Negative Validation: The system will assume that the crewmember has passed the course and will not prevent the crewmember from reporting or sign-on. Still requires validation but is not restrictive.
Initial Recalc Type	Sets the date from which the recalculation of the initial run of the course will be calculated with. Options include: • Last Passed –expiry date is based on the date when the course was passed • First Passed – expiry date is based on the date when the course was passed the first time • Anniversary – expiry date is based on the date joining the company • Ad hoc – expiry date is any date entered by the user • Existing Expiry – expiry date is based on the current expiry date prior to recalculation
Inside Recalc Type	Sets the date from which the expiry date will be recalculated if it is passed within the allowed period of the course. Options include: • Last Passed –expiry date is based on the date when the course was passed • First Passed – expiry date is based on the date when the course was passed the first time • Anniversary – expiry date is based on the date joining the company • Ad hoc – expiry date is any date entered by the user • Existing Expiry – expiry date is based on the current expiry date prior to recalculation
Outside Recalc Type	Sets the date from which the expiry date will be recalculated if it is passed outside of the allowed period of the course. Options include: • Last Passed –expiry date is based on the date when the course was passed • First Passed – expiry date is based on the date when the course was passed the first time • Anniversary – expiry date is based on the date joining the company • Ad hoc – expiry date is any date entered by the user • Existing Expiry – expiry date is based on the current expiry date prior to recalculation
Fail Behaviour	Sets the action to be taken if a crewmember fails to revalidate the course within the validity period. Options include: • Disallow positive slippage – this is the default selection. A grace period will not be allowed after the expiry date if the student fails the course. • Allow positive slippage – If positive slippage is set, the validity period will be temporarily extended to allow the crewmember to retake the course. He is considered legal to fly within the positive slippage.

Operator	Contains the options *and*, *or* and *then*. These can connect one or more expiry rules to build a more complex rule.
Group Close	Option allowing the user to group rules together by using an open bracket.
Group Operator	Similar to Operator, this contains the options *and*, *or* and *then*. These can connect one or more groups of expiry rules to build a more complex rule.

In addition to the normal expiry calculations, the functions below are also available within each expiry rule. Click on the [+] to the left side of the expiry rule to display the conditions tabs.

Additional Conditions	Recalculation Conditions	Frequency Conditions			
Condition Type	Condition Operator Start	Value	Unit of Time	Condition Operator End	
Age	>	40	Years ▾		
		0	▾		

Additional Conditions	Allows for conditions where rules are dependent on age. In the example below, the expiry will be applicable only to crewmembers under (more than) 40 years. This is more prevalent in certifications.

Additional Conditions	Recalculation Conditions	Frequency Conditions				
Slip	Frequency	Condition	Condition Type	Operator	Period	UnitOfTime	Operator
▾	Repeating ▾	Start of Month ▾	Expiry Date Modifier ▾	+	1	Months ▾	

Recalculation Conditions	This tab allows the expiry date of training to be set based on the slippage date. The columns are as follows:
	• Slippage – determines if the expiry date will be recalculated if it is within and/or outside the slippage period. Options include *Both*, *Inside slippage*, and *Outside slippage*. • Frequency – determines if the training is taken only once or is recurring. Options include *Once* and *Repeating*. • Condition – Sets if the recalculated date should be set to the start of the month, end of the month or based on an extended date. Options include *Start of Month*, *Extension* and *End of Month*. • Condition Type – determines the basis for recalculating the expiry date. Options include *Expiry Date Modifier*, *Negative Slippage Modifier*, *Positive Slippage Modifier* and *Outside Slippage Modifier*. • Operator – enter + or – to add or deduct a period of time to the expiry date. • Period – number of units of time to add or deduct to the expiry date. • Unit of Time – units of time to add or deduct to the expiry date. Options include *Hours*, *Days*, *Hours and Minutes*, *Months* and *Years*. • Operator – enter the options *and*, *or* and *then*. These can connect one or more expiry rules to build a more complex rule. In the instance below, we created a recalculation condition that sets how the next expiry should be calculated. Anytime in a month that a course is completed, the new expiry is calculated from the start of the month, plus (+) 1 month.

The Frequency Conditions tab will be available in a future release.

Click **Save** before moving on to another tab.

Activity Tab

The Activities tab lists the events within the course. If the course can be accomplished in a day, at least one activity must be listed. This allows the system to know how the course must be presented in the roster. Activities can also define how many days the course will last. If there are no activities set in the course template, the course will have no specific time when assigned to crew.

The split image below shows the columns in the Activities tab and the table below it details what each column is for. All of these settings are used as a default for every course instance created. If there are instances where the details should be different, they can be modified in the course instance itself.

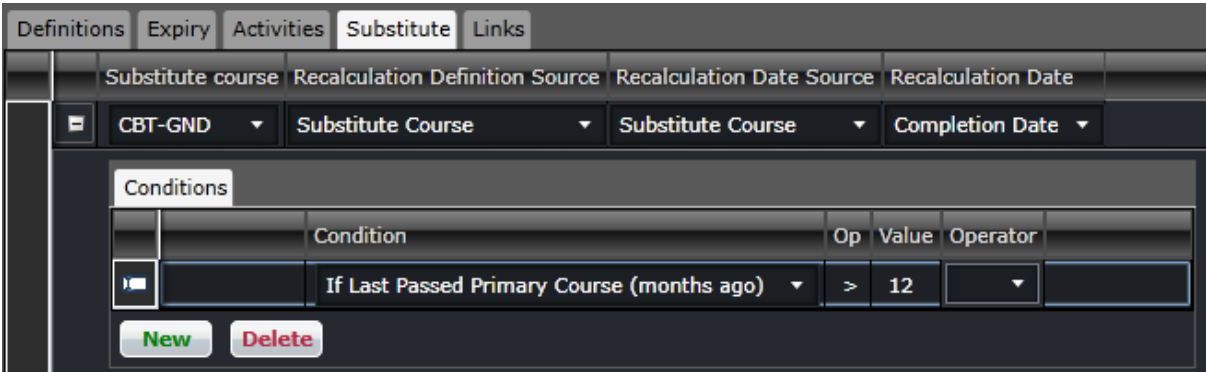| Column	Description
Name	Enter the name of the activity. This will appear in the course when assigned to crew
Type	Classify the activity as: • Lesson (lecture); • Practical; or • Exam. A course can have multiple activity types.
Duty Type	When the course is assigned to crew, a duty is formed. This helps classify the duty as simulator, training or flying.
Sub Course	If a substitute course is set up in the Substitute tab, the activity can be associated to it. Once the course is passed, the substitute course is consequently passed.
Timed Activity	Indicates if the activity has a start time and end time. If left unselected, the system assumes the course is from 00:00-23:59.
Use Resource	If selected, a predetermined resource will be used for the course.
Port	Select the default port where the course will be taken.
Assignment Property	A pairing assignment property can be used to indicate training in the roster. If one will be used for the course, it can be selected here and it will be automatically added to the course when assigned to crew.
Start Time	Enter the start time of the activity.
End Time	Enter the end time of the activity.
Duration	This automatically calculates how long the activity takes based on the start and end times.
Day	If the course lasts more than one day, select which day the activity is expected in. **Note:** *The entries must be arranged chronologically (day 1, 2, 3, etc.). If there are two or more events in one day, they must be arranged chronologically as well. The incorrect order of activities could cause issues in pairing construction and expiry management.*
Resource	Select the Resource required for the activity. See Manage Resources for setup.

Resource Slot	Select which resource is needed for the activity. For example, if the Resource selected is A320 SIM, select which of the 5 SIMs in the facility will be used.
Completion	Select if this activity signifies the completion of the course. If there is only one activity, this must be selected. If there are more than one, select which activity will complete the course.
Enforce Order	If selected, the order of the activities must be followed.

At the bottom of the grid is a section for Instructors. The box on the left shows a list of all employees. Select an instructor by clicking on the name and then clicking on the **[>]** button to bring the name to the right box, which contains the list of instructors for the course. The **[>>]** button brings all names from the left box to the right box. The **[<<]** button brings all names from the right box to the left box, leaving no instructors set for the course. The **[<]** button returns the selected name from the right box to the left box.
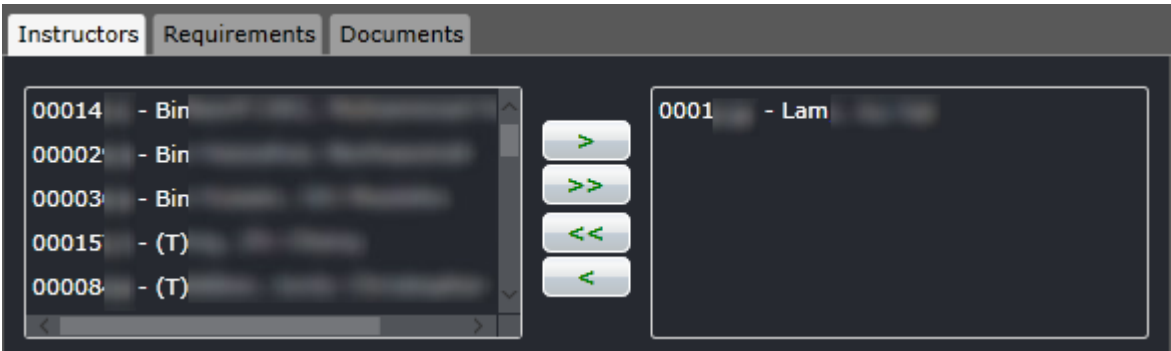
Substitute Tab

This allows for an alternative course that a crewmember can take in lieu of the course in focus. If the current or substitute course is completed, the expiries for both courses will be updated accordingly.

The columns are discussed below:

Column	Description
Substitute course	Displays a list of courses. Select the substitute course.
Recalculation Definition Source	If the parent course is passed, the expiry rules will be based on either the *Parent Course* or the *Substitute Course*.
Recalculation Date Source	If the parent course is passed, the expiry date will be based on either the *Parent Course* or the *Substitute Course*.
Recalculation Date	If the parent course is passed and the course lasted more than one day, the substitute course can have the expiry date based on the *Completion Date* (last day of the course) or the *Activity Date* (date when the substitute course was taken, as defined by Sub Course in the Activities tab). For example, if the substitute course was taken on day 2 of the 5-day training and the course was completed, the expiry date will be based on day 2 if Activity Date is selected. Otherwise, the expiry date will be based on day 5.

Additional conditions can be applied to the expiry rule of the substitute course.

Column	Description
Condition	The only available option is *If Last Passed Primary Course (months ago)*. This allows the substitute course to be revalidated only if the threshold defined here has been achieved.
Op	Options include =, <>, >=, =<, >, <
Value	Enter the number of months
Operator	Contains the options *and*, *or* and *then*. These can connect one or more expiry rules to build a more complex rule.

Links Tab

This option links an employee attribute, group or certification to the course. Upon successful completion of a course, a crewmember can either start or end their associations with the above qualifications types. For example, if a crewmember passes this course, the crewmember's initial pilot training profile will end.
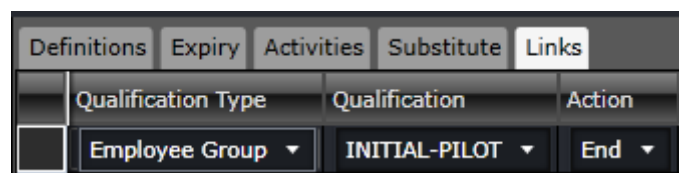
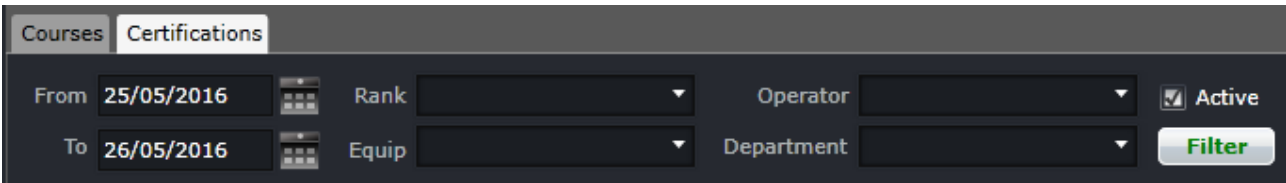| Column	Description
Qualification Type	Options include *Employee Certification*, *Employee Attribute* and *Employee Group*.
Qualification	Displays the lit of qualifications depending on the selected Qualification Type.
Action	Options include *Start* and *End*.

Certifications

The Certifications tab has similar setup as the Courses tab.
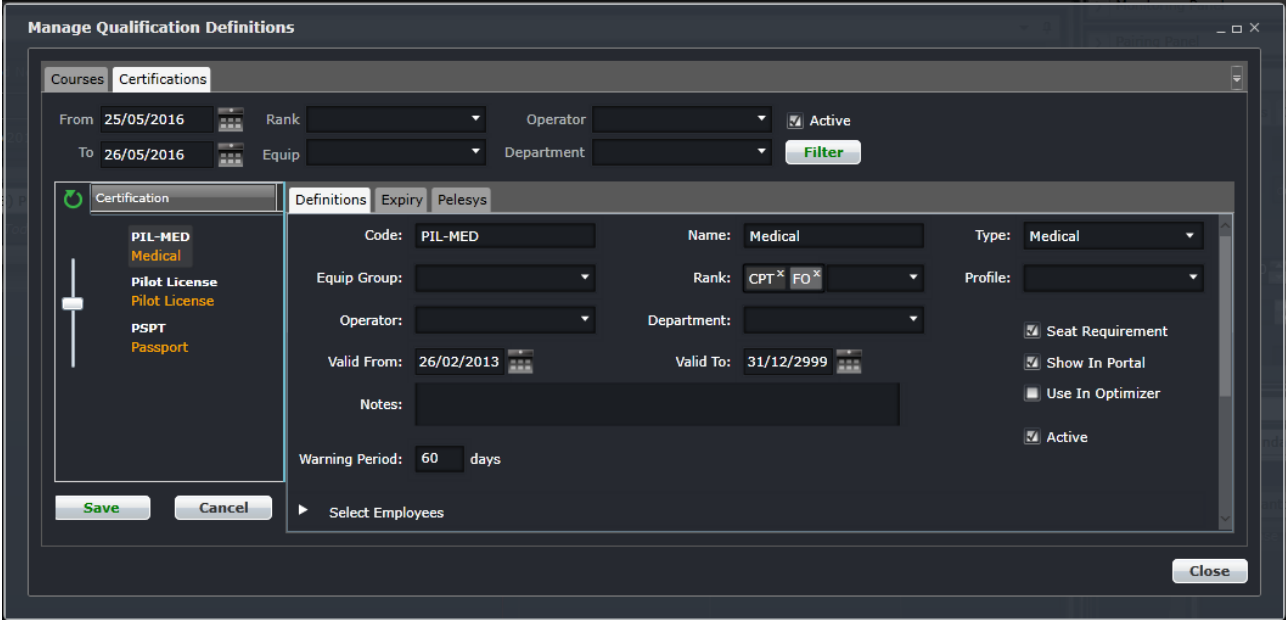
Filter

There is a filter at the top of the Manage Qualifications Definitions form. It has less fields than the Courses tab.

Field	Description
From/To	Date range for the search. This defaults to the current date until the next day. This date range looks for the courses that are active within the dates.
Rank	A drop-down field that displays active ranks and / or rank groups
Equip	A drop-down field that displays the active aircraft or equipment types or groups that crew operate
Operator	The Operator drop-down menu filters the grid to show information based on selected airline operators
Department	A drop-down field that displays active departments. It is an area within an airline or company that is tasked with providing particular services of a similar type. For example, Flight Operations (i.e. the manning and operating of aircraft), Maintenance (ensure the aircraft are able to operate safely), Ramp (the parking and coordination of aircraft resupply between flights).
Active	A checkbox to determine if active or inactive courses will be filtered. Active courses are filtered by default.
Filter	Click this button to display courses based on the filter criteria.

More than one value can be selected in all the fields above except the dates.

Prior to adding a new certification, it is suggested that the user uncheck the Active checkbox and filter to see if an inactive record already exists. This will avoid duplicates in the system.

Leaving the fields blank will display all active certifications for the day.

Adding a Certification Definition

To add a certification definition, click **Add** in the Certifications panel. The tabs in the right will be empty and ready for user entry. If there is a filtered list of certifications, they will remain on the left side.

There are two tabs in the course template that need to be filled out. These will be discussed in the next section.

Click **Save** before moving on to another tab.

Definitions Tab

The Definitions tab enables you to define the basic details of the course.
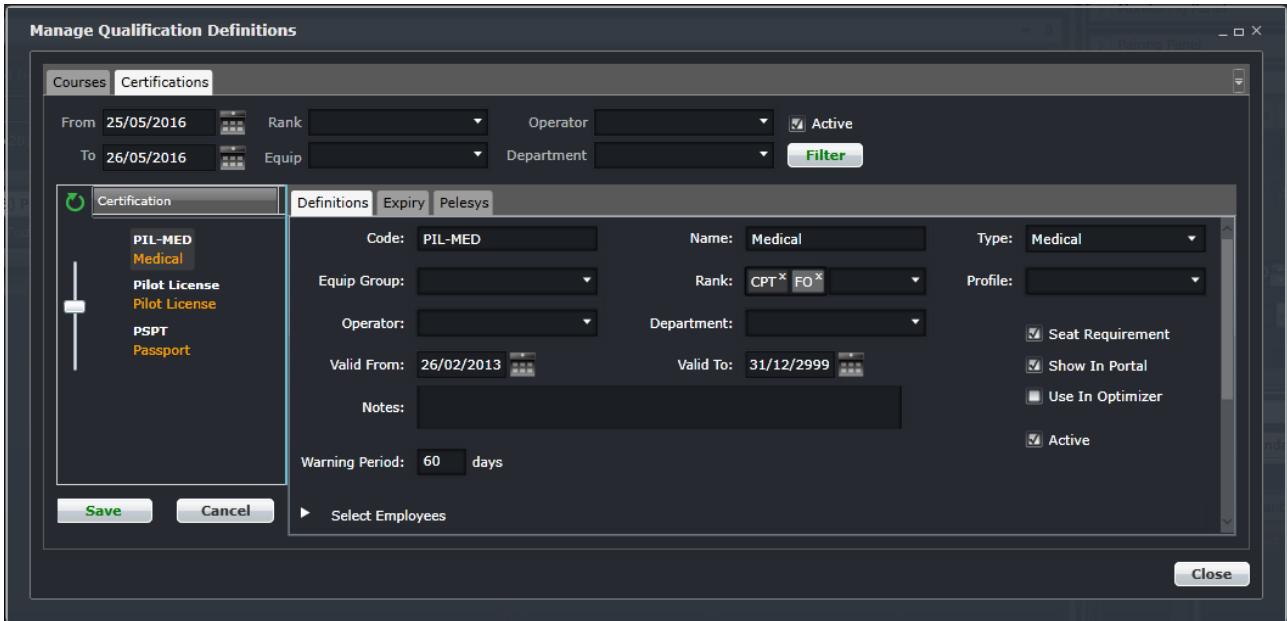
The fields are discussed below:

Field	Description
Code	Short identifier of the course. This is displayed on the Gantt when allocated to a crewmember. This is also seen in several reports. One example is CRM as a code for Crew Resource Management.
Name	Full description of the course. Using the example above, Crew Resource Management.
Type	Identifies the type of course including: • Imported Course – when the system is initially set up for a customer, some of the courses will be imported from another system. This is the default for those courses and needs to be updated to any of the options below. • Flying Course – a course that needs to be taken while operating an aircraft. Assigning a course instance of this type to a crewmember will require an assignment of the crewmember to a flight. • Simulator Course – a course that requires a simulator. • Ground Course – a course that requires a classroom or training room. No flying or simulator involved.
Equip Group	Defines the equipment groups to which the course applies. For example, if EMJ (Embraer) is selected, the crew rated for EMJ are required to take this course, but crew rated for 737s are not.
Rank	Defines the set of ranks to which the course applies. For example, if the course is for pilots only, pilot ranks will be included.
Profile	When crewmembers are assigned to groups or profiles configured in the system, you are able to choose to which groups the course applies to.
Operator	Where multiple operators are loaded into the merlot.aero suite, you may define the operator to which the course applies.

Department	Crewmembers associated with different departments in the system can be associated to a course. This is a quick way of adding a specific group of employees to a course.
Valid From/To	Use the drop-down calendars to specify the date range of validity. These dates refer to the length of time a course should be active in the system. It is recommended that the date range be set for an indefinite period (31-12-2999) to prevent the course from being prematurely deactivated in the application.
Notes	Additional notes may be entered against the course in this text box.
Warning Period	If an alert period for course expiries is required, the number of days or months is entered here. Warnings will appear in CrewPortal and CrewMonitor to advise the users and crewmembers of upcoming expiries. A yellow line will also appear at the bottom of the crew's roster from the start of the alert period up to the day before the expiry.
Seat Requirement check box	When selected, crewmembers associated to this course will require a valid expiry or pass validation to operate on a flight. If a crewmember has either failed this course or their current expiries have expired, the system will give out violations and will prevent the crewmember from signing on for a pairing in CrewPortal.
Show In Portal check box	Allows associated crew members to view expiry information for the course in CrewPortal.
Use in Optimizer check box	Allows the course template's details to be exported as part of an XML file when sending roster data to an optimizer or solver. The optimizer can include this course as a qualification requirement that needs to be considered in the roster.
Active check box	Indicates that the course is to be monitored in the system. Unchecking the box indicates that the course is no longer required.

More than one value can be selected in all the drop-down fields.

It is important to note that the more parameters entered in the Definitions tab, the more restrictive the course. The **Select Employee** option helps to restrict course attendance to only those crew members who need to attend the course. This is used only if there is a specific set of crew required to take the course. If course attendance is more broadly defined to include different groups and crew members, then the Select Employee option should not be used for course definition purposes.

Click **Save** before moving on to another tab.

Expiry Tab

The Expiry tab is where expiry calculation rules are set up per the course or company requirements. The expiry calculations contain several rule options allowing for expansive and accurate expiry calculations.

	Group Open	Period Type	Period (Value)	Unit of Time	Rule Level		Validation Type	Recalculation Type
▶ ⊞		Recurrent ▼	6	Months ▼	CRITICAL ▼		Positive ▼	Last Passed ▼
⊞		Recurrent ▼	1	Years ▼	CRITICAL ▼		Positive ▼	Last Passed ▼

Outside Slippage Recalc Type	Document Type	Fail Behaviour	Operator	Group Close	Group Operator
Last Passed ▼	N/A ▼	Disallow Positive Slippage	And ▼		
Last Passed ▼	N/A ▼	Disallow Positive Slippage	And ▼		

The Expiry tab contains the following columns:

Column	Description
Group Open	Option allowing the user to group rules together by using an open bracket.
Period Type	The period type that should be considered on when and how often expiry recalculation should occur. • Initial: Automatic expiry information with course creation. The expiry rule for the first time the course is passed. • Recurrent: Indicates that this course needs completion in a certain defined period. Also indicates that validation would be required. • Negative Slippage: Allows the crewmember to attend or sit a course earlier than the expiry date. • Positive Slippage: Allows the crewmember to attend or sit a course later than the expiry indicates. Also defined as a grace period.
Period (Value)	A numeric value associated against the unit of time.
Unit of Time	Unit of time against the period (value), options such as months, years, etc.
Rule level	Defines the severity of the expiry when a violation is raised upon the expiration date of the course: • Allow Override: The violation can be overridden by a supervisor • Critical: The violation cannot be overridden. Crew cannot be assigned to operate a flight. • Critical Planning: Crew cannot be assigned to a flight during roster planning if the pairing is past the expiry date
Validation Type	Allows the user to enter which type of validation is required. • Positive Validation: The system will assume that the crew member has failed his or her next-planned course and will not allow the crew member to report for duties after the expiry date. Validation that the crewmember has passed is required. • Negative Validation: The system will assume that the crewmember has passed the course and will not prevent the crewmember from reporting or sign-on. Still requires validation but is not restrictive.
Recalculation Type	Sets the date from which the expiry date will be recalculated if it is passed within the allowed period of the course. Options include: • Last Passed –expiry date is based on the date when the course was passed • First Passed – expiry date is based on the date when the course was passed the first time • Anniversary – expiry date is based on the date joining the company • Ad hoc – expiry date is any date entered by the user • Existing Expiry – expiry date is based on the current expiry date prior to recalculation
Outside Slippage Recalc Type	Sets the date from which the expiry date will be recalculated if it is passed outside of the allowed period of the course. Options include: • Last Passed –expiry date is based on the date when the course was passed • First Passed – expiry date is based on the date when the course was passed the first time • Anniversary – expiry date is based on the date joining the company • Ad hoc – expiry date is any date entered by the user • Existing Expiry – expiry date is based on the current expiry date prior to recalculation

Document Type	Contains a list of documents that the certification is associated to i.e. passports and licenses. In this example, the document can be medical certificate.
Fail Behaviour	Sets the action to be taken if a crewmember fails to revalidate the course within the validity period. Options include: • Disallow positive slippage – this is the default selection. A grace period will not be allowed after the expiry date if the student fails the course. • Allow positive slippage – If positive slippage is set, the validity period will be temporarily extended to allow the crewmember to retake the course. He is considered legal to fly within the positive slippage.
Operator	Contains the options *and*, *or* and *then*. These can connect one or more expiry rules to build a more complex rule.
Group Close	Option allowing the user to group rules together by using an open bracket.
Group Operator	Similar to Operator, this contains the options *and*, *or* and *then*. These can connect one or more groups of expiry rules to build a more complex rule.

In addition to the normal expiry calculations, the functions below are also available within each expiry rule. Click on the [+] to the left side of the expiry rule to display the conditions tabs.

Additional Conditions	Allows for conditions where rules are dependent on age. In the example below, the expiry will be applicable only to crewmembers under (more than) 40 years. This is more prevalent in certifications.

Recalculation Conditions	This tab allows the expiry date of training to be set based on the slippage date. The columns are as follows: • Slippage – determines if the expiry date will be recalculated if it is within and/or outside the slippage period. Options include *Both*, *Inside slippage*, and *Outside slippage*. • Frequency – determines if the training is taken only once or is recurring. Options include *Once* and *Repeating*. • Condition – Sets if the recalculated date should be set to the start of the month, end of the month or based on an extended date. Options include *Start of Month*, *Extension* and *End of Month*. • Condition Type – determines the basis for recalculating the expiry date. Options include *Expiry Date Modifier*, *Negative Slippage Modifier*, *Positive Slippage Modifier* and *Outside Slippage Modifier*.

- Operator – enter + or – to add or deduct a period of time to the expiry date.
- Period – number of units of time to add or deduct to the expiry date.
- Unit of Time – units of time to add or deduct to the expiry date. Options include *Hours*, *Days*, *Hours and Minutes*, *Months* and *Years*.
- Operator – enter the options *and*, *or* and *then*. These can connect one or more expiry rules to build a more complex rule.

In the instance below, we created a recalculation condition that sets how the next expiry should be calculated. Anytime in a month that a course is completed, the new expiry is calculated from the start of the month, plus (+) 1 month.

The Frequency Conditions tab will be available in a future release.

Click **Save** before moving on to another tab.

Manage Course Associations

The association of crew creates a direct link between a crewmember and a qualification that he needs to attend and pass in order to operate on a flight. This association creates an audit trail of courses attended and a qualification history that assists with compliance and planning.

Crewmembers only have to be associated under the following circumstances:
- When they join the company and are assigned a rank;
- When they are either upgraded to a higher rank or downgraded to a lower rank. Any rank changes will show as an invalid association;
- When they are assigned to operate a different equipment group/type; and
- When they leave the company.

To accomplish this task, click on **Manage Course Associations** under the Tools menu.

The Manage Course Associations feature enables the user to correctly associate crew with the appropriate qualification records. It will search for invalid course associations and/or missing course associations, and then correctly process the qualification associations for the crew. For example, if a first officer (FO) becomes captain (CPT), his FO qualifications will be ended and the CPT qualifications will be added. The FO qualifications will be retained for recordkeeping and the CPT qualifications will be monitored going forward.

It is recommended to run this process once a month to ensure that all crewmembers have the correct qualifications that schedulers need to monitor.

The process to filter for missing or invalid associations is detailed below.

Limit the scope of the association to the group of crew that you need to focus on. Some users are tasked to look after pilots only, while some are tasked to look after all crew from a specific base. Use the filter to bring out the associations that you need to work on. The filter requires at least one of the following criteria: employee, rank, port or profile. The results will be displayed in the grid below.

Column	Description
Process Date	This defaults to the current date. The results will be based on qualifications that are active/inactive on the selected date.
Employee	Enter the last name of the employee and select it, or click on the drop-down button to display a list of employees and select from there. Use this only if you need to work on a specific set of employees.
Equip	A drop-down field that displays the active aircraft or equipment types or groups that crew operate
Operator	The Operator drop-down menu filters the grid to show information based on selected airline operators
Base	A drop-down field that displays the active crew bases
Include Inactive Courses	Select this if associations to inactive courses need to be included in the criteria
Rank	A drop-down field that displays active ranks and / or rank groups
Profile	When crewmembers are assigned to groups or profiles configured in the system, you are able to choose to which groups the course applies to.
Course	A drop-down field that displays a list of the available courses.
Certification	A drop-down field that displays a list of the available certifications.
Association	*Invalid* – if selected, the results will display associations that are no longer valid. *Missing* – if selected, the results will display associations that should be set but are not.

It is recommended to have both options selected in order to display and process all records. |

More than one value can be selected in all the fields above except the date.

Fill out the filter criteria as needed and then click the Filter button. The list of crew with invalid and/or missing qualification associations will be displayed.

If there are invalid or missing associations, the qualifications will be listed. Otherwise, a blank grid will be displayed. The columns are described below:

Column	Description
Course/Expiry Code	The course/certification code
Course/Expiry Name	The course/certification name
Type	The course type or certification
Process All	Check box that when selected and then the user clicks the Process button, the system will remove the association for invalid records and add the association for missing records. This will affect all crew listed under the qualification.

To process the qualification associations in bulk, click on the checkboxes under Process All then click Process. The system will then remove the association for invalid records and add the association for missing records.

To process the qualification associations one by one, click on the [+] to the left of the qualification to display the invalid and missing records. You can click on the Process checkbox per employee then click on the Process button.

Whenever the Process button is clicked, the prompt below will appear. Click Yes to continue or No to cancel the changes.
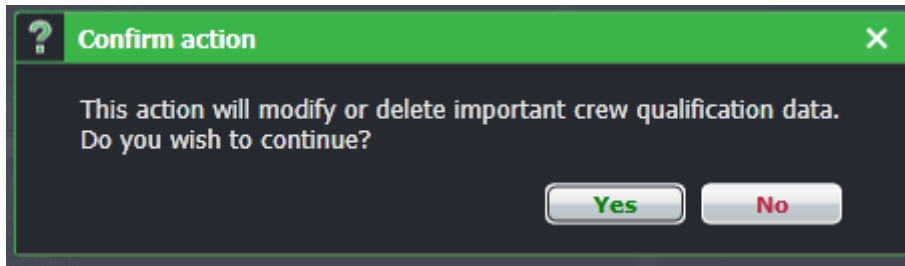
Once the processing is finished, the prompt below will appear.
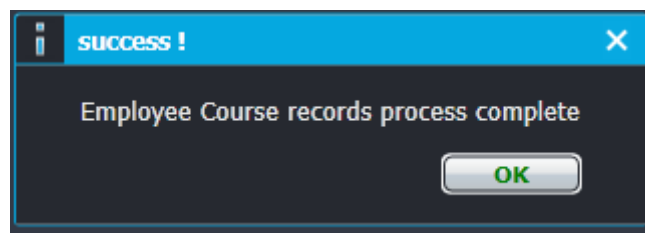
Manage Resources

Manage Resources enables you to set up resources that you use for training (e.g. training rooms, simulators etc.). You can use time slots for these resources so that as you build individual course instances, you can choose a particular time slot for that course instance. This will allow the merlot.aero suite to prompt you if you create a double booking of a particular resource.

For example, you may have a resource of Simulator available 24 hours a day, the time slots can be split to 6 per day: 07:00-11:00, 11:00-15:00, 15:00-19:00, 19:00-23:00, 23:00-03:00, and 03:00-07:00. These slots are then available when building the course instance to be included in the particular instance at the defined activity time.

To access the Manage Resources feature, click on **Manage Resources** from the Tools menu.

Add the resources on the top half by clicking **Add**. Click **Save** when done.

Column	Description
Code	Short identifier of the resource. This is displayed in the course definition and course instance.
Type	Type of resource
Port	Default location of said resource
Notes	Description of the resource
Active	Determines if the resource is available for the company

When a resource is selected, the bottom half displays the available slots. For example, if a SIM provider is contracted and there are 2 SIMs that the airline can use, the two SIMs can be listed as slots. Simply add a code and the start and end time of its availability. Later on, the slot to be used can be indicated in the course instance.

Create a Course Instance

Once the course definition has been created and associated to crew, it can be scheduled in the roster by creating course instances. A course instance is basically one or more occurrences of a course in a selected day. This allows airlines to plan their training schedules weeks and even months in advance. Before a course instance can be created, the Course Gantt must display the list of courses that need to be managed for the current session.

1. In the Allocation Gantt filter, enter a date range that you need to work on and click Filter. Selecting crewmembers to view in the Allocation Gantt is optional.
2. In the Course Gantt, click on Include Course. A form for selecting courses will appear.
3. By default, all courses will be selected. Use the filters on top of the form or on the column headers to display specific courses. Select the courses to be displayed and select OK. These courses will appear in the Course Gantt the next time you log in to CrewPlan.

4. The selected courses will be displayed in the Course Gantt. In the image below, you will see two blocks under the 5th and 7th of June, respectively. This signifies that there is an instance of NCT PPC on both dates.
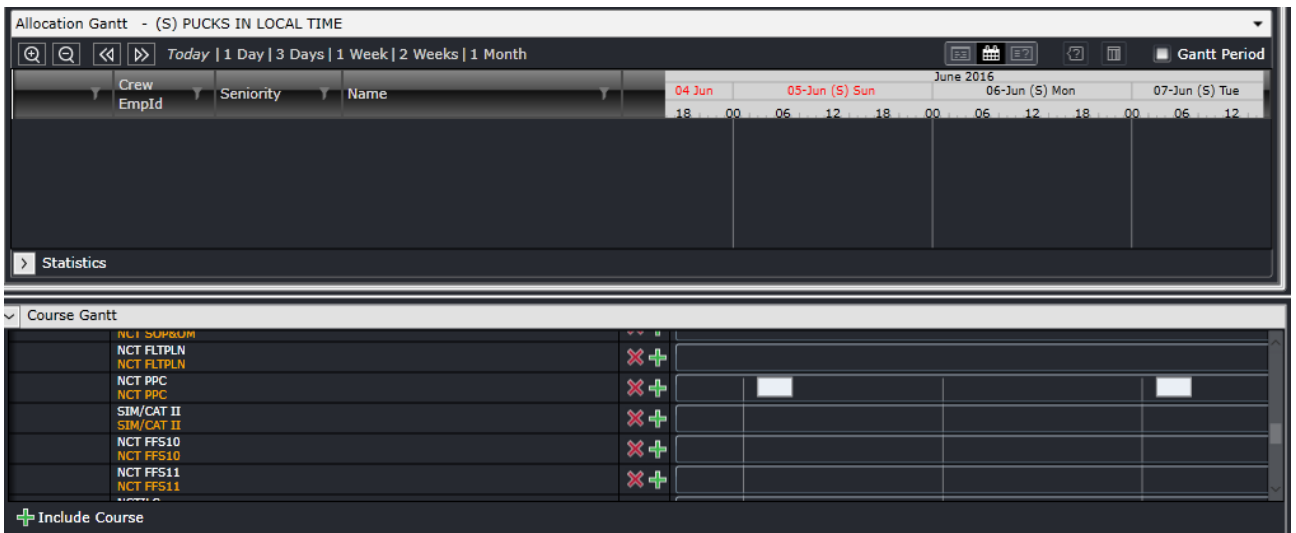
5. To hide a course from the Course Gantt, click on the ✖ button.

Below are the steps in adding a course instance.

1. To add a course instance, click on the ✚ button.
2. Select the date when the course instance is needed. Click OK to continue or Cancel to disregard any changes.
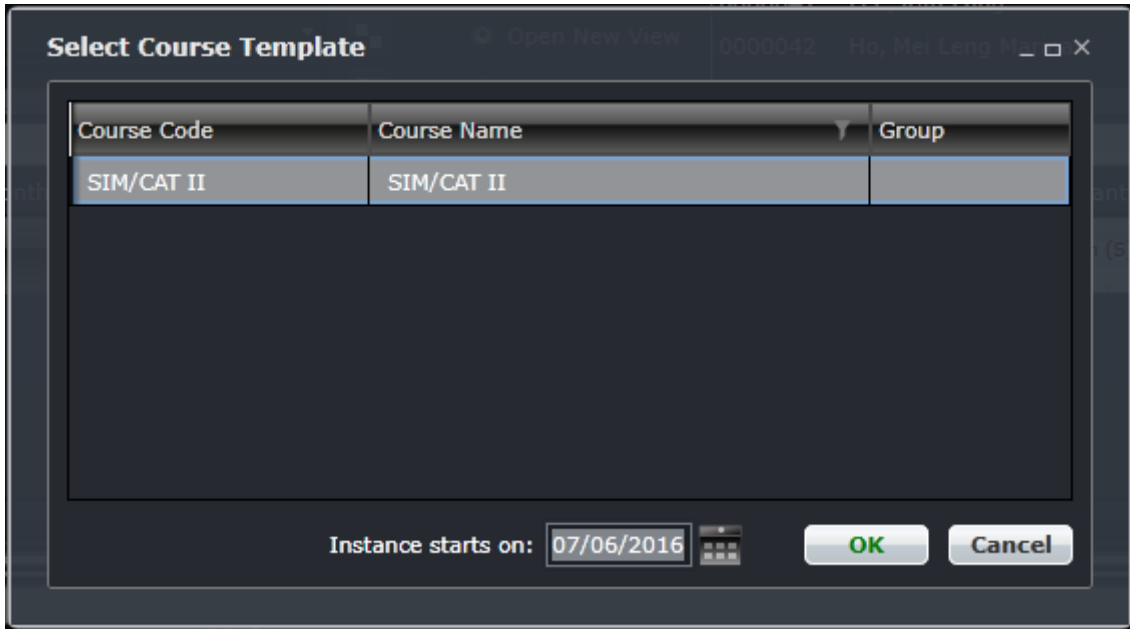
3. The Course Panel will expand with details pertaining to the selected course. The information is taken from the course definition. If there are details for this course instance that are different from the definition, modify them in the Definition and Activities tab then click Save in the Definition tab. Refer to the Manage Qualification Definitions section for the description of these fields.

Note: *Commonly modified details are start/end date, default port, code and internal/public comments. If there are more than one instances of this course for the day, make sure to update the code to identify from the Course Gantt which instance is which.*

Note: *Commonly modified details are the time in StartDate/EndDate, resource (if applicable) and number of activities. If an additional activity or day is needed. Click New and fill out the details. If an existing activity or day needs to be removed, click Delete. The Dep and Arr fields copy the default port in the Definition tab.*

Note: *The entries must be arranged chronologically (day 1, 2, 3, etc.). If there are two or more events in one day, they must be arranged chronologically as well. The incorrect order of activities could cause issues in pairing construction and expiry management.*

4. After saving the course instance, the prompt below will appear.
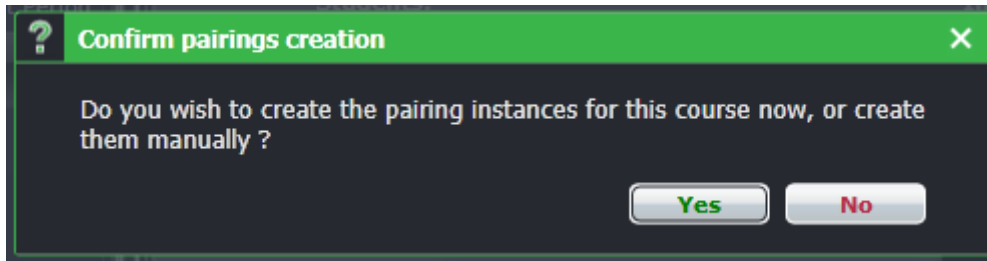
If you click Yes, the system will place the course instance in the Course Gantt and the Pairings tab in the Activities Panel. If you click No, the course instance will be placed in the Course Gantt only.

5. A confirmation prompt will appear once the process is finished.
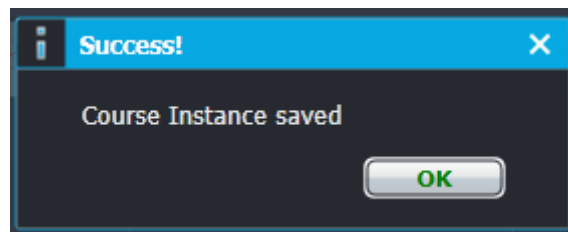
The newly added course instance will appear in the Course Gantt.
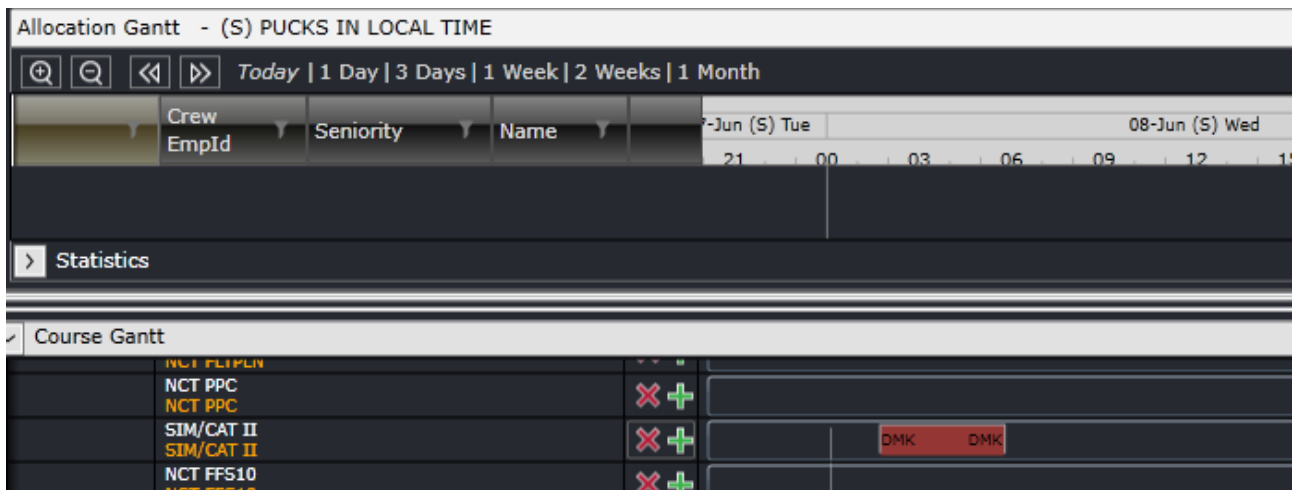
Assigning Employees to Courses

A course instance can be assigned to an employee as a student, instructor or support. The steps below describe the two ways of assigning a course instance to an employee and how to define their role in the course instance.

Option 1: Drag and drop
1. Open the roster of the employee for the date of the course. Make sure that the course instance is loaded in the Course Gantt.

2. Click on the course instance and drag it to the roster of the employee. If the employee is declared as an instructor in the course definition, the prompt below will ask if he should be assigned as an instructor. Otherwise, if he is associated as a student, the prompt will ask if he should be assigned as a student.
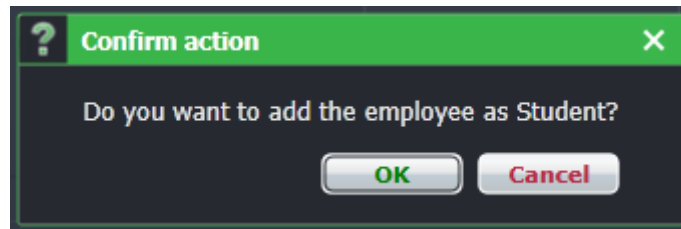
Option 2: Course Panel

1. Double click on the course instance to load the details in the Course Panel.
2. Go to the Crew tab.
3. Select the name of the student/s from the list on the left.
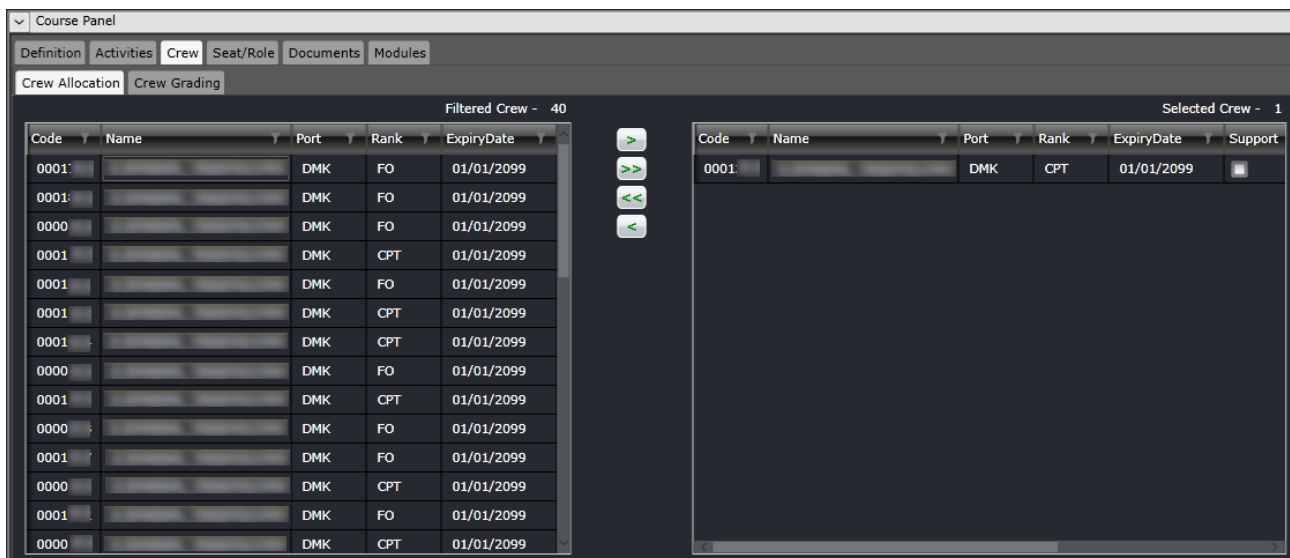
The list can be filtered using the column headers. If the employee is required to be there for support, select the Support checkbox beside his name.

4. To assign an instructor, go to the Activities tab and select the name of the instructor.
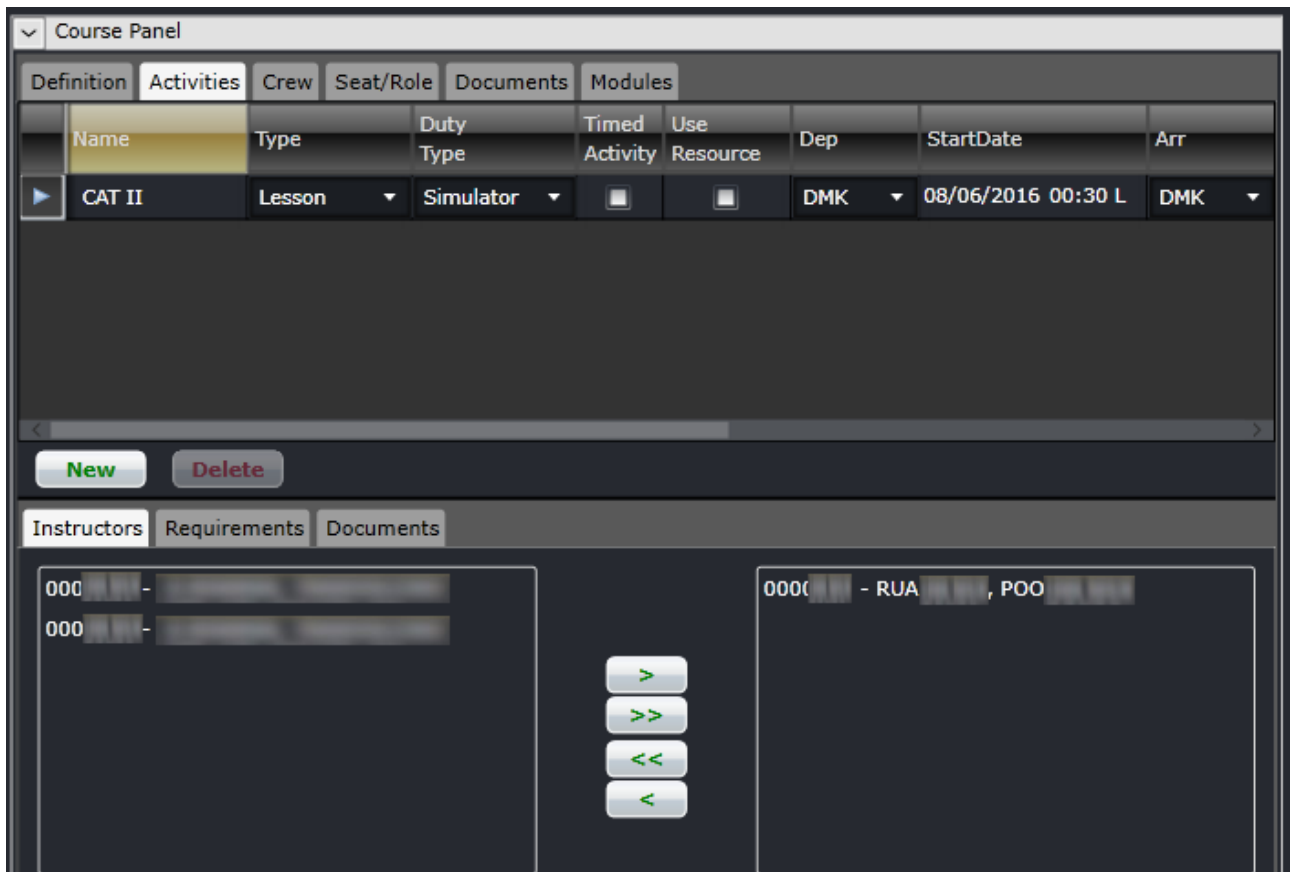
5. Go to the Definition tab and click Save.

The course instance will appear in the crew's roster.
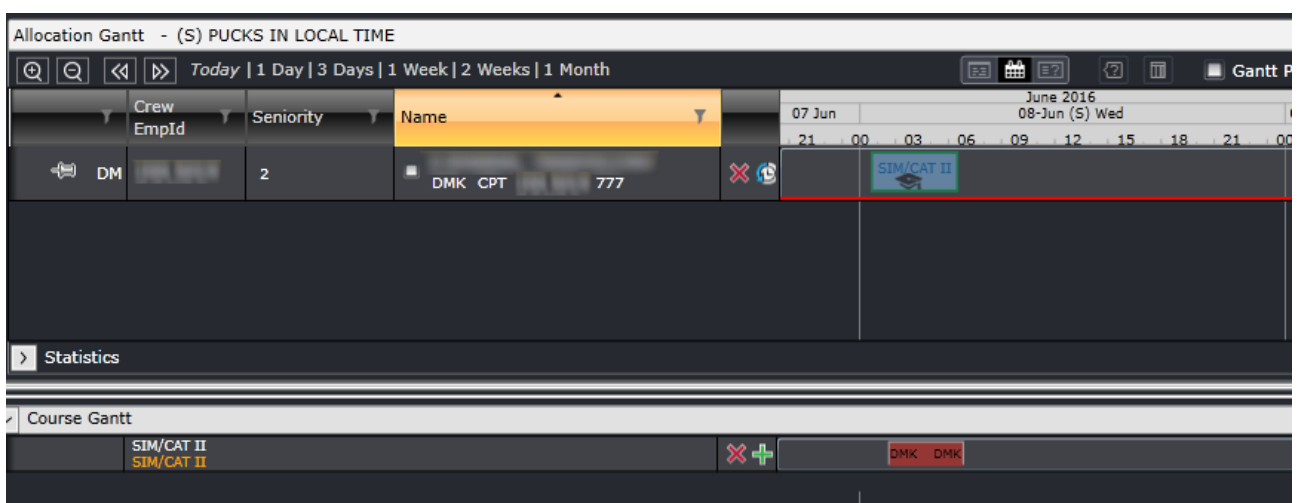
Flying courses require flights to be assigned on top of the course. The succeeding sections discuss how to manage the different panels of the application and how to assign pairings. For the specific steps, please proceed to Combining Flights with Flying Courses.

Also note that if the assigned course is semitransparent, it means that the course does not have a defined time or activity. For ground courses and SIM courses, make sure that there is an activity in the course instance. For flying courses, a flight pairing must be assigned on top of the course.

Allocating Courses from Allocation Gantt

Another way of adding courses and immediately assigning them to crew is by using the *Allocate Course* option accessible from the right-click options of a crew's roster. This is especially helpful when flying courses need to be incorporated to a pairing.

1. Right-click on the crew roster.
2. Select *Allocate Course*.
3. A list of associated courses will be displayed in the Allocate Course form. Select the course to be added then click Continue.
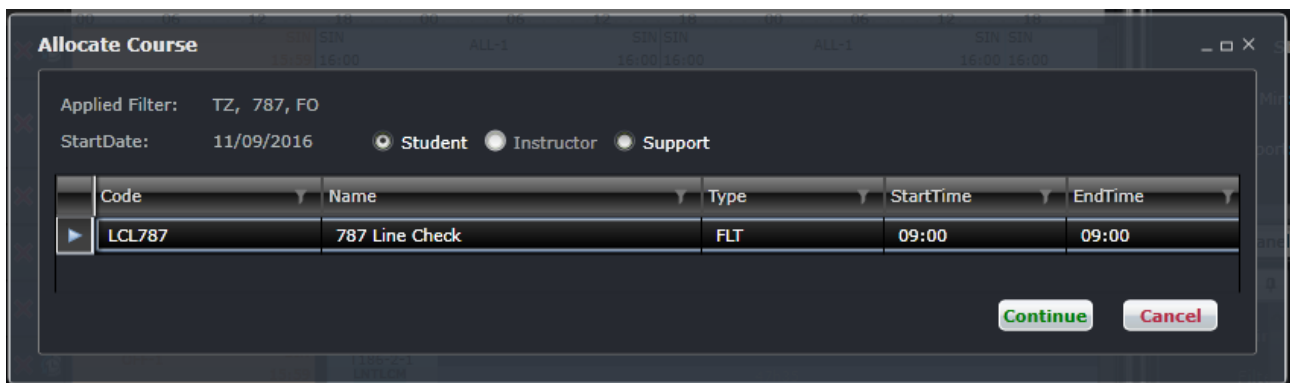
If one or more existing instances of the selected course is found, the list of those instances will be presented for selection.
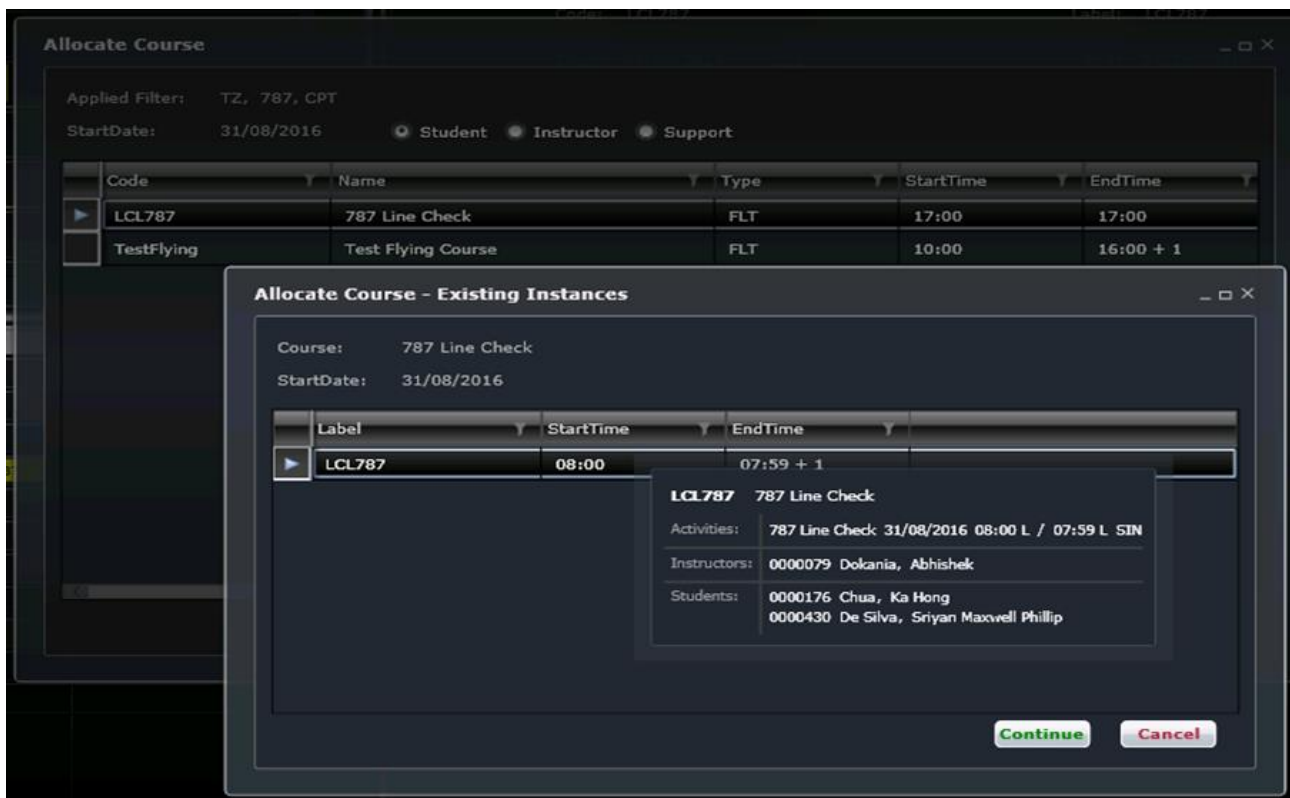
4. The Course Instance panel will pop up with the new details. Update any of the tabs as needed then click the Save button.

5. Confirm the changes.
6. The course will be added to the crew's roster. In this case, the flying course was added to a flight pairing.

Managing Courses with Multiple Pairing Assignment

When creating courses, the **Confirm pairings creation** prompt allows planners to associate multiple pairings to a course.
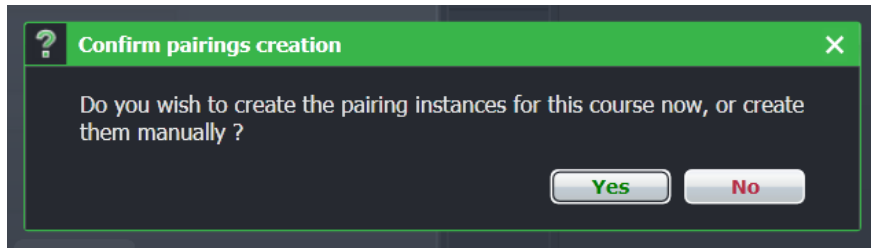
Selecting **Yes** creates a pairing and displays the pairing in the Allocation Gantt. More than one pairing can be linked to the created course. Selecting **No** will not commit any action. When a crew is assigned to the course, as a student or an instructor, the prompt will be displayed again, giving planners an option to add other pairings to the same course.

Modifying Courses with Multiple Pairings

Changes to a course event linked to a pairing within a course, such as timings, will be applied to all associated pairings within that course. For example, if pairings A and B have the same CRM course, a change in date for pairing A will update the activities in the CRM course. The user must repair or update the times of pairing B manually.

When modifying a course or a pairing during an active period, all crew members who are assigned to the course activity will be displayed in the Duty Change Options.

Merging Courses and Flights

Users can merge ground courses with pairing assignments in specific conditions.

The *PairingMergePromptHours* user preference in Configure which has a default value of 0 controls the threshold for the system to determine whether two pairings can be merged into one duty or two separate duties.

Merging Flight to Courses
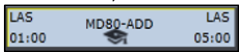
When merging a course with a flight or vice versa, the system validates if the pairing and course overlap each other. The basic merge functionality applies if an overlap is confirmed. If there is no overlap, the system validates the time difference between the merged course and flight event, if it is equal or less than the value set in the *PairingMergePromptHours* user preference, the following will apply:

- Outside the threshold – User can **Replace**, **Allocate Over** or **Cancel.**
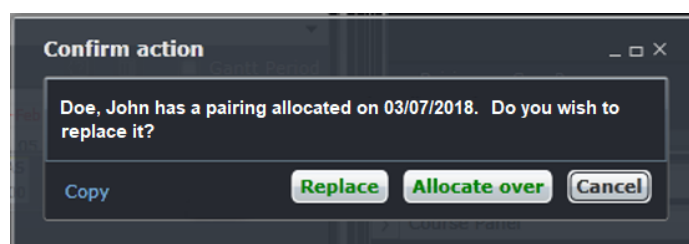
- Within the threshold – User can **Merge**, **Replace**, **Allocate Over** or **Cancel.**
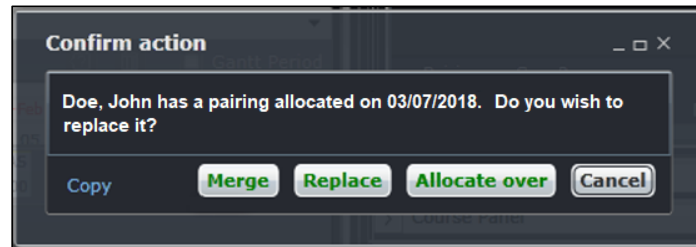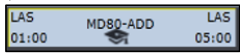

If **Merge** is selected, the course and the flight events will be merged into one pairing and one duty. The student/instructor indicator is displayed and report/release times are adjusted. If user opts to **Replace**, **Allocate Over** or **Cancel**, the basic merge functionality will be applied.

Merging Non-Timed Course Events to Flights

When merging a non-timed course event with a flight or vice versa, the prompt "*Do you want to create and allocate new event-pairing?*" is displayed. If the user selects **Yes**, the *Edit Event* form is displayed, and the user is required to complete the form. Upon saving, the system will validate the time difference between the merged non-timed course and flight events, if it is equal or less than the value set in the *PairingMergePromptHours* user preference, the following will apply:

- Outside the threshold – The user can **Replace**, **Allocate Over** or **Cancel.**
- Within the threshold – The user will be asked to **Merge**, **Replace**, **Allocate Over** or **Cancel.**

If the user selects **Merge**, the course and the flight events will be merged into one pairing and one duty. The student/instructor indicator is displayed and report/release times will be adjusted. If user opts to **Replace**, **Allocate Over** or **Cancel**, the existing merge functionality will apply.

Merging Two Pairings

When merging two pairings, the system validates the time difference between the merged pairings. If it is equal or less than the value set in the *PairingMergePromptHours* user preference. If time is within the threshold, a prompt will be displayed.
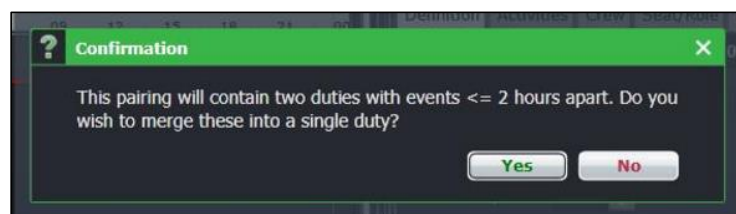
If user selects **Yes**, the pairings are merged into a single duty. If user selects **No,** the pairings are merged into two separate duties.

If there is no rest rule violation committed, the basic merge pairing functionality applies.

Merging in Course Panel

When assigning a course to a pairing with an existing flight in Course Panel, the system will validate if the pairing and course overlap each other. The system will apply the existing merge functionality if an overlap is confirmed and the "*Are you sure you want to create Course flight-event?*" prompt will be displayed.

Yes - The course will be merged with the flight.
No - The user can **Replace**, **Allocate Over** or **Cancel**.

If there is no overlap, the user can **Replace**, **Allocate Over** or **Cancel.** If the time is within the threshold, the user is asked to **Merge**, **Replace**, **Allocate Over** or **Cancel.**

Manage Expiry Information

The Manage Expiry Information form allows users to view and update the qualifications of crew. Information can be filtered by qualification, base, rank and profile so that users can update expiry dates and begin planning course schedules for crew with upcoming expiries.

To access the form, go to Tools and select Manage Expiry Information.

Certifications without expiry rules will not be displayed in this form.

The filter fields include:

Field	Description
From/To	Date range for the search. This defaults to the current date until the next day. This date range looks for the qualification associations that are active within the dates.
Employee	A drop-down field that displays a list of all active crew for the date range. Enter the first few letters of an employee's last name for a quicker search.
Equip Group	A drop-down field that displays the active aircraft or equipment types or groups that crew operate

Operator	The Operator drop-down menu filters the grid to show information based on selected airline operators
Base	A drop-down field that displays the active crew bases
Rank	A drop-down field that displays active ranks and / or rank groups
Profile	When crewmembers are assigned to groups or profiles configured in the system, you are able to choose to which groups the course applies to.
Course	A drop-down field that displays a list of the available courses.
Certification	A drop-down field that displays a list of the available certifications.
Filter	Click this button to display courses based on the filter criteria.

The columns in the Manage Expiry Information form are the following:

Field	Description
Emp Code	Employee ID number
Name	Employee name
Type	Type of training such as FLT, GRD, SIM, Certification.
Code	Short code for the qualification
Expiry	Expiry date of the qualification
Ad-hoc	Ad-hoc date entry whereby course was taken earlier but expiry released on the ad-hoc date.
First Passed	Date the qualification was first passed by the employee.
Last Passed	Date the qualification recently passed by the employee.
Next Planned	Next planned date for the course. This is populated whenever the course is scheduled in the crew's roster.
Status	Course status including failed, passed or pending.
Rank	Rank of the employee.
Action	Click on the **Validate** button to calculate the new expiry date for the crew member based on expiry rules created in the course template. Do this ONLY AFTER updating the status.

To update the expiry record, follow the steps below:

1. If the crew passed the course, change the Status. In the example below, the crew passed the course.

Emp Code	Name	Type	Code	Expiry	Ad-hoc	First Passed	Last Passed	Next Planned	Status	Rank	Action
0000087	(T) Barnard, Peter	GND	SEPEXAM	19/05/2016		20/05/2015	20/05/2015	04/05/2016	Pending	Captain	Validate

2. Click Validate. The expiry date will be updated based on the expiry rules. If the status is set to Failed, the expiry date will not change.

Emp Code	Name	Type	Code	Expiry	Ad-hoc	First Passed	Last Passed	Next Planned	Status	Rank	Action
0000087	(T) Barnard, Peter	GND	SEPEXAM	03/05/2017		20/05/2015	04/05/2016	04/05/2016	Passed	Captain	Validate

Expiry dates cannot be modified if the course does not have expiry rules.

Alternative Way to Validate Courses

Courses can also be validated in the Crew tab within the course instance.

1. Double-click on the course instance in the Course Gantt or the roster to load the course instance in the Course Panel.
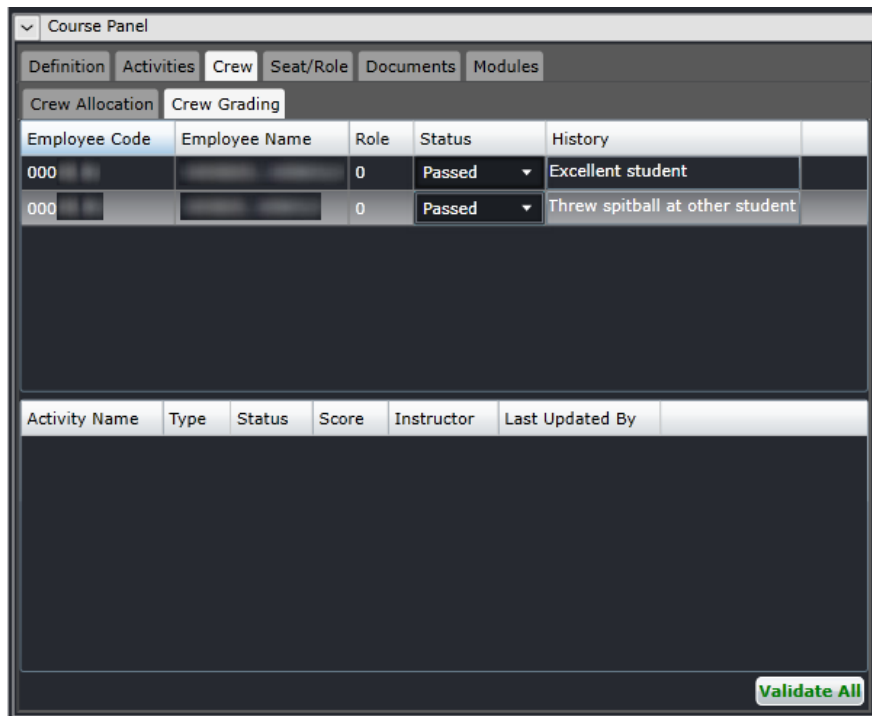
2. Click on the Crew tab, then select Crew Grading.
3. If all the students assigned to the course instance pass, click on Validate All. Otherwise, update the Status of each student individually by selecting Passed or Failed.
   If one student is marked as failed, users can still click the Validate All button and everyone else will be marked as Passed.
4. Go back to the Definition tab and click on the Save button.

This action will update the expiry as seen in Manage Expiry Information.

Manage Certification Expiries

Certifications expiries that have linked documents such as passports and medical certificates are managed the same as courses but the results cover more than a qualification.

- If a certification expiry does not have an associated document type, it is a manually managed expiry. Users must manually enter the first passed and last passed dates.

- If the certification expiry has a document type, the First Passed and Last Passed fields will not be editable.

- If a user validates a certification expiry by clicking the **Validate** button, the expiry date will be recalculated according to the expiry configuration, which is the same way a course expiry is recalculated.

Note: *If the certification recalculation type has been set to Document then a new process will be followed to determine the expiry date. Certification expiries based upon a document type will have their first passed, last passed and expiry dates driven by the document details uploaded either by the employee themselves from the Crew Portal, or by users within merlot applications.*

Note: *Multiple documents may exist of the same type (e.g. passport renewals would represent multiple documents of the same type):*

The Document expiry method will be calculated as follows:
- The system will retrieve all documents from the Employee Documents table of the document type.

- First passed will be calculated according to:
    - If no documents exist then First Passed will be blank
    - If one document exists then First Passed will be set as the Date of Issue of the document
    - If multiple documents exist then first passed will be set as the Date of Issue of the document with the earliest Date of Issue value.
- Last passed will be calculated according to:
    - If no documents exist then last passed will be blank
    - If one document exists then last passed will be set as the Date of Issue of the document
    - If multiple documents exist then last passed will be set as the Date of Issue of the document with the latest Date of Issue value.

Expiry will be calculated according to:
- If no documents exist then Expiry will be blank
- If one document exists then Expiry will be set as the Expiry Date of the document
- If multiple documents exist then expiry will be set as the Expiry Date of the document with the latest Expiry value

Managing Simulator Logs

Simulator (SIM) courses can be recorded as a takeoff and landing and can be included in the crew's currency. This is usually done when a crew who was inactive for a few months comes back online and trains in a SIM to update his currency before he can legally operate a flight.

To add a simulator log, follow the steps below:

1. Go to Tools and select Flight Logs. Select Manage Simulator Logs.
2. The form is similar to the Flight Log form. Click on the Add button at the bottom of the form.
3. Add the Date in the first row and enter a log number under the Log No column.
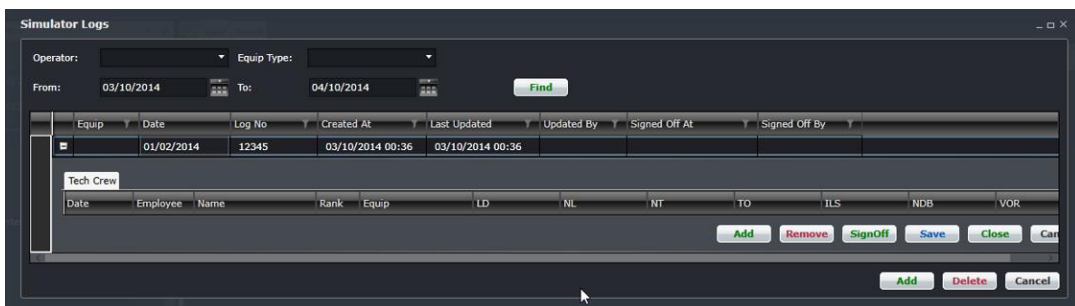
4. Click the Add button within the SIM log.
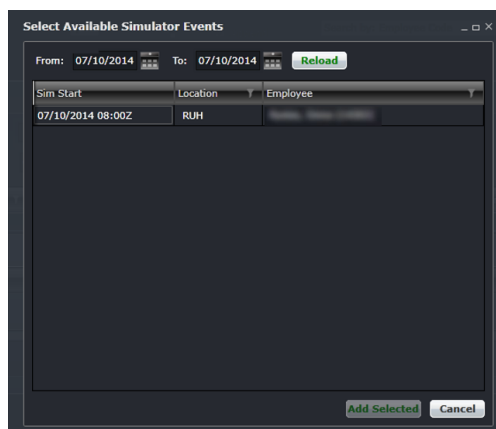
5. Search for the SIM course by filtering for the date. The list includes SIM courses created in CrewPlan and SIM pairings assigned to crew.
6. Select the SIM and click the Add Selected button.
7. Fill out the flying type and approach type for the SIM, as well as the takeoff and landing for the crew.
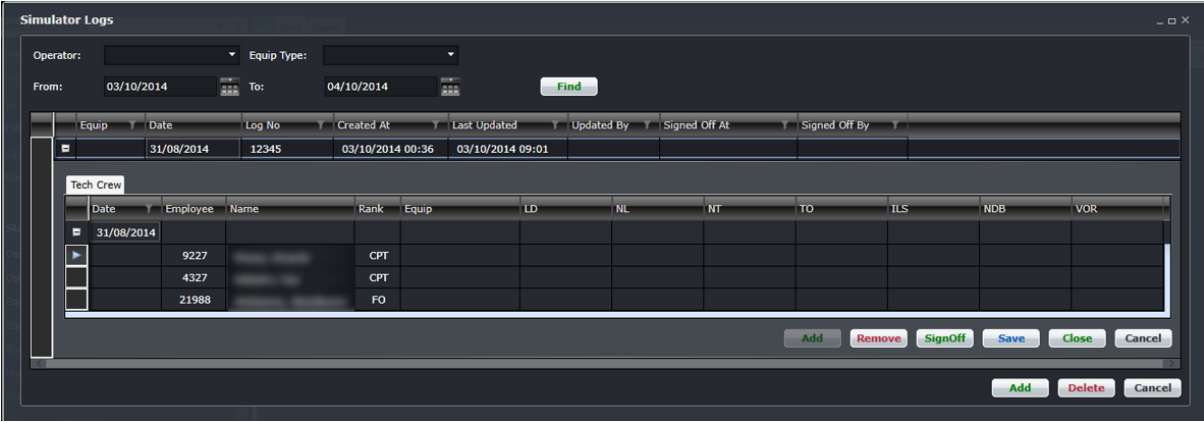
8. Click **Save**. If the records are final, click the SignOff button.

Print Crew Expiry Information

To print crew expiry record, follow the steps below:

1. Right-click anywhere on the main window to open the options.
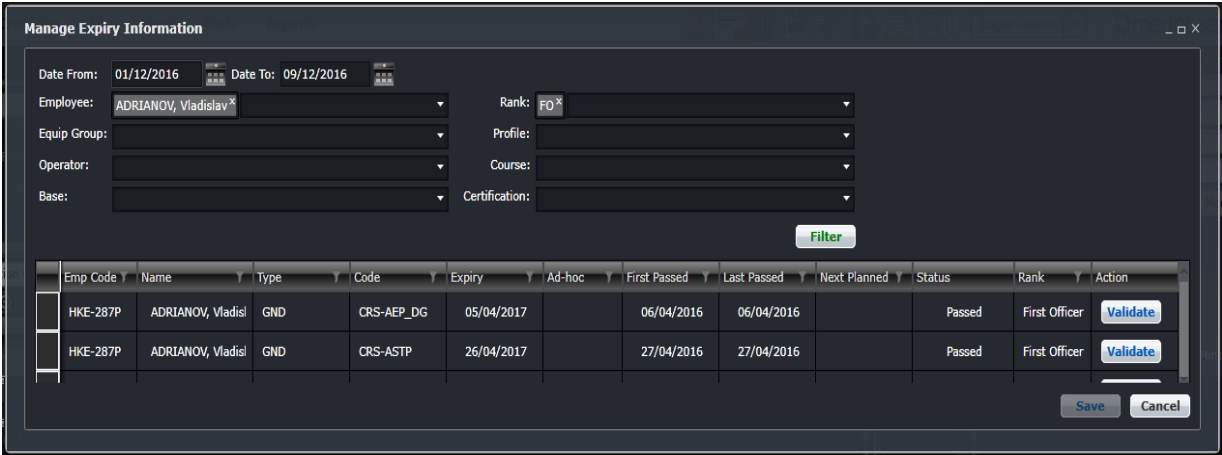
2. Click **Print**.
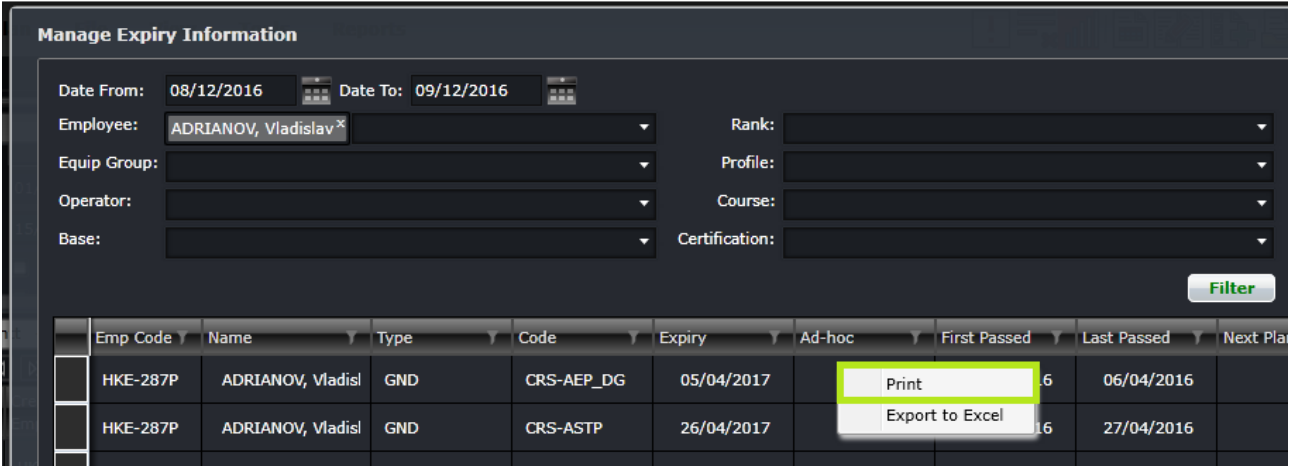
The crew expiry information will be displayed and the **Print** menu will open.

Export to Excel Crew Expiry Information

To export crew expiry record to excel, follow the steps below:

1. Right-click anywhere on the main window to open the options.
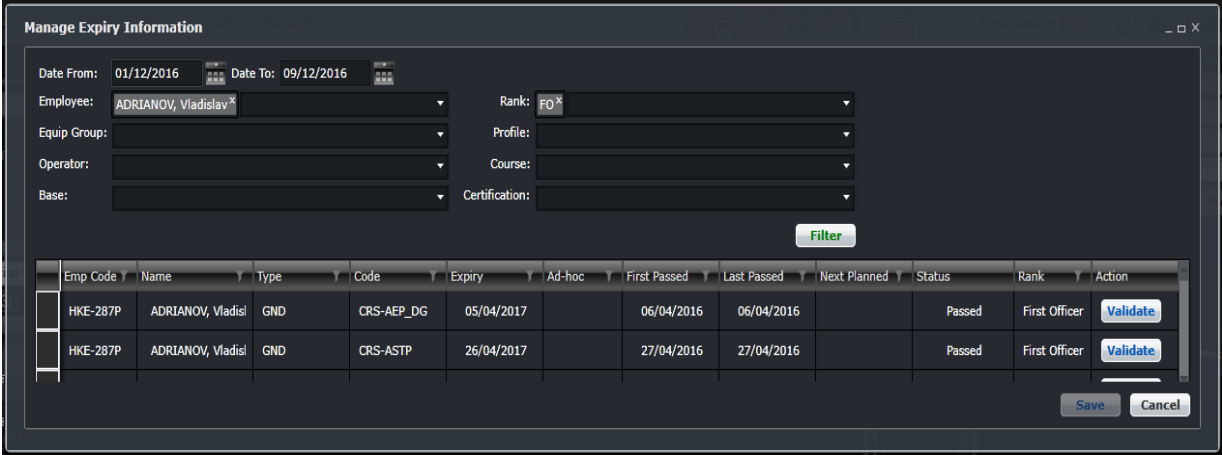
2. Select **Export to Excel**.
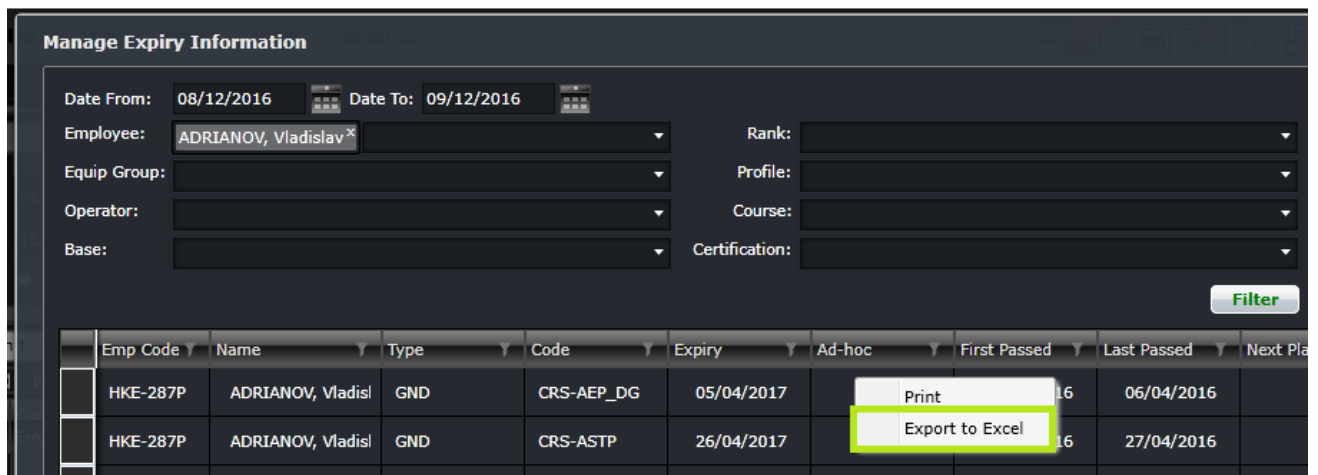
The **Save As** menu will be displayed.
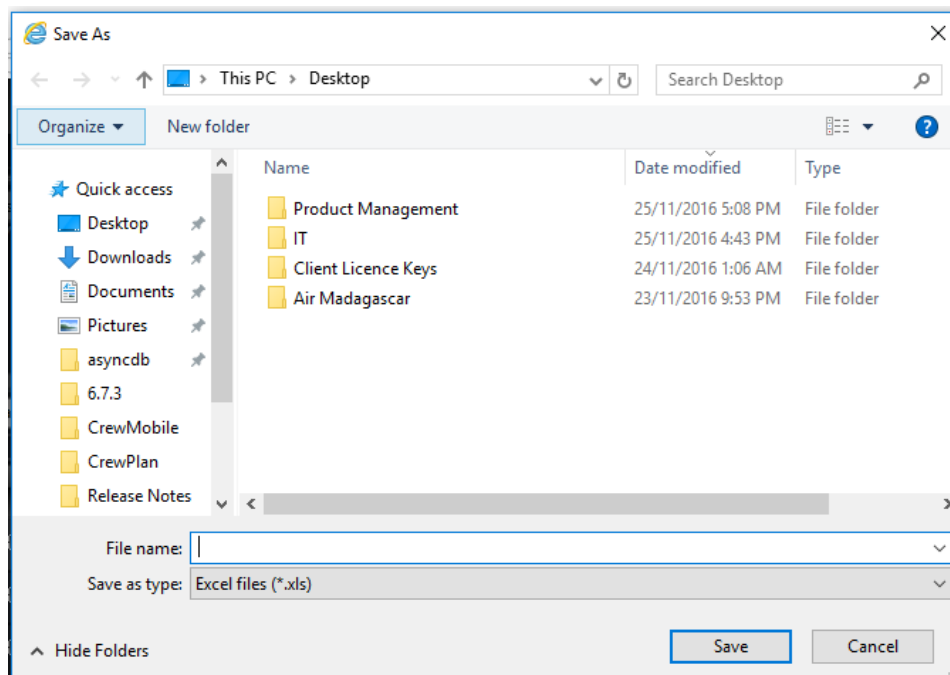
3. Enter a file name.
4. Click **Save** or press **Enter**.

QMS Integration

Qualification data can be managed between merlot.aero and a qualification management system (QMS). Currently, only Pelesys is supported for this integration. Qualification dates are retrieved from the QMS and saved into the merlot database. Expiry rules for qualifications linked to the QMS will be updated in parallel via the API.

Allocation Panel

To assign work to employees, there needs to be some way to view the employees and their availability over time. The Allocation Panel provides this view, which then allows the allocation of pairings from the Activity Panel to employees that are displayed, allows for re-assignment of work between employees, or removal or de-allocation of pairings from an employee's roster.
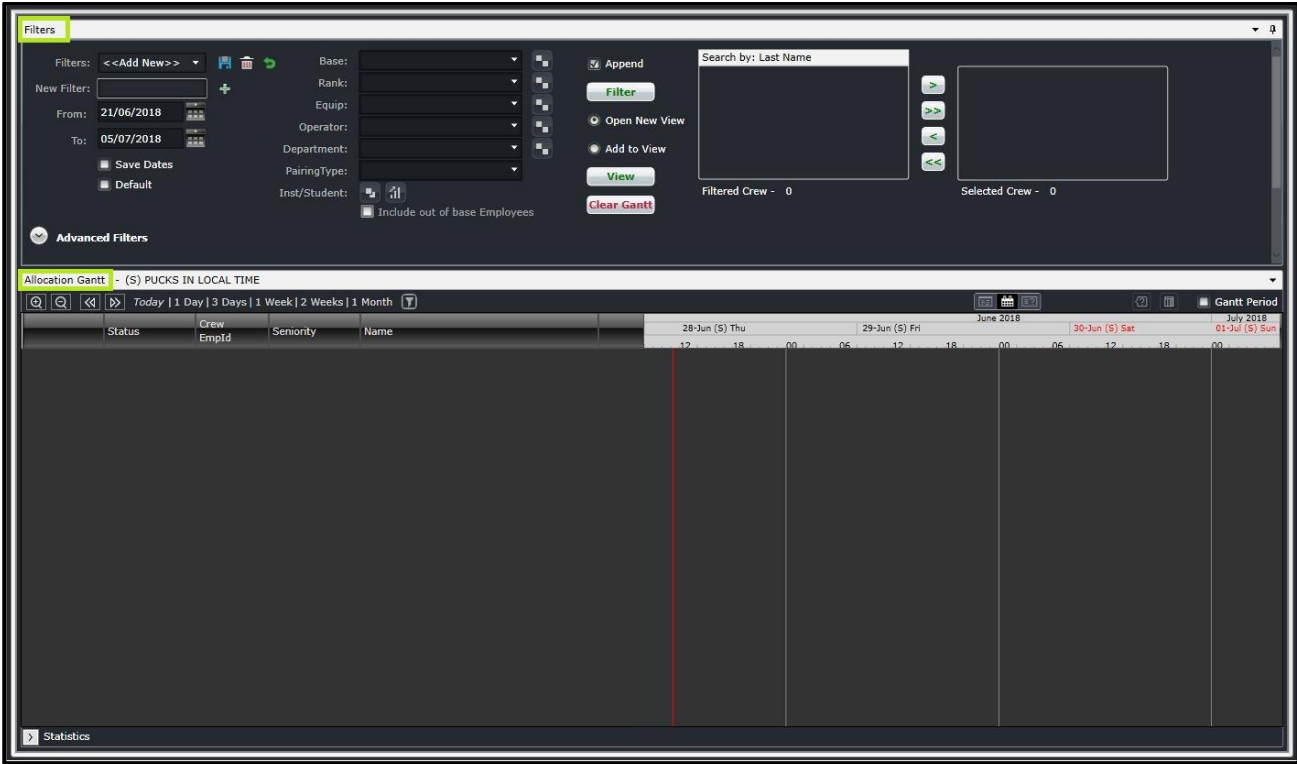
The Allocation Panel is divided into two parts: the filter and the Allocation Gantt. The filter allows users to select the crew rosters they would like to load into the Allocation Gantt. The Allocation Gantt displays the selected crew's roster and allows users to modify each as needed. Each part will be discussed in the next sections.

Filters

At the top of the Allocation Gantt are the Filters. The purpose of the filters is to define the set of employees that will be displayed within the Allocation Gantt. Filters do not affect the other panels.

When CrewRoster is opened, the basic filters are displayed, and the advanced filters are collapsed.

The Filters section is divided into three:

1. Filter dates
2. Crew selection
3. Advanced filters

Filter Dates
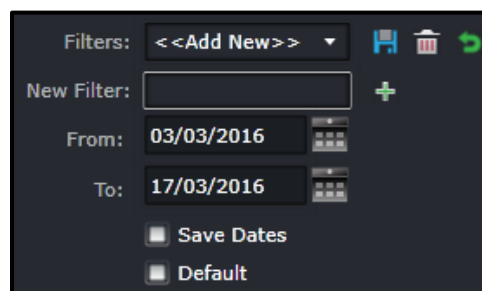
To allow users to specify and save filters, the **Filters** field is associated with the **Save**, **Delete** and **Reset** buttons as well as the **Save Dates** checkbox.

The **Filters** field is a combination of a drop-down list that displays previously saved filters, as defined by the user, along with the template filters that apply to all users. There is also the ability to enter a new filter name in the **New Filter** field. Click the plus (**+**) icon to add a new filter.

The date range of the rosters must be selected through the drop-down calendars provided.

- **From**: - The start value of the date range.
- **To**: - The end value of the date range.
- **Save Dates** - When selected, saves the indicated date range for a particular filter.

Note: *The date controls throughout the merlot suite have built-in short-cuts. These shortcuts allow users to instantly select different date targets, such as the current day (T), or the start of a month (M), a quarter (Q) or a year (Y).*

The **Save Dates** checkbox allows users to control whether a filter is set to a specific date range or inherits the current date range.

Part of the process when loading the Allocation Gantt is to apply a default filter. This is to facilitate rapid filtering of displayed data to the data that the user refers to most frequently. To allow the user to set a default filter, the Filters section contains a **Default** checkbox. When this option is selected, the currently selected filter is saved as the default filter for the application.

When the Allocation Gantt is loaded, it determines the current user and the application context and defaults to the relevant filter.

Crew Selection
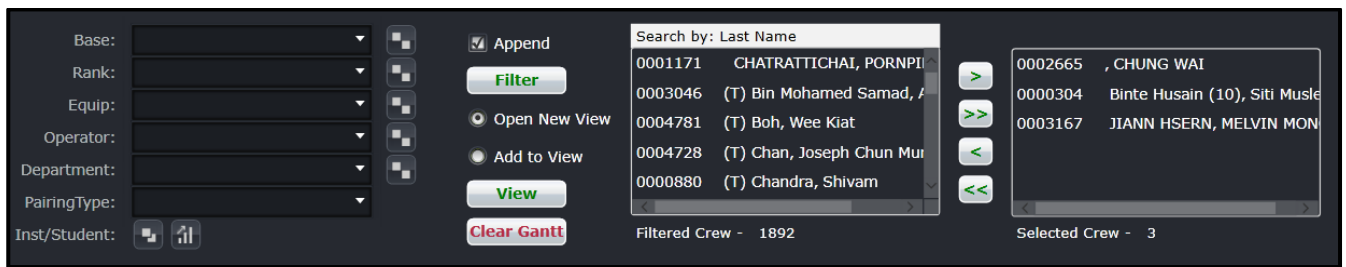
The second part of the filter is for crew selection. This has drop-down filter criteria on the left side and crew lists on the right side.

Each filter criterion is described below. This allows users to select a group of crew to display in the Allocation Gantt. Multiple selections can be made for each of the criterion below.
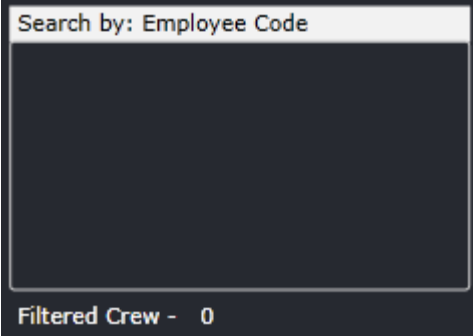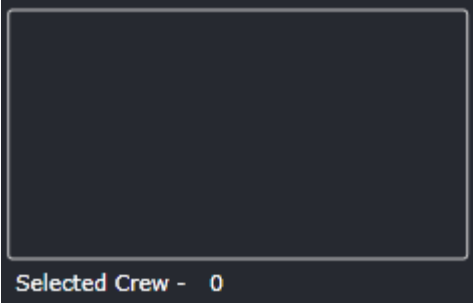
Field	Description
Base	A drop-down field that displays the active crew bases
Rank	A drop-down field that displays active ranks and / or rank groups
Equip	A drop-down field that displays the active aircraft or equipment types or groups that crew operate
Operator	The Operator drop-down menu filters the grid to show information based on selected airline operators
Department	A drop-down field that displays active departments. It is an area within an airline or company that is tasked with providing particular services of a similar type. For example, Flight Operations (i.e. the manning and operating of aircraft), Maintenance (ensure the aircraft are able to operate safely), Ramp (the parking and coordination of aircraft resupply between flights).
Pairing Type	A drop-down field that displays the kinds of pairings to be displayed. This looks at the pairing or duty on the day/s being searched. For example, if you select RES for 01 June, all RES duties on the 01 June will be displayed even if the pairing starts on 31 May.
Inst/Student	Categorises filtered crew displayed in the Allocation Gantt.
Include out of base Employees	This filter option is enabled only when a pairing type is indicated in the *PairingType* field. When enabled, includes out of base employees assigned with a specific pairing type(s) on a wider date range.

The middle section has some buttons that control the way crew rosters are displayed in the Allocation Gantt.

| Field	Description
Append	When this is selected, different crew selections can be added to the selected crew list (box at the right) even if the criteria changes. If this is not selected, the names in the selected crew list will be removed whenever any of the criteria is changed. This is selected by default.
Filter	This button takes the criteria on the right side and displays the crew names in the filtered crew list (box at the left).
Open New View / Add to View	Only one of these two options can be selected at one time. The selected option will be used when the View button is clicked.

	Open New View will remove any open rosters in the Allocation Gantt and display the rosters of the crew listed in the selected crew list. This is selected by default.
	Add to View will retain the open rosters and add the rosters of the crew listed in the selected crew list.
View	This button takes the names on the selected crew list and displays their rosters in the Allocation Gantt.
Clear Gantt	This button removes all open rosters displayed in the Allocation Gantt.

The section to the right has the list of filtered and selected crew.

Field	Description
Filtered Crew List Search by: Employee Code Filtered Crew - 0	A list of crew names based on the filter criteria. The list will appear only after the Filter button is clicked. The number at the bottom shows how many crew are in the filtered list. The header of the box shows how the crew list is sorted. By default, the list is sorted by employee code. To change the sorting, right click on the header and select your preferred sort option. Last Name First Name Employee Code Known As
Buttons > >> < <<	The four buttons transfer the names from the filtered crew list to the selected crew list and vice versa. To do this, click on one name from either list and click the corresponding button. The single-arrow buttons move names to the left or right one by one. The double-arrow buttons move all names to the left or right.
Selected Crew List Selected Crew - 0	A list of selected crew taken from the filtered crew list. The box will have a list only if employee names are moved from the filtered crew list. The number at the bottom shows how many crew are in the selected crew list.

Applying a Filter

Below is an example of how a filter can be applied to the Allocation Gantt.
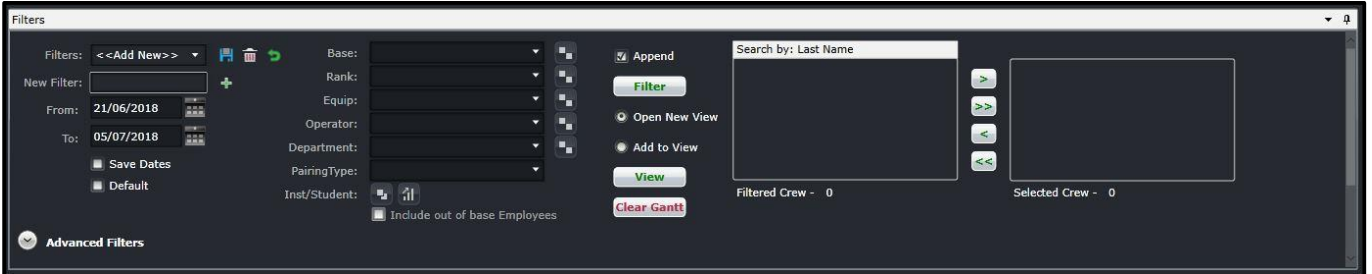
1. Select a date range or apply a saved filter.
2. Select the filter criteria that allows you to focus on the set of crew that you need to work on. For example, you can select to work on one base first and then select captains.
3. (**Optional**) To include out of base employees in the filter, enter a pairing type in the *PairingType* field. This will enable the **Include out of base Employees** option.
4. Click **Filter**.
5. Click on the double right arrow to bring all the names to the selected crew list.
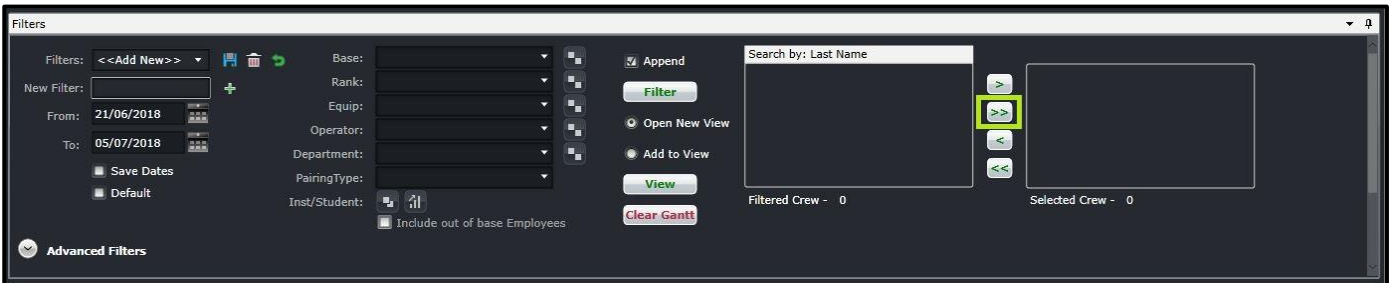
6. Click **View**.

Note: *If all fields are blank and Filter is selected, all active crewmembers for the selected date range will be displayed in the filtered crew list.*

Note: *Rosters will be loaded in the Allocation Gantt only if there is at least one crew in the selected crew list and when the View button is clicked.*

There is an option to use exclude a criterion. For example, to load all activities except for FPG pairing type, select FPG and then Ctrl+ Click FPG. This will turn the selection red and the results will not include FPG.

Course Assignment Groupings

The **Inst/Student** option in the filters, which is similar to the existing grouping options in the Filters, allows planners to easily categorise filtered crew displayed in the Allocation Gantt.

- **Instructors** - Employees who are assigned to a course to train on a qualification.
- **Planned** - Employees who are pre-planned with courses with no course assignments.
- **Students** - Employees that require qualification (ex: SIM, Ground course).

Crew members who do not have course assignments are categorised in an unlabelled group and displayed last in the Allocation Gantt.
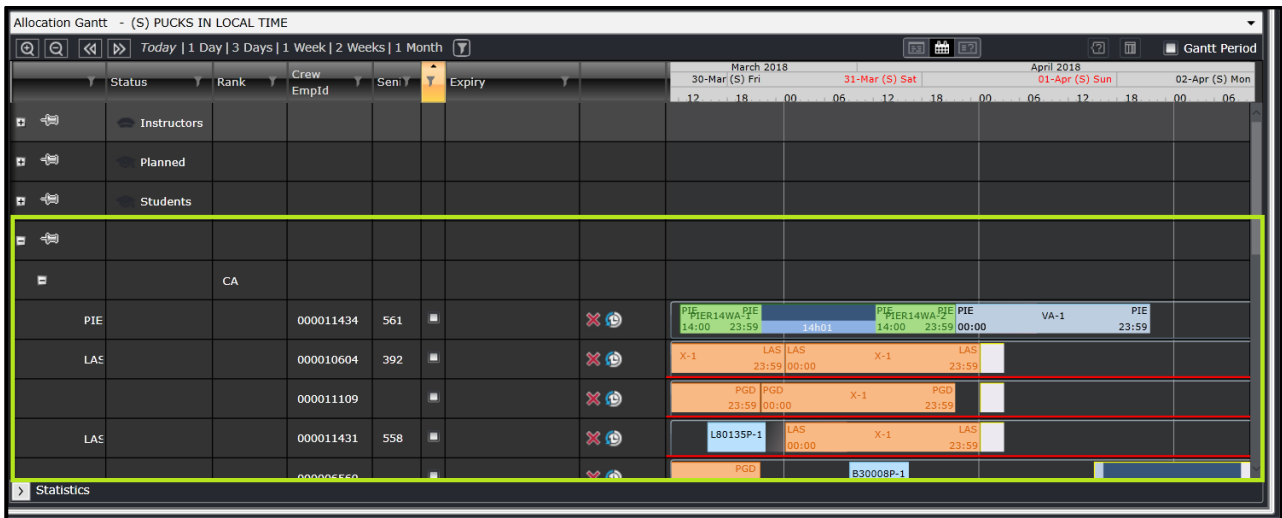
Each group can be expanded or collapsed by clicking on the **+/-** button located in the leftmost column of the Allocation Gantt.
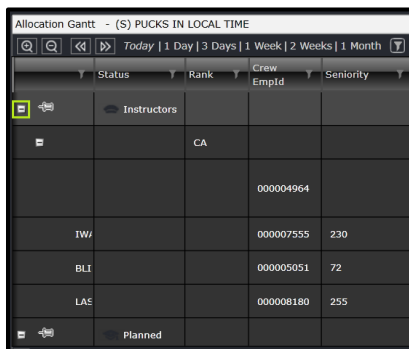
<u>Expanded View</u>   <u>Collapsed View</u>
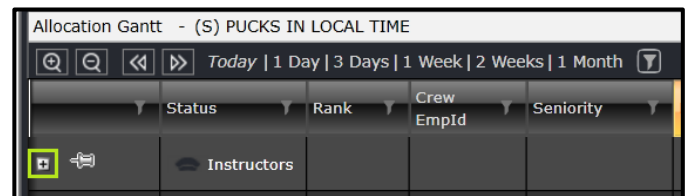
Filtered crew are sorted further by <u>base</u> then <u>rank</u>.

Sorting Crew in the Allocation Gantt thru Course Gantt > Open Training Plan Form

Select the **Open Training Plan** option in the *Course Gantt* right-click menu to group filtered crew using the **Open Training Plan** form.
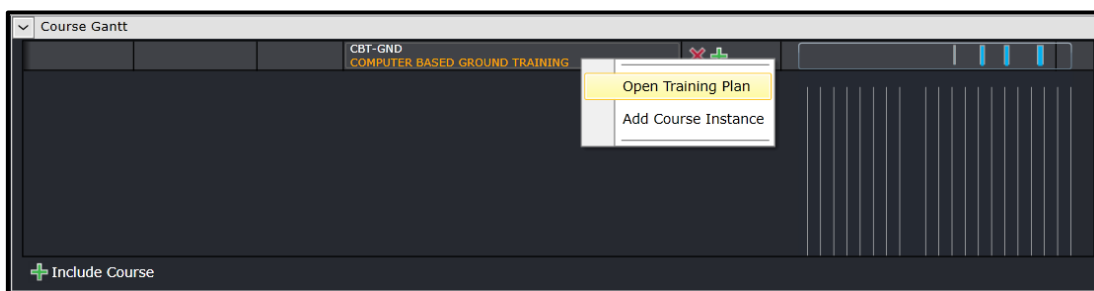
When the **Open Training** form displays, set the filters, then click **Filter**.

To display members by course assignment in the Allocation Gantt, select the crew(s) then click **Open**.
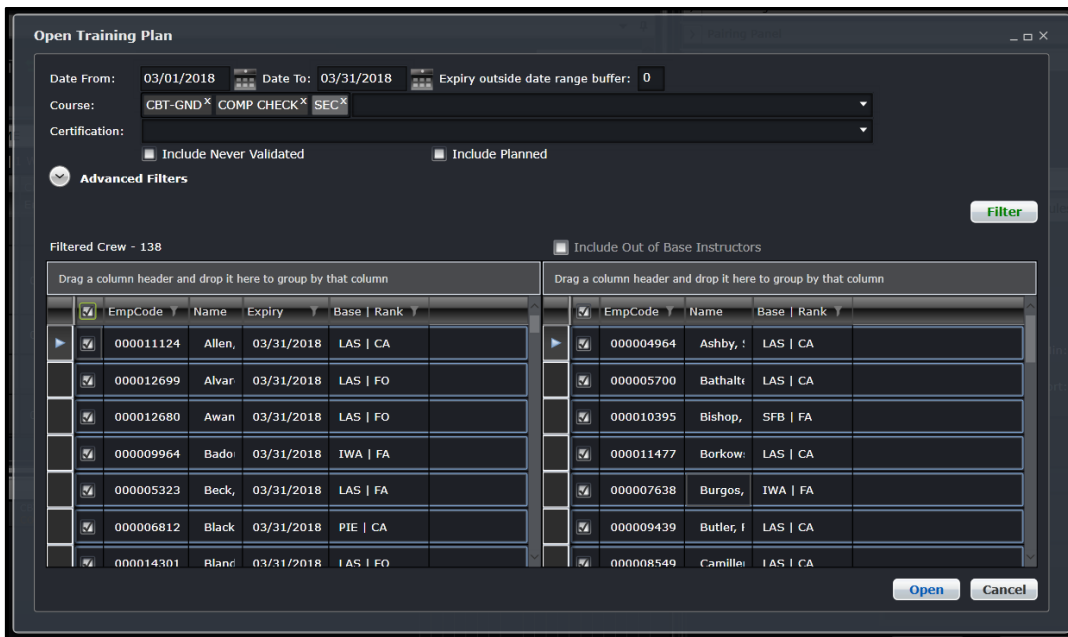
The **Expiry** column displays course expiries for crew members in the Planned and Students groups when opening crew in the **Open Training Plan** form. The earliest expiry dates are displayed first.
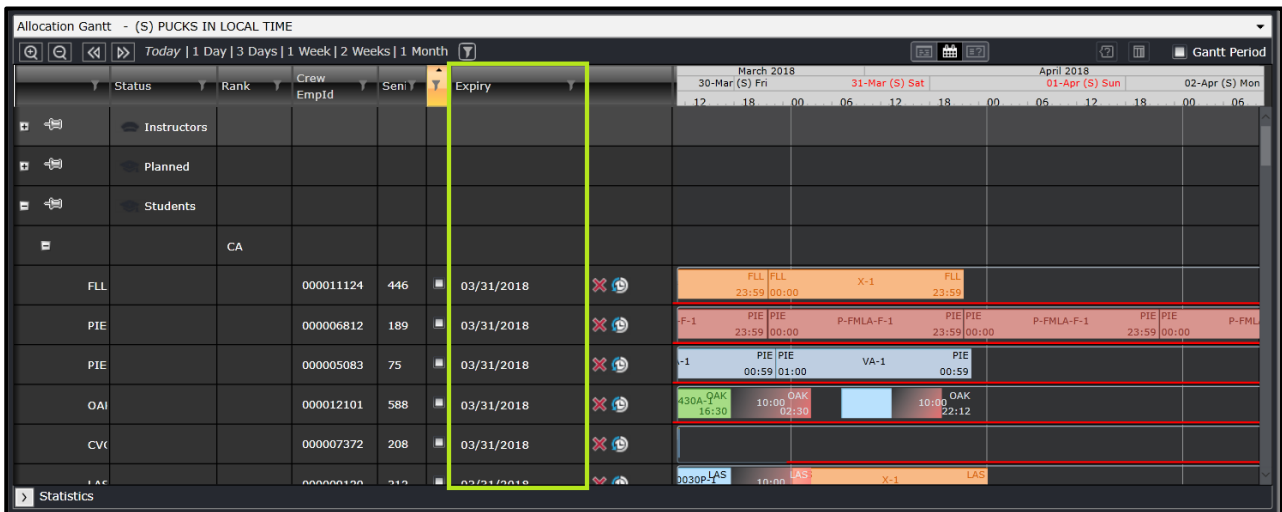
Sorting Crew in the Allocation Gantt thru the Course Gantt

Select the **View Employee Allocations** option in the *Course Gantt* right-click menu to group filtered crew by course assignments.
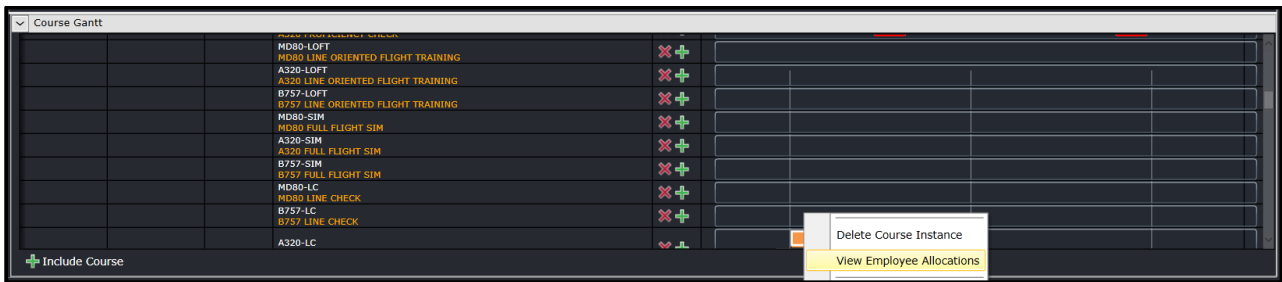
Sorting Crew in the Allocation Gantt thru the Course Panel

The **View Employee Allocations** option in *Course Panel* groups filtered crew by course assignments.
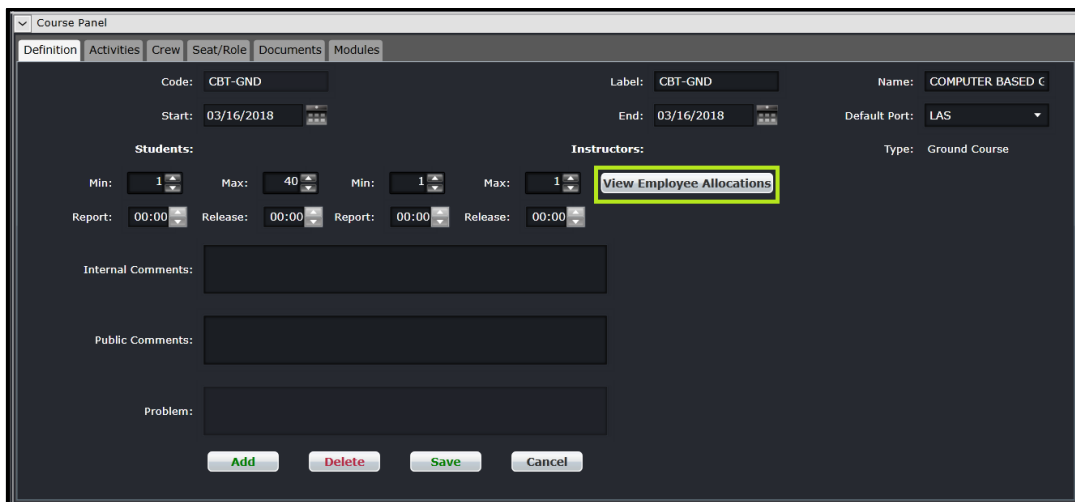
To clear groupings in the Allocation Gantt, click **Clear Gantt** in the main filters.
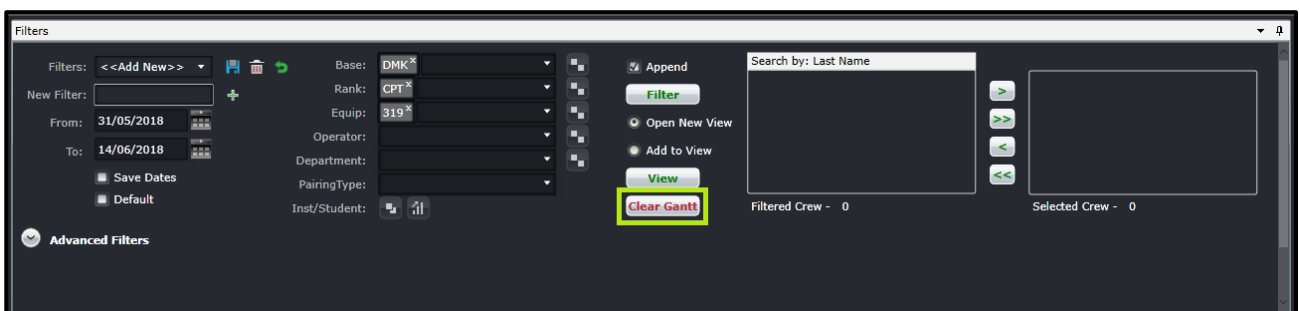
Advanced Filters
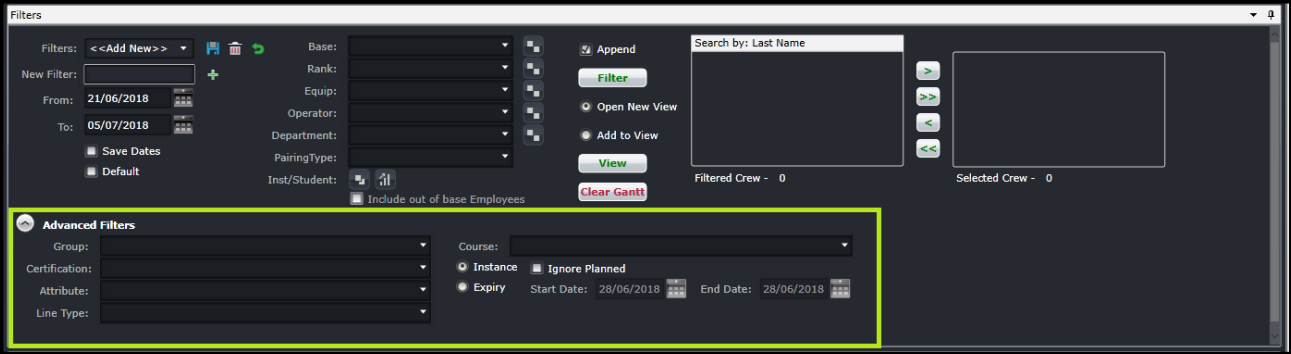
Advanced filters allow users to search for crew with more specific characteristics. This section is collapsed by default. The fields are described below:

Field	Description
Group	Provides a list of employee profiles or groups. Selecting any group filters our crewmembers who belong to the group within the selected filter date range. Multiple groups can be selected. For example, crewmembers who have recently come on board can be grouped as Green or IOE. When either group is selected for the filter, crew with the Green or IOE profile for the filter date range will be listed in the filtered crew list.
Certification	Provides a list of certifications that crew can achieve. Certifications are qualifications taken on crew's own time. Examples of which are language speaking skills and medical. Certifications may or may not need to be renewed. Multiple certifications can be selected for the filter criteria.
Attribute	Provides a list of attributes or pre-defined characteristics of crew that can be used to require or restrict the number of crew in a flight or route. Multiple attributes can be selected for the filter criteria. For example, a crewmember can have a Mandarin-speaking attribute. In a flight going to any city in China, at least one Mandarin-speaking crew is required. The attribute of the crew is used to determine if that requirement has been met.
Course	Provides a list of active courses. Multiple courses can be selected for the filter criteria. This option needs to be used with either option below: • **Instance** – Crew who are taking the course within the filter date range will be displayed in the filtered crew list. If *Ignore Planned* is selected, the course pairings with Planned property will not be considered in the filter. • **Expiry** – Crew who will expire for the selected course/s within the Start Date and End Date will be displayed in the filtered crew list

The same steps in Applying a Filter can be followed when using the advanced filter criteria.
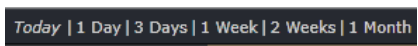
Allocation Gantt

The Allocation Gantt allows a user to have a visual representation of a crewmember's roster. From this view, the users can identify how many days each crew is working and when they have a day off. Rest in between duties is also displayed. Each section is discussed below.

Zoom and Navigation Options
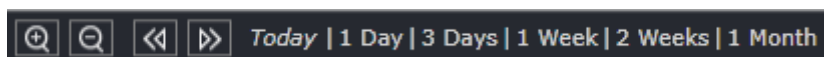
The Allocation Gantt can be resized to appear wider or narrower. The section at the top left has buttons that allow users to zoom in/out and navigate through the dates of the roster.

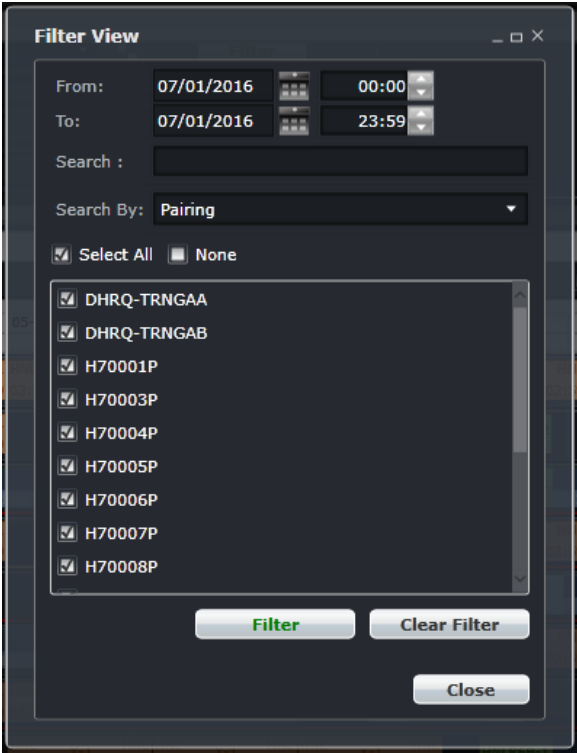| Field	Description
	Zoom in and zoom out. Zooming in expands the Gantt and zooming out makes it narrower.
	Scroll left and scroll right. Moves the Gantt left to an earlier date and time and right to a later date and time.
	Preset views. Click on any of the options to adjust the Gantt. **Today** – moves the view to the current date **1 Day** – adjusts the Gantt to a one-day view **3 Days** – adjusts the Gantt to a three-day view **2 Weeks** – adjusts the Gantt to a two-week view **1 Month** – adjusts the Gantt to a month-long view

Allocation Gantt Filter

When rosters are loaded in the Allocation Gantt, the content can be filtered even further. This can be done by clicking on the filter icon beside the zoom settings.
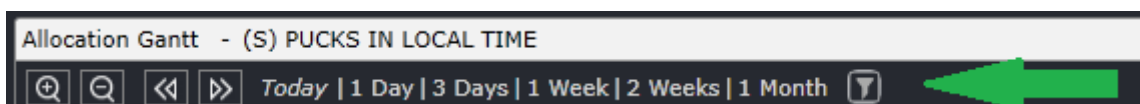
Click on the filter button to bring up the Filter View form. Alternatively, users can also use the Shift + L hotkey or double click the date on the Gantt timeline.

Using the button will set the default date range to the first day of the Allocation Gantt filter date range. The same thing is applied when using Shift + L, but if a pairing is selected upon using the hot key, the date range will be based on the selected pairing. The double-click option will take the date from the Gantt timeline.

The form contains the following fields:

Field	Description
From / To	Date and time range of the filter. This defaults to the first day of the Allocation Gantt filter date range and follows the application's time mode.
Search	Accepts a set of characters that are part of a pair label or pair type. This is not case-sensitive.
Search By	Options include: • Pairing - Default option. Filters the results based on pair labels. • Pair Type - Filters the results based on pair type • Flight - Filters the results based on flight number
Results Box	Displays the results of the filter. Each result has a tick box that determines that the result is selected.
Select All / None	Select All ticks all the results and displays all of them in the Allocation Gantt. None will display rosters that do not have a pairing assigned on the selected day/s.
Filter / Clear Filter	The Filter button will apply the filter to the Allocation Gantt. The Clear Filter button will reset the filter to the default values without applying the previous filter criteria.
Close	This will close the form.

If a user needs to isolate reserves for a certain date, the following steps must be followed:

1. Open the filter.
2. Ensure the date range is correct.
3. Select Pairing Type in the Search By option. The list of available pair types on the selected date/s will be displayed.
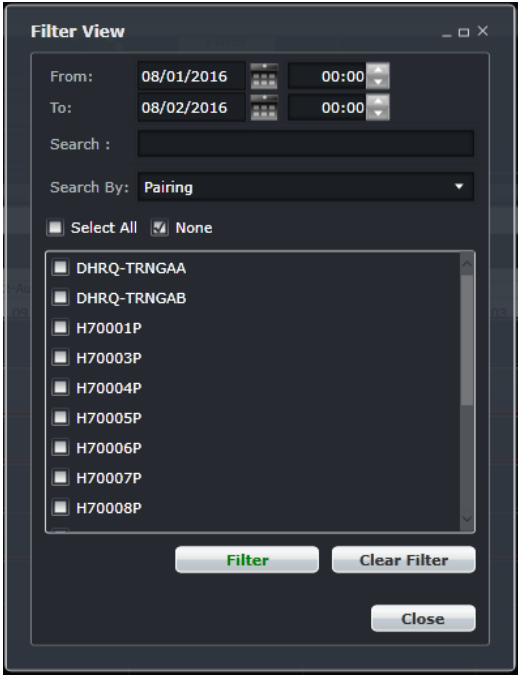4. Select RES.
5. Click the Filter button then, click **Close**.
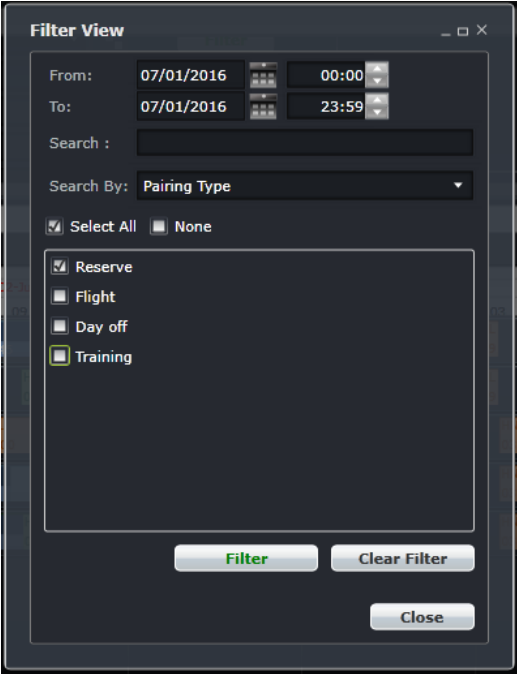
Rosters with RES pairings on the selected date/s are displayed. The filter icon turns blue if a filter is applied.
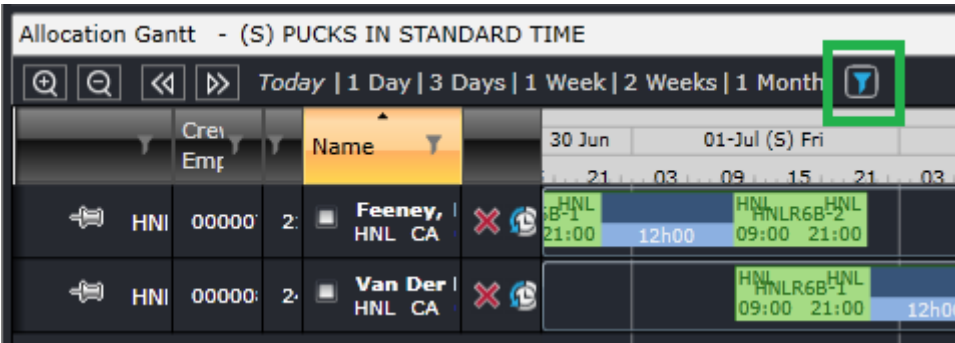
The filter can also be used to display rosters that have holes or days without pairings assigned.

1. Open the filter.
2. Ensure the date range is correct.
3. Select any Search By option.
4. Untick the Select All box and tick the None box.
5. Click the Filter button then, click **Close**.

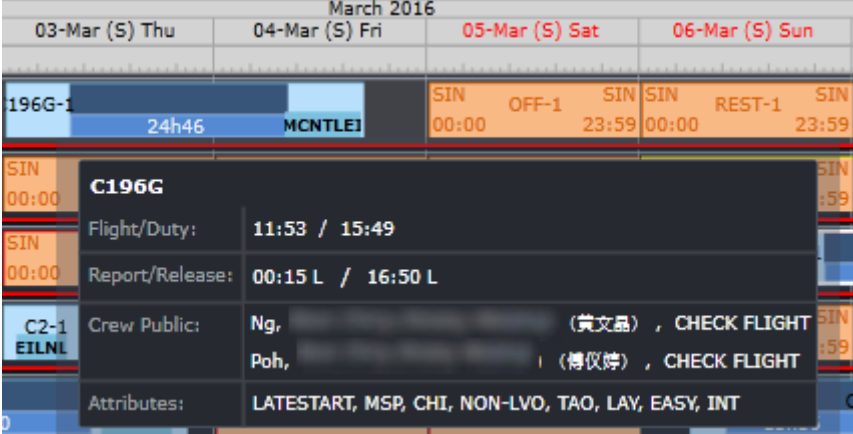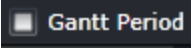Rosters without assignments on the selected date/s will be displayed.

Pinned rosters will not be affected by the filter and will still be displayed at the top of the Allocation Gantt.

Gantt Options

Towards the upper right corner of the Allocation Gantt are more options for the Gantt view.

Field	Description

Normal, Pre-planned, Requested	By default, normal pairings are displayed. If Pre-planned is selected, all pairings with the pre-planned property, like courses, will be isolated. If Requested is selected, all requested pairings or pairings that were granted from CrewPortal requests or bids will be isolated.
Show tooltips	When selected, a tooltip will be displayed when hovering or clicking a pairing. It contains the name of the pairing, flight and duty times, report and release times, public comments for crew and pairing attributes.
Show Totals Columns	Displays totals columns to the right. This will be discussed later in this document.
Gantt Period	Isolates totals based on the Gantt period. This will be discussed later in this document.

Show Totals Columns

Clicking on the Show Totals Columns button displays several columns that tally how many pairings fulfill each column's characteristic. Each row corresponds to one roster. In the image below, rosters were open from the 16th to 31st of October and the first roster for that period has 4 days off and 2 weekends off in the schedule that is currently displayed.

Users have the option hide or display certain columns. This can be done by right-clicking on any of the columns then selecting Show/Hide Options. Go to the Period Statistics tab. Select or deselect a column option then click the Save button.


Column	Description

Calc Flight	Calculated flight time. If credit rules for flight time are applied, the total will be reflected here. Credit flight rules can be set up in Configure in the Flight and Duty Credit Rules screen under the Rules menu.
Calc Duty	Calculated duty time. If credit rules for duty time are applied, the total will be reflected here. Credit duty rules can be set up in Configure in the Flight and Duty Credit Rules screen under the Rules menu.
Days Off	Total number of days off based on the pair type RDO.
Sectors	Total number of operating sectors or flights. Deadhead and deadhead other events not included.
Target Flight	This column displays the target flight hours of the selected crew. This is based on the total credit flight hours for the roster period divided by the number of available man-days for the roster period. To enable this option, set the user preference *DisablePeriodTarget* in Configure to True.
Target Duty	This column displays the target duty hours of the selected crew. This is based on the total credit duty hours for the roster period divided by the number of available man-days for the roster period. To enable this option, set the user preference *DisablePeriodTarget* in Configure to True.
Weekends	Totals the number of weekends (Saturday and Sunday) in the open period.
Training	Number of training pairings for the roster based on pair types SIM and TRN
Actual Flight	Total flight hours without any credit rules applied.
Actual Duty	Total duty hours without any credit rules applied.
Reserves	Number of reserves in the period based on pair types RES and ARD
PayCredit	Total pay credits for the period
Overnight	Number of overnights or layover days
Pairing Attributes	This section contains a list of pairing attributes. Select the attributes to be monitored to display the column.

Trip rig credit rules can be applied to the Pay Credit column. If the pairing pay credit value is higher than the sum of the duties' pay credit, the difference, referred to as X, will be used. If the pairing on the last day of the date range finishes on the last day, the whole pay credit value is used. Otherwise, if the last pairing ends outside of the date range, X will not be counted for the part of the pairing within and outside of the date range.

For example, the date range is 01-30 June and the pairing on June 30 ends on 01 July with rig pay credit of 4:00 and sum of duty pay credit is 2:30. The difference, or X, is 1:30 or 1.5. For the date range, X will not be considered since the latest duty (01 July) is outside of the date range. If the date range for processing is 01 June to 31 July, X will be considered. The total pairing pay credits will be displayed in the Pay Credit total column.

Toggle Non-Acclimatised Period
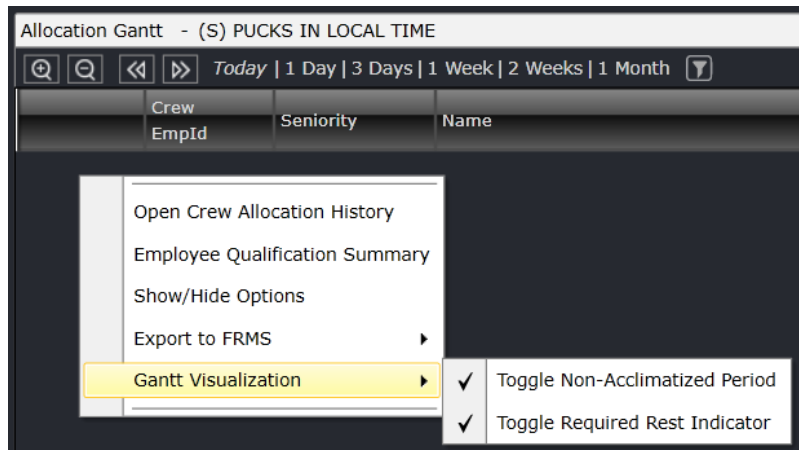
When the Toggle Non-Acclimatised Period option is selected, the following will occur:

- Trigger the view of non-acclimatised periods in the Allocation Gantt;
- Hide the check icon when there are no non-acclimatised periods displayed in the Allocation Gantt;
- Display a check icon when non-acclimatised periods are displayed within the Allocation Gantt; and
- Display the non-acclimatisation period lines.

Toggle Required Rest Indicator

The Allocation Gantt displays an after-duty rest indicator to aid users monitor the amount of rest required for a crew after a duty.

To enable the After Duty Rest indicator:

- Load crew rosters.
- Right-click the name of the crew.
- Enable Gantt Visualization > Toggle Required Rest Indicator.
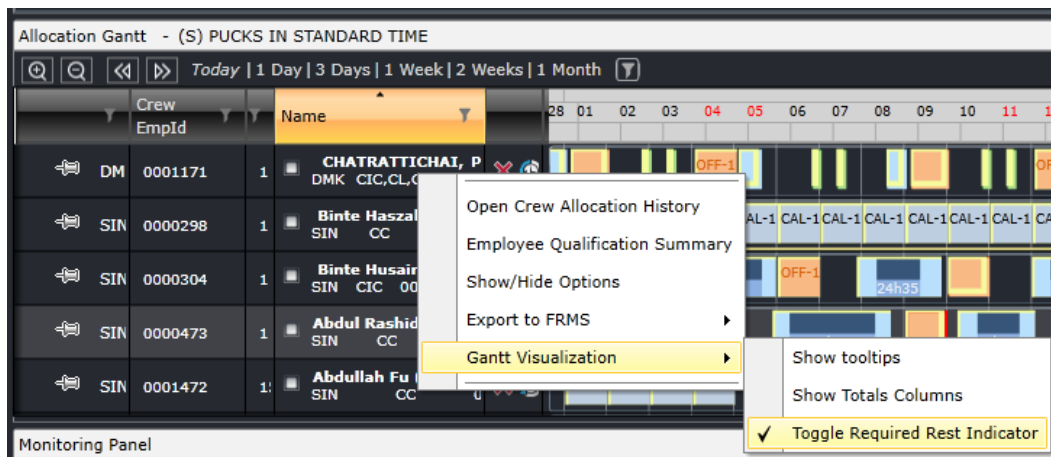
When the rest indicator is enabled, the Allocation Gantt tool tip will display the *Required Rest* information. A red haze is added after the duty puck. The required rest is displayed in the center. The rest port and the rest end time are placed at the end of the indicator. The rest end time is calculated as the sum of the release time and required rest time. Hovering the mouse over the indicator displays details of required rest.
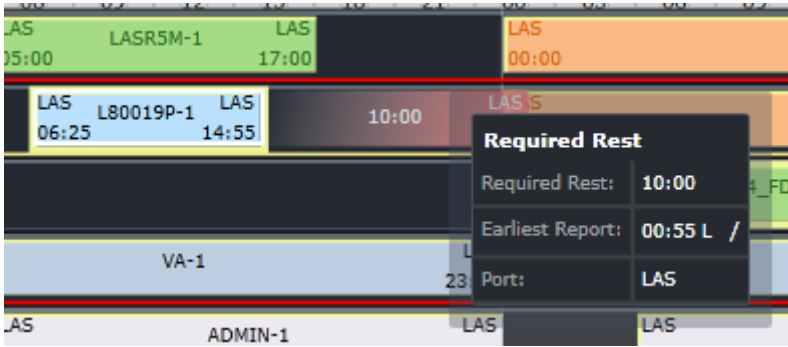
The Allocation Gantt after activating the After Rest Duty Indicator.
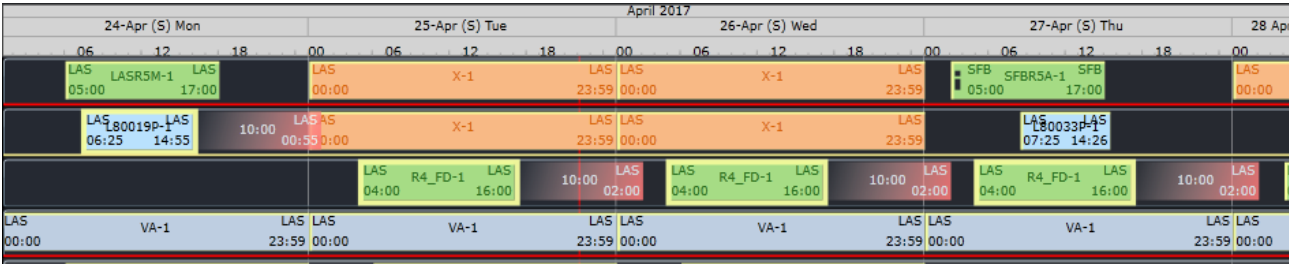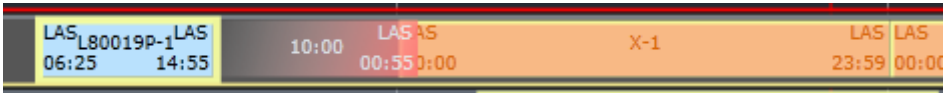

Day Off

Multiple-day Pairing
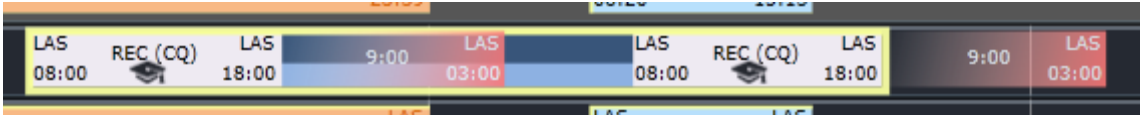
Rest In Violation
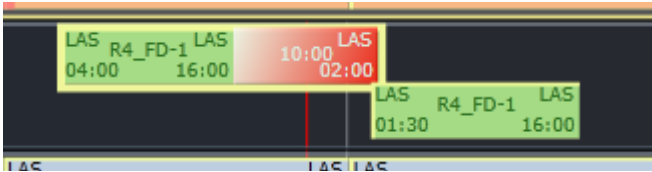
Gantt Period

The Totals columns in crew applications consider all days selected in the Allocation Panel filter. If the Gantt Period checkbox is selected, the totals will be based on the dates that are visible in the Allocation Gantt. For example, if the entire month of January was selected and the Totals columns are selected, the totals will be based on 01-31 January. If a 1-week view is selected and the Gantt Period checkbox is selected, the totals will be based on the 7 days displayed in the Allocation

Gantt, specifically the duties that have the start of the day visible. If the user slightly moves the Gantt to hide the beginning of the first day, the calculation excludes the first day.

For example, the image below shows the totals from the 16th to the 22nd. Notice that there is only one rest day.

As you scroll one day forward (17th to 23rd), the totals change with the addition of another rest day and the hiding of the first duty on the 16th.

If you prefer to include the first day in the totals even if only part of that day is visible, set the user preference *RollingTotalsPartialPairings* to True.
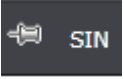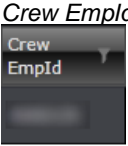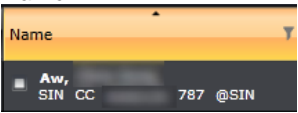
Name Block

The left side of the Allocation Gantt has the name block. These columns have basic information about each crewmember and can be used to sort them.

Each column has a filter icon (▣) that when clicked will display a list of all the options available for the column and a filter to search for phrases within the entries.

Clicking on each column header arranges the displayed rosters according to that column. In the image above, the rosters are arranged alphabetically by name.

Column	Description
Base	This column contains a pin and the base of the crew. One or more rows can be pinned to isolate them to the top. This is helpful when comparing two rosters or swapping pairings between two crew. To unpin the row, click on the pin again.
Crew EmpId	This column contains the employee ID of each crewmember.

Column	Description
Seniority	This column contains the seniority of the crewmember. Clicking once on the column header arranges the crew by seniority from lowest to highest. Clicking it again arranges the crewmember by seniority from highest to lowest.
Name	This column displays the name of the crewmember. Under that are his rated base, rank, employee ID and equipment type, followed by his current location. There is a check box at the left side of each name. This is used to assign pairings to multiple crew and will be discussed in detail in a later section.

Action buttons 	The first button removes this crew from the Allocation Gantt. The second button opens the Crew Allocation History, which shows the changes made to the crewmember's roster. This only applies to published rosters and changes made in CrewFollow.

Users can also right click on the name to bring out more options:

Open Crew Allocation History

Employee Qualification Summary

Show/Hide Options

Export to FRMS ▶
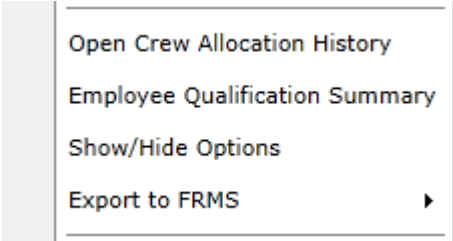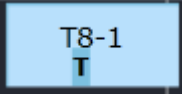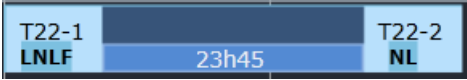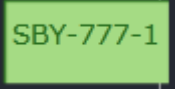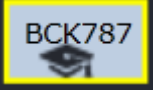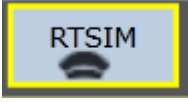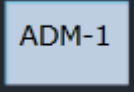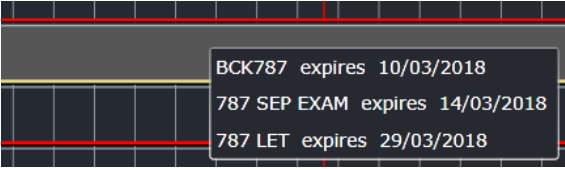
Option	Description
Open Crew Allocation History	This brings out the Crew Allocation History form, which displays the changes made to the crew's roster.
Employee Qualification Summary	This brings out the summary of qualifications for the selected crew.
Show/Hide Options	This brings out the display options for the Allocation Gantt.
Export to FRMS	The option included here is SAFE, which is an FRMS provider. Once this is selected, the crew member's roster will be exported to FRMS. The date range is based on the Allocation Panel filter.
Gantt Visualization	Presents options for tooltips and totals columns.

Gantt Display
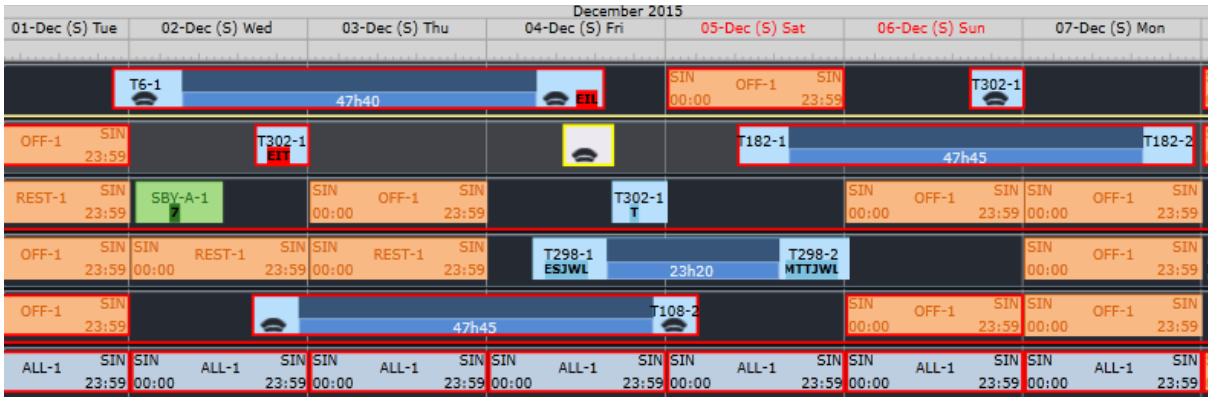
The Gantt display contains all the pairings assigned to crew. Each column represents one day and each row represents one crewmember. Users can scroll through the Gantt by clicking and dragging the timeline where the dates are displayed.

There are several symbols and colors in the Gantt. These are discussed below.

Column	Description
Flight pairing	A flight pairing has at least one operating flight. The pair label is displayed at the center. If the space permits, the report and release ports will be displayed on either side. This flight pairing lasts one day and starts and ends in the crew's base. By default, flight pairings are bright blue.
Multiple day flight pairing	This is a flight pairing that lasts two days. Each block of work is a duty. This pairing contains two duties and has 23 hours and 45 minutes of rest in between.
Reserve	This is a reserve pairing. By default, reserve pairings are green.
Training pairing, student	This is a training pairing for a student. It is distinguished by the graduation cap under the pair label. Training pairings have yellow borders.
Training pairing, instructor	This is a training pairing for an instructor. It is distinguished by the captain hat under the pair label. Training pairings have yellow borders.
Pairing with properties (preplanned, requested, etc.)	Several pairings could have letters under the pair labels. These are the assignment properties, which indicate certain characteristics that crew schedulers need to be aware of. In the example above, the first duty has a late finish and has none-to-low visibility.
Ground pairings	Ground pairings, or pairings that do not require operating flights, have a pale blue color.
Non-acclimatize period lines	Non-acclimatised period lines are displayed in the Allocation Gantt to indicate non-acclimatised periods and duration for each crew. When the mouse is hovered over the non-acclimatised period line, a popup is displayed containing the date range of the period a crew is non-acclimatised for.

Right Click Options - Pairing

More information and action options are available when you right click on a pairing.
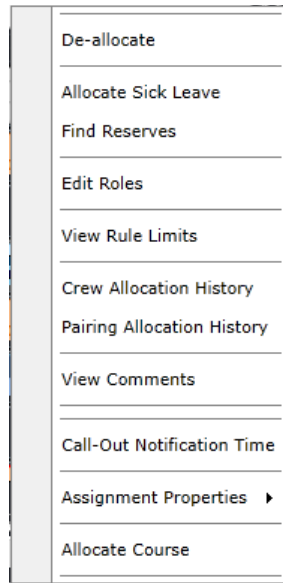
De-allocate

This option removes the pairing from the crewmember's roster.

Allocate Sick Leave

This option replaces the pairing with a casual sick leave. The previous pairing will be de-allocated and can be assigned to another crewmember. See Managing Sick Days.

Find Reserves

This displays the Find Employee form with preset filters for home and airport reserves that can replace the selected crew for that day.
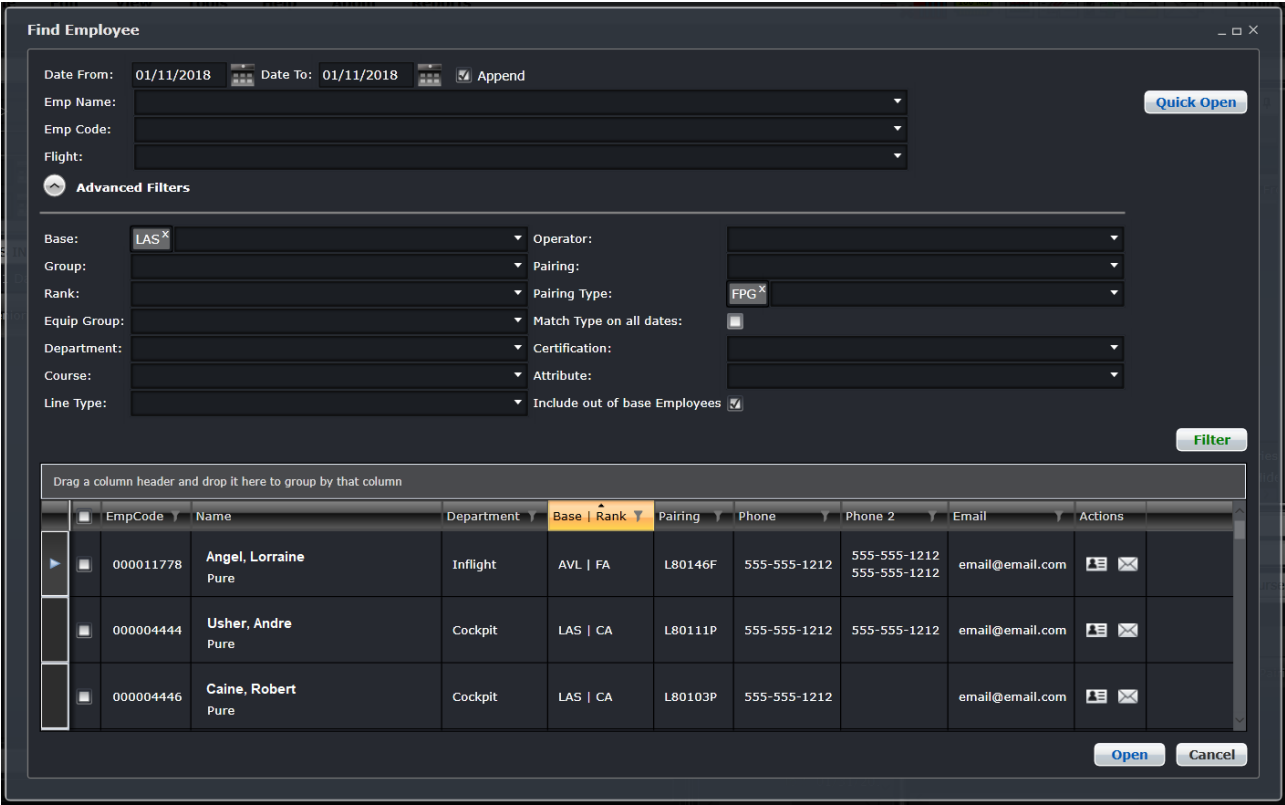
It also displays the duties 3 days before and after the target date. Should the number of days need to be changed, Administrators can change the number in the user preferences *BackwardDaysDisplayed* and *ForwardDaysDisplayed*.

This function is more often used in CrewFollow where reserves are activated.

Edit Roles

This is an alternative way of assigning roles in the Pairing Details Panel. Both seats and roles can be updated in the form below.
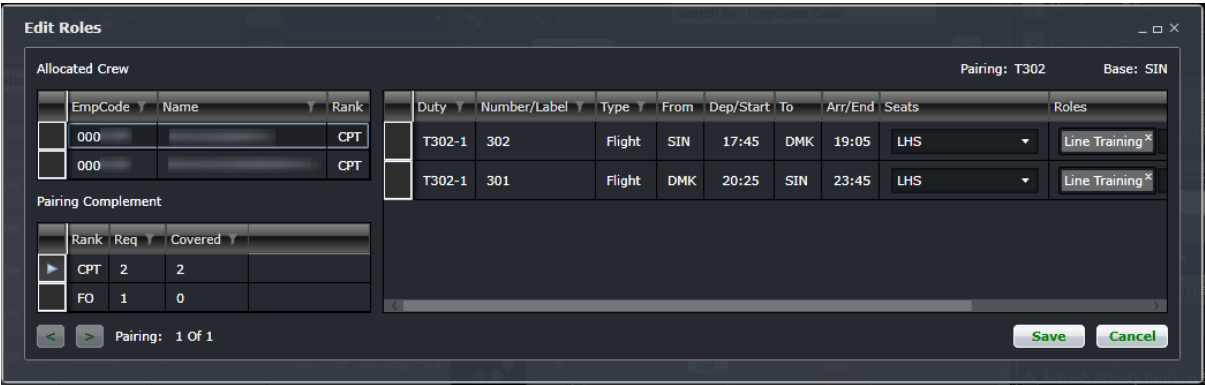
View Rule Limits

This option displays the crew's hours in the Rule Limit Summaries.

Crew Allocation History

This form displays the history of the changes made to the crewmember's roster. The historical changes are kept track once the roster is published. Entries in gray are the originally assigned pairings, while entries in white are changes made in the live roster in CrewFollow.

Pairing Allocation History

This form shows the history of changes made to the selected pairing.

View Comments

Public and private comments on the pairing can be added and viewed from here.

Comments can be added to multiple crew at the same time. Simply click on the Add New link in the public or private comments section, then select Crew Pairing. Select the crewmembers and enter the comment. Click **Save**.
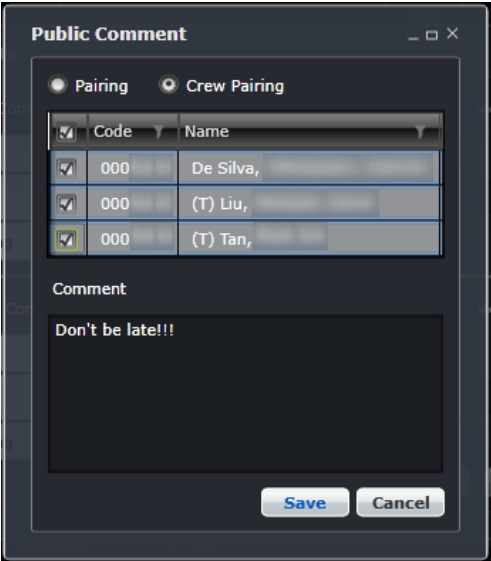
Call-Out Notification Time

This allows the user to adjust the time that the crewmember was called out from standby. The time is reflected in the crew's pairing.
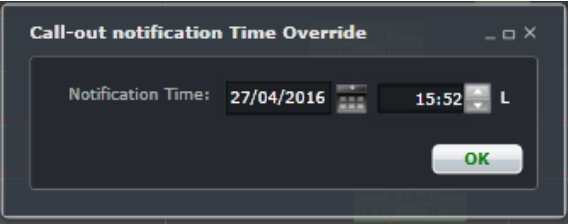
Assignment Properties

Assignment properties can be selected and deselected from this list.
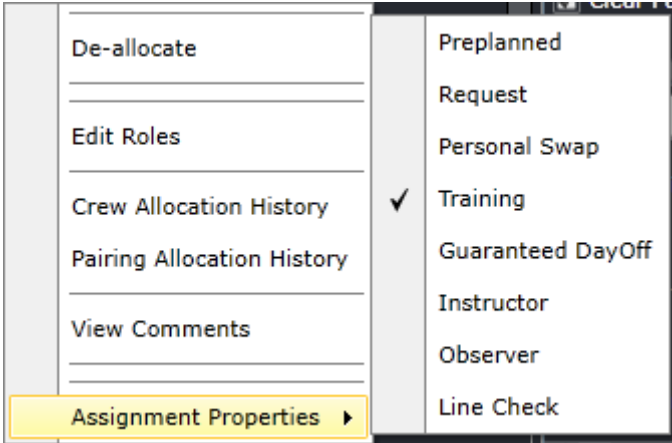
Allocate Course

See [Allocating Courses from Allocation Gantt](#).

Open Course

There are several ways of opening courses in the Allocation Gantt.

To load courses in the Course Panel:

A. Right click on a course pairing, then select **Open Course**.
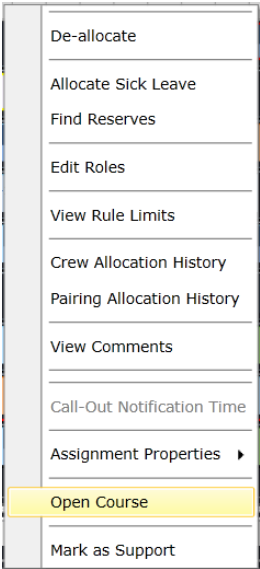
For pairings with more than one course instances, a sub-menu is displayed for selection.
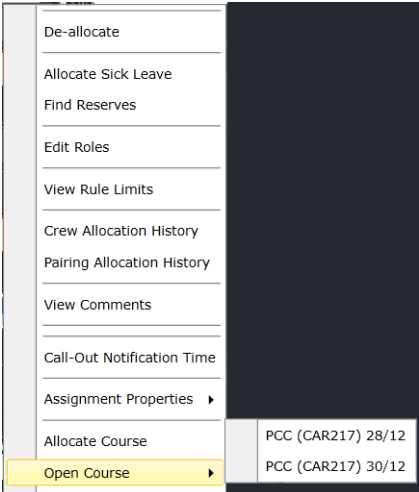
B. In the Pairing Panel, click the folder icon on the row of the course event.
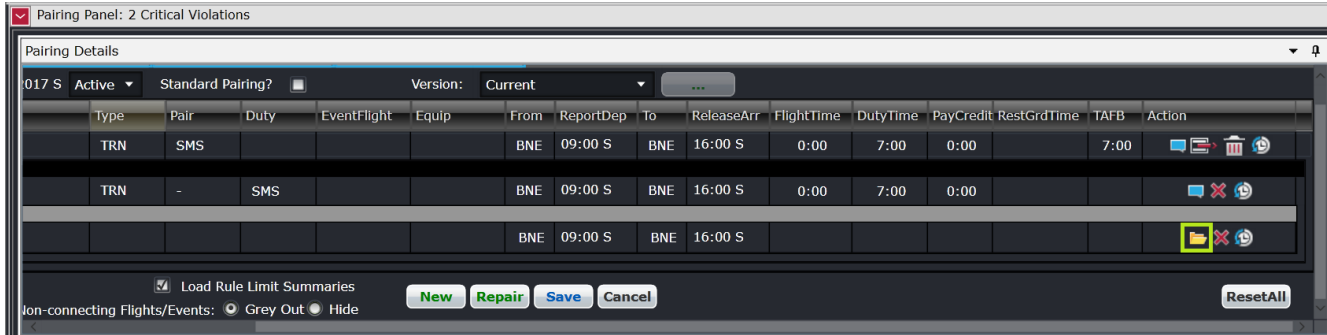
Loading Employee Rosters in a Course

To load rosters of employees allocated to a course:

A. From the Course Gantt, right click on the puck and select **View Employee Allocations**.
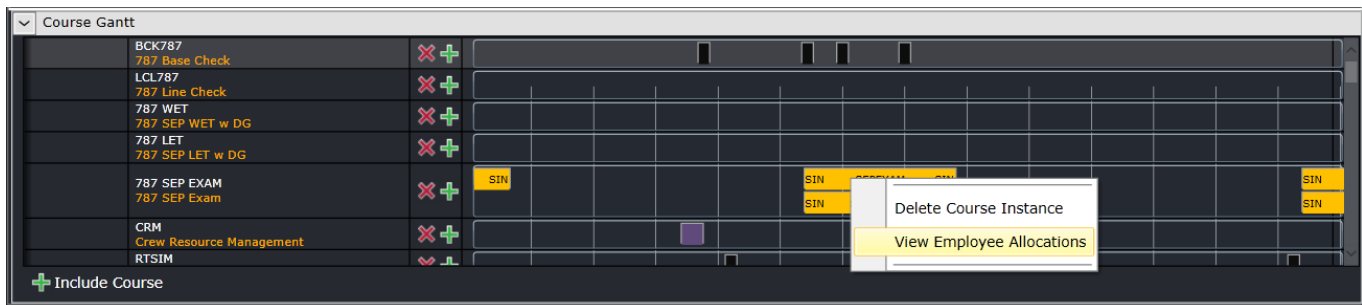
B. From the Course Panel, click on the **View Employee Allocations**.
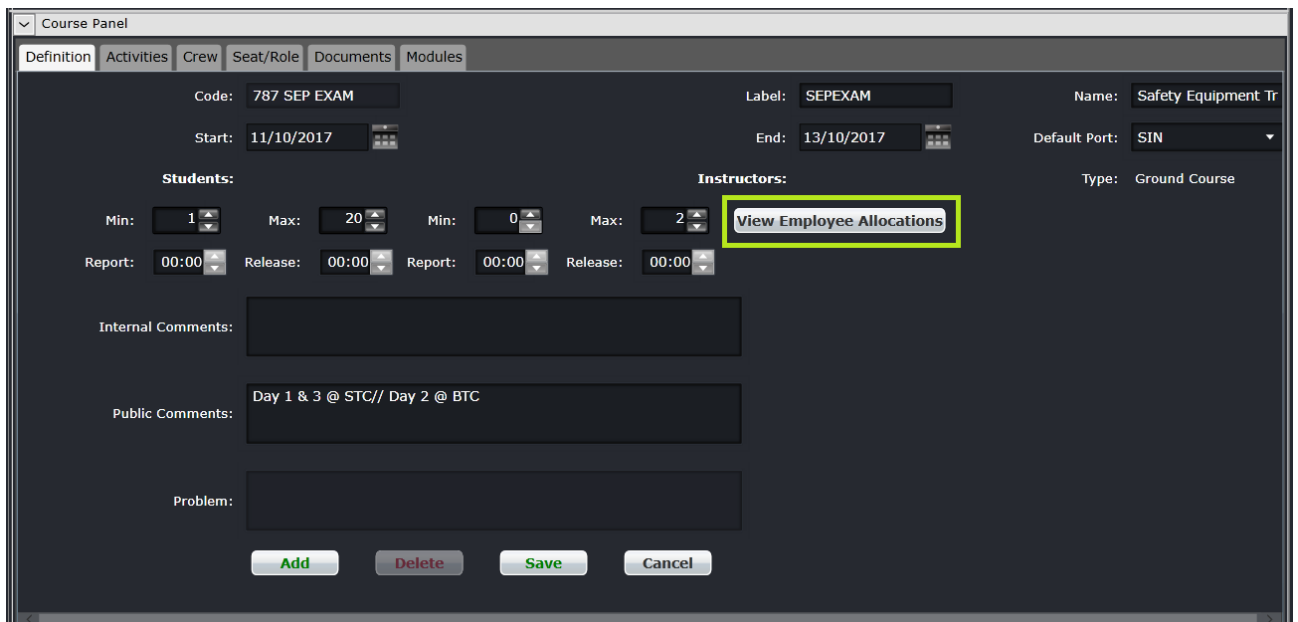
Both options are enabled if there is at least one student or instructor assigned to a course.

Note: Users require open (X) and view (V) security rights for Course Instances and Open Course under CrewPlan.

Right Click Options – Allocation Gantt

These options are available when you right click on a crew name, the timeline or the Totals Columns.
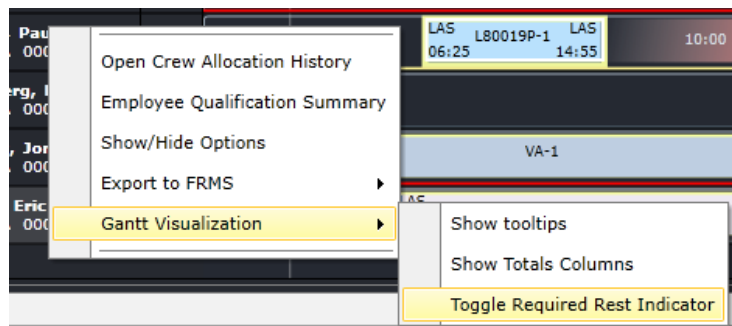
Open Crew Allocation History

The Crew Allocation History can only be accessed in the Allocation Gantt by right clicking on the name of the crew.

See Crew Allocation History.

Employee Qualification Summary

This brings out the summary of qualifications for the selected crew.

Like the Crew Allocation History, the Employee Qualification Summary only displays by right clicking on the name of the crew in the Allocation Gantt.

Show/Hide Options

This brings out the display options for the Allocation Gantt.

Export to FRMS

See the Export to FRMS.

Gantt Visualization

See Gantt Options.

Monitoring Panel

The Monitoring Panel is a core component of the crew applications as it provides the functionality that allows the user to be kept informed and up-to-date regarding changing information and consequential impacts on the operational assignments of employees. In short, the Monitoring Panel displays the information required to operationally manage employee assignments.

The different types of information displayed within the Monitoring Panel serves two main purposes:

- Informs the user that modifications have been made that affect employee assignments in the operation and the effects of those modifications
- Provides lists of information that the user needs to action, or as an aid when working on other tasks, to ensure that all operational requirements are met. This means that all flights have the correct employees operating them and the employee assignments are valid and legal.
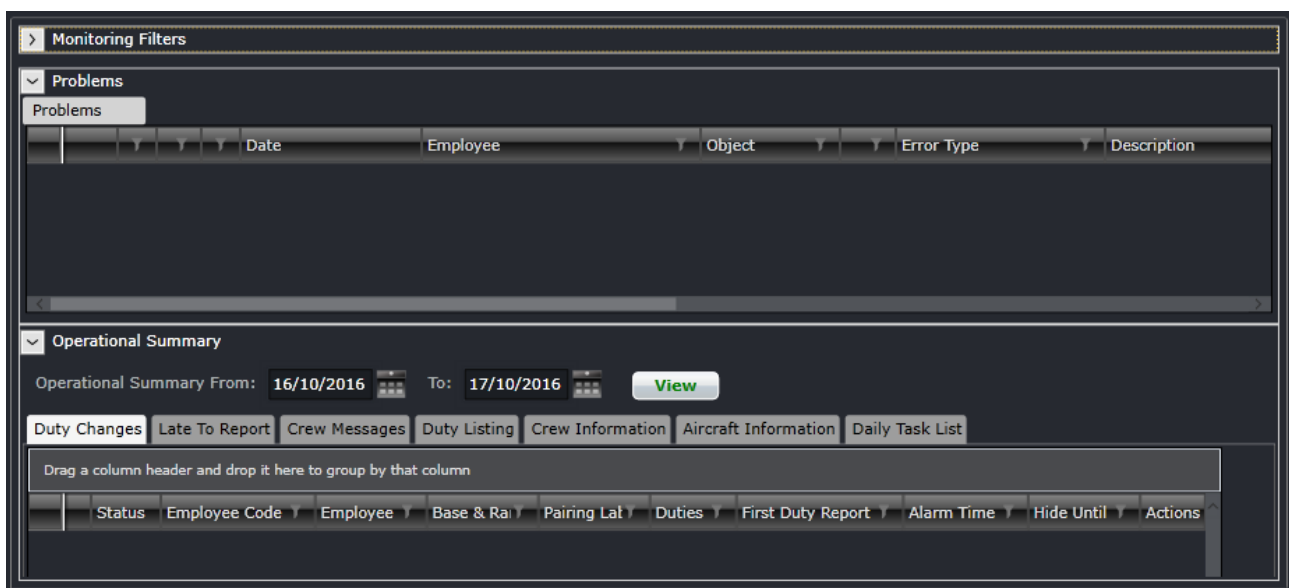
Monitoring Filter Panel

The purpose of the filter section is to limit the operational information displayed, in this case, crew and problem detection information, to that which matches the filter criteria. This allows the user to focus on aspects of the day-to-day operation that they are responsible for.

Also to aid in the efficiency of using filters, default filters are defined in the Monitoring Filter Panel in the CrewPlan, CrewRoster and CrewFollow applications. In addition, users will be able to save filter criteria as named filters, and subsequently select and apply the saved filters. This allows for a quick and efficient means of switching between different sets of operational information.
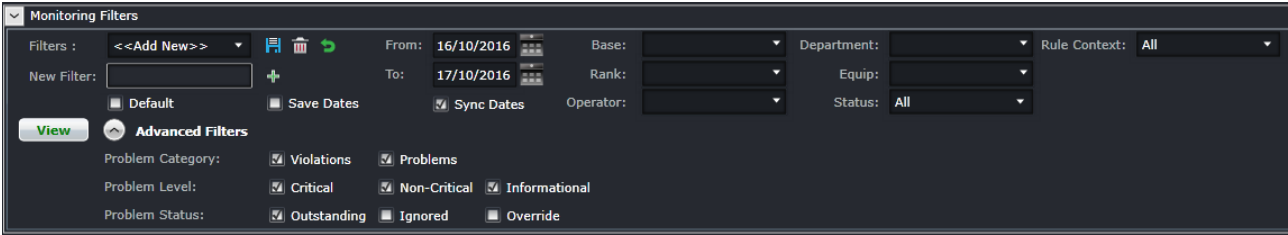
The filter for the Monitoring Panel can be divided in the following sub-sections:

1. Date for Filter
2. Save a filter or reuse an existing filter
3. Set as a Default Filter
4. Criteria for Filter
5. Advanced Filters
6. View the data

Date Filter

In order to view crew data in the Monitoring Panel, users must load the data for a specified date range by entering a date range into the date control. A drop-down calendar is provided to select the date.

- **From**: A date field. The start value of the date range
- **To**: A date field. The end value of the date range

Note: The date controls throughout merlot suite have built-in short cuts. These short cuts allow users to instantly select different date targets, such as the current day (T), or the start of a month (M), a quarter (Q) or a year (Y).

Save a Filter or re-use an Existing Filter

To allow users to specify and save filters, the Filter Section has a Filters field and associated Save, Delete and Reset icon buttons as well as a Save Dates checkbox.

The Filters field is a combination of a drop-down lists that displays the previously saved filters, as defined by the user, along with template filters that apply to all users. There is also the ability to enter a new filter name in the New Filter field and to click the plus (**+**) icon to add the new filter.

The Save Dates check box allows the user to control whether a filter they define is set to a specific date time range or if the selected filter inherits the current date time range in the Monitoring Panel.

Default Filter
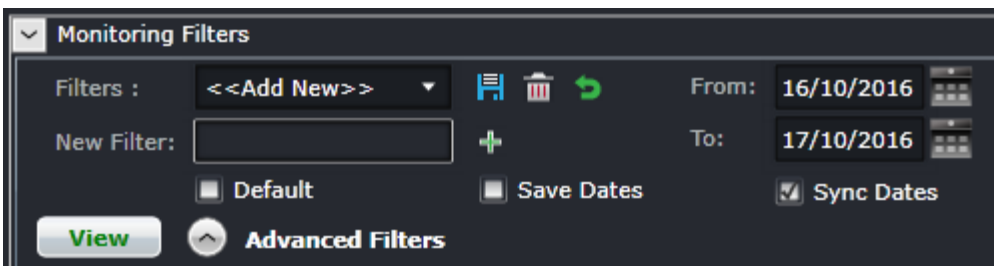
To speed up workflow processes, default filters may be set up in the Monitoring Filters Panel. The default filter facilitates the rapid filtering of the displayed data that the user refers to most frequently.

To allow the user to set a default filter, the filter section contains a Default check box. When this button is clicked, the currently selected filter is saved as the default filter for the application.

When the Monitoring Panel is opened, it determines the current user and the application context and defaults to the relevant filter.

Criteria for Filters
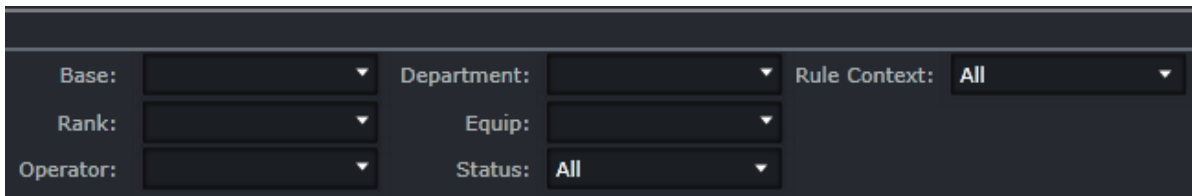
The filter section contains the following criteria which are used to determine which data is displayed in the tabs in the Monitoring Panel:

Field	Description
Base	A drop-down field that displays the active crew bases
Rank	A drop-down field that displays active ranks and / or rank groups
Operator	The Operator drop-down menu filters the grid to show information based on selected airline operators
Department	A drop-down field that displays active departments. It is an area within an airline or company that is tasked with providing particular services of a similar type. For example, Flight Operations (i.e. the manning and operating of aircraft), Maintenance (ensure the aircraft are able to operate safely), Ramp (the parking and coordination of aircraft resupply between flights).
Equip	A drop-down field that displays the active aircraft or equipment types or groups that crew operate
Status	Pairing status drop-down menu which includes All, Planned, Active, Provisionally Active options
Rule Context	A drop-down field for the applicability of violations. Options include All, Planning (violations from planning rules) and Active (violations for published rosters)

There is an option to use exclude a criterion. For example, to load all activities except for FPG pairing type, select FPG and then Ctrl+ Click FPG. This will turn the selection red and the results will not include FPG.

Advanced Filters
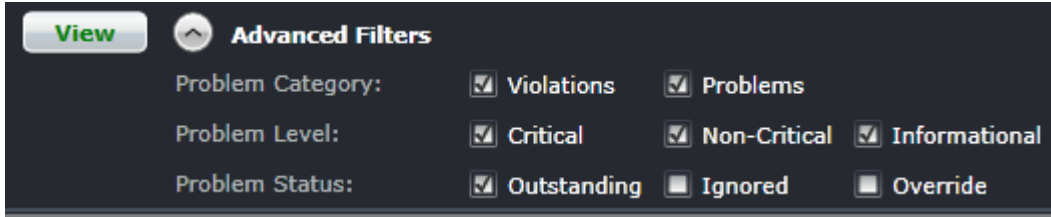
The Advanced Filters section of the Monitoring Filters Panel has numerous check boxes to control the level and status of violations and/or problems that the user would like to view in the Problems panel, including violation/problem level and status options.

Advanced Filter	Description
Problem Category	Allows users to select to display Violations and/or Problems in the Problem panel.
Problem Level	**Critical** - The violation and/or problem must be addressed before crew can fly **Non-Critical** - The violation and/or problem needs to be addressed, however it is not preventing crew from flying **Informational** - Information is being provided regarding a pairing or crewmember
Problem Status	**Outstanding** - The violation and/or problem has not been addressed yet **Ignored** - The violation and/or problem has been ignored by a user and will only be re-assessed if the pairing is changed. User and time stamp information is recorded. **Override** - The violation and/or problem has been determined as not being a problem or violation and is overridden by the user, generally a supervisor, with user and time stamp information recorded

View the Filtered Data

The View button applies the filter criteria and displays the resulting data in the Monitoring Panel tabs. Any modifications to the filter criteria need to be reapplied by clicking **View**.

Problems Panel

During the daily operation of the airline, changes will occur that impact crew assignments, in particular, flights and qualification modifications. These changes can result in assignments and pairings becoming illegal. As part of the merlot RulesEngine, there are routines that periodically and continually validate crew assignments and pairings against the configured rules of the airline. If these routines determine that an assignment or pairing is no longer valid, an exception will be generated for the illegality and that exception will be displayed within the Problems tab.
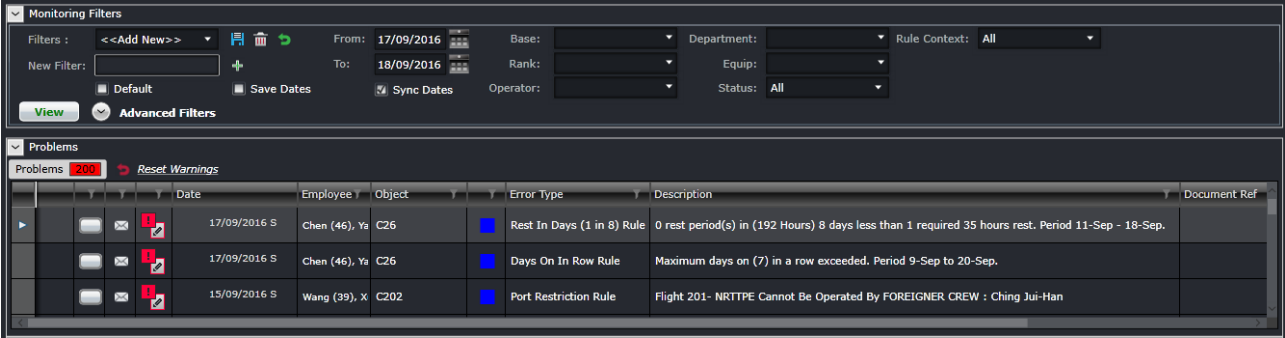
The Problem tab previously had violations and problems separated. They are now combined in order for users to manage them more easily.

Basically, violations and problems are different types of issues to be dealt with by the airline. A violation is any breach of a configured rule that has been generated by the merlot RulesEngine. Rules are generally configured to enforce published regulatory requirements from government agencies and other company rules as defined in the airline's operations manual. Problems are all other non-rule based exceptions generated by the Problem Detection Engine (PDE), such as incorrect report/release times, illogical flight/pairing data, and crew complement issues.

Sample problems are shown below for illustrative purposes.
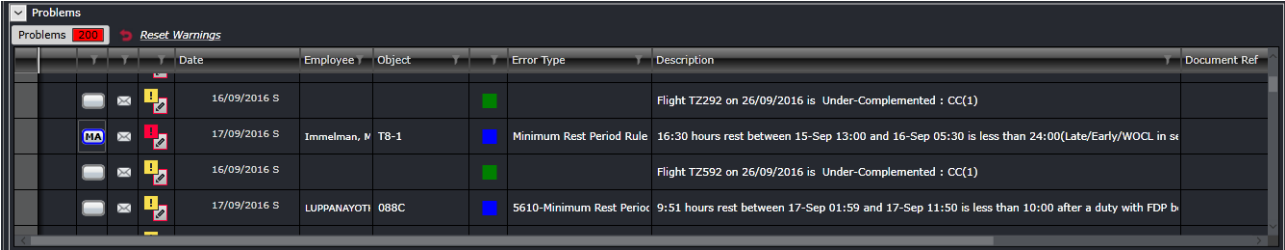
The image above shows 200 unread problems listed in the grid. The background of the number turns red if there is at least one unread problem. If all the problems have been read, the background will turn grey.

Clicking the *Reset Warnings* link located next to the tab will reset the warnings so that any new information will be presented and is easily identifiable to users. Alternatively, click on the View button in the filter panel. Note also that the system automatically updates the information in this panel with an interval of 5 minutes.

The columns are described below:

Column	Description
Grouping	Several instances of a problem can be logged against one crewmember. For example, an expiry violation that was not yet resolved was raised for each day that a crewmember worked. Having them separated can lead users to miss out on more urgent issues. These are now grouped together and can be collapsed/expanded. In the image below, the purple box shows a collapsed group of violations. The pink box shows the expanded violations.

	Problems will be grouped together if the *BaseEmployeeRule* parameter *AllowMonitorGridCollapse* is set to True. This is set to False by default. This can be adjusted in Configure.
Assignment	Problems can now be "grabbed" by a user to signify that he is accountable for resolving the problem. By default, all problems have an empty square which means that the problem is unassigned. If a user clicks the box, he assigns the problem to himself and his initials will be placed on the square and the border will turn blue. Assignments of other users have a green border. In the example below, the initials are for Merlot Admin. Users cannot remove their assignments, but other users can reassign a problem to them by clicking on the same box. The column can also be filtered by clicking on the header.
Status	This makes it easier to identify which problems have been read ( ). New problems added to the view are unread ( ) by default. In the image below, the first two records are unread and the last two records are read. To mark a problem as read, double-click on the envelope icon. The user name and time stamp of reading a problem is recorded in the database. This column can be filtered by clicking on the header.
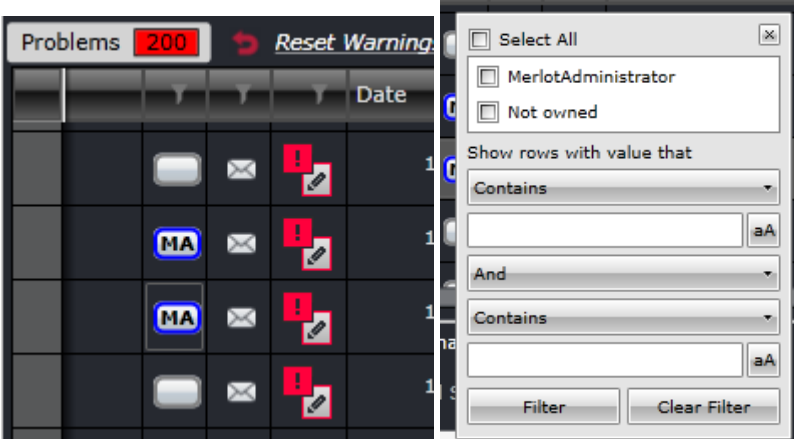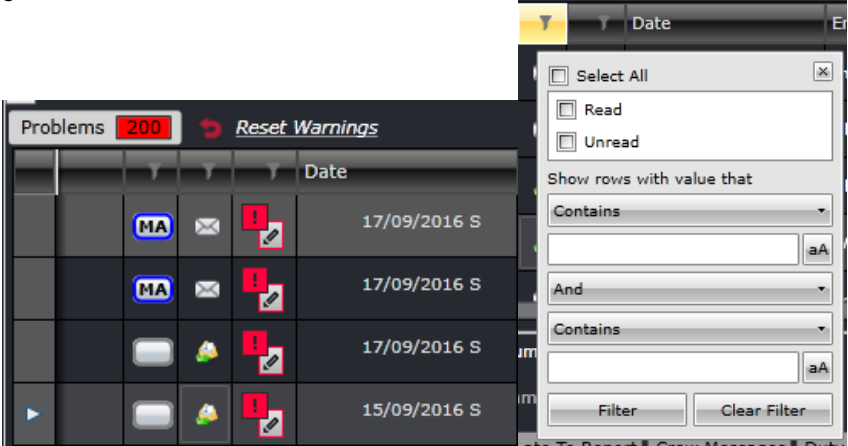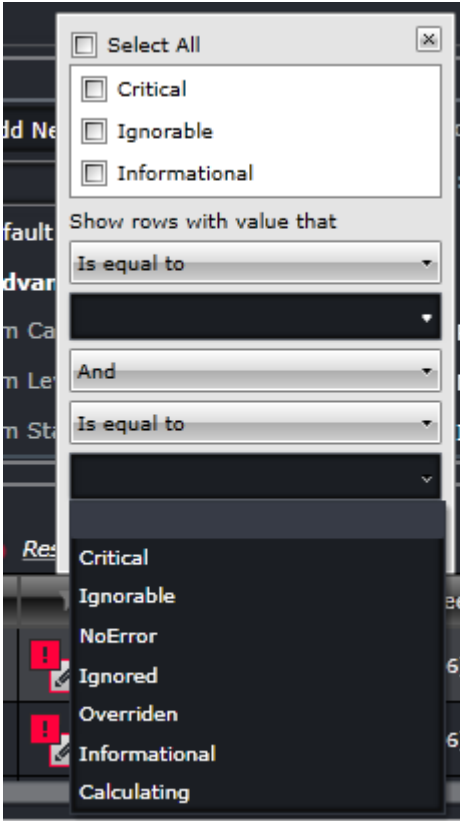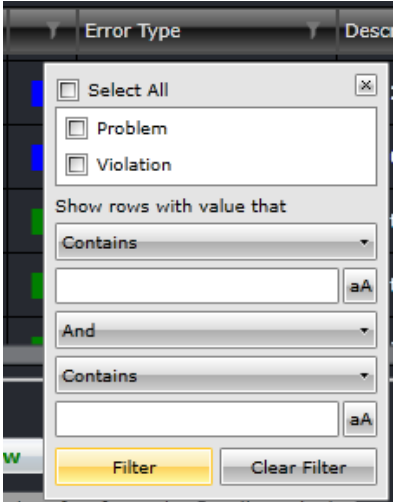
Note: *New problems are displayed in bold. In the image below, the first problem is new and the second problem is pre-existing.* |

Severity	Displays the severity and behaviour of the problem. This column can be filtered by clicking on the header.
Date	Date of the duty that the problem is logged against.
Employee	Name of the crew with the problem
Object	Pairing or duty label associated with the problem
Category	Determines if the record is a problem (green) or a violation (blue). This column can be filtered by clicking on the header.
Error Type	Name of the rule that was breached
Description	Problem message

Document Ref	Reference text pertaining to the rule (see Configure User Guide for setup instructions)
Last Updated	Date and time when the problem was last evaluated by the RulesEngine. If the date is too far in the past, the problem could be irrelevant and the panel needs to be refreshed
Actions	**Open Problem** – Displays the details of a problem in a popup form. **View Employee Details** - Displays employee/crew information. Contact details can be retrieved from here. This applies to CrewRoster and CrewFollow only. **Pairing Details** - Displays information on the pairing. This is handy when the user needs to relay pairing information to crew. This applies to CrewRoster and CrewFollow only. **Open in Gantt** - Opens the crewmember's roster in the Allocation Gantt. This applies to CrewRoster and CrewFollow only.

Right-clicking on any column of a problem brings out the following options:
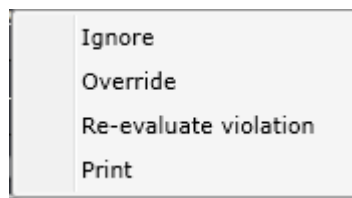
- **Ignore** – marks the problem is ignored by the user and hides the problem until reversed. The user name and timestamp are recorded in the database. Use this sparingly as it might lead to a compliance breach.
- **Override** – allows the user (with the appropriate security access) to override a violation and allow the affected crewmember to proceed with the duty. The user name, timestamp and comments are recorded in the database.
- **Re-evaluate violation** – triggers the RulesEngine to validate the corresponding duty and removes the violation if it is no longer applicable.
- **Print** – prints the violation in a PDF file or through a connected printer.

Pairing Details Panel

The Pairing Panel is a core component of the merlot crew application as it is the only functionality that is used to create and modify pairings. Pairings are the key definitions of work which are assigned to crew members.

There are two primary purposes that the Pairing Panel can be used for:

- Creation of pairings by inserting groupings of flights and events together within a pairing
- Modification of existing pairings by changing the duties, flights and events that comprise a pairing

To be able to assign work to crew members, the individual work activities need to be grouped together into meaningful units of work. It is the Pairing Panel that provides the functionality to group flights and events together into duties, which then comprise a pairing. These pairings are the units of work that can be assigned to crew members.

The Pairing Panel displays the data associated with a pairing that is in the process of being created, or an existing pairing. To display the information about a pairing in a logical and focused manner, the Pairing Panel contains the following main screen components or sections:

- **Pairing Details**: Lists the duties, flights and events that comprise the pairing, and when they commence
- **Exceptions (Tick/Cross)**: Green-tick or red-cross to display pass/fail information of rules applied to the pairing
- **Assigned Crew**: Contains the list of crew members who have been assigned to the pairing
- **Recurrence**: The period and frequencies of the recurrence of the current pairing
- **Complement**: The number and types of crew members who are required to be assigned to the pairing
- **Attributes**: Additional ways to classify pairings

Pairing Panel and Grid

This section contains details of the duties and the flights and events that when combined together define the work involved within the pairing. It also identifies the status of a pairing, whether a pairing is a Standard Pairing or not, and the pairing version.

Pairing Details Panel

Surrounding the Pairing Grid are fields and controls that provide general and configuration associated information about the pairing.

The pairing, duty and flight/event information is displayed to the user via a scrollable grid containing three different levels of data. These three levels are:

- **Pairing**: The information displayed in the grid columns relate to the whole pairing. There will only be one pairing level row in the grid. The pairing level row will always be the first data row in the grid.

- **Duty**: The information displayed in the grid columns relate to the duty within the pairing. The duty is comprised of the flight and/or events on the subsequent grid rows up until the next duty row, or to the end of the row in the grid. Each duty represents the work required for one day, thus there can be one or more duty rows. For ease of managing the data within a pairing and allowing the user to focus on single duties at a time, the duty level is collapsible and expandable.

- **Activities consisting of Fights and Events**: The information displayed in the grid columns relate to the individual flights or events within a duty.

The columns are described below:

Column	Description
Date	Date of the pairing/duty/event
Type	Pairing or duty type
Pair	Name of the pairing, or pair label
Duty	Name of the duty, or duty label
EventFlight	Flight number or name of the event
Equip	Equipment type of the flight. This is blank if the event does not involve a flight
From	Departure port of the flight, or the location of the event
ReportDep	Report time of the duty, or the start time of the event
To	Arrival port of the flight, or the location of the event
ReleaseArr	Release time of the duty, or the end time of the event
FlightTime	If it is an operating flight, this holds the time from departure to arrival time. If credit flight time is required, it is applied in this field. The total flight time is displayed in the Duty and Pairing levels.
DutyTime	Duty time for each event. If credit duty time is required, it is applied in this field. The total duty time is displayed in the Duty and Pairing levels.
PayCredit	If pay credits are granted for the event, the value will be displayed. If you hover on the field, the pay credit, calculated credit and rig credit will be displayed. Pay credits are calculated and saved for all versions of an active pairing.
RestGrdTime	Amount of time spent on the ground when not in flight.
TAFB	Time away from base. This is the total time from report time of the first duty to the release time of the last duty in the pairing.
Action	These action buttons are discussed in the Pairing Actions section.

Additional note for PayCredit: Trip rig credit rules can be applied to the Pay Credit column. If the pairing pay credit value is higher than the sum of the duties' pay credit, the difference, referred to as X, will be used. If the pairing on the last day of the date range finishes on the last day, the whole pay credit value is used. Otherwise, if the last pairing ends outside of the date range, X will not be counted for the part of the pairing within and outside of the date range.

For example, the date range is 01-30 June and the pairing on June 30 ends on 01 July with rig pay credit of 4:00 and sum of duty pay credit is 2:30. The difference, or X, is 1:30 or 1.5. For the date range, X will not be considered since the latest duty (01 July) is outside of the date range. If the date range for processing is 01 June to 31 July, X will be considered. The total pairing pay credits will be displayed in the Pay Credit total column.

Pairing Creation

The first step in creating a new pairing is to have a blank or empty Pairing Panel.

Click **New** at the bottom right of the pairing panel. This will clear the Pairing Panel of the previously displayed pairing information and will display:

- A single blank grid row at the pairing level in the pairing grid, and
- A single blank grid row at the duty/flight/event level in the pairing grid.
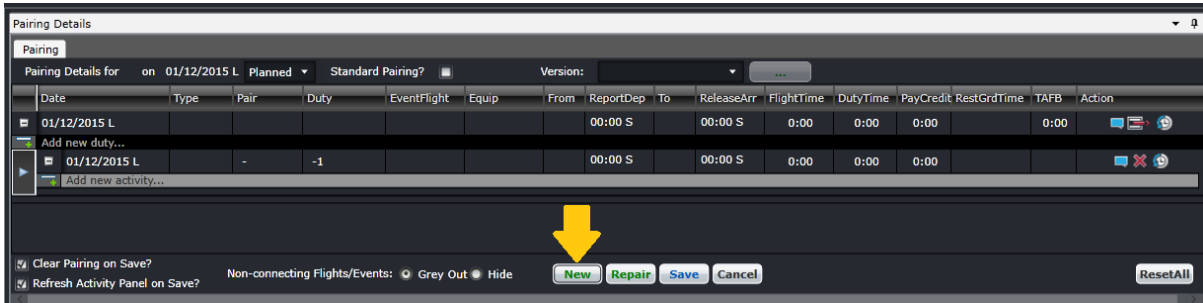
The date of the pairing you are building will initially be set at the first date defined by your Activity Filter. This can be amended as required to the correct date. Adding flights and events to the pairing will also adjust the date of the pairing, as needed.

The second step is to define what is required to occur as part of the pairing. There are two different and broad types of pairings, each with different purposes:

1. Pairings without flights/events: A definition of a period of work or non-work without any detail of what work is going to occur within that period. Most of the pairings of this type are Standard Pairings, for example Days Off, Vacation and General Administration Days.
2. Pairings with flights/events: Pairings in which duties are defined containing the specific flights and/or events that determine what work is to occur during the pairing.

The third step is to ensure you have the complement defined for the pairing you are building. This is discussed further in the next section.
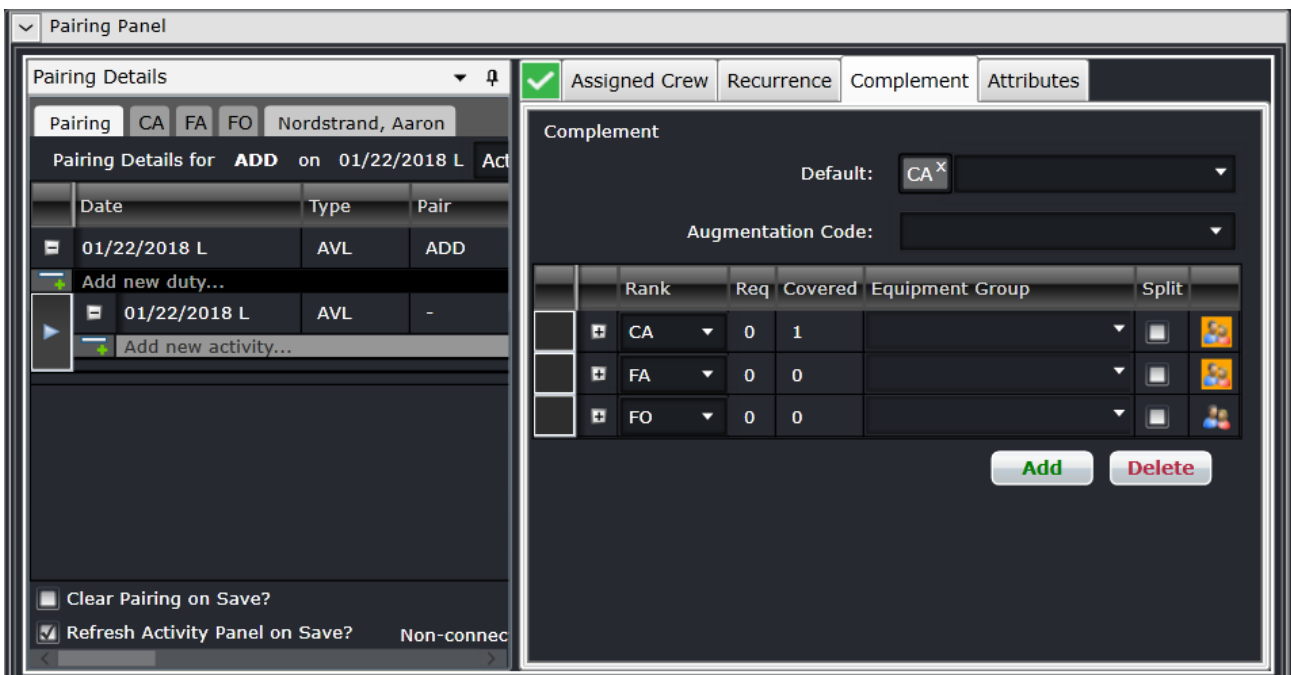
Pairing Build

There are many different methods available that will insert flights and/or events into a pairing. These different methods are provided to give flexibility in terms of how users create pairings and allow for quicker creation of pairings by users who are familiar with the airlines flight schedule. The methods to insert flights and/or events into a pairing are the following:

1. Select/Drag/Drop flights from the Flights or Events tab of the Activity Panel
2. Manually enter a date and flight number
3. Manually enter a date and event name
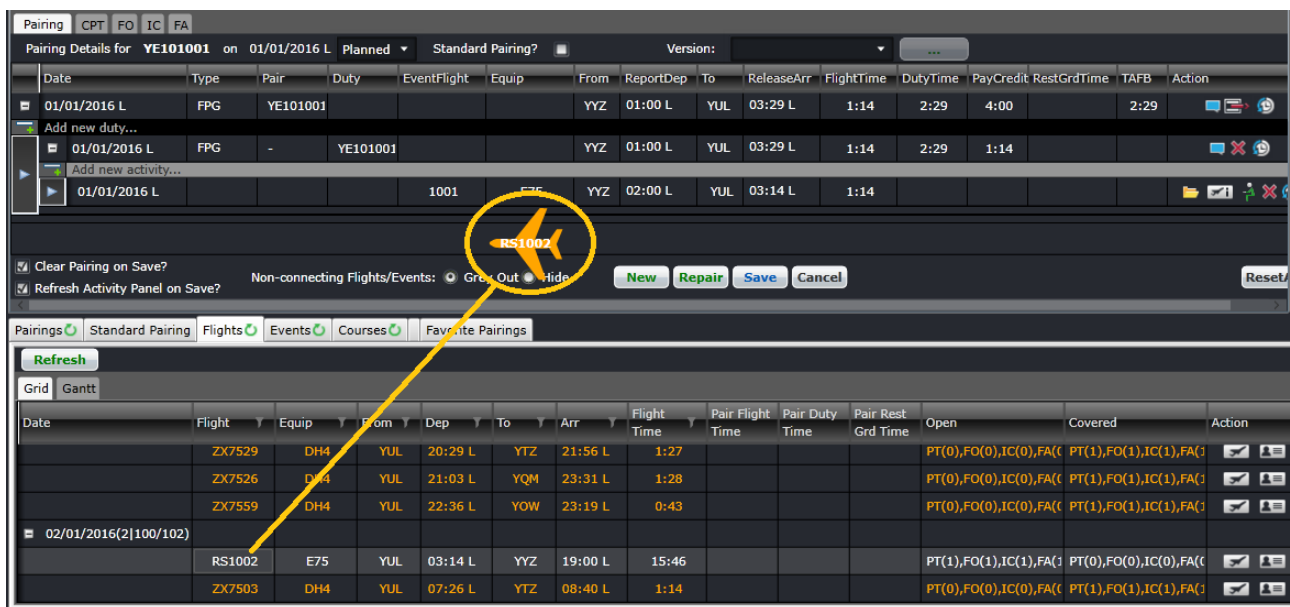
The above image shows dragging a flight from the Flight tab of the Activity Panel to the Pairing Panel.

Another option to add flights and events is to right click on the "Add new activity…" row and select to add a new flight, event or timed event. Go to the Creating Flights section for details on adding a flight.

Note: *The report and release time of each duty that begins with a flight is automatically calculated based on the buffers set in Employee Report/Release Rules in Configure. If the duty begins with a deadhead other event, the report time buffer is based on the user preference DeadheadOtherReportMinutes. If the duty begins/ends with a timed event, the report/release time buffers are based on the user preferences DefaultReportMinutesBuffer and DefaultReleaseMinutesBuffer.*

Repair Pairings

When pairings are being created or modified, they will be validated against the rules that apply to ranks included in the pairing. Further changes to flights or events may cause a variety of issues to be introduced into existing pairings which require them to be modified to be legal. The Repair button will essentially update the report and release times, flight and duty times, rest ground time, time away from base (TAFB), credit times, pay credits and the sequence of events. Accommodation events will also be added if an overnight is required. These updates are necessary if a flight or event is retimed, delayed, added or removed.
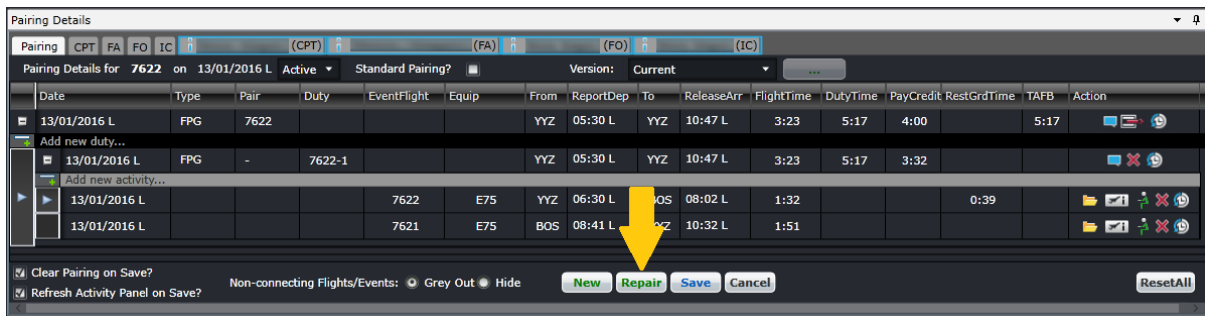
Click **Save**.

Save Pairings

The user can save a pairing by:

- Clicking the **Save** button; or
- Choose the **File -> Save** menu item.
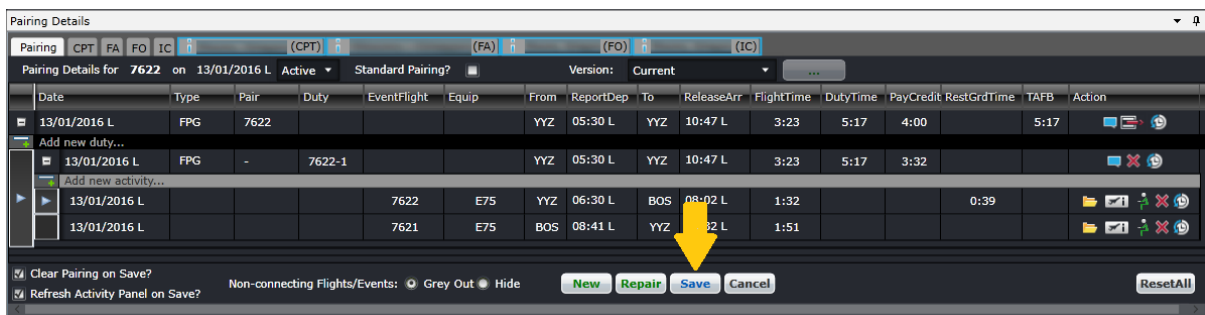
Modify Pairings

An existing pairing can be changed by inserting or deleting flights and/or events from the pairing. The pairing can be loaded to the Pairing Panel by double clicking or dragging the pairing from the Pairing tab in the Activities panel. Flights and events can be added by double clicking or dragging the pairing from the Flights or Events tab, respectively. The user must click Save to commit the changes.

Events can be modified within the pairing by clicking on the action button. Clicking this will bring out the Edit Event form.

Flights cannot be modified in CrewRoster. Users must modify flight information in AircraftFollow or AircraftSchedule.

Cancelled flights that are still contained in a pairing are grayed out and have the cancelled flight icon () beside the flight number. These flights can be removed from the pairing. See the next section for instructions.

If the first event of the duty is removed, the duty label is changed accordingly. If you need to have the duty label retained whenever the first event is removed, set the user preference *AutoUpdatePairingLabel* to False in Configure.

Cancel Pairings

Pairings with initial publish or active state can be cancelled. This can be done by clicking **Cancel** 🗑. Pairings with crew assigned cannot be cancelled. Users are prompted to deallocate crew from a pairing first before proceeding to cancel. Cancelled pairings cannot be modified or assigned.

The cancellation of a pairing is reflected in the pairing version.

To reinstate a cancelled pairing, click **Reinstate** ✅.

Split Pairings

The split functionality is used when a crew is required to perform an activity other than his assigned duty.

The *Split* column in the *Assigned Crew* and *Complement* tabs allows splitting of duties and ranks. Splitting of duties with one assigned crew and rank complement with no assigned crew are also allowed.
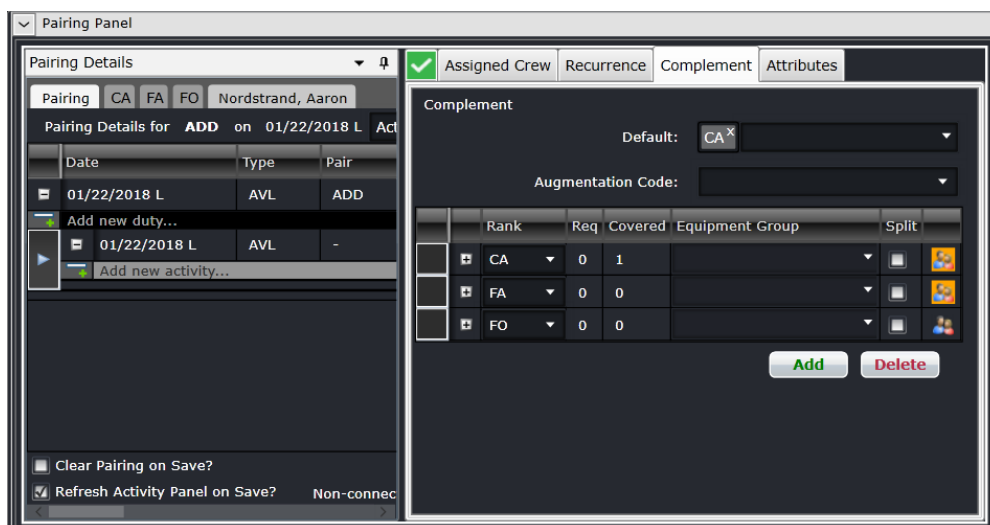
When splitting a complement from a pairing with no crew, the following will apply:

- o The selected complement will be in a separate pairing and will have the same required complement value
- o If a new complement is added after the split, and another split was done, the newly added complement will be in a separate pairing
- o When splitting all ranks, nothing will change, as it is a requirement that at least one complement remains with the original pairing
- o When splitting both in the *Complement* and *Assigned Crew* tabs, all the selected complements will be considered
- o No change will be applied when splitting a pairing with only one complement

If there are crew assigned to a rank, the following will apply after applying a split:

- o The selected rank will be added to a pairing containing the same rank
- o All crew assigned to a rank will be moved to a new pairing
- o Split is not allowed if there is only one rank in the *Complement* tab
- o When splitting all ranks, nothing will change as it is a requirement that at least one complement will remain with the original pairing

Split Pairing Functionality Applied to Actual Scenarios

1. When splitting a pairing with an FO crew assigned, and there are other open rank complements i.e. CA and FA, the following will apply:
   a. The FO rank complement and the FO crew will be in a separate new pairing;
   b. The original pairing will drop the FO tab and the FO crew, given that they are already included in a new pairing; and
   c. Changes such as adding more flights, or a deadhead assignment to the original or the new pairing will be allowed without affecting each other.

2. When splitting a CA rank complement from a pairing with no crew assigned to it, and only open rank complements i.e. 1 FO 3 FA, the following will apply:
   a. The CA rank complement will be assigned to a separate new pairing with the correct number of required complements;
   b. The original pairing will drop the CA rank complement and will retain the FO and FA rank complements;
   c. Changes such as adding more flights, or a deadhead assignment to the original or the new pairing will be allowed without affecting each other.

All split activities done in the *Assigned Crew* and *Complement* tabs will be reflected in the Activity Panel.

Delete Events and Pairings

To remove a flight or event from a pairing:

1. Go to the Pairing tab. (This cannot be done on a rank tab or a crew tab).
2. Click on the ![x] action button on the row of the flight/event to be removed.
3. Click **Save**.

There are two ways to delete a pairing:
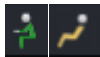
1. From the Pairing Panel, click the ![icon] action button on the pairing level; or
2. From the Activities Panel, click the ![x] action button on the row of the pairing.

Pairing Actions

Each of the rows within the Pairing Details grid has different actions that can be performed on them dependent of the rows data level. The pairing action icons are as follows:

Action Button	Description

Edit	This can be used with timed events only.	
Flight Information	Opens the Flight Information Window that displays flight details	
Toggle Operational/Non-operational State.	Either of these icons are displayed on flights only. If crew is set to operate for the flight, the green icon is displayed. If crew is set to deadhead on the flight, the yellow icon is displayed. Click on the icon to switch between either options.	
Delete event	Removes the flight or event from the pairing.	
View History	Displays the historical changes on the event, duty or pairing.	
Move Up/Down.	Moves an untimed event up or down.	

Right Click Features

Additional features are available to the user in the grid view, by right clicking on a selected row.
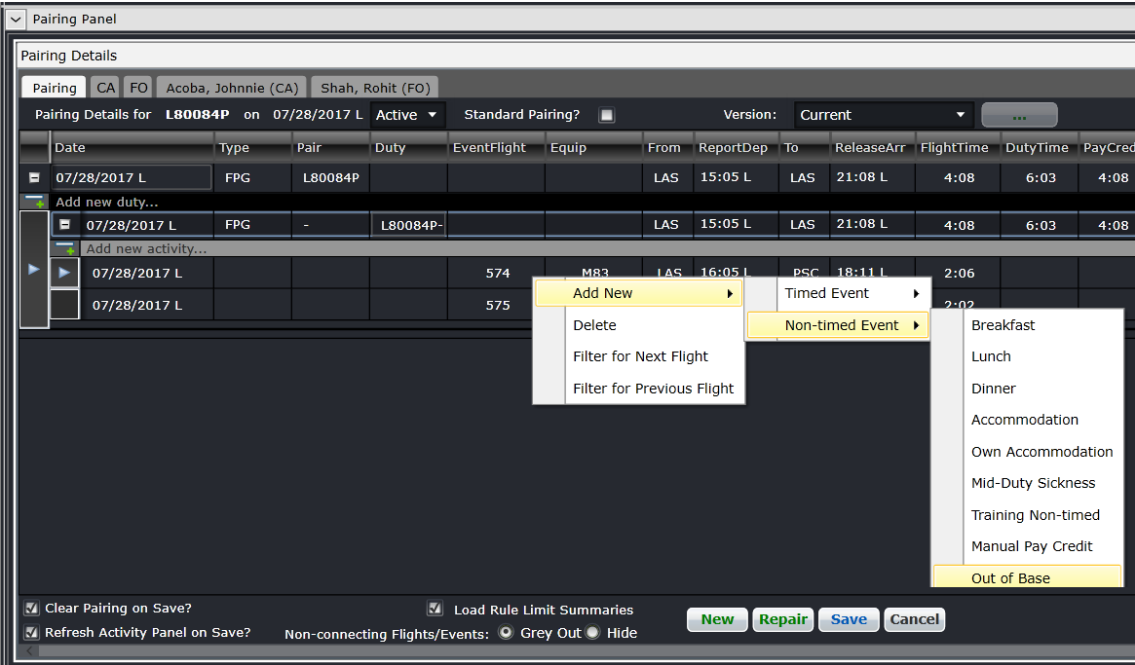
The following options are available from the right click menu:

Option	Description
Add New	Allows users to add a Timed or a Non-timed event.
Delete	Deletes an event.

Option	Description
Filter for Next Flight	Filters for the next possible flights.
Filter for Previous Flight	Filters for previous flights.

Other Pairing Panel Options

There are more controls around the pairing grid that are essential to roster planning.

These are the options at the top of the Pairing Details panel.
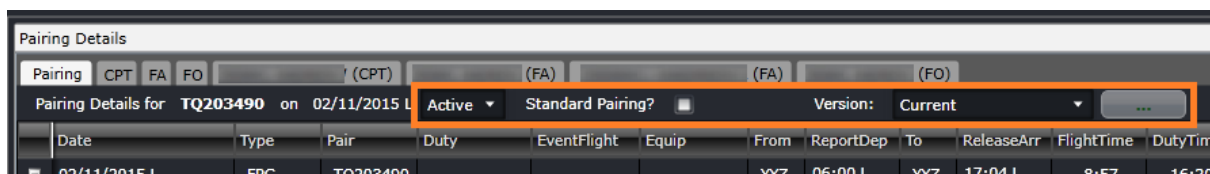
- **Status** – This drop-down list has the options Planned and Active. Planned pairings are not yet available for crew viewing while active pairings have been published for operations and crew. Publishing a roster automatically changes the status to active.
- **Standard pairing selector** – selecting the tick box turns the pairing to a standard pairing.
- **Version** – This drop-down list has the versions of the pairing since it was published. To view a previous version of the pairing, select the version and click on the […] button beside it. A prompt will appear asking if that version will be loaded. This is available only for pairings published from CrewRoster.

These are the options at the bottom of the Pairing Details Panel.
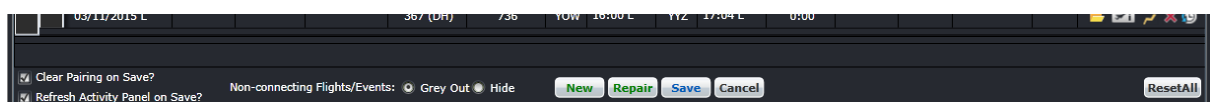
- **Clear Pairing on Save?** – When selected, this option clears the Pairing Details Panel after the Save button is clicked.
- **Refresh Activity Panel on Save?** – When selected, this option refreshes all the loaded tabs of the Activity Panel after the Save button is clicked.
- **Non-connecting Flights/Events** – When there are flights or events that do not match the previous arrival port or the next departure port, that event can be greyed out or hidden.
- **Reset All button** – this sets the options above to the default values.

Pairing Exceptions

The Pairing Exceptions tab displays the results of rule validation for a selected pairing. It displays both pass and fail results for each rule.

When a pairing is created or loaded, the icon on the tab changes to reflect the status of rule validation. These are described below:

Action Button	Description
✅	All rules have been satisfied. No rules have been breached.
🟦	Pairings are currently being validated.
❌	There is at least one rule breach.
⚠️	There is at least one ignorable violation.

Having the green icon for all pairings is ideal. If the red icon appears, it is best to address the issue as soon as possible to avoid legality issues on the day of operations. Depending on the severity and behavior of the rules that are set in Configure, the changes to pairings can be saved despite existing violations.

Violation Icon	Description
🔴	Critical. The violation is causing the crew to operate illegally. It needs to be addressed immediately.
🟡	Ignorable. This serves as a warning to the user. The crew is not yet operating illegally.
🔴	Critical – Override. The violation is critical but can be overridden by a supervisor or under captain's discretion.

Assigned Crew

The Assigned Crew section of the Pairing Panel displays the crew who are allocated to the selected pairing. The allocated crew are displayed within a simple grid that is view only apart from the Action buttons.
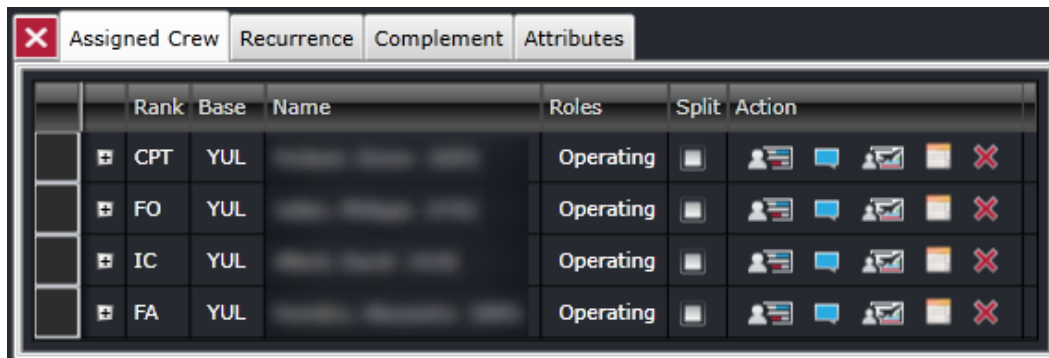
The Assigned Crew grid consists of the following columns:

Column	Description
Rank	The rank of the crewmember. If the crewmember is rated for two or more ranks, the rank can be set for that pairing from this field.
Base	Home base of the crewmember
Name	Name of the crewmember
Roles	Roles of the crewmember for the pairing, which can include Operating, Non-Operating, Student and Instructor
Split	The split functionality is used when a crew is required to perform an activity other than his assigned duty. The *Split* column in the *Assigned Crew* allows splitting of duties. For example, a crew needs to deadhead from YYZ to YUL before he can operate on the first flight which departs from YUL. Splitting of duties with one assigned crew is also allowed. To split a pairing, click on the tick box on the selected crew member's row, then click **Save**.
Action	Set of action buttons: **View Pairing Allocations** – opens the crewmember's roster in the Allocation Gantt. This can be used in CrewPlan, CrewRoster and CrewFollow only. **View Comments** – opens the Comments form where public and private comments can be added to pairings. Public comments can be seen by crew in the employee reports and by users in the crew applications, while private comments can only be seen by users in the crew applications. **View Employee Pairing Details** – Switches to the crewmember's tab in the Pairing Panel **Pairing Properties** – Opens the Properties tab for the crew's pairing. This is displayed in the expansion below the crewmember line

	✖ *Deallocate Pairing* – Removes the pairing from the crewmember

The **[+]** button to the left of the crewmember name displays more tabs that provide more information on the crew's pairing.

- Times – displays the report, release and duty times of the whole pairing (first row) and each duty (succeeding rows). It also displays any pay credits applied to the pairing or duty, the time away from base, standby time (if the crewmember was called out from standby), delay time, notified time for corresponding duty changes. All the fields in this tab can be modified except for Date, Pairing/Duty, DutyTime and Tafb. The Reset button will revert all changes back to the original values.

	Date	Pairing/Duty	Report	Release	DutyTime	PayCredit	Tafb	StandBy	Delayed	Notified	Reset
▶	01/11/2015 L	7428	06:30 L	10:21 L	3:51(+2)		3:51(+2)				↺
	01/11/2015 L	7428-1	06:30 L	14:43 L	8:13			00:00 S			↺
	02/11/2015 L	7428-2	05:30 L	18:15 L	12:45						↺
	03/11/2015 L	7428-3	05:10 L	09:21 L	4:11						↺

- Events – Lists down all the events included in the pairing. This allows bookings to be associated to accommodation, deadhead and transport events. Users can declare the booking status, provider of the booking and the reference. This information will be relayed to the crew through the employee reports.

	Date	Pairing/Duty	Event	Port	BookingStatus	Provider	BookingReference	Reset
▶	01/11/2015 L	7428-1	7428	YYZ				↺
	01/11/2015 L	7428-1	7433	DCA				↺
	01/11/2015 L	7428-1	7470	YYZ				↺
	01/11/2015 L	7428-1	Accommodation	EWR	No Booking			↺
	02/11/2015 L	7428-2	7469	EWR				↺

- Allowances/Expenses – Displays allowances and expenses recorded against the pairing. Manual allowances can be added by clicking on the New button. The allowances are added to the pairing once allowances are generated in CrewPayroll.

	Date	Duty	Allowance	Type	Value	Currency/Unit	Status	Comment
▶	01/09/2015 L	7468-1	Flight Credit	Flight Credit	4.73	Credit	Pending	💬
	01/09/2015 L	7468-1	Per Diem Duty USD	Per Diem Duty U	14.01	USD	Pending	💬
	01/09/2015 L	7468-1	Per Diem Overnight USD	Per Diem Overni	73.15	USD	Pending	💬
	02/09/2015 L	7468-2	Flight Credit	Flight Credit	4.92	Credit	Pending	💬
	02/09/2015 L	7468-2	Per Diem Duty USD	Per Diem Duty U	15.38	USD	Pending	💬

New   Delete

- Seat/Roles – allows users to assign the seat and role of the crewmember for each event in the pairing. Seats and roles are set up in Configure.

- Properties – allows users to assign Properties, which are characteristics of a pairing that require considerations on reassignment, payroll, and other operational consequences.

Pairing Recurrence

The *Recurrence* tab allows users to create identical pairings based on a repeating pattern over a specified date range.

This tab has a simple grid that allows users to specify the date range and the days of the week for the recurrence. To apply recurrence throughout the week, select the *EveryDay* checkbox.

The following columns in the tab are described below:

- **From** - The start date of the recurrence.
- **To** - The end date of the recurrence.
- **EveryDay** - Automatically applies the recurrence on all the days of the week.
- **M, T, W, T, F, S, S** - The days of the week.

To add a new recurrence definition to a new or existing pairing, click **Add**.

To remove recurrence, select one or multiple rows then click **Delete**.

Click **Save** in the Pairing panel to apply changes.

Complement

A pairing complement is the number of crew from different ranks required to operate a pairing. By default, the pairing complement follows the complement of the flights in the pairing. The complement can be modified as needed.
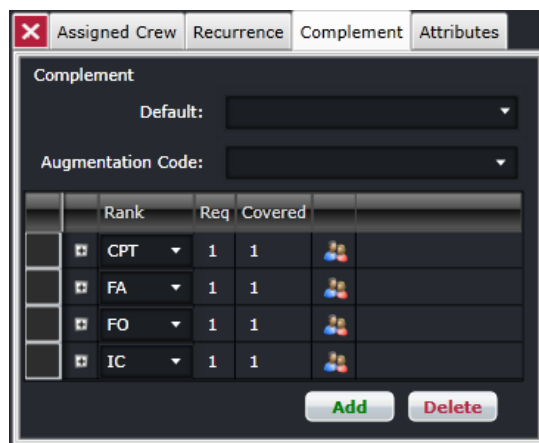
The Complement Grid is where the actual required complement of the pairing is defined. This grid consists of the following columns:

- **Rank**: The employee rank from which this pairing needs a certain number of employees allocated. This column will always be non-editable.
- **Req**: The required number of the employees of the associated rank that are needed to operate the pairing. This column is always editable
- **Covered**: The number of employees of the associated rank that have been allocated to this pairing. This column will always be non-editable
- **Equipment Group** – The type of equipment group associated with the rank.
- **Split** – The split functionality is used when a crew is required to perform an activity other than his assigned duty. The Split column in the *Complement* tab allows splitting of complement ranks. Splitting of ranks with no assigned crew are also allowed.

Clicking the (+) at the left of the rank expands the rank with more details like the Assigned Crew tab.

The other elements in this tab include:

- **Default**: This drop-down field contains active ranks where multiple selections can be done. If at least one rank is selected, all newly created pairings will have the selected ranks added with 0 Req.
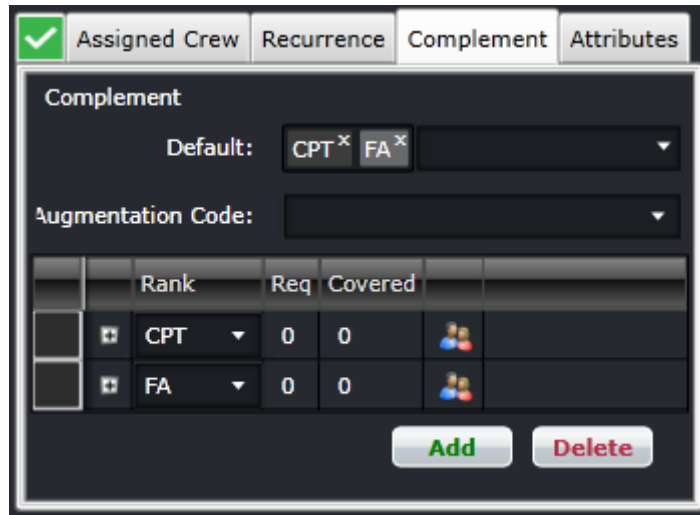
- **Augmentation Code**: This drop-down field provides preset complements that are variations of the default equipment complement. These are needed for operations that require more crew. The options are set up in Configure.

Without Augmentation Code   *With Augmentation Code*
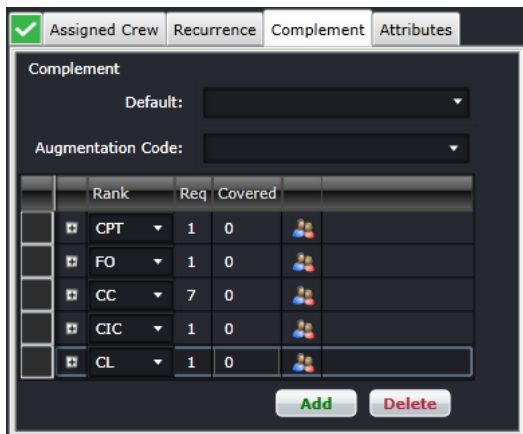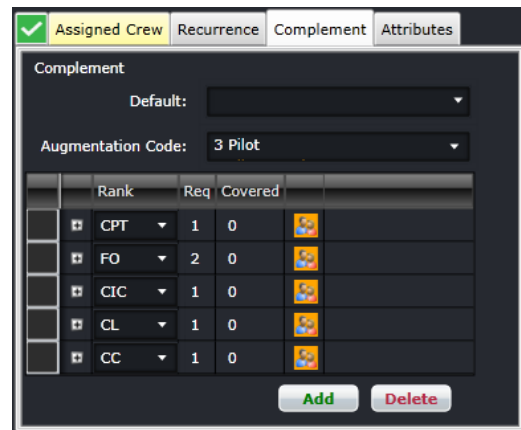
- **Add button**: Adds another row.
- **Delete**: Removes the selected row.

Changes to the Complement tab need to be saved by clicking on the Save button in the Pairing Panel.

Even though there is a defined Default Complement associated with the Pairing Panel, and requirements are calculated from the availability of Flights / Events within the Pairing, there are a number of occasions when the user will need to modify the complement to something other than the default. The user can manually set or change the required value in the rows in the Complement Grid. To add a requirement for a particular rank that is not displayed in the Complement Grid, click **Add** and select an additional rank to be inserted into the Grid.

Pairing Attributes

Attributes are additional ways to classify pairings. These are described and used the same as the attributes for employees or equipment types. Attributes are also used in payroll generation, rule validation and roster optimization.

Multiple attributes can be assigned for each duty in a pairing by selecting the option/s from the Attributes drop-down list, then clicking on the Save button in the Pairing Panel. Attributes are set up in Configure.

In the example below, duty C2-1-1 has the attributes LATESTART (Late Start), NACC (Non acclimatized), LAY (Layover pairing), FATG (Fatigue-inducing), EASY and INT (International).

Pairing attributes are set up in Configure.

Rule Limit Summaries

The Rule Limit Summaries panel helps users determine if a crewmember is nearing their allowed flight and duty hour limits. This panel uses the RulesEngine in determining each output to ensure that the same logic for rule validation is used.

To display a crewmember's hours, choose any of the following options:

1. The *Load Rule Limit Summaries* in the Pairing Panel is selected by default. This automatically updates the Rule Limit Summaries whenever the pairing is loaded, refreshed or saved.
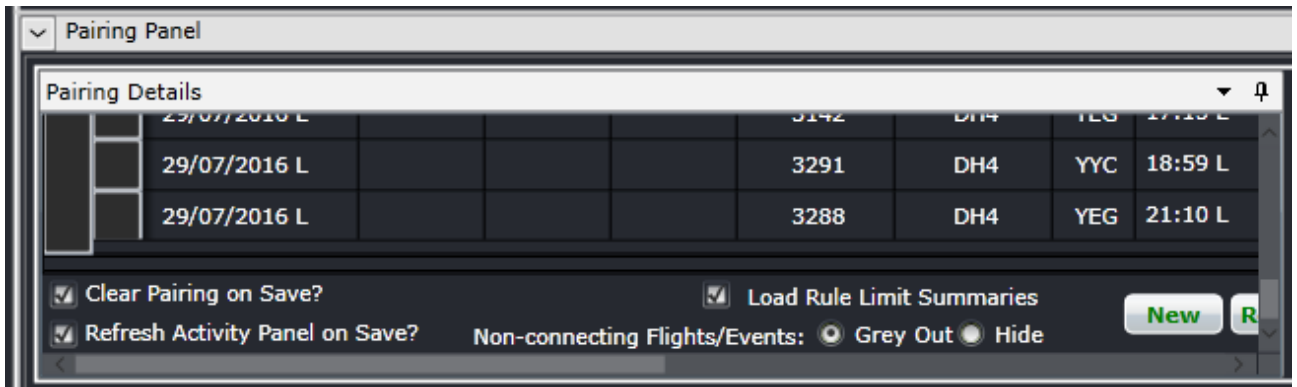
2. Clicking on another crewmember's tab in the Pairing Panel will load that crewmember's data in the Rule Limit Summaries panel. This also relies on the *Load Rule Limit Summaries* option.
3. Double clicking on a pairing in the Monitoring Panel, specifically on a violation or problem related to a crewmember.
4. Right-click on a pairing and select *View Rule Limits*.
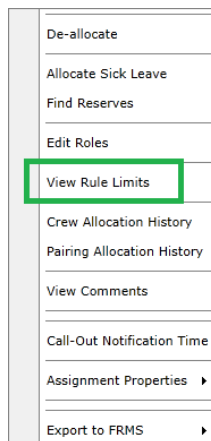
The **As at date** defaults to the date of the selected pairing. Hours are counted from that date going backward. The date can also be changed by using the calendar option on its right side. It also has a refresh button () that can be used if changes were made to the crew's pairings. It also shows which crewmember's summary is displayed.\

There are two tabs in this panel. The first one is for Period Limits. This tab contains the summaries for rolling limit rules only i.e. Flight Hours in Days, Duty Hours in Months, etc.

The second tab is for Duty Limits. This tab contains the summaries for flight time rules, FDP rules and duty time rules. The columns in both tabs can be sorted and filtered like in other panels.

The columns in these panels are the following:

Field	Description
Status	Displays if the rule was passed (legal) or failed (illegal). This follows the same logic as the violations in the Monitoring Panel.
Name	Rule name, as set up in Configure.
Type	Shows if the rule's validation period is based on a rolling period (Rolling) or calendar days (Calendar).
Limit	The threshold or maximum limit of the rule.
Period	The validation period for the rule, in Hours/Days/Months/Years.
Actual	The actual number of hours in hh:mm format.
Available	The amount of time before the limit will be reached. If the available amount is below the limit, a green arrow will be displayed beside it. If the available amount is equal to the limit, no arrow is displayed. If the actual time is over the limit, the variance will be displayed along with a red arrow.

Actual Period	The dates of the validation period i.e. 01/01/2016 - 31/01/2016.
Reference	Client Reference for the rule as set up in Configure.

Note: *Rules involving flight hours, duty hours and FDP time have the rule parameter IncludeInRuleLimitSummaries with value set to True. This parameter controls which rules are included for display in the panel.*

Activity Panel

The Activity Panel defines all the work to be completed by crew. It contains lists of created pairings and lists of all the flights and activities that have been or can be incorporated into the pairings. The Activity Panel is used to view open, covered, and over-covered pairings and flights, to create new events and to assist in creating and amending pairings.

To assign work to crewmembers, individual work activities should be grouped together into meaningful units of work and a list of available work then needs to be generated. This information is provided by the Activity Panel, which lists the work activities in the Flights and Events tabs, and then lists the created work in the Pairings and Standard Pairing tabs.

Any changes made in the Activity Panel will require a re-filter to view them. To do this, simply click **View**.

![merlot.aero]

Filtering

The Activity Panel has an associated filter, which can be used to limit the activity information displayed to that which matches the filter criteria. To aid the user in determining how much work is required to be created and allocated, the Activity Panel contains filters that are applied to the data on the tabs. These filters allow the user to focus on particular sets of data and to view the data that has been created or allocated, and/or work still requiring creation or allocation.

The Filter for the Activity Panel can be divided in the following sub-sections:
- Date and Time Filter
- Save a Filter or re-use existing Saved Filter
- Set Default Filter
- Criteria for Filter
- View the Data

Date and Time

To view crew data in the Activity Panel, users must load the data for a specified date range by entering a date range into the date control. A drop-down calendar is provided to select the date.

- **From**: A date field. The start value of the date range
- **To**: A date field. The end value of the date range
- **Save Dates**: The selected date range will be the default date for the saved filter

Note: *The date controls throughout the merlot suite have built-in short-cuts. These shortcuts allow users to instantly select different date targets, such as the current day (T), or the start of a month (M), a quarter (Q) or a year (Y).*

Save Filter or Re-use an Existing Filter

To allow users to specify and save filters, the Filter Section has a Filters field and associated Save, Delete and Reset icon buttons as well as a Save Dates checkbox.

The Filters field is a combination of a drop-down lists that displays the previously saved filters, as defined by the user, along with template filters that apply to all users. There is also the ability to enter a new filter name in the New Filter field and to click the plus (**+**) icon to add the new filter.

The Save Dates check box allows the user to control whether a filter they define is set to a specific date and time range or if the selected filter inherits the current date time range in the Monitoring Panel.

Set as a Default Filter

Part of the process when opening the Activity Panel, is to apply a default filter. This is to facilitate rapid filtering of displayed data to the data that the user refers to most frequently.

To allow the user to set a default filter, the filter section contains a Default check box. When this button is clicked, the currently selected filter is saved as the default filter for the application.

When the Activity Panel is opened, it determines the current user and the application context and defaults to the relevant filter.

Criteria for Filter

The Filter section contains the following criteria which are used to determine which data is displayed in tabs on the Activity Panel:

Field	Description
Base	A drop-down field that displays the active crew bases
Rank	A drop-down field that displays active ranks and / or rank groups
Equip	A drop-down field that displays the active aircraft or equipment types or groups that crew operate
Pairing Type	A drop-down field that displays the kinds of pairings to be displayed
Operator	The Operator drop-down menu filters the grid to show information based on selected airline operators
Department	A drop-down field that displays active departments. It is an area within an airline or company that is tasked with providing particular services of a similar type. For example, Flight Operations (i.e. the manning and operating of aircraft), Maintenance (ensure the aircraft are able to operate safely), Ramp (the parking and coordination of aircraft resupply between flights).
Status	Pairing status drop-down menu which includes All, Planned, Active, Provisionally Active options
Retain layout on refresh	This checkbox prevents the grid from returning to the default values.
Open	This checkbox indicates that the displayed data must include all open pairings or flights. Resulting pairings and flights are colored in white (no assignments yet) or light blue (partially covered)
Covered	This checkbox indicates that the displayed data must include all covered pairings or flights. Resulting flights and pairings are colored in orange
Over-covered	This checkbox displays pairings and flights that are over-covered or have more crew members on the pairing than the crew complement requires. Resulting flights and pairings are colored in red

Pairings	This checkbox indicates if pairings will be loaded or not
Events	This checkbox indicates if events will be loaded or not
Flights	This checkbox indicates if flights will be loaded or not
Include Cancelled	This checkbox indicates if cancelled flights will be loaded or not

Note: *By leaving a field Blank in any filter panel, you are asking for all options in that field to be included.*

There is an option to use exclude a criterion. For example, to load all activities except for FPG pairing type, select FPG and then Ctrl+ Click FPG. This will turn the selection red and the results will not include FPG.

Applying the Filter

A **View** button is included as part of the Filter section to give the user control over when filter criteria are applied to the data they are viewing in the Activity Panel tabs. This allows them to make multiple modifications to filter criteria and then have these modifications applied to displayed data at the same time.

Any changes made in the Activity Panel will require a re-filter to view them. To do this click on the **View** button, or to refresh the view of an individual tab, click on the green circular arrow on the tab.

Retain Layout on Refresh

Filtering either on Pairings > Grid or Flights > Grid, with the *Retain layout on refresh* checkbox on, will keep the following data after a refresh:

- Expanded dates;
- Filtered values in a column; and
- Order of data sorted in a column.

When new dates are added to the filter and previously filtered dates are still included, all the previously loaded data will still be displayed with the new set of data. However, if the previously loaded dates are no longer included in the new filter, the previously loaded data will not be included in the display.

Data loaded within the two grids will be retained if the checkbox is selected, even if one of the grids is hidden.

Tab Filters
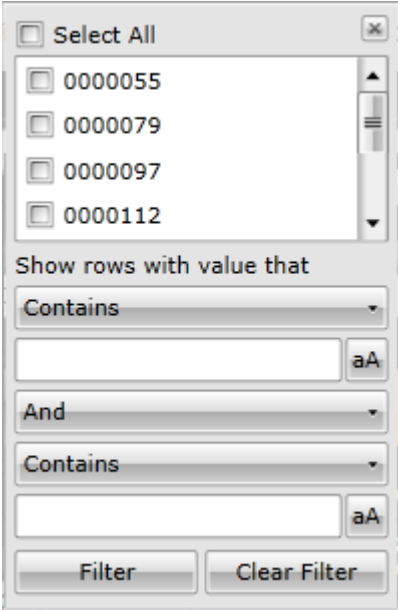
Within a filtered set of data, a user may need to be filter through the results. A **Search Filter** is available at the top of most columns, which enables the user to narrow down the filter even further. For example, if you want to view certain flights, or equipment type, or a particular departure port, then you could click on the filter as shown in the red square below. You can use one of the commands on this added filter to narrow your filter results.

Pairings

The Pairings tab displays the data associated with previously created and defined pairings. By default, pairings are grouped by date. Beside the date is a set of numbers that determine the number of open and actual pairings for the day.

01/11/2015(X|Y/Z)

In the example above, X is the number of open pairings. Y is the number of partially or fully covered pairings. Z is the number of pairings for the day.

The columns in the Grid tab are detailed below:

Column	Description
Date	Date of the pairing
Pairing	Name of the pairing, or the pairing label

Equip	The required equipment type/s for the flights in the pairing
Type	Pairing type
From	Port where the pairing begins. This is where crew needs to report from
Report	Report time for the pairing
To	Port where the pairing ends. This is where crew will be released from
Release	Release time for the pairing
Pair TAFB	Time away from base (TAFB). This is calculated as the difference between release time of the last duty in the pairing and the report time of the first duty in the pairing
Pair Flight Time	Total flight time within the pairing
Pair Duty Time	Total duty time within the pairing
Pay Credit	Total pay credit for the pairing
Open	Displays the number of crew required for the pairing. The numbers are broken down per rank.
Covered	Displays the number of crew that are already assigned to the pairing. The numbers are broken down per rank.
Attribute	Displays an attribute or a set of attributes assigned to the pairing. Attributes determine a specific description of the pairing such as Easy/Hard, Domestic/International, etc. These are set up in Configure.
Action	Set of action buttons: ❌ **Delete Pairing** – click this button to delete a pairing 🗑 **Cancel Pairing** – click this to delete a pairing on initial publish or active state. This icon is replaced by the ✅ **Reinstate Pairing** icon after a pairing is cancelled. 👥✓ **Allow Personal Swaps** – determines if this pairing can be swapped or traded with another crewmember

The different colours used for each pairing are:

- White signifies an open pairing or no crew have been assigned to the pairing.
- Light blue signifies a partially covered pairing or some crew have been assigned to the pairing.
- Orange signifies a covered pairing or the pairing has all the crew required.
- Red signifies an over-covered pairing or there are too many crew assigned to the pairing
- Grey signifies a pairing with a cancelled flight. The cancelled flight 🗑 icon also appears beside the pairing name.

The Gantt tab is intended to display the pairings in a Gantt view. It will be available in the future.

Standard Pairing

Standard Pairings are the predefined non-flight pairings that can be allocated to crew and can be assigned on any day. These can be assigned to any crewmember regardless of rank and equipment type.

The Generic Pairings are built in the Standard Pairing tab of the Activity Panel, so you do not need to build a new pairing every time you need one. These have been predefined in Configure. These Generic Pairings can be inserted into a Flying Pairing (FPG) or assigned directly to crew in CrewPlan, CrewRoster and CrewFollow.
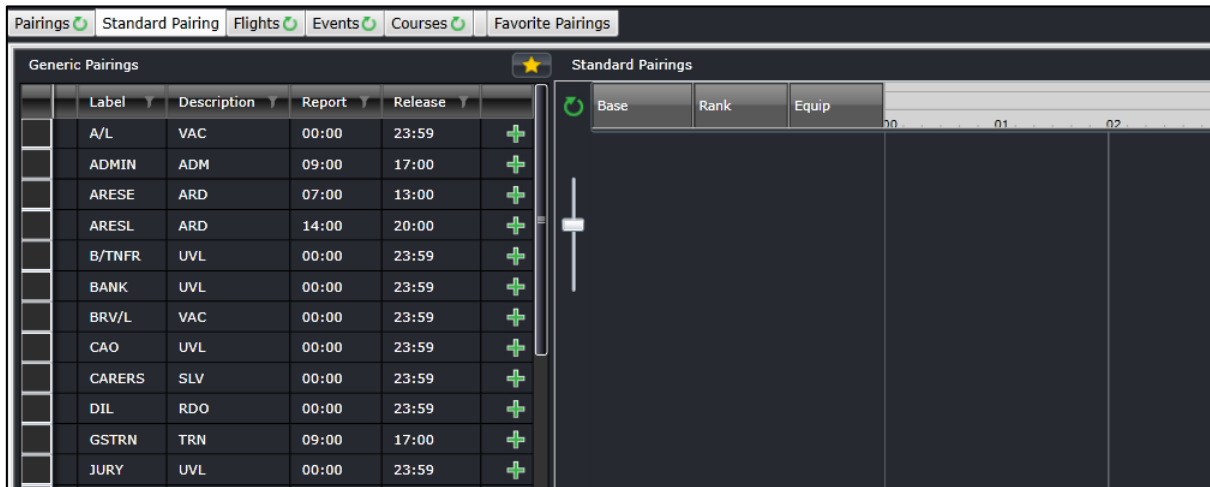
Each pairing can be configured to display a longer description when the mouse hovers on it. This makes it easier for users to know what each standard pairing is for.
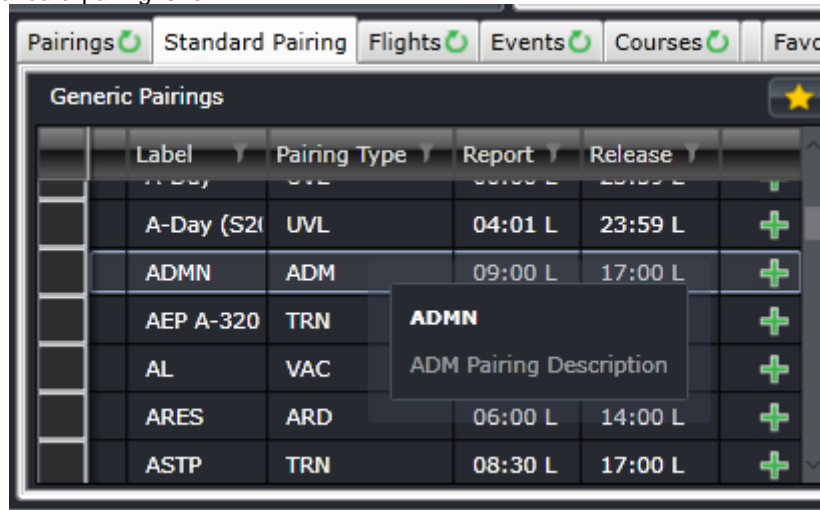
The Standard Pairings are displayed so that they can be allocated to employees in the Allocation Panel, or incorporated into other pairings created in the Pairing Panel. It does not require the filter for pairings. All generic pairings set up in Configure are displayed. The pair types under the Description column are listed below.

Pair Type	Definition
ADM	*Administration*. Used for employees who will perform administrative duties in an office. Time spent is included in the employee's duty time unless specified otherwise.
ARD	*Airport reserve or standby*. Standby time spent in the airport. Crew may be required to sign on at the airport. Time spent is included in the employee's duty time whether called out or not, unless specified otherwise.
AVL	*Available day*. A placeholder in a crew's roster that indicates that the crew is not required to work on this day but can be assigned work later on. Time spent in this pairing may be included in the employee's duty time unless specified otherwise.

CFP	*Course Flight Placeholder* (for Optimiser use only). This is used as a placeholder for potential course or training assignments.
DHD	*Deadhead.* This is used for duties that have deadhead or deadhead other events only. Time spent in this pairing may be included in the employee's duty time unless specified otherwise.
FPG	*Flight pairing.* This is the default option for pairings that have at least one operating flight.
GRD	*Ground activity.* Similar to administration pairings, this pairing is used for work in the airport, i.e. doing engine tests. Time spent is counted against duty time.
HOL	*Public holiday.* This is a non-work pairing and does not add any duty or flight time against the crew.
OPD	*Obligation to Perform.* OPDs is similar to an Available day (AVL) with reference to validating rules and utilization of preferences. Pairings such as ROE and ADD are categorized under this pairing type.
RDO	*Rostered day off.* This is a non-work pairing and does not add any duty or flight time against the crew. For days off rules, this is the primary pair type considered by the rule when validating the roster.
RES	*Home reserve or standby.* Standby time spent at home or in a suitable accommodation. This may or may not be included in the duty time of the crew, depending on the regulatory rule requirements.
SIM	*Simulator training.* This is a work pairing used to identify training or instruction in a simulator. Time spent is counted as duty time.
SLV	*Sick leave.* This is assigned to crew who call in sick or have planned medical appointments.
SOC	*Subject to Operational Clearance.* This is a placeholder for crew who were previously considered illegal or not fit to fly. Crew will only be allowed to operate once they are cleared by the airline.
TRN	*Ground training.* This is a work-pairing signifying training on ground (does not require any flying). Time spent is considered as duty time.
UVL	*Unavailable day.* This is a non-work pairing used as a placeholder for crew who are not available to work on the day. This is not considered as a day off, unless specified otherwise.
VAC	*Vacation.* This is a non-work pairing that represents a crew's vacation or personal holiday.

Flights

The Flight tab displays the data associated with flights from the published flight schedules. By default, flights are grouped by date. Beside the date is a set of numbers that determine the number of open and covered flights for the day.

01/11/2015(X|Y/Z)

In the example above, X is the number of open flights. Y is the number of partially or fully covered flights. Z is the number of flights for the day.

The columns are detailed below:

Column	Description
Date	Date of the flight
Flight	Designator and flight number
Equip	Equipment type of the flight
From	Departure port
Dep	Departure time
To	Arrival port
Arr	Arrival time
Flight time	Difference between on chocks and off chocks
Pair Flight Time	Total flight time within the pairing
Pair Duty Time	Total duty time within the pairing
Pair Rest Grd Time	Total pay credit for the pairing
Onward Flight	Displays succeeding flights numbers
Open	Displays the number of crew required for the flight. The numbers are broken down per rank.
Covered	Displays the number of crew that are already assigned to the flight. The numbers are broken down per rank.
Action	Set of action buttons: **Flight Follow Complement Delta** – Displays the complement for the selected flight. **Crew Assigned to Flight** – Displays the operating and deadheading crew in the selected flight.

Pairings covering the flight – Displays the pairings that has the selected flight included.

Flight information – Displays detailed information on the selected flight, similar to AircraftFollow's Flight Information Window.

The different colors used for each flight are:

- White signifies an open flight, or none of the operating seats have been assigned to a pairing.
- Light blue signifies a partially covered flight, or some of the operating seats have been assigned to a pairing.
- Orange signifies a fully covered flight, or all operating seats in the flight have been assigned to a pairing.
- Red signifies an over-covered pairing, or there are pairings associated with one or more operational seats.

- Grey signifies a cancelled flight. The cancelled flight icon also appears beside the flight number.

The Gantt tab is intended to display the flights in a Gantt view. It will be available in the future.

The flight designator can be displayed or hidden by setting the user preference *ShowDesignator* to True or False, respectively, in the Configure application. Also, the IATA code for the designator is displayed by default. If the airline requires ICAO codes throughout the application, please contact Customer Support.

Events

An event is an activity within a pairing and is not an active flight.

The Events tab contains the list of previously created existing timed events which can be inserted into pairings in a similar way to flights. It also contains lists of the configured generic types of both timed and non-timed events that can be added into pairings. The Events tab also provides the functionality to allow timed events to be created that can later be inserted into pairings, as well as the ability to modify and delete existing timed events (for the rest of this section unless otherwise specified, the term event will be used to refer to existing created timed events).
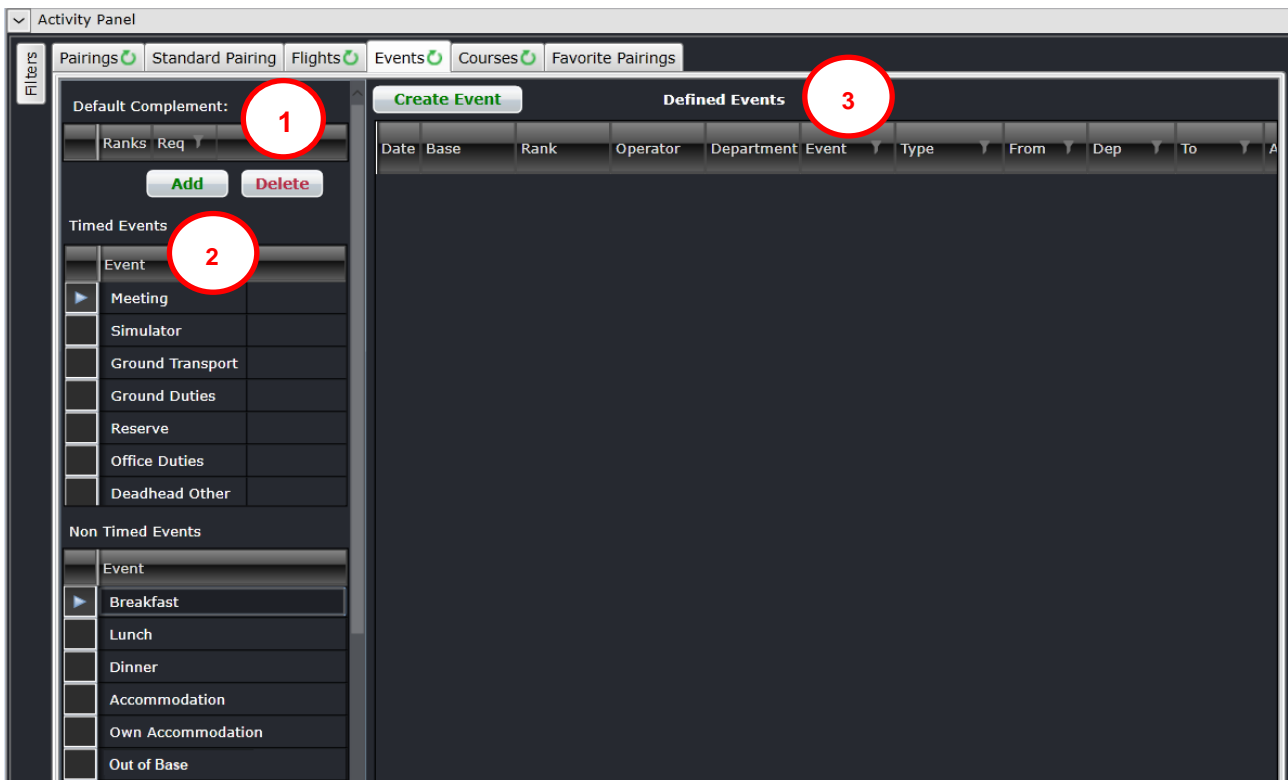
The Events tab contains 3 main screen components or sections:

1. **Default Complement Grid -** Defines the default complement for newly created events
2. **Generic Event Lists -** Two simple scrollable lists containing timed and non-timed events
3. **Defined Events -** Where the data matching the filter criteria is displayed

Default Complement Grid

This section allows the user to define the complement for any events that are created directly from this instance of the Activity Panel. By default, when the Activity Panel is open the Default Complement Grid will default to empty.
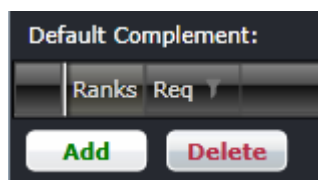
To add a complement, follow the steps below:

 a. Click **Add**.
 b. Select a rank from the drop-down field in the Ranks column.
 c. Enter the number of crew required for the selected rank under the Req column. The changes are automatically saved.
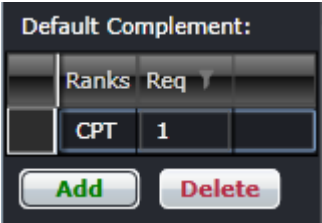
The complement will be automatically added when a new event is created. Details of which will be discussed in the next sections.
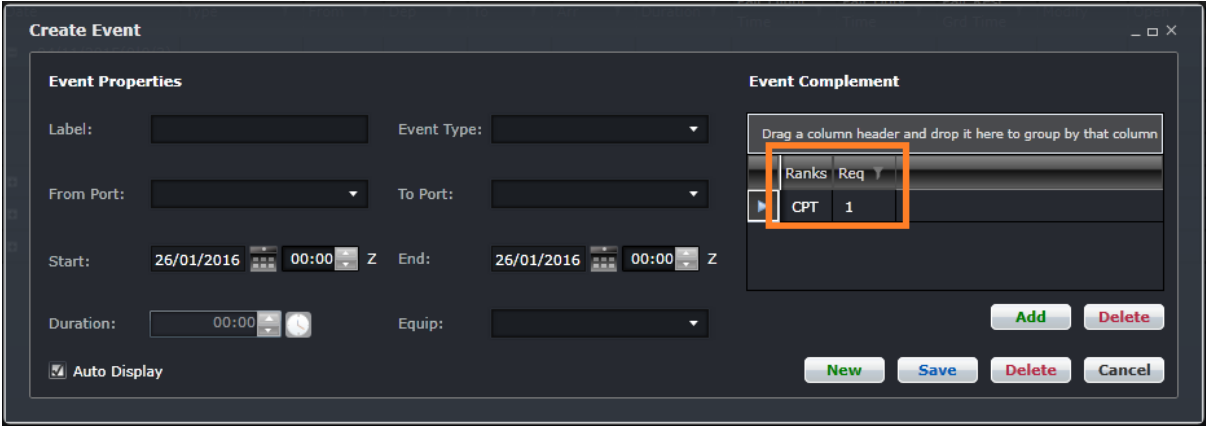
Generic Event Lists

The Generic Event lists consist of two lists. The first list has all the configured timed events and the second list has all the configured non-timed event types within the merlot system. These events can be added into any pairing to indicate non-flying activities that crew need to accomplish. In doing so, the user is prompted to enter any necessary information required to include an event of that type within the pairing.

Defined Events

This is a very simple text based grid presentation of the events that match the applied filter criteria. The columns are described below:

Column	Description
Date	Date of the flight
Type	Event type, as described in the list of timed and non-timed events
From	Departure port
Dep	Departure time
To	Arrival port
Arr	Arrival time
Duration	Length of time for the event
Pair Flight Time	Total flight time within the pairing
Pair Duty Time	Total duty time within the pairing
Pair Rest Grd Time	Total pay credit for the pairing
Modify	A button that allows users to modify details of the event
Open	Displays the number of crew required for the event. The numbers are broken down per rank.
Covered	Displays the number of crew that are already assigned to the event. The numbers are broken down per rank.

Creating and Modifying Events

In addition to allowing the creation of new events, a Create Event button is included. If the user has the Create security privilege granted to the Activity Panel – the Create Event button icon will be enabled. When a new timed event is created, the Create Event form is displayed to allow the entry of the information required to define a timed event.
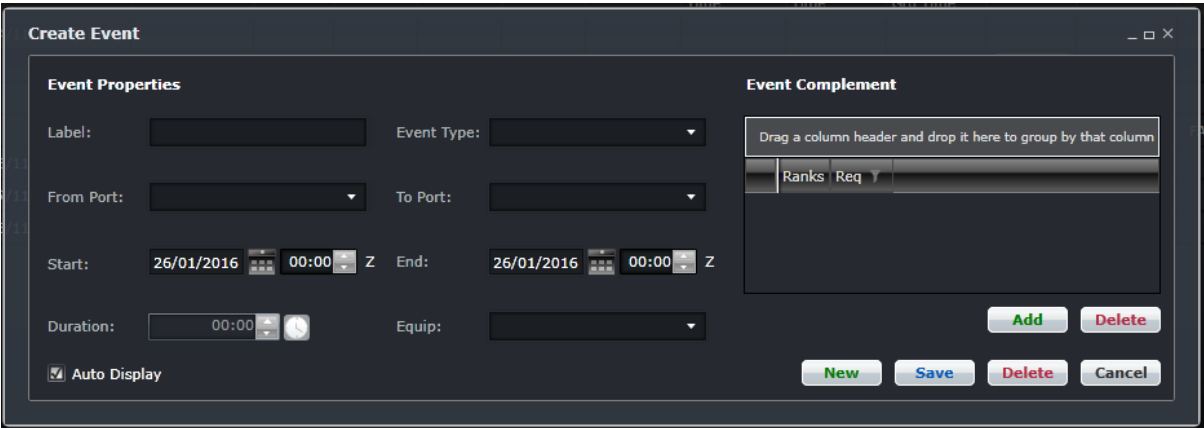
The Event Form is comprised of two sections:

- **Event Properties**: This section located on the left side of the form contains all of the specific fields required to detail the characteristics of the event.
- **Event Complement**: This section in a grid on the right side of the form defines the number of each rank of crew member required for the event. If the Default Complement is set in the Events tab, it will be applied here.

This form also has Save and Cancel buttons. When the **Save** button is clicked the information entered in the form is saved into the event table either as new record, or as an updated existing record. Then the form is closed.

When the **Cancel** button is clicked, the form is closed with the information entered in the form not being saved. If the Cancel button is clicked during dragging / inserting the timed event into a pairing, then that insertion will also be cancelled.

When an event is being modified, the form will be populated with information about the timed event. This same event form is used to modify existing created timed events. To modify an event, click on the **Yellow Folder** under the Modify column. If you want to include an event into a pairing, drag it to the Pairing Panel as if you were adding a flight.

The fields in the Create Event and Edit Event forms are described below:

Column	Description
Label	Name of the event
Event Type	Event type, as described in the list of timed and non-timed events
From Port	Departure port
To Port	Arrival port
Start	Departure time
End	Arrival time
Duration	Length of time for the event
Equip	Equipment type if the event occurs in an aircraft (deadhead other, simulator)

Courses

The Courses tab is intended to display the course instances that occur on the selected filter date range. This will be available in the future.

Favorite Pairings

The Favorite Pairings tab holds a list of pairings from the Pairings and Standard Pairings tabs marked as favorite.
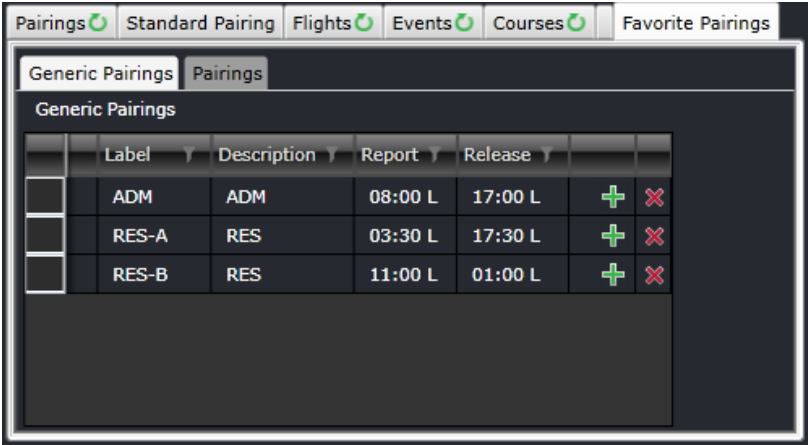
To include a pairing in the Favorites tab, follow the steps below:

1. Select a pairing from the Pairings or Standard Pairing tab.
2. Click ⭐ button.
   The pairing will be listed under the Favorite Pairings tab.

CrewPlan Actions

Pairings and rosters can be viewed by multiple users at any time. Users with the required access rights can also make changes to pairings and rosters. In some cases, a pairing that is in view could be updated by another user or process. If the user viewing the pairing attempts to change it based on the outdated version in view, a Pairing Update Conflict popup will be displayed.
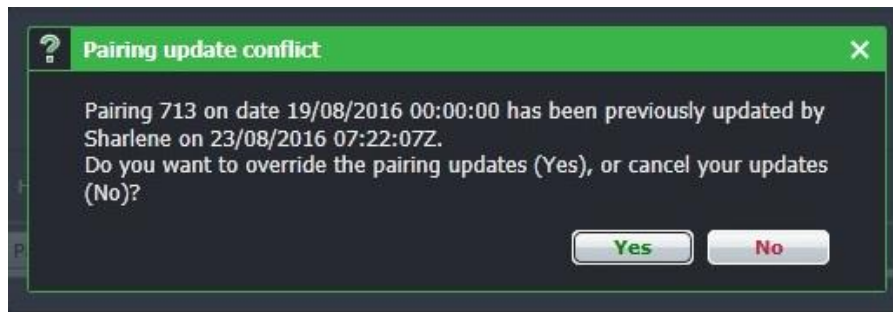
Selecting **Yes** will override the changes made by the other user or process. Selecting **No** will discard the current user's changes and the user must reload the pairing and apply the changes again.

Assign Pairings

Pairings can be assigned to crew by selecting the pairing from the Pairing Panel and then dragging it to the roster of the designated crewmember. The pairings can be from the Pairings or Standard Pairings tab.
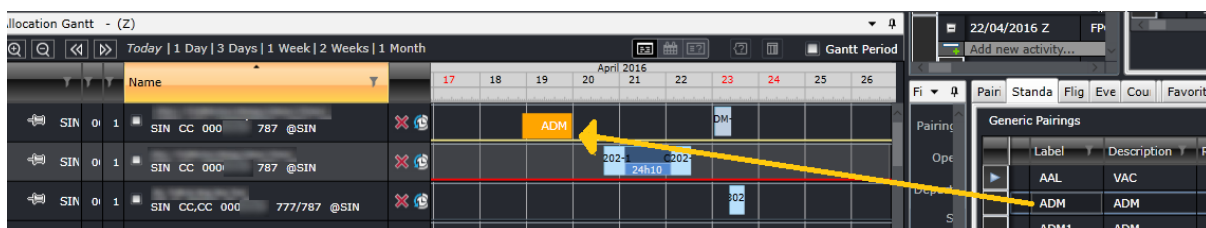
When assigning a standard pairing, make sure that the pairing is assigned under the correct date. Standard pairings have the default report and release times but not the dates, unlike built pairings.

Every time a pairing is assigned or modified, the pairing and roster will be validated. If a violation is detected, it will be displayed in the Pairing Exceptions tab symbolized by [X] or [!]. If the violation requires an override, the form will pop up and the user or his supervisor can override the violations as needed.

Multiple Crew Assignment

A pairing can be assigned to multiple crew at the same time. This is helpful when all complements (pilots and cabin crew) are to be filled up through pairing assignment. This can also be used when a set of crewmembers will be assigned the same pairing on the same day, i.e. a number of reserves for one day.

The checkbox on the left side of the crew's name allows for multiple crew assignment. Select the checkboxes for all the crew who will be assigned the same pairing. This will turn the crew's names orange. Click and drag the pairing from the Pairing Panel to one of the crew's rosters and drop the pairing.
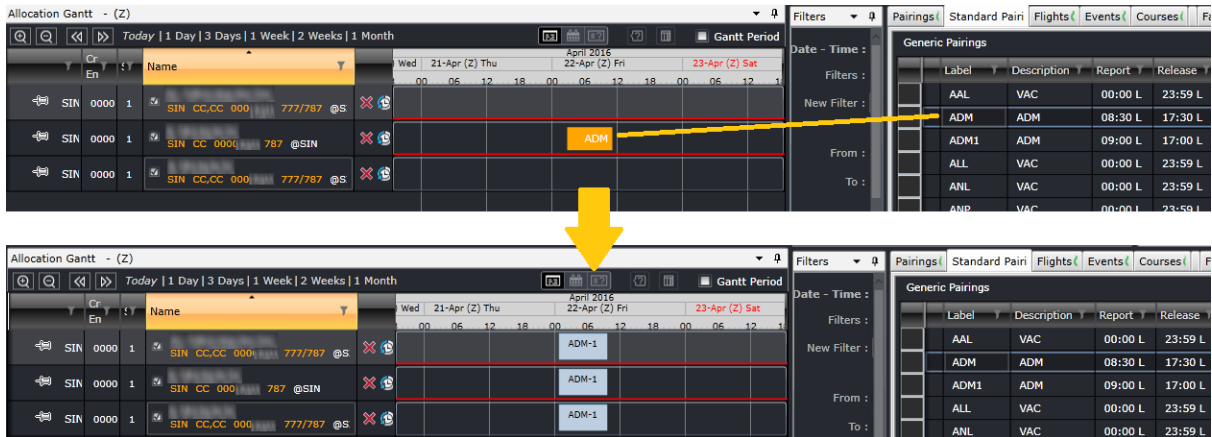
Deselect the checkboxes before assigning another pairing.

Multiple Day Assignment

A standard pairing can be assigned to one crewmember for more than one day. This is helpful when a crewmember goes on a long absence (vacation, maternity leave, sabbatical, etc.).

To assign multiple pairings, click on the **Shift** button, then click and drag the standard pairing towards any day on the crewmember's roster. Release the **Shift** button and the mouse button. A calendar will pop up. Select the correct year. Use the **Shift** or **Ctrl** buttons when selecting dates. **Shift** highlights dates from the first selection to the next selection. Use this when the pairing must be assigned to consecutive days. **Ctrl** allows you to pick several days with gaps in between.

This option can only be used for standard pairings and can be used to assign the standard pairings to days that are not currently viewed in the Gantt.

De-allocating Pairings

To de-allocate or remove a pairing from a crewmember's roster, click on the pairing to select it. Right-click on it then select De-allocate Pairing. The pairing will be removed from the roster and if it is a non-standard pairing, it will be reflected in the Pairing tab as partially covered.

To remove several pairings from one or more crew, select all the pairings by using **Shift** + click, then right-click on one of the selected pairings and select De-allocate Pairing.

Moving Pairings

A pairing can be reassigned from one crewmember to another instead of de-allocating it from one crewmember then assigning to the other. This can be done when the receiving crewmember does not have a pairing on the same day. Simply click and drag the pairing from the currently assigned crewmember to the receiving crewmember. A prompt confirming the change will appear. Click Yes to proceed or No to cancel.

Tip: Pin the rosters of both crew to make it easier to drag the pairings.

Swapping Pairings

Pairings that are assigned to crew can be interchanged instead of de-allocating and re-allocating both. This can be done by swapping the pairings. Press **Shit + Ctrl** then click and drag the pairing from the first crewmember over the pairing of the second crewmember. A prompt confirming the change will appear. Click Yes to proceed or No to cancel.

Tip: Pin the rosters of both crew to make it easier to swap the pairings.

Managing Statistics and Targets

The Statistics section allows you to set your target work and vacation activities per base/workgroups. This is commonly used to set Reserve Activity targets and Annual Leave / Day Off limits.

Calculations of Daily Targets

When you filter for and subsequently open a group of crew and choose to expand the Daily Statistics (which is collapsed by default), if the target totals have not been calculated for the filtered period, a message will prompt the user with the following text:

> *"Target statistics haven't been calculated for all or part of the open period. Do you want to calculate them now?" The user is provided with Yes and No buttons.*

After selecting Yes, the application calculates the Daily Statistics, based on values entered in Configure, for the employee groups which are filtered in the Allocation Gantt.
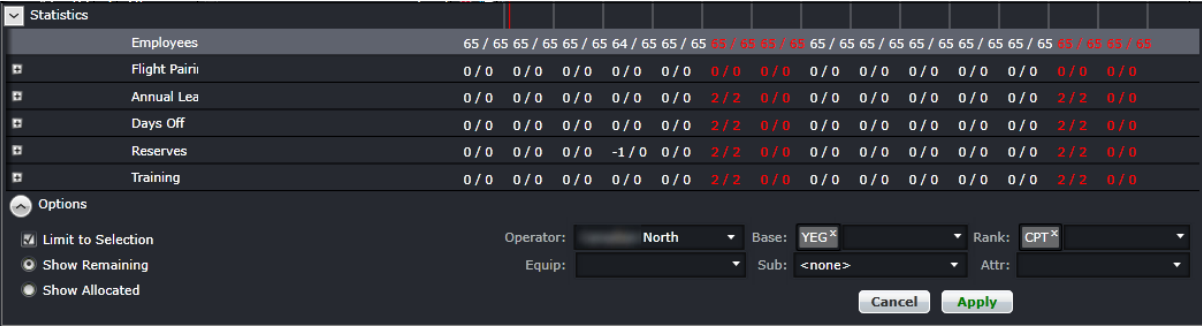
You will now see a menu option in the Tools menu called **Calculate Target Statistics**. This menu allows the user to manually calculate, or recalculate the target statistics for a specific period using the following controls to determine the relevant employee groups:

To complete the Calculate Target Statistics form:

1. Select the From and To Date Range for statistical calculation
2. Select applicable Criteria (Operator, Base, Rank, Equip, Sub, Attr)

    Note: *Sub = Course, Certification, Attribute, Group*

3. If the Overwrite Existing check box is selected, the criteria in the Allocation Panel will be overwritten with the newly calculated information.
4. Click **Calculate** or **Cancel** to close the form without generating action

    Clicking the Calculate button generates the following response:
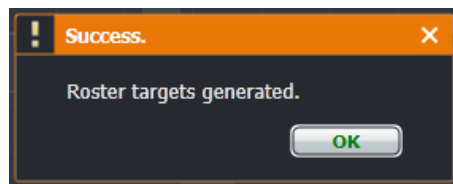
Roster target information generated is populated in the Statistics area of the Allocation Gantt.

The application now shows both the allocated/remaining number of entities for each of the total types, as well as a target value which is taken from the calculated values.

The calculated values are stored in the database and can be updated manually by the user by double-clicking the appropriate total cell for the day and type or by right-clicking from the day and type cell and selecting the Edit Target option from the right click context menu. This renders the Edit Target dialog form where the user can edit the target value.

Daily target statistics are the allowable number of pairings which should be allocated on a given day in order to maintain a balanced allocation pattern. These targets are generally determined during a manpower planning process; however, the standard totals are massaged by the roster planners during the build process.

To determine target statistics for each daily category, use the following methodology:

- **Employees** – the total number of displayed active employees for the day
- **Flight Pairings** – target is the total number of flight pairings that can be allocated for the day
- **Reserves** – the target number of reserves for the day
- **Days Off** – the target number of days off for the day
- **Annual Leave** – the target number of annual leaves for the day
- **Training** – the target number of training pairings for the day

To determine actual statistics for each daily category use the following methodology:

- **Employees** – the total number of displayed active available employees that do not have assigned pairings for the day
- **Flight Pairings** – the total number of allocated flight pairings allocated for the day.
- **Reserves** – the total number of allocated reserves for the day
- **Days Off** – the total number of days off allocated for the day
- **Annual Leave** – the total number of annual leaves assigned for the day
- **Training** – the total number of training pairings assigned for the day

Modifying Course Assignments in Planned or Active Roster

Crew schedulers have the obligation of publishing rosters to crew. As part of good practice, all course assignments must be done before the roster is planned in order for crew schedulers to prioritize courses over regular duties. Assigning Employees to Courses is done before the roster is published. In some cases, the assignment must be done when the roster is already published or live. For example, a crewmember failed the course or did not show up. The same steps for assigning courses should be followed, but there are a few additional steps.

1. Crew A was expected to attend a SIM course but called in sick. The crew scheduler begins the process of allocating a sick leave.
2. If Crew B can take the slot for training, assign the course instance to Crew B. If there is a pairing already assigned on the day, discuss with the crew scheduler for the correct operational process first before assigning the course instance.
3. The Duty Changes form will appear. This sends a notice to the crew that one of his duties has changed and requires his acknowledgment. Modify the details as needed then click OK.

The box on the left contains the names of all crew affected by the duty change. You can select to have all of them to be notified at the same time with the same settings, or select a few using the **Ctrl** + click function and apply a set of notifications for them, and do the same with another set of notifications for another set of crew.

The Reason field requires a generic classification for the duty change. **Operational** is applied by default, meaning the change was required for operational reasons. Other reasons include Personal Swap, Sickness and Schedule Change. Other reasons can be added. Please contact Customer Support if this is required.

The Property field works the same as Assignment Properties.

Public Comments and Private Comments can be added to give crew some context on why the change was done and if there are other things to be noted by users later on.

The Notification section gives users the option to send a notification to crew or not. There are cases when crew do not need to be notified, like when the crew was verbally informed of the change while the user made the changes, or if the change was made while the crew is operating a flight. Notifications can be sent manually (the user calls up the crew or informs him face-to-face), through the portal (CrewPortal, CrewMobile), SMS or email.

An alarm can be set to remind the user to notify the crew of the changes. This will not affect the crewmember. Simply enter the date and time when the alarm must ring. The duty change can also be hidden from crew (not visible in CrewPortal and CrewMobile) until a certain time. This is handy when the changes are not yet final. Enter the date and time when the duty change can be made available for the crewmember.

Sending a duty change notification is tracked in the system, including the name of the user and the timestamp of sending the notification. When the crewmember views or acknowledges the notification, the timestamp of that action is tracked as well.

Combining Flights with Flying Courses

Ground courses and SIM courses are assigned to crew simply by drag and drop or by modifying the course instance. For flying courses, the course and the flights need to be assigned. The order of assigning them does not matter.

In most cases, the flying course is assigned first in order to prioritize the schedule of the instructor or to address an upcoming expiry. In the image below, the flying course is already assigned. Look for the pairing with the flights in the Activity Panel, then drag and drop it over the flying course.
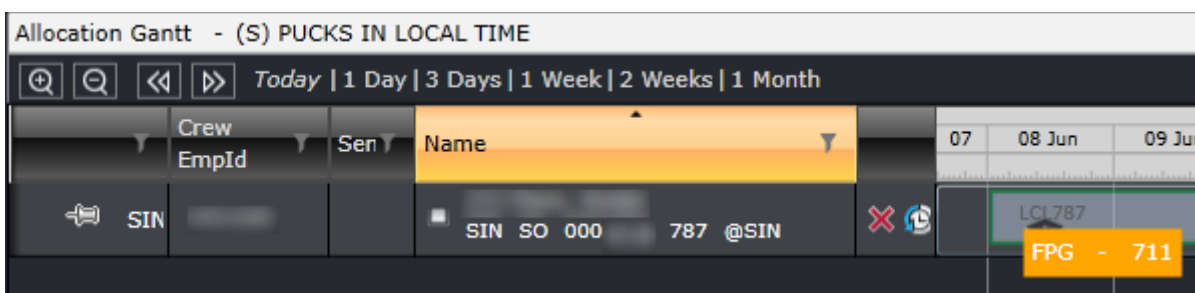
Confirm the prompts below. Selecting No will cancel the process.
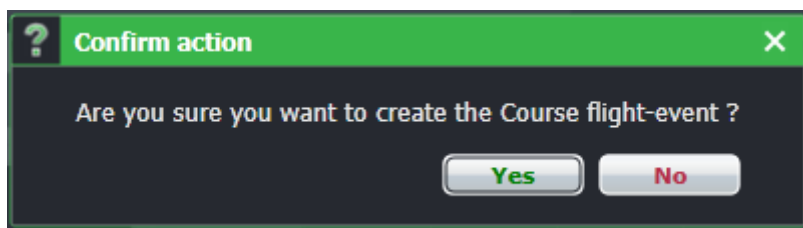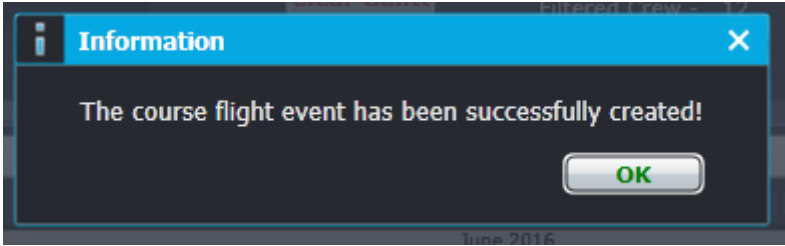
The flying course and flight pairing will be combined. The pairing label is taken after the flight pairing and the student icon is added under it.
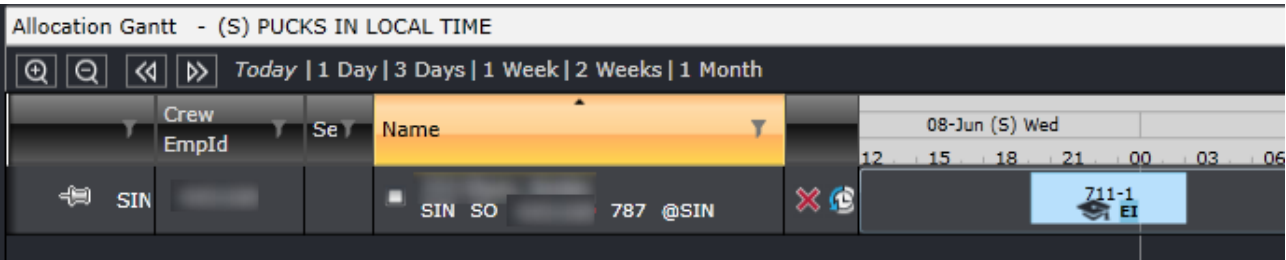
In some cases, the flight pairing is assigned first before the flying course, usually with last minute arrangements. In the image below, the flight pairing is already assigned to the crew. Assign the course using the drag-and-drop method or by adding the student from the Course Panel.
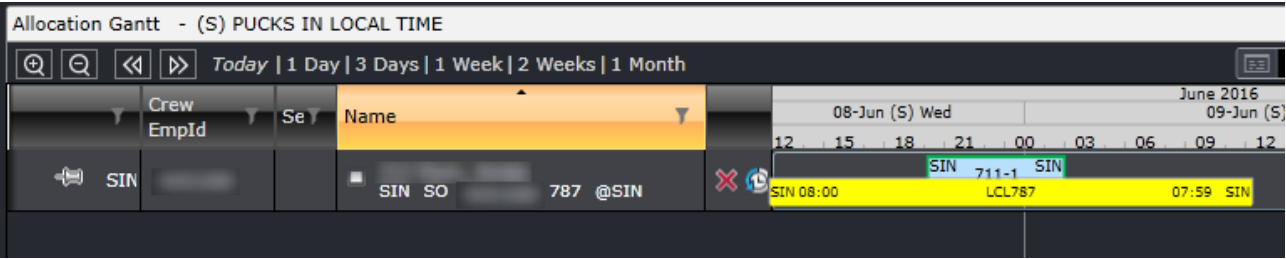
Confirm the role of the crew as student or instructor.
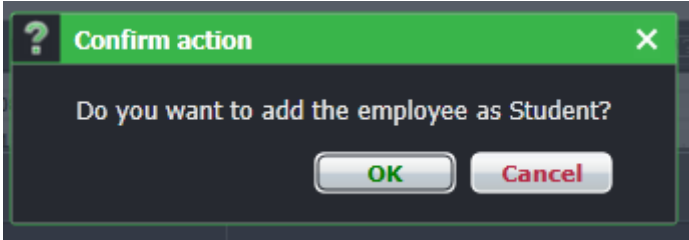
The flight pairing and flying course will be combined. The pairing label is retained from the flight pairing and the student icon is added under it.
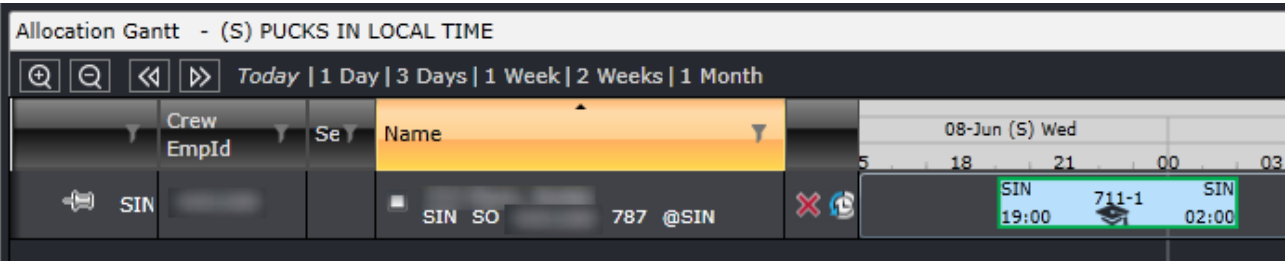
Menu Options

This section discusses the options under each menu option of CrewPlan.

File

The only option in this menu is *Reset Layout of internal panels*. The panels can be resized and moved around. If users need to bring the panels back to their original position and size, use this option.

View

The View menu contains time mode options.

> Z - Zulu
>
> L - Port
>
> S - Standard

- **Zulu** (Z) - Zulu time is known as Greenwich Mean Time (GMT)
- **Port** (L) - Port time is local time in the departure or arrival port of the flight
- **Standard** (S) - Standard time is local time at your company headquarters

Tools

Direct Open

Direct Open is a tool that allows users to search for specific crewmembers. This works like the Allocation Panel filter but presents more information about each crewmember and allows for faster searching. This comes in a basic view and an advanced view.

The basic view below can be accessed by using the hot key **Ctrl + F** from the Allocation Gantt or going to the Tools menu then selecting Direct Open.
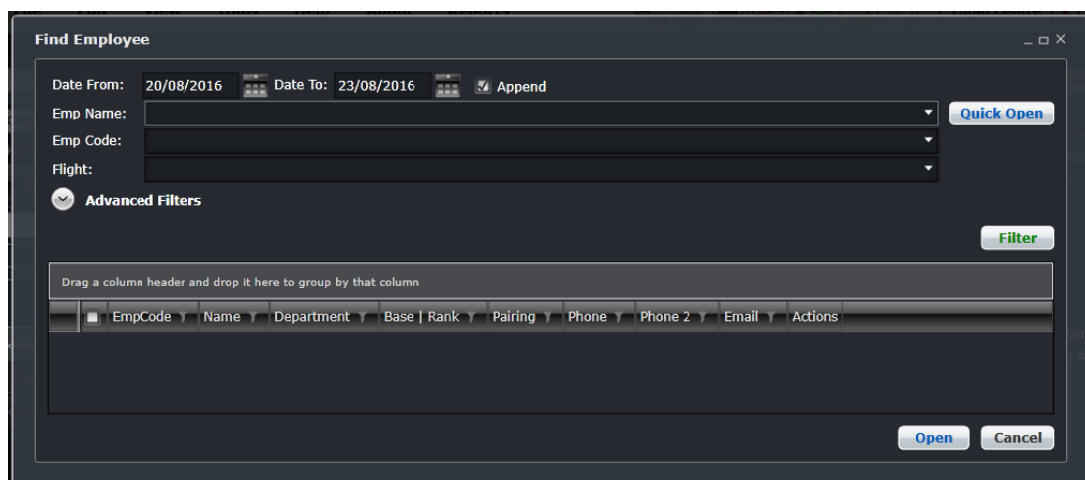
Field	Description
Append	Selecting this will add the rosters of the selected crew to your current view in the Allocation Gantt. If this is not selected, the current view will be replaced by the results of this search.
Date From Date To	The dates on top default to the current date in Standard time mode. Searching for crew in limited to actively rated crew within the entered date range.
Emp Name	Enter the first few letters of an employee's last name to bring out a list of suggestions.
Emp Code	Enter the first few characters of an employee's code or ID to bring out a list of suggestions.
Flight	Enter the flight number for the selected date range. Entering the first few numbers will bring out a list of suggestions. The crew assigned to the selected flight will be included in the search results.
Quick Open button	Click this button to display the rosters of the searched crew in the Allocation Gantt
Filter button	Click this button to display the details of the searched crew in the grid below the button.

The Emp Name, Emp Code or Flight field can be used independently of each other. Selecting at least one option from one of them will bring search results. Multiple entries can be entered for each field.

The search results in the Find Employee form display the crewmember's employee code, name, department, base and rank, pairings for the next 4 days, phone numbers and email address. The action buttons to the right allow the user to view the employee details and to send the employee a message.

The search results can also be ranked by column by clicking on the column header. They can also be filtered further using the filter icon (   ) in each column.

The **Advanced Filters** view can be accessed by using the hot key **Ctrl + A** from the Allocation Gantt, or going to the Tools menu then selecting Direct Open and clicking on the Advanced Filters button.

Field	Description
Base	A drop-down field that displays the active crew bases
Group	Provides a list of employee profiles or groups. Selecting any group filters our crew members who belong to the group within the selected filter date range. Multiple groups can be selected. For example, crew members who have recently come on board can be grouped as Green or IOE. When either group is selected for the filter, crew with the Green or IOE profile for the filter date range will be listed in the filtered crew list.
Rank	A drop-down field that displays active ranks and / or rank groups
Equip Group	A drop-down field that displays the active aircraft or equipment types or groups that crew operate
Department	A drop-down field that displays active departments. It is an area within an airline or company that is tasked with providing particular services of a similar type. For example, Flight Operations (i.e. the manning and operating of aircraft), Maintenance (ensure the aircraft are able to operate safely), Ramp (the parking and coordination of aircraft resupply between flights).
Course	Provides a list of active courses. Multiple courses can be selected for the filter criteria.
Line Type	A drop-down field that displays active line types.
Operator	The Operator drop-down menu filters the grid to show information based on selected airline operators.
Pairing	A drop-down field that displays all pairings.
Pairing Type	A drop-down field that displays the kinds of pairings to be displayed. This looks at the pairing or duty on the day/s being searched. For example, if you select RES for 01 June, all RES duties on the 01 June will be displayed even if the pairing starts on 31 May.
Match Type on all dates	If selected, this will display only the crew with pairings that match the selected Pairing Type and on the selected dates.
Certification	Provides a list of certifications that crew can achieve. Certifications are qualifications taken on crew's own time. Examples of which are language speaking skills and medical. Certifications may or may not need to be renewed. Multiple certifications can be selected for the filter criteria.
Attribute	Provides a list of attributes or pre-defined characteristics of crew that can be used to require or restrict the number of crew in a flight or route. Multiple attributes can be selected for the filter criteria. For example, a crew member can have a Mandarin-speaking attribute. In a flight going to any city in China, at least one Mandarin-speaking crew is required. The attribute of the crew is used to determine if that requirement has been met.
Include out of base Employees	Displays all duties for pairings indicated in the Pairing Type field for the indicated date in any port.

Open Training Plan

The **Open Training Plan** form enables users to easily manage training requirements for crew members and instructors within a given date range in the Allocation Gantt.

You can access the form through the following options:

- Click **Tools**, select *Open Training Plan*;
- Press hotkey **CTRL+ Q**;
- In the Course Gantt, use the right-click menu; or
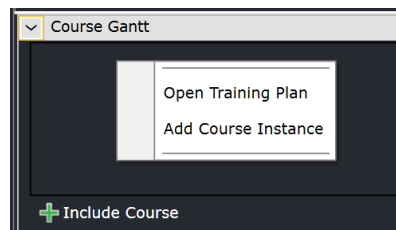
- In the Course Gantt, select a course, then use the right-click menu.
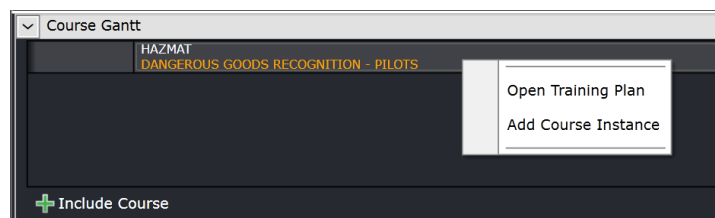
To utilize the Open Training Plan form:

1. Set *Date To* and *Date From* values.
2. Enter a value for the *Expiry outside date range buffer* field. You can enter numbers from 0 up to 99.
   This is useful when you want to include crew with training and certification expirations outside the indicated date range.

3. Select a course from the *Course* drop-down list.

4. Select a certification from the *Certification* drop-down list.

5. **(Optional)** Select *Include Never Validated* checkbox.

6. **(Optional)** Select *Include Planned* checkbox.

7. **(Optional)** Expand the *Advanced Filters* section and enter the following:

   - Base
   - Rank
   - Equip Group
   - Profile
   - Operator
   - Department
   - Attribute

8. Click **Filter** or **Cancel** to proceed.

   Note: *Filter is disabled when no course or no certification is selected.*

9. Select crew members from either the *Student Grid* or *Instructor Grid*. If you want to load all the crew within a list or both, mark the uppermost checkbox for each.

10. Click **Open** to display the filtered crew in the Allocation Gantt.

Manage Qualification Definitions

This is discussed in the CrewPlan Workflow.

Manage Expiry Information

This is discussed in the CrewPlan Workflow.

Manage Course Associations

This is discussed in the CrewPlan Workflow.

Calculate Target Statistics

This allows users to set the target statistics for pairings within a roster period. This is discussed in Managing Statistics and Targets.

Manage Resources

This is discussed in the CrewPlan Workflow.

Manage Simulator Logs

This is discussed in the CrewPlan Workflow.

Display Options

Display options contain several settings to show more or less information in the Allocation Gantt.

The Employee tab holds the display settings for the Name block. Users can select the basic details such as name, empcode and base. The grid at the bottom will be applied if Employee Tooltip is selected. If it is, users can select the attributes, groups and certifications to be displayed in the tooltip over the employee name.
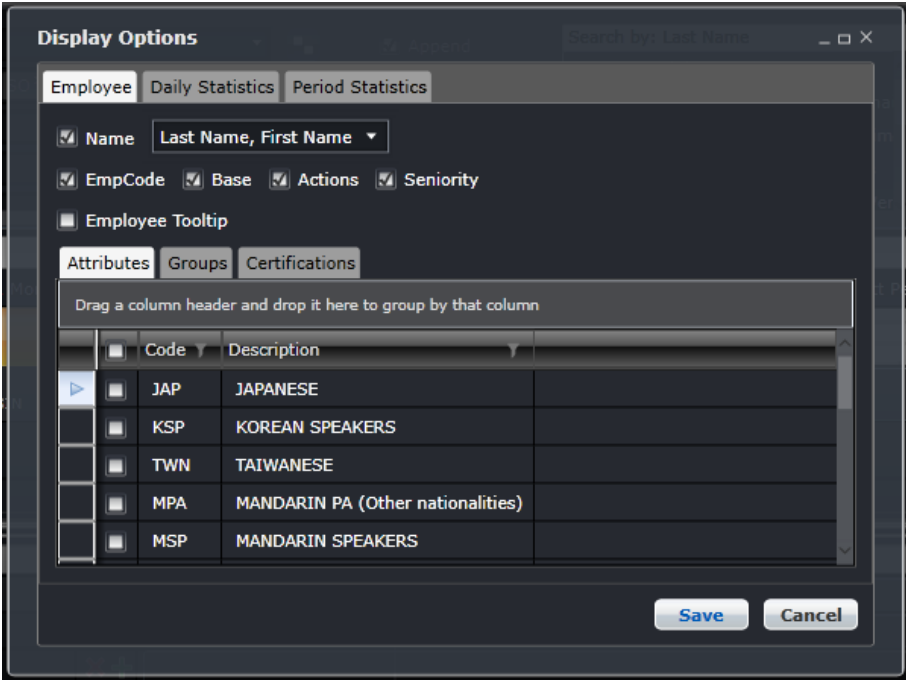
The options in the Daily Statistics tab are displayed in the [Statistics](#) section at the bottom of the Allocation Gantt.
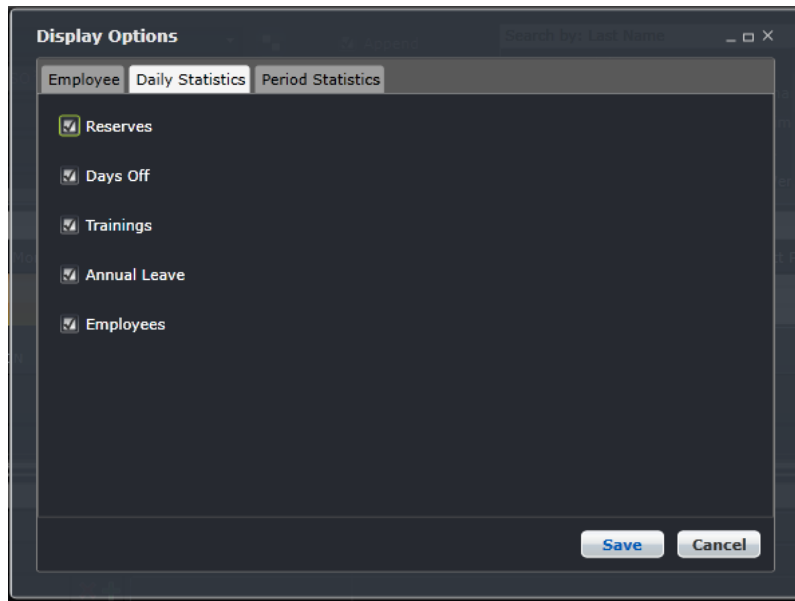
The Period Statistics options are displayed in the [totals columns](#) on the right side of the Allocation Gantt. The bottom grid displays the list of assignment properties to consider for target flight and duty times.
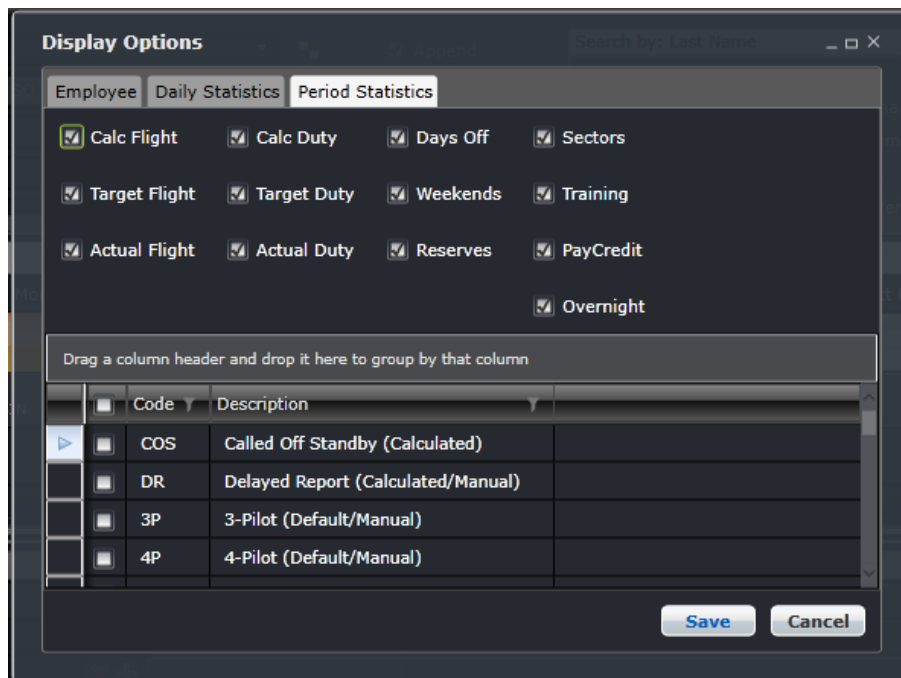
Transaction Mode

Transaction Mode provides a playpen or "what if" capability in modifying rosters. If you don't like the changes you just made, you can simply cancel it and the roster will return to its original state.

To start Transaction Mode, go to the Tools menu and choose Transaction Mode.

Once selected, you will notice a red bar across the application under the menu bar indicating that you are in transaction mode.
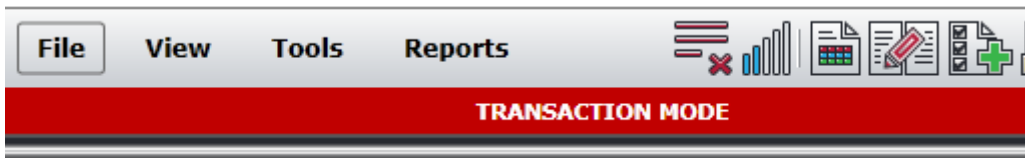
When you are finished, you can choose to Save it or Cancel these changes.

These three menu commands are related to each other:

- **Immediate Save Mode** – this is the default option when using CrewFollow. If you select this while in transaction mode, you will be asked if you want to save or discard your changes before going back to Immediate Save Mode.
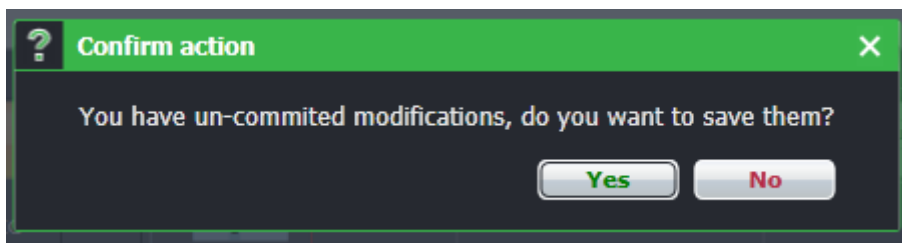
- **Save/Commit Transaction** – commits the changes made and returns CrewFollow back to Immediate Save Mode.
- **Cancel Transaction** – discards any changes made and returns CrewFollow back to Immediate Save Mode.

While in transaction mode, the Activity Panel will display the *Transaction mode tab changes* as soon as one roster or pairing change is made.

The tab contains the following columns:

Column	Description
Sequence	The order in which the change was made
Date	Date of the affected pairing
Employee	Name of the employee assigned to the pairing. If this is blank, it means multiple employees are affected or an unassigned pairing was changed
Ref	Pairing name. Clicking on the pairing name will load it in the Pairing Details Panel.
Description	Indicates if the pairing was allocated, de-allocated, modified or created, or when a flight complement is modified

The number of changes made is displayed on the left side of the tab. The Activity Panel filter will not affect the contents of this tab. Once transaction mode is committed or saved, the tab and its contents will disappear.

If an updated pairing in transaction mode was updated by another user or process before the current transaction was committed, a Pairing Update Conflict popup will be displayed. This allows the user to choose what to do with the updates.
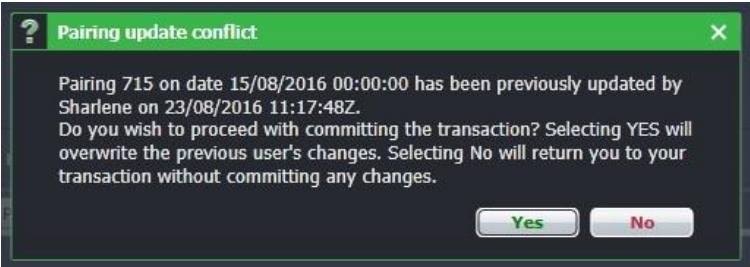
Selecting **Yes** will override the changes made by the other user or process. Selecting **No** will discard the current user's changes and the user must reload the pairing and apply the changes again.

Reports

Check Airmen Utilisation – Warehouse Report

merlot.aero-Check Airmen Utilisation Report - Warehouse			01-Jan-2014 to 30-Apr-2016		
Instructor	Crew Member	Training	A/C	Completed	Status
	Kim (12345678)	Initial Ground Training	777	9/17/2015	P
(1096)					
	Keith (1096)	Appendix H Training		11/4/2015	P
	Keith (1096)	Appendix H Training	777	11/4/2015	P
	Troy (123)	Appendix H Training	777	11/4/2015	P
	Christopher (174)	Appendix H Training	777	11/4/2015	P
	Ian (1804)	Appendix H Training	737	11/4/2015	P
	Gregory (238)	Appendix H Training	777	11/4/2015	P
	Roy (31)	Appendix H Training	777	11/4/2015	P
	Charles (335)	Appendix H Training	777	11/4/2015	P

Check Airmen Utilisation Report

merlot.aero-Check Airmen Utilisation Report			01-Mar-2016 to 31-Mar-2016		
Instructor	Crew Member	Training	A/C	Completed	Status
Dam____, Zla____ (0000088)					
	Jan____, Paul (0000413)	787 Base Check	787	3/26/2016	P
	Jac____, Dav____ (0000679)	787 Base Check	787	3/26/2016	P
	(T) S/O Sad____, Pra____ (0001675)	787 Base Check	787	3/30/2016	P
	(T) Binte____ (0001677)	787 Base Check	787	3/30/2016	P
De____, Sri____ (0000430)					
	Ueh____, Yus____ (0000182)	Recurrent Training Simulator		3/23/2016	P

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Crew Assessment Form Report

merlot.aero-Flight Crew Assesment Form **Sim Y1D First Officer**

Flight Crew Name			Company Number		Rank	
			152939		First Officer	

Date		Variant	Sim No.	Recurrent	Other	
31/Jul/2014		B738	Y1D	X		

An/Line	F/Up	Other	

		SIG	MOD	LOW		SIG	MOD	LOW
Technical Conditions					Weather Conditions			

Assessment Items	CHECK ITEM	R	GRADING	PERF MARKERS
1 Preflight			n/a	
2 Taxi			n/a	
3 Take Off			n/a	

Crew Assessment Summary Report

merlot.aero-Flight Crew Assesment Summary   From 02-Oct-2014   To   02-Oct-2014

Operator	Base	Rank	Employee	Grade			N/A
				Sum	Average	Devitation	
QF							
	AKL						
		CPT					
				50	3.85	0.38	24
			All Employees :	50	3.85	0.38	24

Document / Message Acknowledgment Report

Operator	Subject / Title	Message / Document	Crew Name	Base	Rank	EQPT	Issue / Sent By	Issue / Sent	Acknowledged	Acknowledgement Received
XW	CSC 021-2016 New Appoint for AM In-Flight Sales and Crew Service	Document	AIEMMUANG, THREERAT (0001282)	DMK	CC	777	Rachada Ngurnsod	02-Mar-2016 11:08:49 Z	No	
			AKKARAKITTICHOKE, PEERADA (0001092)	DMK	CL	777	Rachada Ngurnsod	02-Mar-2016 11:08:49 Z	No	
			AKKATHIN, SINICHAR (0000978)	DMK	CC	777	Rachada Ngurnsod	02-Mar-2016 11:08:49 Z	No	
			ANGSUSING, PATCHANON (0001275)	DMK	CC	777	Rachada Ngurnsod	02-Mar-2016 11:08:49 Z	No	
			ANUSATHIT, PUNNAPA (0001286)	DMK	CC	777	Rachada Ngurnsod	02-Mar-2016 11:08:49 Z	No	
			BOONSARNG, RATIMA (0000966)	DMK	CC	777	Rachada Ngurnsod	02-Mar-2016 11:08:49 Z	No	
			BORRISUTSAWAT, ARRIYA (0001154)	DMK	CC	777	Rachada Ngurnsod	02-Mar-2016 11:08:49 Z	No	
			BUATHONG, JINDA (0001269)	DMK	CC	777	Rachada Ngurnsod	02-Mar-2016 11:08:49 Z	No	
			BUTRSIKHAO, RATTHANAN (0001105)	DMK	CC	777	Rachada Ngurnsod	02-Mar-2016 11:08:49 Z	No	
			BUTRSIKHAO, RATTHANAN (0001105)	DMK	SNY	777	Rachada Ngurnsod	02-Mar-2016 11:08:49 Z	No	
			CHABKLINHOM, ANGKHANA (C000033)	DMK	CL	777	Rachada Ngurnsod	02-Mar-2016 11:08:49 Z	No	
			CHAIHONG, SINEENAD (0001278)	DMK	CC	777	Rachada Ngurnsod	02-Mar-2016 11:08:49 Z	No	
			CHAIYARAJ, PEERAYA (0000853)	DMK	CC	777	Rachada Ngurnsod	02-Mar-2016 11:08:49 Z	Yes	09-Mar-2016 13:12:06 Z
			CHAIYARAJ, PEERAYA (0000853)	DMK	SNY	777	Rachada Ngurnsod	02-Mar-2016 11:08:49 Z	Yes	09-Mar-2016 13:12:06 Z
			CHANANITHITHAM, NITHCHA (0001117)	DMK	CC	777	Rachada Ngurnsod	02-Mar-2016 11:08:49 Z	No	

Scoot Pte Ltd
merlot.aero - Document / Message Acknowledgement Report — 01-Mar-2016 to 07-Mar-2016

Employee Expiry Report

N/A
merlot.aero-Crew Pre Plan - Expiries Report — 01-May-2016 to 30-Jun-2016

	Employee Code	Course Name / Certification	Base Rank	First Passed	Last Passed	Next Planned	Expires
⊟ Company Limited							
⊟ AKK____, SIN___							
	0000978	NCT CC MEDICAL	DMK CC	23 Jun 2015	23 Jun 2015		23 Jun 2016
⊟ ALL__ BEN_____							
	0001740	NCT LANDING	DMK FO		17 Apr 2016		17 May 2016
⊟ BOO_____, RATI__							
	0000966	NCT CC MEDICAL	DMK CC	22 Jun 2015	22 Jun 2015		22 Jun 2016
⊟ CHA_____, ANG_____							
	C000033	NCT CC MEDICAL	DMK CL	10 Jun 2015	10 Jun 2015		10 Jun 2016

Port Currency Report

merlot.aero - Port Currency Report (Achieved)

Rank Group	Rank	Port	Employee	Flight	Date	Days
Flight Crew						
	FO					
		OOL				
				6	13-Mar-2016	25

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Seat Report

Pairing	Name	Emp Code	Rank	Report Date	Pairing Duty	RHS	LHS	JS	FA	PAX
	merlot.aero- Seat Report			**01-Apr-2016**	**to 07-Apr-2016**					
T108	Abh	000	FO	01/04/2016	T108-1		4:52			
	Abh	000	FO	02/04/2016	T108-2		5:16			
	Chua	000	CPT	01/04/2016	T108-1	4:52				
	Chua	000	CPT	02/04/2016	T108-2	5:16				
	Vivian	000	FO	01/04/2016	T108-1			4:52		
	Vivian	000	FO	02/04/2016	T108-2			5:16		
					Total	**10:08**	**10:08**	**10:08**		
T108-1	David	000	CPT	06/04/2016	T108-1-1		4:43			
	Nikhil	000	FO	06/04/2016	T108-1-1			4:43		
	Jian	000	SO	06/04/2016	T108-1-1	4:43				
					Total	**4:43**	**4:43**	**4:43**		

Training Schedule Detail Report

Training Summary Report

merlot.aero-Crew Training History Summary Report				01-May-2016		to	31-May-2016		
Employee	Instructor	Course	A/C	Course Start	Course Completion	Status	Base Month	Expiry Date	Comments
, Peter		B73B Simulator Matrix Training Session C		13/05/2016			N/A	N/A	
, Peter		B73B Simulator Matrix Training Session D		18/05/2016			N/A	N/A	
, Peter		B73B Simulator Matrix Training Session E		18/05/2016			N/A	N/A	
, Peter		B73B Simulator Matrix Training Session F		18/05/2016			N/A	N/A	
, Peter		B73B Universal Avionics Ground Training		17/05/2016			N/A	N/A	
, Jessica		Line Check - Flight Attendants		29/05/2016			Jun	01/06/2017	
, Delvon		Line Check - Flight Attendants		30/05/2016			Jun	01/06/2017	
, Brent		B73B Aeroplane Servicing and Ground Handling 725.124 (31)		27/05/2016			Jul	01/07/2017	
, Brent		B73B Airborne Icing 725.124 (40)		27/05/2016			Jul	01/07/2017	
, Brent		B73B Aircraft Surface Contamination 725.124 (23)		27/05/2016			Jul	01/07/2017	

Training Summary Warehouse Report

merlot.aero-Crew Training History Summary Report - Warehouse				01-Apr-2014		to	30-Apr-2015		
Employee	Instructor	Course	A/C	Course Start	Course Completion	Status	Base Month	Expiry Date	Comments
Felix (965)		Check Airman Ground Training		04-21-2015	04-21-2015	Passed	Jan	01-01-2999	
Felix (965)		CRM Training		01-14-2015	01-14-2015	Passed	Jan	01-31-2016	
Felix (965)		Emergency Training		01-14-2015	01-14-2015	Passed	Jan	01-31-2016	
Felix (965)		Ground Training		01-14-2015	01-14-2015	Passed	Jan	01-31-2016	
Felix (965)		Hazmat Training		01-14-2015	01-14-2015	Passed	Jan	01-31-2016	
Felix (965)		Initial Operating Experience		02-26-2015	02-26-2015	Passed	Jan	01-01-2999	
Felix (965)		Line Check Airman Line Training		04-21-2015	04-21-2015	Passed	Jan	01-01-2999	
Felix (965)		Line Oriented Flight Training		01-16-2015	01-16-2015	Passed	Jan	01-01-2999	

Application Flow Diagram

Configure	Configure application is a central place where all crew and aircraft configuration information can be accessed. The application defines the core set of configuration requirements that are the building blocks that allow merlot applications to be used in the way required by your airline.
AircraftSchedule	AircraftSchedule improves the development of flight schedules while ensuring operational integrity and meeting the needs of airlines for increased efficiency in scheduling. The application includes a maintenance planning capability.
CrewBuild	CrewBuild develops efficient crew pairings that achieve business goals while meeting the needs of crew and managing changes that arise after the roster is published.
CrewPlan	CrewPlan plans and monitors all revalidation and qualification checks, medicals, license renewals, annual leave and administrative needs. Crew shortfalls or surplus information is accurately calculated by fleet, rank or base and can be aggregated at daily, weekly or monthly levels. This extends to future establishment planning.
CrewRoster	The CrewRoster application allows the user to develop efficient crew rosters that achieve business goals while meeting the needs of crew.
CrewFollow	CrewFollow provides airlines with the best information to act on in response to crew disruptions resulting from (amongst other things) sickness, no-shows and crew-related disruptions on the day.
CrewMonitor	CrewMonitor identifies and monitors changes within merlot for disruptions that will impact pairings and pairing allocations to crew members.
CrewPortal, CrewMobile	CrewPortal and CrewMobile provide airline crew with the ability to view the latest crew related information on a computer or mobile device such as phones or tablets. It enables airline operations employees to securely distribute timely and relevant information to crew members including duty assignments, duty changes and messages.
AircraftFollow	AircraftFollow provides a real time graphical representation of your airline's live status for the day. AircraftFollow allows the user to manage incoming and outgoing aircraft and related operational tasks on a day-to-day basis. The application provides accurate and timely information to improve the decision support process.
AircraftPortal, AircraftMobile	AircraftPortal and AircraftMobile provide outstations with the ability to view the latest schedules and fight-related information on a computer or mobile device. Updates to departure and arrival times, terminals, gates and bays can be done from here. These also allow management a quick look at the day's operations.
CrewPayroll	CrewPayroll manages complex pay and allowance calculations for crew.
ExecutiveDashboard	The ExecutiveDashboard provides executive level reporting including key performance indicator (KPI) data to help airlines gauge operational and employee success.

CrewPlan Glossary

Term	Definition
Base	The port to which crewmembers are expected to commence and finish their tasks / activities.
Broken Pairing	A pairing that has any of the following characteristics: • does not return to its start location; • has events that conflict with the previous or next event's port; or • has overlapping events within it. Note that there are other types of exceptions that indicate problem pairings, but these are broken in terms of structure rather than rule limits.
Certification	A type of qualification that the crew must renew on his own time. These do not need to be scheduled by the airline, but they are needed to keep the crew legal to fly. Examples of which are passports and pilot licenses.
Company Pairing	*Also called Generic Pairing, Ground Pairing, Non-flight Pairing, Standard Pairing* These are pre-defined non-flight pairings that can be allocated to crew. Examples of these are: Administration Days, Days Off, Annual Leave and Sick Leave. Also known as Standard Pairing or Generic Pairing.
Company Time	This refers to the time at which the pairing or event is occurring converted to the company's base or headquarters location
Course Association	A direct link between a crewmember and a qualification that he or she needs to attend and pass in order to operate on a flight.
Course Instance	An occurrence of a course scheduled for a specific day, which is allocated to crewmembers' rosters.
Covered Pairing	A pairing that has all complements filled.
Crew	A specific type of employee required for flight operations. This term is interchangeable with *employee*.
Crew Complement	The number and types of crew required for a pairing.
Currency Requirements	*Also called recency requirements* Pilots need to meet certain currency requirements in order to remain legal to operate. These can include instrument currency, night currency, various approach currencies, etc.
Department	The areas within an airline or company that are tasked with providing particular services of a similar type. For example, in an airline there are Flight Operations (i.e. the manning and operating of aircraft), Maintenance (ensure the aircraft were able to operate safely), and Ramp (the parking and coordination of aircraft resupply between flights).
Designator	Unique alphanumeric code given to distinguish each airline, or operations within an airline
Duty	A grouping of flights and / or activities that can be performed legally by a crew member during one work period. One or more duties combined together define a pairing.
Employee	The generic term for people who are trained to perform specific tasks/activities. Within Flight Operations, the employees are generally referred to as crew or crewmembers; and within Maintenance, the employees are generally referred to as engineers, mechanics, avionic technicians etc.
Equipment Group	The grouping of a similar set of equipment types. For example, a 737 which could be comprised of 733 and 734 equipment types. This can also be used as a reference to indicate the equipment types that a crewmember is legal to operate on as part of his rating.

Equipment Type	*Also called aircraft type.* Model of the aircraft. A specific type of aircraft that has distinct characteristics, for example a 733 or 734. This can also be used as a reference to indicate the equipment types that a crewmember is legal to operate on as part of his rating.
Flight	*Also called sector* The transport taken from a departure point to an arrival point.
Flight Complement	The number and types of crew required to operate a flight.
Flight Pairing	A pairing that contains at least one operating flight.
Ground Pairing	A pairing that contains only ground activities. No operating or deadheading flights are included.
Local Time	The time at the location at which the pairing or event is occurring. If the location is the same or in the same time zone as the company base or headquarters location this time will be the same as the company value.
Open Pairing	A pairing that has at least one complement still requiring a crew member to be assigned.
Pairing	The generic unit of work and non-work that can be assigned to a crew member. A pairing is comprised of none, one or more flights and/or activities grouped together into one or more duties. A pairing may span over multiple days. One or more duties combined together define a pairing. A pairing is from home base to home base so it can encompass a number of duties each with individual report and release times. In this way pairings can span a single or multiple days. Pairings are usually built for all crew that carry out identical work. For instance the Captain, the First Officer and the Flight Attendants, who all stay together, will be on the same pairing. To ensure consistency and simplicity of allocation a Pairing will be the only unit of activity that can be assigned to a crew member. There are some exceptions to this but in general this concept applies across the suite of applications.
Pairing Complement	The required number of employees of each rank that are needed to fully operate that pairing.
Port	An airport or station
Port Currency	*Also called port recency* Some ports are categorized to have a more difficult method of landing and takeoff. For these ports, pilots are required to operate to and from the port more frequently, thus they need to be current for the port. In some cases, they need to land and takeoff once every 90 days.
Problem	Non-rule based exceptions generated by the Problem Detection Engine (PDE), such as incorrect report/release times, illogical flight/pairing data, and crew complement issues.
Puck	The graphical representation of a flight or pairing in a Gantt chart.
Rank	The core qualification that an employee holds which defines the level/type of tasks and activities they can perform. For example Captain, First Officer, Flight Attendant.
Rating (or Type Rating)	Defines the combination of equipment and position that personnel can legally operate. In merlot, the characteristics that define a rating are: Rank, and Equipment Group.
Recurrent Training	Training requirement that needs to be retaken frequently and is necessary for a crew member to remain legal to operate a flight
Roster	A roster is simply a defined period of time within which the crew member's work and non-work assignments are defined.
Roster Period	The date range in which a set of work and other activities is to be performed

Route Currency	*Also called route recency* Some routes are categorized to have a more difficult operation. For these ports, pilots are required to operate the route more frequently, thus they need to be current for the port. In some cases, they need to operate the route once every 90 days.
Violation	Any breach of a configured rule that has been generated by the merlot RulesEngine. Rules are generally configured to enforce published regulatory requirements from government agencies and other company rules as defined in the airline's operations manual.
Violation Behavior	This determines what can be done to a violation once it is flagged. This works in conjunction with violation severity. • Inviolate - does not allow the assignment to push through no matter what • Override - if the user has the appropriate security rights, he can override the violation • Override Disrupt - if the user has the appropriate security rights, he can override the violation only if the flight is in disrupt • Track - the user can proceed with the roster changes but the violation is retained for tracking purposes. The violation will not have a pop up, but will be visible in the Violation Panel. • Ignore - the violations are retained in the Violation Panel
Violation Override	This determines how a violation should be overridden • Management - the credentials of a management-level user must supply his credentials when overriding the violation • Supervisor - a supervisor must supply his credentials when overriding the violation • Extension - a user with override rights must supply his credentials when overriding the violation which consequentially allows an extension to the flight hours, duty hours and/or flight duty period • Discretion - signifies that the violation will be overridden based on the captain's discretion
Violation Severity	This determines how a violation is presented • Critical - the violation must be addressed. Otherwise, the crew is illegal to fly • Ignorable - the violation can be addressed later and will not prevent the crew from reporting for a duty • Informational - the rule breach is for informational purposes only • Passed - the rule is not breached and nothing has to be done

Notes