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How to plan Staff Shifts using ZonaTEAM

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Getting Started: Try all with method!

To learn how to use ZonaTEAM, just follow the order of the operations, starting by exploring the program features such as reading a book. All properties of the fields to be filled are documented under the help buttons:

You should observe a pre-installed planning, and then try to configure your own.

This introductory guide provides some indication for the first steps. You should print it and keep it handy while you try to use the program.

Focus:	**Set up always and only the relevant data for planning**, without unnecessary complications with redundant data. When in doubt, leave empty fields whose function is not clear: there will be time later to supplement what is missing.

To resolve any doubt: www.zonabit.it assistenza@zonabit.it

Environment Configuration

	Environment Configuration
1	**ORGANIZATION / COMPANY**
To create a planning, set up first of all stable elements of the organization. The first data to be entered is simply the name of the company or organization.	

	Environment Configuration
2	**HOLYDAYS AND BANK HOLYDAYS**
Select in the calendar the days that are public Holydays this year, and declare them as Holydays or Bank Holydays using the appropriate key. Configure here only the Holydays and Bank Holydays for which Planning is exceptional, without worrying about the ordinary Sundays. If your Planning includes a special Staff for Bank Holydays (for example: Friday before Easter, December 24), configure them.	
Error to avoid:	If the work runs on continuous loop every day of the year, it is useless to configure public holidays: later you should specify that they should be covered in the same way as ordinary days.

	Environment Configuration
3	**SHIFT TYPES**
Enter all work shifts that can be assigned to the staff of your organization. Assign each shift a name useful to remember its features in the rest of the configuration.	
Example:	For example, a shop business could have the shifts: • Early Morning (8:00 - 12:00) • Late Morning (9:00 - 13:00) • Early Afternoon (14:00 - 18:00) • etc. But in an organization that works in continuous loop could exist shifts: • Morning (6:00 - 14:00) • Afternoon (14:00 - 22:00) • Night (22:00 - 6:00)
Detail:	**Field "priority in equable distribution"** The higher the priority, the more ZonaTEAM will try to distribute fairly the commitment inside a certain type of Shift. Give a high priority to the most disadvantaged Shifts, and which must be distributed equitably, such as at night ones. The other Shifts or do not need any priority, or need a low priority because they are partially disadvantaged. Priorities set here do not apply to individual employees if they have configured Personal Preferences referring to time brackets.

	Environment Configuration
	CONTRACTS
Enter a **contract** for each type of relationship is applied: executives, managers, part time, permanent time, professional collaborations, etc.. The contracts are used to configure **only** what is relevant to the planning of activities, namely, the annual number of hours that must be provided in ordinary time and overwork, the number of hours that must be enjoyed as holidays, the pauses and rest requirements. Set up for each contract the amount of hours for the day, week and year. Set the limits on overwork and night if they are used.	
Detail:	**Total hours of holidays and permit in the year.** Do not specify this data for consultants, substitutes, contractors etc. that are called into service only when the permanent staff is insufficient. Instead, enter this information carefully for employees in order to calculate correctly the use of persons and to better approximate the ideal target (which is to use all the staff exactly to 100% of the hours of work to be granted, without use of overwork).
Focus:	**The actual values of salaries are not relevant.** For planning purposes, the cost of normal working hour is 1.00, while the cost of overwork and of exceptional jobs in substitutions is higher, but it is always expressed as a multiple of the cost of regular hours.
Error to avoid:	**Do not multiply unnecessarily the contracts.** Do not multiply the number of contracts in relation to remunerations: for the purposes of planning this is not useful. Introduce contracts which are required to represent all types of employment rules which apply to staff involved in the planning. But do not multiply them unnecessarily. For example, if the Managers of the department A have the same working hours and holidays of Managers of the department B, introduce a single contract "Managers", even if pay or other employment rules are different from department A to department and B.
Detail:	In the case of Health institutions, may also be provided **Intramoenia** activities. In this case, a person pays a portion of his worktime under the rules of a professional contract, using the facilities of the institution. Intramoenia hours of work may be used by planning to cover services for which the employees are not sufficient; in this case Intramoenia activities are relevant to planning, and must be set up.
Example:	**Intramoenia:** in a hospital ward, there are 10 doctors who have to deliver 1,700 hours per year as employees. But to cover all the required shifts, it takes around 25,000 hours per year. So we have 25,000 - 17,000 = 8,000 hours of deficit, that will be covered with intramoenia activities. Then the intramoenia hours to be allocated are 800 per doctor. If all the doctors want to provide this amount, configure a single contract in which the intramoenia hours to be paid are 800. But if we have 5 doctors willing to provide 1000 hours and 5 others willing to pay 600, we set up two contracts, called "Doctors intramoenia 1000" and "Doctors intramoenia 600", to configure these two different limits.

	Environment Configuration
5 6	**DEPARTMENTS AND QUALIFICATIONS**
Enter the existing **departments** in the organization, and the existing **qualifications** (skills). Remember that each person will be entitled to work in a department or multiple departments, with a qualification or qualifications. So initially set up in a general way in the division of the organization, limited to a few elements. Then, setting up persons, you can further subdivide the departments in order to accurately represent the needs of your planning.	
Error to avoid:	**Do not needlessly multiply departments and qualifications.** Suppose you want to manage two departments: "oven" and "press", and two qualifications: "shift manager" and "workman". The shift managers can only be assigned to the department for which they specialize, or oven or press. The workmen may be assigned to any of the two departments. It would be wrong to create the four skills: "oven shift manager", "press shift manager", "oven workman", "press workman,". It is correct to create just the qualifications "shift manager" and "shift workers", because the ability to operate or not a given department will be set up later for individual persons.
Focus:	If there is only one department or one qualification set up them anyway: at least one department and one qualification are needed for planning.

	Environment Configuration
7	**PERSONS**
Each Person follows the rules of a single contract. If there are persons who work at the same task under different conditions (for example, some full-time, others part time), set up two separate contracts.	
Focus:	Each person can work in one or more departments, and one or more qualifications. Specify all the possibilities.
Detail:	Persons can be used in certain Departments and with certain Qualifications as ORDINARY work (because it corresponds to the professional Qualification of the Person) or in Substitution (for Staff Persons absent or already committed to the maximum allowable).
Example:	For example, in a drug store the pharmacists may eventually replace the warehouseman, if the staff with the warehouseman qualification is not sufficient to cover all shifts. But the use of the Persons in substitution for a lower qualification has a higher cost (set up in the contract), and thus is avoided as much as possible.
Detail:	**The amount of worked time is compiled and updated automatically.** However, the number of hours of work and holyday paid before the start of the use of ZonaTEAM can be entered and corrected manually. For example, if the first planning starts on May 1, enter the amount of work and holydays for the months from January to April. Do not take this into account when planning for the first time; later, the insertion of exact amounts will help you align the data to reality and get the most accurate planning possible.

	Environment Configuration
8	**PERSONAL PREFERENCES**
Use this page to configure the preferences of the Persons. Requirements set forth must be met, and so if the preferences expressed by all the Persons are incompatible, the process of Planning fails or ends with serious Staff deficit.	
Example:	For example, a very common case is when Persons do not want to be engaged on Saturday afternoons or on Sundays: if the maximum availability declared in the preferences is insufficient, the Staff is not filled.
Focus:	Configure only requirements that have been requested directly by Persons, never requirements that (you think) should promote the satisfaction of certain requirements by *other* Persons.
Example:	Jones wants to work on Saturday just once a month, while Smith is willing to work on Saturday without difficulty. Configure that Jones can only work 8 Hours on 160 on Saturday, then not more than 5%, and do *not* configure *anything* for Smith, which obviously will be used on Saturday in place of Jones.
Error to avoid:	**Do not set up personal preferences before you understand all the mechanism that leads to obtaining a good planning.** Before you must obtain a plausible plan, then return to process by including the individual preferences of individuals.

Planning Configuration

	Planning Configuration
1	**PERIOD TO BE PLANNED**
Start and end date of the next period you want to plan automatically (Automated Planning Period). If there are Shifts straddling the midnight, the end date is extended so that they can be included in Planning. For example, if the Planning goes from first to 30th April, and there are Shifts that last from 22:00 to 6:00, Shifts that begin at 22:00 on April 30 and end at 6:00 on May 1 are scheduled.	

	Planning Configuration
2	**WEEKLY COVERAGE MODELS**
Use weekly coverage models to store the commitment of Staff in weeks of different types. For each model of coverage you need, enter a mnemonic name (for example: "Week with Night Shifts", etc..) and then as many rows as there are Departments / Qualifications / time slots to be filled.	
Example:	For example, scheduling a medication could be based on the alternation between ordinary week, when the exercise is only open during weekday daytime hours, and weeks in office, when the exercise is also open on public holidays and night hours. The coverage models enable to keep information relating to the necessary Staff and the time slots to be covered in the two types of week, then to quickly put them into the monthly Plannings.
Focus:	**In the first test configuration, go directly to configure the shifts coverage.** The models are needed only in case there are several weekly patterns, so complex that it is worth to store them for later reuse. Do not use them before

	you understand the entire planning process.

	Planning Configuration
3	**SHIFTS COVERAGE**
Enter all the staff coverage requirements that will be **necessary** and **required** to meet in the next automatic processing of planning. The coverage of shifts defined in this page is the one that is applied in the development of automated planning, and therefore in the **future** period to plan automatically, whose you have configured the start and end dates.	
Focus:	Previously executed plannings are stored and remain visible until they are deleted from the interannual closing procedure, but they are not in any way altered by changes in shifts coverage requirements.
Error to avoid:	In general, the workforce will be or excessive in relation to coverage needs, or inadequate. It is unlikely to be exactly matching to coverage requirements. **Do not change the coverage in an attempt to commit the staff to 100%!** This would lead to a complication difficult to manage, and impossible to achieve. Instead, process planning trying to cover what is **mandatory**, and then manually add other shifts in order to engage the staff until the provision of all time in the contract.

	Planning Configuration
4	**HOLYDAYS, PERMITS, UNAVAILABLE TIMES**
Enter the holidays and planned absences that will be enjoyed in the **future** period that is the subject of planning.	
Error to avoid:	Holidays, permits, unplanned absences occurring when planning has been completed are not introduced here, but are inserted manually by viewing the planning.

	Planning Configuration
5	**AVAILABILITIES AND MANDATORY PRESENCES**
This configuration is **optional**, do not use it unnecessarily. Use this page to configure the time intervals in which Staff **can** be employed (for Persons whose availability is limited to certain days or periods, typically part-time or external consultants), or in which it **must** be employed having expressed the request. These requirements may result in constant constraints (for example, a part-time Person available only on Mondays and Tuesday mornings), or correspond to specific dates.	
Focus:	The configurations available on this page are used **only** to express the condition of non-availability of a Person in the Planning, and have no meaning for the calculation of Holydays actually enjoyed in relation to the Contract conditions.

	Planning Configuration
	TEAMS
This configuration is **optional**, do not use it unnecessarily. In one department there may be a requirement that some persons (having one or more qualifications) work in teams, that is, they have to be assigned the same shifts. Set up teams taking into account the Persons: some belong to one team, others may belong to more teams. If you do not specify the team for one or more persons, these will be included in any team, if they have the required qualification.	
Example:	For example, if the Persons: • **Albert+Bob+Carl**+Peter or **Albert+Bob+Carl**+Simon, or • **Albert+Ed+Fred**+Peter or **Albert+Ed+Fred**+Simon, or • **Greg+Herbert+Leo**+Peter or **Greg+Herbert+Leo**+Simon have to work together, then three Teams are to be set up: Albert+Bob+Carl, Albert+Ed+Fred, Greg+Herbert+Leo. Person Albert is specified because he can work in the first two Teams but not in the third one (ando so Bob etc.), while the Persons Peter and Simon are not specified, because they can work in any Team.

Planning Processing and Printing

	Planning Processing and Printing
	AUTOMATIC PROCESSING OF PLANNING
Focus:	To process, simply press **PROCESS PLANNING** and wait for the result! In the first experiment, this will be enough.

But after the first experiment, it is good to know some details.

The processing of the planning first assigns shifts to persons without violating any expressed condition of the contracts and any constraint imposed by planned holidays and absences, by personal preferences and by availability and mandatory presence. After this, the processing calculates the best possible result in phases (the phases which do not have configured requests are ignored):

Staff requirements satisfaction	Tries to satisfy 100% of the requests for coverage of shifts that have been configured.
Reduction of overwork and substitution	Tries reduction to zero of overwork and tasks in substitution (where an employee works with a lower qualification than his professional qualification).
Equable distribution of WORK + HOLYDAY Hours	Tries to ensure that all are delivering their due working hours and enjoy the holidays they are entitled, without difference among persons.
Equable distribution of INTRA MOENIA Hours	Seeks the equable distribution of hours Intramoenia (if controlled), in relation to the declared preference for each person.
Equable distribution of dislikeable Shifts	Seeks the fair distribution of shifts for which this is necessary (for example, those at night), as declared in the configuration of the types of shifts.
Preferred distribution of Shifts	Tries to meet the organization of consecutive shifts that may have been configured in the preferences for each person.
Minimization of vacant times among short Shifts	The vacant times among shotr shifts can be configured in the Contracts. If configured, the vacant times are minimized in this phase.
Ordered distribution of Shifts	Tries to make uniform the time commitment of the persons, by assigning (for example) 3 mornings and then 3 afternoons, rather than a morning, an afternoon, a morning, and so on.
Composition of Teams	Tries to form teams, if configured.

Each phase ends automatically ends and goes to the next one, if his goal is reached at 100% (and even if there is no target, because not set).

Otherwise, the phases end automatically when ZonaTEAM considers **very unlikely** that you can achieve a better result than that obtained.

Focus:	**Process every phase for minutes ...** The phases that reach 100% of their target are automatically ended, and so the phases that have no targets, given the configuration. The phases that do not reach 100% of their target continue for the specified time looking for a better result. If you want to go over a phase that dwells but that does not give better results, you can use the "STOP Jump to next phase" button. You should process a first time giving a short time to the phases (2 or 3 minutes) to evaluate the result, then process again with a longer time in order to optimize the schedule.
Focus:	**Personalize calculation priority.** The sequence of optimization phases can be changed from the default order, which is described above. You can change the order of priority in order to promote a feature of planning which is considered more important. For this point in particular, ask assistance.
Error to avoid:	Planning must be **processed**. The configuration changes are not implemented without re-compilation, so if you introduce changes to the configuration needs to be processed **again**.

	Planning Processing and Printing
	VIEWING PREFERENCES
This configuration is **optional**, so in the first experiment ignore it.	

	Planning Processing and Printing
	VIEW AND CHANGE THE NEXT / THE WHOLE PLANNING
This panel is for the tuning of the configuration. The panel shows: • work shifts required in accordance with the planning set up, but not covered • shifts required and not required that were actually allocated to persons.	
Focus:	Distinction between **next** and **whole** planning. Suppose that today is April 15, and we have planned one by one all the months of this year. The **next** planning is the planning referring to the future, in our case that of the month of **May**. The **whole** planning is the one that includes the past three months, the current month of April, and also May if the planning has already been processed.
To learn how to use the planning tuning panel, keep an eye on the following table and try to finalize the planning by selecting the items that could be changed. You can make these changes:	

Click an uncovered Shift and select a person to cover it.	If the Shift was not covered by automatic planning, no person can cover it without derogating from some contractual rule or preference. So, the choice of a person to cover the Shift results in an error that will be highlighted in the panel of errors. You can try all persons available, going back (key "one step back") if the error is intolerable.
Click a covered Shift to free the person who covers it, or replace him with another.	In this way you can rectify the planning to make it more tailored to individual preferences of workers, if there is room for movement of commitments.
Stating that a day on which a person is not present counts as a Holyday, for the purposes of calculating holidays enjoyed in the year.	Holidays configured before processing the planning are created from processing. Those resulting from sudden absences are to be added manually, here.
Introduce an additional Shift, not provided as required in automated scheduling.	This serves to increase the number of hours provided by reinforcing the most critical shifts. To do this, you must click on the column heading of the day when you want to introduce the free Shift (i.e., the date represented in the top of the column), and then enter all the information needed to identify the free Shift.

	Planning Processing and Printing
	REPORTS FOR THE NEXT / THE WHOLE PLANNING
The reports are generated automatically at the end of processing, or when you save your manual changes. The reports are .rtf files, that can be modified and used with many applications.	

	Planning Processing and Printing
	REGENERATION OF REPORTS
Reports can be regenerated if they are damaged or destroyed by modifying them.	

Absents Substitutions

Work in progress: this feature will be made available soon.

Periodic Closings

As we know, are distinct next planning, referring to the future, and plannings of the past and current months. All the shifts assigned in these plannings are kept, and can be modified to make the work and holydays counts correspondent to what was actually delivered. However, from time to time you must run closures designed to reduce the number of stored data, eliminating the individual shifts and accumulating the progressive totals of work and holydays.

	Chiusure periodiche
	INTERANNUAL CLOSING
Periodically, several times during each year, run this Closing to delete the data in recent months and make management of the data less laborious. When the selected range is closed, the Hours of paid work are added to the Person's totalizer, and individual commitments of Persons are deleted. The time interval that can be closes must end at least 28 days before the beginning of the Automated Planning Period. Shifts committed in the 28 days prior to the Automated Planning Period are always fully kept because they are used to calculate the errors in the new period.	

	Chiusure periodiche
	ANNUAL CLOSING
A few weeks after the start of each new year perform the closure of the previous year, in order to store the accumulated totals.	
Detail:	The start date of a year relevant for the calculation of working Hours to be granted is not necessarily January 1 - it could be, for example, the first Monday of the year, or the last Monday of the previous year. It depends on how you want to calculate the progressive total of worked Hours of the year, which could be calculated from January 1 to December 31, for example, or for 52 weeks, from first Monday of the old year until the first Sunday of the new year, or other such criteria. The choice depends on the criteria actually used in your organization.