A very brief introduction to the Beam Request Submission Tool for PS & SPS Users :: 2023

Martin Schwinzerl  
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https://ps-sps-users.web.cern.ch  
(SSO / EDUGain Login + JavaScript capable Browser Required!)
A new tool for PS & SPS User Support

- The development of software tools and solutions is one key part of the efforts under the EURO-LABS project (https://web.infn.it/EURO-LABS/)

- Goal: improve the quality and level of user support, streamline interactions with the users, reduce the requirements to repeatedly provide data, etc.

- Start: October 2022, Target duration for the relevant work-packages: 3 years

- First step: A new tool for collecting beam requests =>

  https://ps-sps-users.web.cern.ch

  (a very first step, many thanks in advance for your understanding and for your feedback and help in further improving our tools! )
Step -1: How to get in contact if you need help?

➔ For technical support & questions, feedback and help requests concerning the tool, please do not hesitate to contact me directly:

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Mattermost: PS & SPS User Management
https://mattermost.web.cern.ch/signup_user_complete/?id=77ufn4m4ntbtbfba8ywaxwhfxa

➔ For questions regarding physics, usage of the accelerators, coordination with other activities, etc.,

➔ Please continue to contact the PS & SPS Physics coordinator @ CERN, E. Barbara Holzer via

Sps.Coordinator@cern.ch
Step 0: Activities, Periods, Requests, Runs

- An “activity” is a name that can appear on a schedule. You can think of it as a more general term for “Experiment” (so it can also include Mds, Interventions)

- A “period” is a span of time, divided in “slots” (i.e. weeks) over which activities can perform measurements, experiments, interventions, at certain locations in the experimental area (or the accelerator complex)

- A “run” is the combination of time (when?), location (where?), and activity (who? / what?). It hopefully corresponds to the typical idea of an “experimental run” or measurement campaign

- A “beam request” is a request for one or more such runs in a period. It is connected to an activity which will allow to keep and reuse information in the future and hopefully will improve our ability to understand our users needs
An "Activity" is an effort that can appear in the schedule. A "run" is the combination of time with a location in the accelerator complex / exp. area.

MD Runs, technical stops, Interventions are also activities.

A period is divided in "slots" which mostly correspond to weeks.
Step 1: Login to the site
https://ps-sps-users.web.cern.ch

➔ We require a CERN user account or an “Verified External” account (i.e. EduGain, institutional logins).

➔ If Login does not work for you, please get in contact!

➔ We are trying to already assign you to your activities before your first login.

➔ If you see a login screen like this, please let us know which activity is missing! => We can usually create any new or unknown activity very quickly!
Step 1: Login to the site
https://ps-sps-users.web.cern.ch

➔ If you are assigned to an activity, you can create a beam request

➔ General rule of thumb: please one beam request per activity and period

(i.e. it is good to create two requests if you plan to perform experiments with both Protons and Ions)

➔ For some activities, this may however be not optimal (large variation of hardware setups, ver different involved persons in different runs, etc.)

➔ If in doubt, please contact us !!!

Many thanks to the BL4S activity for allowing us to use them for this demonstration!
Step 2: Create Your Beam Request

➔ You have to answer three mandatory questions:

• Which Period do you want to request for (i.e. Protons 2023, Ions 2023)

• Which Accelerators do you plan to use (this can be edited / changed later)

• Do you want to import existing users from the activity (since this is your first beam request, it is fine to keep the default for this)

➔ The beam request you create is persistent, i.e. you can return to it as long as it is active (no need to hurry to not lose your data!)
Step 3: A Birds-Eye-View On Your Beam Request

➔ You have to answer three mandatory questions:

• Which Period do you want to request for (i.e. Protons 2023, Ions 2023)

• Which Accelerators do you plan to use (this can be edited / changed later)

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Details for "Beam request in Protons 2023 for "Beamline for Schools"

Overview

Name: Beam request in Protons 2023 for "Beamline for Schools"

Period: Protons 2023

Status: Draft

Select accelerator(s): Directly (please choose all requested areas / accelerator complex(es))

Selected accelerator(s):

- PS/EA
- PS Complex (East Area)

Further details concerning the requested accelerator(s):

- Beamline for Schools has traditionally used the T9 beamline zone
Step3 : A Birds-Eye-View On Your Beam Request

➔ The sections can be visited in any order you want (including going back and forth between them), but

➔ Generally the idea is to work from left to right and inside a section from top to bottom

➔ In the following, We will show you briefly what each section is about

➔ WiP Warning: We are working on improving the visibility and layout of these sections in the near future, please let us know if you have any specific improvement suggestions!
Step 4 : Section “Activity” (Part 1)

➔ The **Name** of the activity can be changed here. However, the “short name” can currently not be modified, please let us know if you have any suggestions for a better name here!

➔ The **Purpose and Description** is for describing the aim of your Activity (not specifically your beam request, the big picture so to speak). This description should ideally apply even if your activity has a long duration

➔ **Category and Committee** shows where we think your activity fits into the wide scientific community at CERN and which scientific committee (i.e. SPSC, LHCC, INTC, etc.) will be responsible for endorsing, approving and prioritizing your beam requests. Please let us know if you think the characterisation of your activity is not correct!
Step 4: Section “Activity” (Part 2)

➔ The “Target Date” refers to the currently planned end-date of the activity. It gives the PS & SPS physics coordination an idea where along the project plan or overall timeline your beam request happens and is helpful in scheduling. We would be thankful if you could provide an estimate here!

➔ You can assign other users to the beam request to allow them to help with the creation or to even delegate the whole process (excluding potentially the submission) to them.

➔ Currently three “roles” available:
  • “Coordinator” – can do anything
  • “Editor” – can view and edit but not submit
  • “User”: can only view information but not edit anything
Step 4 : Section “Activity” (Part 3)

➔ Note: Currently, you can only add users that have already been active on the site. Please contact us if you need to add lists of users in bulk or if you have issues with finding users to assign.

➔ Note: You can also remove users with a role of less capability than yourself (except your own profile).

Please use this feature responsibly and coordinate with your colleagues!

➔ We can restore access if something goes wrong :-)

➔ There is some additional information on display towards the end of the activity section (metadata, status info) which is not discussed here
Step 5 : Section “Beam Properties” (Part 1)

Moving on to the next section, you can on the top level do three things:

- Create one or more “beam configurations” to describe what kind of beam properties you require.
- Give a positive or negative (i.e. exclusions) preference preference for specific locations (beamlines, zones, subzones) for your activity. These are the “global” preferences, you can fine-tune these selections later when configuring your run(s).
- Add further comments and details in a free text field in case they don’t fit anywhere else in the beam section.
Step 5 : Section “Beam Properties” (Part 2)

Within the beam configuration section, you can create one or more sets of parameters that describe your beam requirements

- Primary, secondary, tertiary beams, targets
- Muons, Hadrons, Leptons, Ions
- Polarity, Intensity, and Momentum
- Beam size, number of primary particles on target, momentum deviation
- It is possible to give a range for several parameters

Please note that some combinations of parameters that can be entered are not meaningful or sensible – we are working on improving this but would be grateful for your cooperation, many thanks!
Step 5 : Section “Beam Properties” (Part 3)

- Once saved, the beam configuration is given an automatically generated name, you can change it if you want to.

- You can add a (prioritized) list of locations that you want to either prefer or discourage for scheduling your beam request.

- Please use the filter field to narrow down the number of entries in the list and please let us know if something is missing!
Step 6 : Section “Hardware Setup” (Part 1)

➔ Similar to the procedure with the beam configurations, you can create one or more sets of hardware configurations to be used during your activity.

➔ It is mandatory to create at least one hardware setup or to provide a (detailed) free-text description of your setup in the field at the end of the section.
Step 6 : Section “Hardware Setup” (Part 2)

➔ Creating a hardware setup configuration only involves a view questions at first, you will get the opportunity to add many additional details after it has been created!

➔ The most crucial information is whether your setup has implications on downstream users or is installed in a fixed location
Step 6 : Section “Hardware Setup” (Part 3)

➔ After the hardware setup has been created, you should see a detailed view with default values → please edit them to reflect your requirements!

➔ Note specifically the section to add “Hardware Devices”; this allows you to request / announce any beam instrumentation, platforms or tables, magnets, telescopes, etc.

➔ Again, please let us know if somethin is missing or appears to be not correctly designated.
Step 6 : Section “Hardware Setup” (Part 4)

➔ You can also supply your requirements / constraints regarding

● The height of the beam above the floor (including the ability to define ranges or non-numerical values)

● Any gas or cooling services you may require

● Whether you may need the crane service

● Details concerning your use of the control / counting room and experimental area

➔ Most of the fields are not mandatory, please provide whatever information makes sense in your context!
Step 7: Section “Runs and Schedule” (Part 1)

➔ In this section we would ask you to state

• Your planned runs, including any preferences (positive and negative) regarding the time when we should schedule them

• Optionally: which hardware setups and beam configurations are applicable to which run (the default assumption is that they apply to all of them)

• State any “global” negative preferences if there are any periods of time (i.e. conferences, dependencies on other resources, etc.) that rules any work towards your activity

➔ It is mandatory to provide at least one run
The most important piece of information is your usage, i.e.:

- Main or Parallel (depending on availability, the default)
- Parasitic
- Exclusively Main usage
- No beam / access only
- Placeholde (to indicate that you need a break between two runs for data analysis, etc.)

The installation and deinstallation time is considered “inclusive” in your usage time
Step 7 : Section “Runs and Schedule” (Part 3)

➔ Note that the amount of beam time requested within one year (not period!) may introduce the need to get approval from your scientific committee (cf. The Activity section!)

➔ Also: please prefer the use of “weeks” (or “slots”, which are equivalent but start on Wednesday) to providing individual dates when stating times and intervals / preferences – it makes life a lot easier for scheduling!
Step 8: Section “Safety”

We would ask you to indicate use of any of the following hazardous categories:

- Gases (Flammable, Poisonous, Greenhouse Effect causing)
- Mechanical Safety
- Cryogenics
- Lasers
- Irradiated Materials and Sources

Note that this section does not replace the ISIEC Form!!!

It’s mandatory to at least edit this section once, we require this information to for example decide when to consult with our colleagues from the safety groups during scheduling!
Step 9: Section “Funding”

➔ If you already know (or at least plan) to use funding via the EURO-LABS project, please indicate so during your beam request so we can later match your request to the approval form and reference.

➔ If you have any questions regarding this EU project, please consult the homepage or (with respect to questions regarding the PS & SPS accelerator related workpackages) please direct your questions to the PS & SPS physics coordinator.
Step 10 : Section “Submission”

➔ During the submission process, it will be verified

• That the minimum necessary amount of information is present

• Whether the total amount of beam time requested required approval from a committee (plus fields to give this information)

• You will be required to confirm that you have read & well understood the safety related rules and regulations, as displayed on the page of the EP-TH Safety group:

➔ https://ep-th-safety.web.cern.ch/node/33388
Troubleshooting Tips & Tricks

➔ Please try to use a recent Firefox, Chrome, Chromium, or similar Browser. IE in all its incarnations seemed to work, but has not been tested extensively.

➔ If you do not use the page for a longer period of time, the internal session can time-out => Reloading the page and reopening the section usually works

➔ We are working on fixing any bugs that are still present, many thanks for your help by reporting any issues or glitches you may notice.

Many thanks for your Attention!

Remember: Please contact me in case of any questions or problems,

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Mattermost: PS & SPS User Management
https://mattermost.web.cern.ch/signup_user_complete/?id=77ufn4m4ntbtffba8ywaxwhtfxa

I am also very happy to arrange a zoom meeting with you to tackle your issues interactively and with screen sharing