

Manual AthleticsManager Advanced



*This document is an in-detail description of some
AthleticsManager features*

2019v1



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Manual AthleticsManager Advanced

Welcome to the "AthleticsManager Advanced" user manual.

May we recommend you to gently browse through the entire manual first, just to have an initial idea of how the book is structured. As we can't possibly explain all details simultaneously, this might help you a bit in understanding and tracing things back. Of course, the table of contents will also help you in doing so.

Please note that all pictures are examples, the delivered version can be different than shown in this manual please inform yourself before purchase.

If you, after reading this document, have any further question regarding the operation or service of this or any other TimeTronics equipment, please contact your local distributor or TimeTronics directly, by email: info@timetronics.be, or call us at +32 (0) 14 23 19 11.

Please also contact us if you have any remarks or advice regarding this user manual: info@timetronics.be

Good luck and thank you for your confidence in the TimeTronics products and services.

The editors

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1. AM Server advanced window

In the advanced window of AthleticsManager (AM) Server, you can select a layout. For now this is customized for a couple federations. By selecting one, the program will modify the language.

You can select to automatically backup the database. You can specify the interval time, the number of backups you want to be stored on the hard disk and the location of the backup.

If a customer wants to use his own network to run AthleticsManager on, it is plausible that he uses a proxy server for security reasons. In this case you can set the name or ip address of the proxy server and its port number so AthleticsManager can reach online sources to update his (local) database (functionality like *Automatic sync data with online sources*).

The last option to set in the advanced window is the location of the Postgres database. In 99.99 % of the cases you should not mess with this.

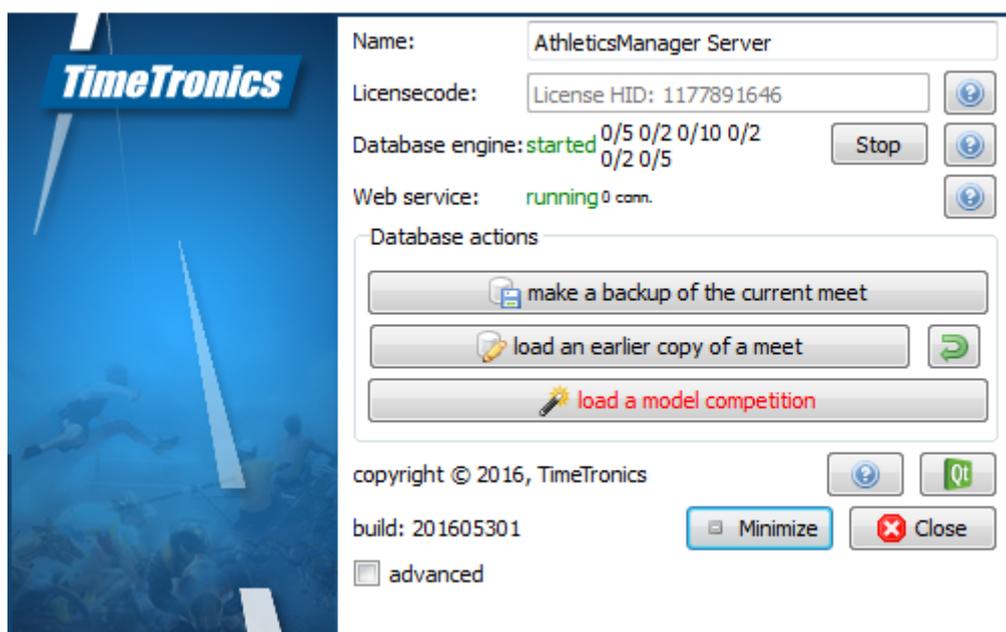
2. Webservice

AthleticsManager server has a built in webservice running. This will be used to distribute and collect data between the server and other clients (MacFinish, FalseStart III, FieldTablet, XML Creator, MeetManager).

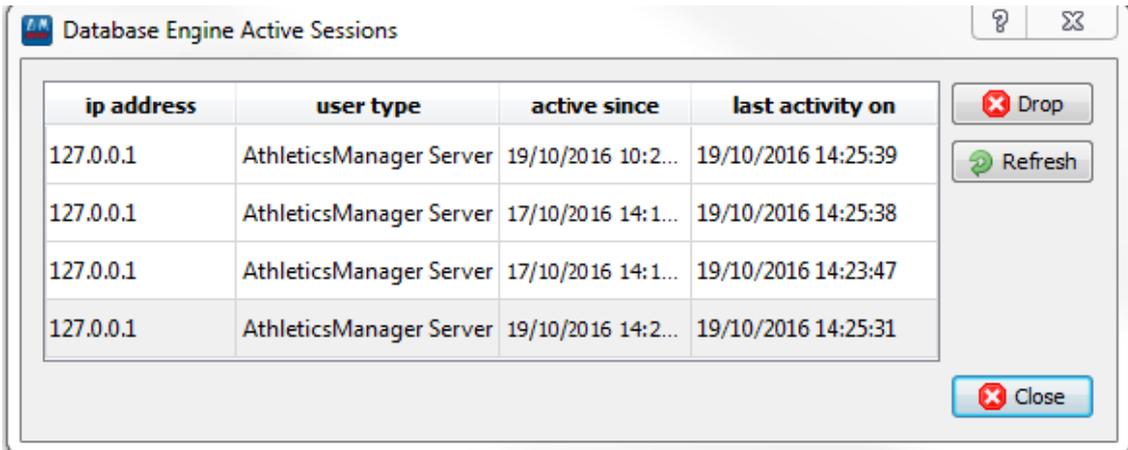
The webservice runs on port 8090. The server and client need to be in the same network range. The easiest way to do this is by getting an IP address from the DHCP server of the network. This way both devices are guaranteed in the same network.

TimeTronics has created the design so the client will automatically search and connect to the server when this is available. A user does not need to fill in types, usernames or passwords, at most pushing the button to search for an AthleticsManager server.

One thing to keep in mind is that the type of client that can connect and the number of connections of a client is dependent of the registration license that is bought. The allowed clients and the number of connections of this client can be viewed by clicking the info button next to the licensecode. Next to the status of the database engine, you will find the number of currently connected clients (type based). Next to the status of the web service, you will find the number of currently connected clients.

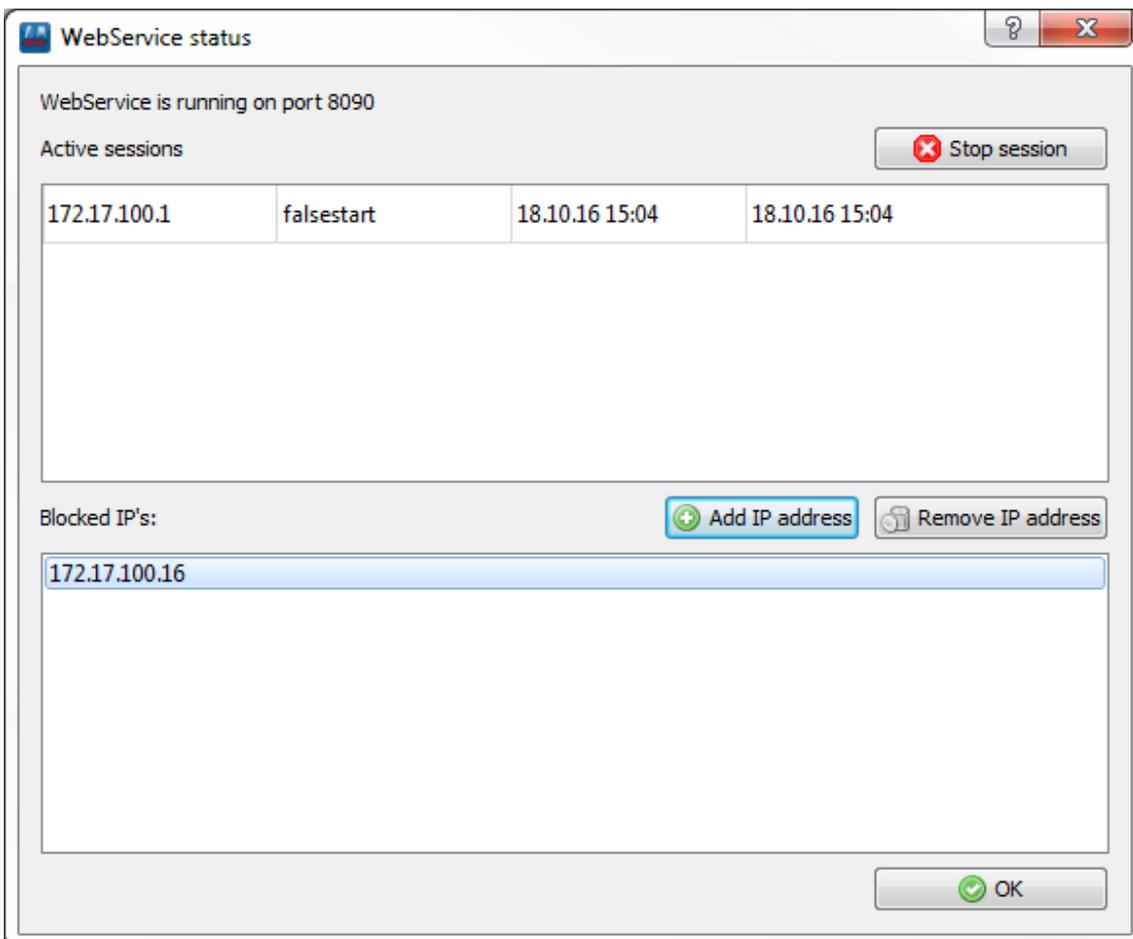


By clicking on the info button next at the database engine row, you will get an overview of the active database engine sessions.



The window gives you an overview of all active connections to the database.

By clicking on the info button next at the web service row, you will get an overview of the active web service sessions.



3. Automatic sync data with installation sources

If you or some installer or script places files in AthleticsManager Servers installation folder (subfolder *default_data*), these files are imported the next time AthleticsManager Server starts and after each restore of a backup of a model competition. The syntax of the files is the same as in the chapter on *Import* (*.CSV files). These are all files that can be imported:

- athletes
- categories
- countries
- eventcodes (link between category and event type)
- event types
- federations
- languages
- pointcalculationalgorithms
- pointcalculationparameters
- printtemplates
- qualifyingalgorithms
- recalculateresultcategories
- recalculateresultparameters
- records (best performances)
- seedingalgorithms
- teampointcalculationalgorithms
- teams (clubs)
- userprofiles (superuser, advanced, beginner, ...)

4. AM Client advanced window

In the advanced window of AthleticsManager Client, you can set the print command for printing documents. When installing the client, you are presented the option to install LibreOffice. This is a free word processing software that which is used for printing documents. The client will automatically find the location of the software (e.g. LibreOffice or OpenOffice) and set it in the print command text field.

```
Print command: "C:\Program Files\OpenOffice.org 3\program\soffice.exe"  
-pt "%2" "%1"
```

parameter 1: file name

parameter 2: printer name (retrieved by calling printer dialog)

You can set a new print command, if you want to use a different word processing software. We do not advice this.

The advanced login settings for the database are currently not used.

5. Import

5.1 General

5.1.1 File syntax

The file must contain an header row. The header row is a list of column-definitions in this format:

```
db_[table name].[field name]
e.g. db_athletes.firstname, db_federations.code, ...
```

You can define a unique constraint, a combination of columns that must be unique in your database. During import, AthleticsManager will check if the line to import exists already in the database, based on the unique constraint. If it exists, the record is updated, if it does not exist yet, a new record is inserted. In the example below, we import athletes and check if the combination of firstname, lastname, birthdate already exists for each row. Note that also double records in the file are filtered.

```
db_athletes.firstname*→db_athletes.lastname*→db_athletes.birthdate→db_licenses.licensenumbe→db_athletes.gender→db_teams.abbreviation→...
```

AthleticsManager will automatically find the delimiter and the encloser. This detection is strongly based on the fact that the header row contains *db_* for each column. You can use {tab}, space, colon, semi-colon, ... as a column-delimiter and you can use a single-quote, double-quote, no character or any other (combination of) character(s) as a delimiter. The default export format uses a semi-colon as delimiter and a double-quote as encloser.

AthleticsManager uses UTF-8 as the default encoding for reading import files. You can force to use another encoding when you hold down SHIFT while opening the import file. You will be prompted to select the matching character set.

5.1.2 File naming

You can use two fileformats, a plain csv-file or an archived folder (*.zip).

5.1.2.1 Import an archive

If you use an archived folder, you can import lots of files at once. AthleticsManager will define the correct order for the import, like e.g. you have to import athletes before you can import best performances. The names of the files inside the archive need to exact match the data they contain, e.g. the file containing athletes must be named *athletes.csv*, for countries this must be *countries.csv*, ...

5.1.2.2 Import a plain csv-file

You can also choose to import one file at a time. AthleticsManager will try to detect the content of the file, based on its filename. E.g. AthleticsManager can match a file *athletes_someversion.csv* to an import of athletes, but it cannot match *thisisafilenamecontainingparameterstocalculatepoints.csv* to an import of pointcalculation parameters. If AthleticsManager can not match the data itself, it will ask the user to make the decision.

5.2 Remark

You could import almost anything, but we do not advise as e.g. creation of events can be best done by using AthleticsManagers UI functions because it creates for you the complete tree of an event, the rounds, default parameters, ... But if you would like to take the risk, exporting your complete meeting to a compressed folder (first make the compressed folder [*.zip] then export to it) gives you a list of all files and fields).

These tables are reasonable to import: competitionteams, competitorsinteam, ...

5.3 Athletes and participants

There is a userfriendly way of importing athletes, licenses, best performances, teams, competitionteams, ... You can find it through menu File → Import athletes and participants.

With this method, you can define all properties of your input file, which columns to map to which data and even manually map e.g. events in the file to events in the database without clear clue why they should match.

You start with selecting a file with the button on the top-right of this window. All settings you make for a specific file, are remembered in Windows settings, at least for the last 30 days. So if you import the same file (based on path and filename) twice, all settings (including column choices) are automatically set as in the last import.

When selecting a file, the default filter is set to *.CSV. If your file uses another extension, adjust the filter to *.TXT or *.* (all files) in order to make your file visible.

Note the complete file is loaded at once to save time, especially when you make changes in the choice of separator or delimiter, after those choices, the loaded part of the file needs to be parsed again. If you want to load more of the file (e.g. if you are looking for a special character

to make the choice of character set), you just have to scroll down in the contents of the file. You will notice that new lines are loaded as you keep scrolling down.

If you follow these steps, the selection of file properties will go easiest:

1. Open the file
2. Try to find the correct settings for the separator. To visualize a {tab}, AthleticsManager uses an arrow (→).
3. Select the correct settings for the text delimiter. If your delimiter is others than a single-quote (') or a double-quote ("), then you can type over the value in the drop-down list. If your text file has no text delimiter, don't forget to make the field empty.
4. Find the correct character-set. If you have no idea of the character-set of your text file, scroll down to find some special characters (like é, å, ç, Š, ß, ...) and try some character-sets (the most common ones are windows-1251, windows-1252, UTF-8, ISO-8859-1, GB2312, ...).
5. Select the content type for each column, or skip the column if it holds no relevant data.
6. Adjust the number of lines to skip (from row), so you don't import any header rows.
7. Fill in the gender translation fields, the default ones are:
 - male: M, m
 - female: W, w, F, f

5.3.1 What data can be imported:

- athletes information
 - athletes primary key: this value goes into *athletes.id_for_federation*, a unique identifier, used to feed back to a thirdparty database. Not editable, nor visible in AthleticsManager.
 - first name
 - last name
 - birthdate: the athletes birthdate, you can select a date format to help AthleticsManager. If the value doesn't match the selected date format, AthleticsManager will make a best guess, note that 01.02.03 can be 2001, February 3rd as well as 2003, January 2nd, ...
 - birthdate by category: in the next step you have to define a translation table which category will be translated to which birthdate
 - gender: the gender of the athlete: it will be translated to *male* or *female* by the values you entered in the gender selection fields. If your file doesn't contain gender information, but it contains category information (categories hold also gender information), you could use a categories column for this and write all male-

- categories in the male-gender-translation-field and all female-categories in the female-gender-translation-field.
- nationality: the athletes nationality if the column holds a country's name or IAAF code
- bib number: the default bib number for the license and also the bib number in this competition
- license number
- club information
 - name: the name of the club
 - abbreviation: the short name of the club
 - bib number: the same as in the athletes information
 - license number: the same as in the athletes information
- events information
 - name: the exact name of an event
 - number: the events unique sequence number (you can define only the name or number, not both, to identify an event)
- best performances
 - value: the value of the personal best. AthleticsManager will parse the value whatever format is has corresponding these rules:
 - decimal separator (between seconds and hundredths or meters and centimeters): ., "mM
 - other separator (hours, minutes): .:'-`
 - location: not used yet
 - date: the date the athlete succeeded this best performance (again you can specify the format and AthleticsManager will make a best guess when the value is not conform the format)
- competition team
 - name
 - abbreviation: the short name for the competition team
 - competition team group: the name of the competition team group
- relay teams
 - name: a name for the relay team
 - order in relay team: e.g. for 4 x 100 meter: 1, 2, 3 or 4 (5, 6, ... are substitutions)

5.3.2 Unique constraint

After your click on *Import*, you are asked for a unique constraint. A unique constraint is a combination of columns, AthleticsManager will use to search if the athlete is already in your

database. AthleticsManager will make a proposal what is probably the most valuable combination of columns for the unique constraint.

- if your file holds a column for the athletes primary key (with third party database), this is proposed as unique constraint
- if your file holds a column for the license number, this is proposed as unique constraint (mind if your license numbers are not unique, you have to change the unique constraint)
- the combination of first name, last name and optionally birthdate will be proposed as unique constraint if none of two columns, defined above, are present

5.3.3 Feedback

After you selected the unique constraint (and the categories-to-birthdate translation table), the file will be processed and you will be presented with feedback what will be changed once you actually execute the import. At this stage, nothing is inserted or updated in the database, you are first presented with the impact your import will have and you can stop the process at any time until you start the actual import functions.

- feedback on athletes: this feedback is pure informational, you can not interfere, like manually match an athlete in the file with an athlete in the database
- feedback on the clubs: with the pencil-button in the rightmost column, you can match teams from the file with teams in your database or even manually create the team on-the-fly
if you couldn't make a match with an existing team, this team is created for you with the data provided in the file
- feedback on the events: you can manually match events from the file with events in your database with the pencil-button in the rightmost column. If you have events that you cannot match, these events are not created by the import process, nor are the participations imported (athletes, clubs and competition teams however, are created in the database)
- feedback on competition teams: this feedback is the same as with clubs, you can manually create new competition teams, force matches, ... If you couldn't make a match, the competition team is created for you during the import process, with the data provided.

5.3.4 The import process

During the import process, some choices must be made to handle missing data. We list those choices here:

- if no nationality is set, the athlete will have the nationality of the federation the current competition is for

- if no team is set, but license information (e.g. license number) is set, AthleticsManager will create a default team with the name *team*, abbreviation *TEAM* and place *STANDARD* (these values are translatable).
- if you import participations for a relay event, but you didn't specify the column with the name of the relay team, AthleticsManager will create a new relay team for each participation with the name *team for [ATHLETES FIRSTNAME] [ATHLETES LASTNAME]*.
- if the import process needs to create new clubs, the federation for these new clubs will be the federation of the current competition
- if the import process needs to create new competition teams, the competition for these new competition teams will be the current competition

A note on combined events: you can import a participation for a combined event with one line. You don't need a line for each individual event in the combined event.

6. Automatic sync data with online sources

There are four types of data that can automatically be synced with online CSV-files. You can specify the sources per federation. In the federation window, you can access from the superuser bar, you can see the versions of the last loaded CSV-files. If you start AthleticsManager Client with privileged credentials, you can also see and edit the links to the CSV-files. These are the four types of data that can be synced per federation:

- clubs
- athletes
- best performances
- event types

The import is exactly the same as described in the chapter on *Import*, it is based on *.CSV-files, with a header row describing the contents.

How it works: in the properties of a federation (first log in with password) in AthleticsManager, you can define links to a file with a link to the latest version of each type of data (clubs, athletes, best performances, event types). This file has a syntax like this (the example shows one file for all data types, but you can define one file per individual data type).

Note: *Not all federations support automatic syncing with online sources.*

6.1 Automatic sync

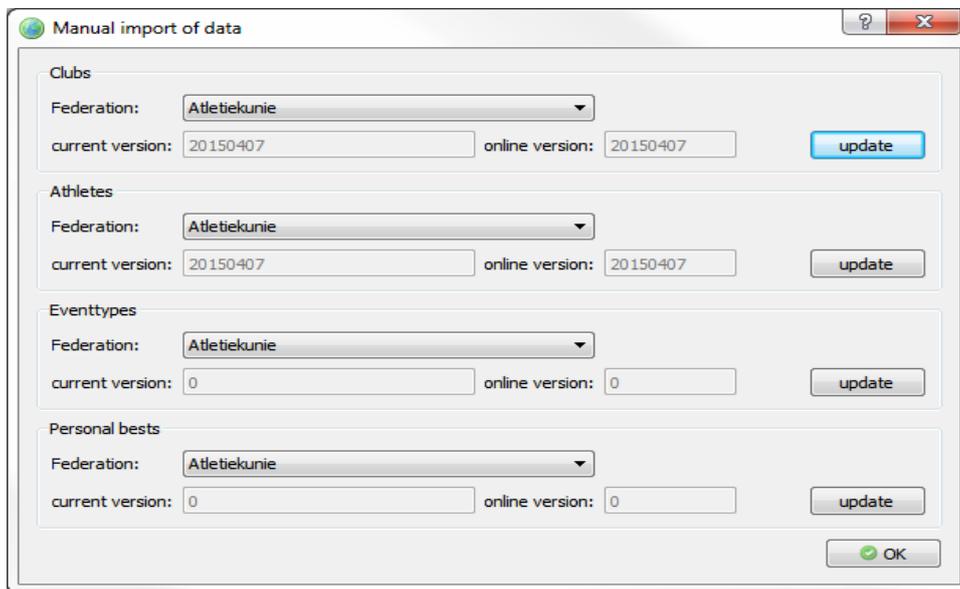
Each time you start AthleticsManager Server and each time you restore a backup or model competition, all online sources for all federations in the current database are checked and the user is presented with a question to update or not. The order of update is *clubs > athletes > event types > best performances*.

Of course, you are always presented the choice to cancel the import and to merge or replace your database with the data from online sources.

6.2 Manually force a sync

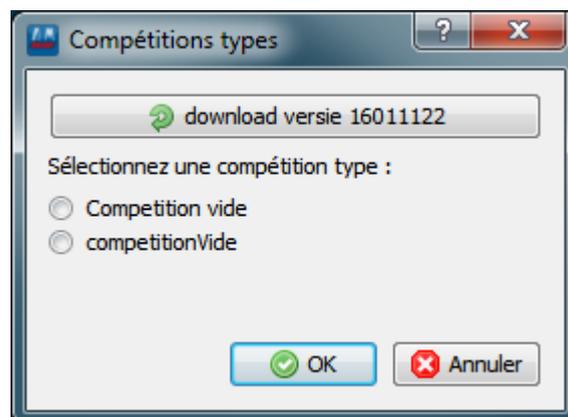
Although the import from online sources is executed automatically, you might want to redo the import, e.g. if you made so many changes you can't remember how to undo them or if you are working on your competition for some days and you want to check if in the meantime your federation has releases a new athletes file.

You can access the window to force a sync in the *superuser bar*.



6.3 Sync competition templates (model competitions)

The complete model competitions can as well be synced with online resources. For each layout (Atletiekunie, LBFA, ...) a URL is embedded in AthleticsManagers sources. On this link, there should be a file with an index of all model competitions and a version number for all combined. Each time you want to load a model competition, AthleticsManager Server will check for updates for the active layout. You will notice in the selection window if there is an update available.



7. Seeding methods

A seeding method is used to divide all participants of an event into heats.

There are 3 seeding methods installed regarding the heat composition:

- IAAF seeding method
- on best performance
- not assigned (randomly divided)

In the superuser menu, you can add or import new seeding methods. You must set a new name and algorithm.

Some predefined values in source code:

Name	Algorithm
'iaaf seeding method'	'iaaf'
'according best performance'	'best performance'
'atletiekunie' or 'NK'	
'meerkamp: laatste ronde'	'CE:LR'
	'europacup_teams'

Specifying the name or algorithm as one of these values will create a valid new seeding method. The seeding methods are also created as a plugin. It is not proprietary to the application. This way we can distribute the seeding methods separately.

The plugins need to be placed in a plugin directory and are dynamically loaded. The plugins are stored in the directory where persistent application data can be stored (e.g. C:\Users\tt\AppData\Local\TimeTronics\AthleticsManager\seedingmethods).

A 2nd option is to load a plugin after pressing the new button in the seeding methods dialog. Select the plugin so it will be loaded into the application. You can get more information about the plugin by clicking on the info button.

The repository contains also some other seeding method plugins:

- IAAF seeding method
- best performance group on birthdate seeding method
- best performance previous round seeding method
- championnat lbfa seeding method
- group on birthdate seeding method

- last round in combined event seeding method
- simple best first seeding method
- simple best firstszz seeding method
- simple best last seeding method
- simple best lastszz seeding method
- kampioenschap val seeding method

The seeding methods will first fill the heats with the athletes that have the opposite requirement then the method. e.g. athletes with the poorest performance will be placed in first heat while athletes with the best performance will be placed in the last heat.

There will not be looked at the absence of athletes (DNS) while granting lane numbers to athletes.

7.1 Elaborate explanation

7.1.1 IAAF seeding method

```
"IAAF seeding method\n"
"-----\n"
"Heat compositions:\n"
"-----\n"
"Whenever possible, representatives of each nation or team and the best
performed athletes shall be placed in different heats in all preliminary rounds
of the competition.\n"
"When heats are being arranged, it is recommended that as much information as
possible about the performances of all athletes should be considered and the
heats drawn so that, normally, the best performers reach the final.\n"
"This algorithm will take the most recent best performance of an athlete in
account if more than one best performance is specified.\n"
"For Track events:\n"
"For the first round, the athletes shall be placed in heats using the zigzag
distribution with the seeding determined from the relevant list of valid
performances achieved during the predetermined period. If the algorithm can not
make a ranking on performance, it will try to place representatives of each
team, club or nation in different heats.\n"
"After the first round, the athletes shall be placed in the heats of subsequent
rounds in accordance with the following procedures:\n"
" (i) for events to 400m inclusive, and relays up to and including 4 x 400m,
seeding shall be based upon placings and times of each previous round. For this
purpose, athletes shall be ranked as follows:\n"
"     Fastest heat winner\n"
"     2nd fastest heat winner\n"
"     3rd fastest heat winner, etc.\n"
"     Fastest 2nd place\n"
"     2nd fastest 2nd place\n"
"     3rd fastest 2nd place, etc.\n"
"     (Concluding with)\n"
"     Fastest time qualifier\n"
"     2nd fastest time qualifier\n"
```

" 3rd fastest time qualifier, etc.\n"
" (ii) for other events, the original performance lists shall continue to be used for seeding, modified only by improvements in performances achieved during the earlier round(s).\n"
"The athletes shall then be placed in heats in the order of seeding in a zigzag distribution, e.g. three heats will consist of the following seedings:\n"
"A 1 6 7 12 13 18 19 24\n"
"B 2 5 8 11 14 17 20 23\n"
"C 3 4 9 10 15 16 21 22\n"
"For Field events:\n"
"The athletes shall normally be divided into two or more groups at random, but where possible so that representatives of each nation or team shall be placed in different groups.\n"
"In all cases, the order in which heats are to be run shall be determined by draw after the composition of the heats has been decided.\n"
"Draw for lanes/start orders:\n"
"-----\n"
"For Track events:\n"
"For events to 800m inclusive, and relays up to and including 4 x 400m, where there are several successive rounds of a race, lanes will be drawn as follows:\n"
" (a) In the first round, the lane order shall be drawn by lot.\n"
" (b) For the following rounds, athletes shall be ranked after each round in accordance with the procedure explained in the composition of heats. Three draws will then be made:\n"
" (i) one for the four highest ranked athletes or teams to determine placings in lanes 3, 4, 5 and 6;\n"
" (ii) another for the fifth and sixth ranked athletes or teams to determine placings in lanes 7 and 8, and\n"
" (iii) another for the two lowest ranked athletes or teams to determine placings in lanes 1 and 2.\n"
"note (i) When there are fewer or more than 8 lanes, the above system with the necessary modifications should be followed. In this algorithm, the drawings are composed like (3, 4, 5, 6){7, 8}{9, 10}{11, 12}{.., ..}{1, 2}.\n"
"note (ii) When there are more lanes than athletes, the inside lane(s) should always remain free.\n"
"note (iii) For indoor events, three draws for lanes will be made:\n"
" (a) one for the highest ranked athletes or teams to determine placings in the outer two lanes\n"
" (b) another for the third and fourth ranked athletes or teams to determine placings in the next two lanes\n"
" (c) another for the other athletes or teams to determine placings in any remaining inner lanes."
"For Field events:\n"
"The start order will be random.\n"

7.1.2 Best performance previous round seeding method

-----\n"
"Heat composition:\n"
"In the first round of an event, heats will be composed so that athletes with similar best performances compete in the same heat.\n"
"If more than one best performance per athlete is available, the most recent one is used.\n"
"In all subsequent rounds, athletes will be ordered by their performance in the previous round and heats will be composed using this order (all best ones in the last heat).\n"

"Athletes will be dispersed equally over the heats, e.g. if you have 8 lanes available and 18 participants, each of the three heats will have 6 participants. If it is not possible to have an equal number of participants in each heat, the last heats will have more participants.\n"

"If some athletes have no best performances, their order will be determined at random, but if possible athletes of the same team/club/nationality will be in different heats.\n"

"Draw for lanes:\n"

"In the first round of an event, the draw for lanes will be at random.\n"

"For subsequent rounds, the lane order will be drawn according to the IAAF rules and regulations:\n"

"\tDraw for lanes/start orders:\n"

"\t-----\n"

"\tFor Track events:\n"

"\tFor events to 800m inclusive, and relays up to and including 4 x 400m, where there are several successive rounds of a race, lanes will be drawn as follows:\n"

"\t (a) In the first round, the lane order shall be drawn by lot.\n"

"\t (b) For the following rounds, athletes shall be ranked after each round in accordance with the procedure explained in the composition of heats. Three draws will then be made:\n"

"\t (i) one for the four highest ranked athletes or teams to determine placings in lanes 3, 4, 5 and 6;\n"

"\t (ii) another for the fifth and sixth ranked athletes or teams to determine placings in lanes 7 and 8, and\n"

"\t (iii) another for the two lowest ranked athletes or teams to determine placings in lanes 1 and 2.\n"

"\tnote (i) When there are fewer or more than 8 lanes, the above system with the necessary modifications should be followed. In this algorithm, the drawings are composed like (3, 4, 5, 6){7, 8}{9, 10}{11, 12}{.., ..}{1, 2}.\n"

"\tnote (ii) When there are more lanes than athletes, the inside lane(s) should always remain free.\n"

"\tnote (iii) For indoor events, three draws for lanes will be made:\n"

"\t (a) one for the highest ranked athletes or teams to determine placings in the outer two lanes\n"

"\t (b) another for the third and fourth ranked athletes or teams to determine placings in the next two lanes\n"

"\t (c) another for the other athletes or teams to determine placings in any remaining inner lanes."

"\tFor Field events:\n"

"\tThe start order will be random.\n"

"\n"

"The heats will be scheduled, so that the one with the athletes with the least performance, will compete first, ending with the heat with the athletes with the best performance."

7.1.3 Best performance group on birthdate seeding method

"-----\n"

"Composition of heats\n"

"-----\n"

"Heats will be composed so that athletes with similar best performances compete in the same heat.\n"

"If more than one best performance per athlete is available, the most recent one is used.\n"

"If no best performance is available, athletes are ordered on birthdate before placing them in heats.\n"

"You can specify a parameter, indicating a number of days that defines the groups athletes are grouped in (everyone less than X days younger than the oldest athlete in a group, belongs to the same group, starting with the oldest

athlete). In one of these groups, the order is random. The default parameter is 30. The minimum is 1 and the maximum is 3650.\n"

"\n"

"The heats will be scheduled, so that the one with the athletes with the least performance, will compete first, ending with the heat with the athletes with the best performance.\n"

"The heats with athletes without best performance, will be scheduled randomly."

7.1.4 Championnat lbfa seeding method

"-----\n"

"- the participants are ordered by their most recent bestperformance in the first round or by their performance in the previous round for multi-round events. Participants without a known bestperformance or without a performance in the previous round, will be appended randomly.\n"

"- the events are catalogued in five different categories:\n"

"\t1: distance < 200 meter (e.g. 100, 100H, 110H, 80H, ...)\n"

"\t2: distance < 300 meter or relays where the average distance per athlete < 200 meter (e.g. 200, 4x100, ...)\n"

"\t3: distance < 800 meter or relays where the average distance per athlete <= 800 meter (e.g. 400, 400H, 4x200, 4x400, 4x800, 300H, ...)\n"

"\t4: distance = 800 meter (e.g. 800)\n"

"\t5: all other events (e.g. all field events, 1500, 3000 steeplechase, ...)\n"

"- the draw for lanes is based on the category of event and the highest lane number. Lanes that are disables, will be skipped.\n"

"\thighest lane number - category of event : draworder of the lanes\n"

"\t<=6 - 1 : 3 4 2 5 1 6\n"

"\t<=6 - 2 : 4 5 6 3 2 1\n"

"\t<=6 - 3 : 3 4 5 6 2 1\n"

"\t<=6 - 4 : 3 4 5 2 1 1 6 6 (aantal beschikbare plaatsen = 6, maar toch worden er acht deelnemers in dezelfde reeks toegevoegd!)\n"

"\t<=6 - 5 : 1 2 3 4 5 6\n"

"\t-----\n"

"\t7 - 1 : 4 5 3 6 2 7 1\n"

"\t7 - 2 : 1 2 3 4 5 6 7\n"

"\t7 - 3 : 1 2 3 4 5 6 7\n"

"\t7 - 4 : 1 2 3 4 5 6 7\n"

"\t7 - 5 : 1 2 3 4 5 6 7\n"

"\t-----\n"

"\t8 - 1: 4 5 3 6 2 7 8 1\n"

"\t8 - 2: 4 5 6 3 7 2 8 1\n"

"\t8 - 3: 3 4 5 6 7 2 8 1\n"

"\t8 - 4: 3 4 5 6 7 2 8 1\n"

"\t8 - 5: 1 2 3 4 5 6 7 8\n"

"\t-----\n"

"\t>=9 - 1: 5 6 4 7 3 8 9 2 1 10 11 12 ... \n"

"\t>=9 - 2: 5 6 7 4 8 9 3 2 1 10 11 12 ... \n"

"\t>=9 - 3: 4 5 6 7 8 9 3 2 1 10 11 12 ... \n"

"\t>=9 - 4: 4 5 6 7 8 9 3 2 1 10 11 12 ... \n"

"\t>=9 - 5: 1 2 3 4 5 6 7 8 9 10 11 12 ... \n"

"- the heat or group with the best participants based on their performance in the previous round or on their best performance, are scheduled last"

7.1.5 Group on birthdate seeding method

"-----\n"

"Composition of heats\n"

"-----\n"

"Athletes are ordered on birthdate before placing them in heats.\n"

"You can specify a parameter, indicating a number of days that defines the groups athletes are grouped in (everyone less than X days younger than the oldest athlete in a group, belongs to the same group, starting with the oldest athlete). In one of these groups, the order is random. The default parameter is 30. The minimum is 1 and the maximum is 3650.\n"

"\n"

"The heats will be scheduled randomly."

7.1.6 Last round in combined event seeding method

"-----\n"

"Composition of heats\n"

"-----\n"

"IAAF rule 200.7:\n"

"In the last event of Combined Events competition, the heats should be arranged so that the last one contains the leading athletes after the penultimate event.\n"

"Draw for lanes/start orders (not specified in IAAF rule 200.7):\n"

"-----\n"

"For Track events:\n"

"For events to 800m inclusive, and relays up to and including 4 x 400m, where there are several successive rounds of a race, lanes will be drawn as follows:\n"

" Athletes shall be ranked after each round in accordance with the procedure explained in the composition of heats. Three draws will then be made:\n"

" (i) one for the four highest ranked athletes or teams to determine placings in lanes 3, 4, 5 and 6;\n"

" (ii) another for the fifth and sixth ranked athletes or teams to determine placings in lanes 7 and 8, and\n"

" (iii) another for the two lowest ranked athletes or teams to determine placings in lanes 1 and 2.\n"

"note (i) When there are fewer or more than 8 lanes, the above system with the necessary modifications should be followed. In this algorithm, the drawings are composed like (3, 4, 5, 6){7, 8}{9, 10}{11, 12}{.., ..}{1, 2}.\n"

"note (ii) When there are more lanes than athletes, the inside lane(s) should always remain free.\n"

"note (iii) For indoor events, three draws for lanes will be made:\n"

" (a) one for the highest ranked athletes or teams to determine placings in the outer two lanes\n"

" (b) another for the third and fourth ranked athletes or teams to determine placings in the next two lanes\n"

" (c) another for the other athletes or teams to determine placings in any remaining inner lanes."

"For Field events:\n"

"The start order will be random.\n"

"\n"

"The heats will be scheduled, so that the one with the athletes with the last ranking in the combined event, will compete first, ending with the heat with the best ranked athletes."

7.1.7 Simple best first seeding method

"Simple seeding method by Best Performance\n"

"-----\n"

"- the participants are first ordered by their most recent bestperformance, participants without a known bestperformance will be appended randomly.\n"

"- the participants are assigned to heats or groups based on the order (the best ones are grouped together). The number of heats or groups depends on the number of places in one heat or group, or the number of lanes available.\n"

"- for track events in lanes (distance per athlete up to 400 meter) lanes are drawn from this series (starting with the participant with the best bestperformance): 4 5 3 6 2 7 1 8 9 10 11 ... \n"
"- for field events or track events, not held in lanes, the lanes are drawn from this series (starting with the participant with the best bestperformance): 1 2 3 4 5 6 ... \n"
"- the heat or group with the participant with the best bestperformance is scheduled first, followed by the heat or group with the second-best, ..."

7.1.8 Simple best firstszz seeding method

"Simple seeding method by Best Performance (zig-zag)\n"
"-----\n"
"- the participants are first ordered by their most recent bestperformance, participants without a known bestperformance will be appended randomly.\n"
"- the participants are assigned to heats or groups using a zig-zag algorithm (e.g. for three heats 1 2 3 3 2 1 1 2 3 ...). The number of heats or groups depends on the number of places in one heat or group, or the number of lanes available.\n"
"- for track events in lanes (distance per athlete up to 400 meter) lanes are drawn from this series (starting with the participant with the best bestperformance): 4 5 3 6 2 7 1 8 9 10 11 ... \n"
"- for field events or track events, not held in lanes, the lanes are drawn from this series (starting with the participant with the best bestperformance): 1 2 3 4 5 6 ... \n"
"- the heat or group with the participant with the best bestperformance is scheduled first, followed by the heat or group with the second-best, ..."

7.1.9 Simple best last seeding method

"Simple seeding method by Best Performance\n"
"-----\n"
"- the participants are first ordered by their most recent bestperformance, participants without a known bestperformance will be appended randomly.\n"
"- the participants are assigned to heats or groups based on the order (the best ones are grouped together). The number of heats or groups depends on the number of places in one heat or group, or the number of lanes available.\n"
"- for track events in lanes (distance per athlete up to 400 meter) lanes are drawn from this series (starting with the participant with the best bestperformance): 4 5 3 6 2 7 1 8 9 10 11 ... \n"
"- for field events or track events, not held in lanes, the lanes are drawn from this series (starting with the participant with the best bestperformance): 1 2 3 4 5 6 ... \n"
"- the heat or group with the participant with the best bestperformance is scheduled last, preceded by the heat or group with the second-best, ..."

7.1.10 Simple best lastszz seeding method

"Simple seeding method by Best Performance (zig-zag)\n"
"-----\n"
"- the participants are first ordered by their most recent bestperformance, participants without a known bestperformance will be appended randomly.\n"
"- the participants are assigned to heats or groups using a zig-zag algorithm (e.g. for three heats 1 2 3 3 2 1 1 2 3 ...). The number of heats or groups depends on the number of places in one heat or group, or the number of lanes available.\n"
"- for track events in lanes (distance per athlete up to 400 meter) lanes are drawn from this series (starting with the participant with the best

bestperformance): 4 5 3 6 2 7 1 8 9 10 11 ... \n"
"- for field events or track events, not held in lanes, the lanes are drawn from this series (starting with the participant with the best bestperformance): 1 2 3 4 5 6 ... \n"
"- the heat or group with the participant with the best bestperformance is scheduled last, preceded by the heat or group with the second-best, ..."

7.1.11 Kampioenschap VAL seeding method

"----- \n"
"- the participants are ordered by their most recent bestperformance in the first round or by their performance in the previous round for multi-round events. Participants without a known bestperformance or without a performance in the previous round, will be appended randomly. \n"
"- the events are catalogued in five different categories: \n"
"\t1: distance < 200 meter (e.g. 100, 100H, 110H, 80H, ...) \n"
"\t2: distance < 300 meter or relays where the average distance per athlete < 200 meter (e.g. 200, 4x100, ...) \n"
"\t3: distance < 800 meter or relays where the average distance per athlete <= 800 meter (e.g. 400, 400H, 4x200, 4x400, 4x800, 300H, ...) \n"
"\t4: distance = 800 meter (e.g. 800) \n"
"\t5: all other events (e.g. all field events, 1500, 3000 steeplechase, ...) \n"
"- the draw for lanes is based on the category of event and the highest lane number. Lanes that are disables, will be skipped. \n"
"\thighest lane number - category of event : draworder of the lanes \n"
"\t<=6 - 1 : 3 4 2 5 1 6 \n"
"\t<=6 - 2 : 4 5 6 3 2 1 \n"
"\t<=6 - 3 : 3 4 5 6 2 1 \n"
"\t<=6 - 4 : 3 4 5 2 1 1 6 6 (aantal beschikbare plaatsen = 6, maar toch worden er acht deelnemers in dezelfde reeks toegevoegd!) \n"
"\t<=6 - 5 : 1 2 3 4 5 6 \n"
"\t----- \n"
"\t7 - 1 : 4 5 3 6 2 7 1 \n"
"\t7 - 2 : 1 2 3 4 5 6 7 \n"
"\t7 - 3 : 1 2 3 4 5 6 7 \n"
"\t7 - 4 : 1 2 3 4 5 6 7 \n"
"\t7 - 5 : 1 2 3 4 5 6 7 \n"
"\t----- \n"
"\t8 - 1: 4 5 3 6 2 7 8 1 \n"
"\t8 - 2: 4 5 6 3 7 2 8 1 \n"
"\t8 - 3: 3 4 5 6 7 2 8 1 \n"
"\t8 - 4: 3 4 5 6 7 2 8 1 \n"
"\t8 - 5: 1 2 3 4 5 6 7 8 \n"
"\t----- \n"
"\t>=9 - 1: 5 6 4 7 3 8 9 2 1 10 11 12 ... \n"
"\t>=9 - 2: 5 6 7 4 8 9 3 2 1 10 11 12 ... \n"
"\t>=9 - 3: 4 5 6 7 8 9 3 2 1 10 11 12 ... \n"
"\t>=9 - 4: 4 5 6 7 8 9 3 2 1 10 11 12 ... \n"
"\t>=9 - 5: 1 2 3 4 5 6 7 8 9 10 11 12 ... \n"
"- the heat or group with the best participants based on their performance in the previous round or on their best performance, are scheduled last"

8. Qualification methods

Purpose: Specify the parameters to determine which athletes are qualified for the next round. In the superuser menu, you can add or import new qualification methods. You must set a new name and algorithm. The default algorithm of determining the qualification method is by place and time.

Some predefined values in source code:

Name	Algorithm
[place;time]	[PLACE;TIME]
[prestation;minimum_participants]	[PRESTATION;MINIMUM_PARTICIPANTS]

Qualification methods are stored in the database as also the parameters for the qualification method. It is possible to set a qualification method for each event and round or for a specific event or round.

Examples:

PLACE;TIME:

When place and time is chosen as qualification method and the parameters are set to 3;3 this means that the first 3 places of each heat will go to the next round but also the 3 best losing times.

PRESTATION;MINIMUM_PARTICIPANTS:

When prestation and minimum_participants is chosen (long jump) and the parameters are set to 6,5;8 this means that each participant with a result of at least 6,5 m will go to the next round and a minimum of 8 participants. In case only 6 athletes succeed in jumping more then 6.5 m, then the 2 best losing results will also go to the next round.

9. Point calculation

Point calculation is necessary to obtain a ranking in combined events. Each result of an event corresponds to a number of points. The total points of all events will result in the end ranking of the combined event.

In extension point calculation can also be used to compare performances between athletes no matter the event type.

There are 3 documents active for performing the point calculation.

- IAAF Scoring Tables for Combined Events
- IAAF Scoring Tables of Athletics (indoor)
- IAAF Scoring Tables of Athletics (outdoor)

There are separate tables for all the events in the men's decathlon and pentathlon and the woman's heptathlon. The score for any performance on the track or in the field can be read off in the appropriate table.

In many events, all possible times or distances are not given in the table. In such cases, the score for the nearest lesser performances should be read.

Two methods of timekeeping shall be recognised as official:

- fully automatic electrical timing, to 1/100th of a second
- hand timing, to 1/10th of a second; in this case the 'Manual Timing' tables are used.

There are 2 ways how points get calculated.

- using an algorithm
- using a lookup table

9.1 Using an algorithm

There are 4 methods predefined for performing the point calculation using an algorithm. The algorithm uses variables which will be retrieved from the point calculation parameters table and filled in the algorithm. These parameters are specific for event type and category.

Name	Algorithm
IAAF JUMP	$\text{INT}(\%1 * \text{POW}(100 * (\%0 - \%2), \%3))$
IAAF RACE	$\text{INT}(\%1 * (\text{POW}((\%2 - \%0), \%3)))$
IAAF THROW	$\text{INT}(\%1 * \text{POW}(\%0 - \%2, \%3))$
IPC	$\text{INT}(\%1 * E^{(-E^{(\%2 - \%3 * \%0)})})$

9.1.1 Valid operations

- INT: Parse a string argument and return an integer
- POW(x, y): Returns x raised to the power y
- SQRT(x): Returns the square root of x
- E^(x) Returns the base-e exponential function, e to the power x

9.1.2 Parameters

- %0: result * correction
- correction: parameter of recalculateresultsparameters table specific for event type and category
- %1: parameter 1 of the pointcalculationparameters table
- %2: parameter 2 of the pointcalculationparameters table
- %3: parameter 3 of the pointcalculationparameters table

In the superuser menu, you can add new, modify or delete algorithms.

9.2 Using a lookup table

For some event types and categories a lookup table is used to calculate the points of an athlete.

10. Correction factor

Correction factors can be used in point calculation to compare performances of athletes independent of the event type or category. It is possible to add, modify or remove this in the Correction factor window of the superuser menu.

11. Team point calculation

In the superuser menu, you can add or import new team point calculation method. You must set a new name and algorithm. The default algorithm of determining the team point method is by place.

Some predefined values in source code:

Name	Algorithm
place	PLACE
result	RESULT
combined event	COMBINED
	MEDALS

Place: Team points are given according the team settings in the competition properties window. By selecting a group you can set the team points according the ranking, how to calculate the team points in case of a tie of an athlete or a team.

Results: The team points are calculated based on the performance of an athlete. Using an algorithm or a lookup table the team gets points according the result.

Combined event: Team points will be calculated as if it was a combined event.

Medals: For each round, the team point medals 'G'(old), 'S'(ilver) and 'B'(ronze) are handed out.

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