



SFTP data integrations

Introduction

Med+Proctor offers an inbound and outbound processing solution for csv files sent to a Med+Proctor hosted SFTP service. This article describes the solution and available data workflows. This is a technical document. The available SFTP data integration will often require some implementation work on your end to fully automate with your information systems.

The SFTP service

You can access the SFTP service over ssh at sftp.medproctor.com. You'll first need to request access by emailing dev@medproctor.com. We'll need a public ssh key to issue a sftp user account. You must use RSA 2048 for your SSH key.

Your home directory

When we create your sftp ssh user, we'll also create a homedir to which only your user will have access. The home directory has a structure like

- /your_home_dir
 - /inbound
 - /outbound

File format

Files that you upload to the /inbound directory must meet these requirements to be processed by MP. We will only upload files to the /upload directory that meet these requirements.

- UTF-8 encoded entries
- RFC 4180 formatted CSV (comma-separated values)
- Use a comma as a value delimiter
- Use a new line as a row delimiter
- Has a header row

/inbound

Drop a csv formatted file in this directory to add the users to the MP system. You can also update/add student users' names, contact phone numbers, and unique IDs. Files that you upload must include this header row, use this column order, and use these data types. **You must use a .csv extension at the end of your file name.**

Column Order Example

Username, StudentId, LastName, FirstName, Telephone, Dob, RequirementGroup, Term, OnCampus



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/inbound (cont.)

Column Description

- Username – a unique username that your student will use to login. An email address works best. Then we can contact your student with helpful reminders. **Required**
- StudentId – A unique alphanumeric; a “student ID”. The ability to edit this value can be optionally disabled for your student end-user.
- LastName – A string of the student’s surname
- FirstName – A string of the student’s given name
- Telephone – A telephone number
- Dob – MM/DD/YYYY formatted date of birth. Other formats will be rejected.
- RequirementGroup and Term – A string value indicating to which configurable group the student belongs. Both values are required to be processed. If one is missing, then the other will be skipped. Email dev@medproctor.com for a list of valid values.
- OnCampus – an integer, 0 or 1, indicating true or false where 0 is false and 1 is true. Is the student an on-campus resident? May be used to drive some immunization requirements.

Once processing begins on your uploaded file the filename will have an extension of

`.<utctimecode>.processing`

appended to the original filename. Rows are queued up in the most efficient manner possible. They’ll be processed very quickly, but not in the order that you provide them.

/outbound

As Med+Proctor reviews student record submissions, we mark complaint records as verified. You can request a running list of verified users be uploaded by MP to the /outbound directory of your homedir. MP uses cron expressions to schedule this task. You can simply provide us with a good cron expression to use to schedule delivery. You can also request a more human-readable frequency, like “one a day at midnight”, and we’ll set the schedule accordingly.

Every time we generate a file according to your schedule, we’ll collect all verified students not retrieved since the last scheduled task.

The following file format is available for export.

Column Order Example

`Username, StudentId, VerifyDate`

Column Description

- Username – The provided student username
- StudentId – The unique student ID provided by you or the student
- VerifyDate – An MM/DD/YYYY formatted time string of the UTC time that MP verified this student.



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FAQs

- Do SFTP services have static IPs?
 - Production services do. They are as follows.
 - 18.189.172.110
- Can you process other file types?
 - No. Files not conforming to the standard listed above will not be processed or will result in an error during processing.
- What about errors for files uploaded to /inbound?
 - The file *.csv.<utctimestamp>.completed will contain any error messages generated during processing.
- Can you process other inbound data entries, like administered vaccines, mailing address, or other info?
 - No.
- How large can inbound files be and how long do they take to process?
 - Files uploaded to /inbound won't be processed after 50k rows. A 20k user upload as a load test processes in an average of 23 minutes.
- Can you deliver other data in the /outbound directory csv dumps?
 - No.
- Will MP delete files from my homedir?
 - Only at your explicit request.
- How safe is data transfer and storage?
 - Data is encrypted and signed in transit by ssh using a 2048-bit RSA key. Assuming you have properly secured your private key with a passphrase, connecting and transmitting data to MP by SFTP is very secure. When stored in your SFTP homedir data is encrypted using a different key pair, 256 bits in length, and protected by a FIPS 140-2 validated HSM. Access control to your storage encryption key is limited to your SSH user and the MP services handling your files. Encryption and SSH keys can be rotated upon request or in case of a security event.



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FAQs (cont.)

- What is the format for the header record? What data is in the header row?
 - Header row values aren't actually important. For example, a misspelled header row value won't cause a file to fail. Column order and all columns be present are the necessary bits. The first row of any file uploaded will be skipped with the assumption that it is the header row.

Here are some good header rows.

```
"EmailAddressRequired","StudentId","LastName","FirstName","Telephone","Dob","RequirementGroup",
"Term","OnCampus"
```

you can enclose column values in standard UTF-8 set double quotes. This is recommended for names with special characters, accents, or apostrophes

```
Email,CWID,Surname,Givenname,Phone,Bob,RequirementGroup,Term,CampusResident
```

you can use your own names to refer to columns, and they can include white spaces.

```
Email,StudentId,,,,,
```

you can leave column values blank

```
"StudentId","EmailAddressRequired","LastName","FirstName","Telephone","Dob","RequirementGroup",
"Term","OnCampus"
```

this data is out of order if filled in thusly

Here are some bad header rows.

```
EmailAddressRequired,StudentId,LastName,FirstName,Telephone,Dob,RequirementGroup,Term
```

the order is fine, but there's a missing column

```
Email,,,,,,,,,,,,,,,,,,,,,StudentId,OnCampus
```

the order is bad, and there are too many columns



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FAQs (cont.)

- What data fields are required vs optional?
 - Only the EmailAddressRequired column and OnCampus are required values.
- What are the formatting requirements for the data fields (for example what is RequirementGroup and what are the valid options for RequirementGroup?)
 - RequirementGroup, Term, and OnCampus are all data points that students supply at <https://secure.medproctor.com/profile/enteringterm>. You can use these columns to preemptively complete these values for students. They will still review the entry when they complete their MP application.
 - RequirementGroup (School) and Term are a pair. They must both be supplied to be processed. MP uses text values to map requirement group and term column values to data points. Making sure correct values are supplied is key. Please contact MP support for more info on acceptable values for RequirementGroup and Term.
 - The OnCampus column value is a 0 or 1 indicating false or true respectively.
 - Any column value can be enclosed in UTF-8 double quotes to escape special characters.
 - Depending on your configuration, EmailAddressRequired may not need to be an email address or use a particular email domain. Ask MP support for more information about your configuration.