BI **HELPER** Product Guide

Updated: April 16, 2021

1. BI HELPER OVERVIEW

BI Helper is a cloud-based application to automate the generation and distribution of PDF reports from Power BI and Tableau. BI Helper is secure, scalable and simple to use, and is a comprehensive solution to deliver your reports to your users, whether inside your organization or outside it.

Create your BI Helper account at https://portal.bihelper.tech/#/login. You can either create an account in BI Helper or log in with your Google / Okta credentials.

Upon sign in, you will be taken to the **Job Summary** tab in BI Helper. Select **Add New Job** to move to the **Job Configuration** section where you need to accept the BI Helper End User License Agreement (EULA) and proceed to create your first job (report campaign). Fill in the job configuration details in the **Schedule Report**, **Generate PDF** and **Send Email** tabs in BI Helper. Save your settings, return to the Job Summary tab and run the job. Your users will receive their PDF reports as email attachments in their inboxes in a few minutes. It's as simple as that!

In the Job Summary tab, please refer to the **Retail Sales Report** demo. It is a full function BI Helper report generation and distribution campaign, which will deliver PDF reports to your selected mail recipients. **Run the demo to understand how BI Helper works.**

BI HELPER Key Features

1. Secure cloud-based application hosted in AWS US East Region
2. Centralized distribution of PDF reports as attachments to full HTML emails
3. Scheduled or on-demand PDF and email campaign execution
4. PDF report generation and email campaigns independent of each other; review reports before dispatch
5. API integration / manual upload of slicer and filter values, contact email IDs, dynamic report name and email subject
6. Detailed campaign monitoring and logging; user access to execution logs
7. Campaign failure alerts and automatic retries
8. Conditional reporting based on business rules

2. JOB CREATION AND EDITING

After you sign in to BI Helper, you will be taken to the **Job Summary** tab. Select **Add New Job** to go to the **Job Configuration** section where you can create a new job (Power BI or Tableau report campaign). Or edit an existing job by selecting the Edit icon. This section has three tabs - **Schedule Report**, **Generate PDF** and **Send Email.**

2.1   Schedule Report

In the Schedule Report tab, you can define or edit the job name, job frequency and start date and time (run schedule). You can activate or deactivate the job using the **Job state** toggle button. Once deactivated, the job will not run until you activate it again. Save your settings and move to the Generate PDF tab.

Note: The time zone picker does not support daylight savings.

2.2   Generate PDF

In the Generate PDF tab, you can select your BI tool, grant BI Helper access to it and configure your selected reports and dashboards for PDF generation.


2.2.1   User Login

Select either **Power BI** or **Tableau Online** in the **Select BI Tool** dropdown**.**

Power BI: Log in to your Power BI account with your Microsoft credentials to allow BI Helper access to your Power BI reports and dashboards. Your Power BI credentials are not shared with BI Helper.

Tableau Online: Please enter the following information.

- **Tableau URL:** The absolute URL of Tableau Online Instance. For example, in https://prod-apnortheast-a.online.tableau.com/#/site/bihelper/views/RetailSalesReport-Demo_16141395161860/Title, the Tableau Online URL is https://prod-apnortheast-a.online.tableau.com
- **Site name**: The name of your site. In the below example, the sitename is **bihelper**. https://prod-apnortheast-a.online.tableau.com/#/site/bihelper/views/RetailSalesReport-Demo_16141395161860/Title
- **Personal Access Token and Secret:** Please log in to your Tableau Online Instance and create a **Personal Access Token**. Navigate to My Account Settings -> Personal Access Tokens and create a token. Provide the token and secret to BI Helper while configuring your job in BI Helper. See the image below. You can revoke your Tableau access token from BI Helper whenever you choose.

  More details are available at Personal Access Tokens - Tableau Documentation.
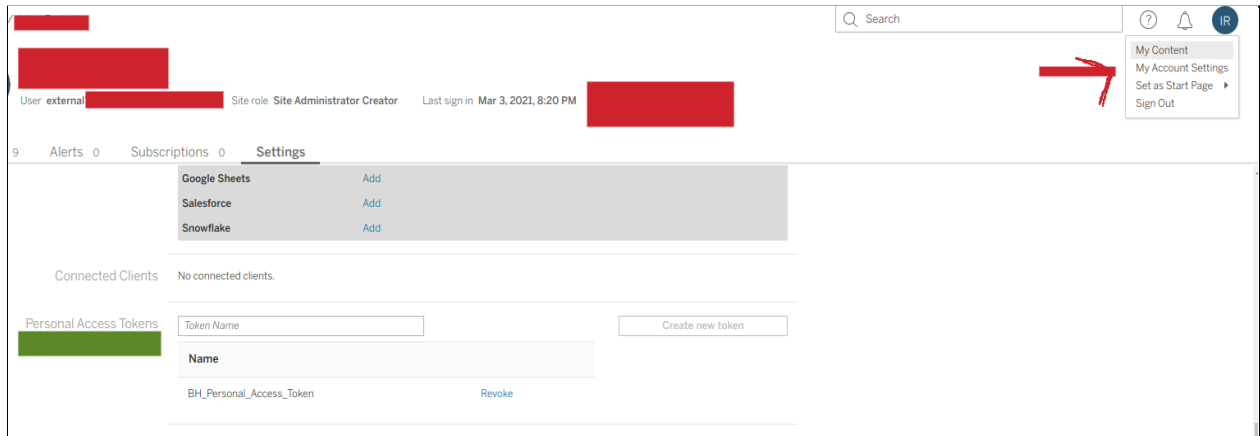
Security Best Practice: *Create a new service account for BI Helper. Share your Power BI or Tableau reports with this service account. Ensure that this account **DOES NOT** have access to any other resources within your IT network. Enable Multi-Factor Authentication on this account.*

2.2.2   Report Selection

Select your workspace and the report or dashboard for which you want to generate PDFs.
Optional page settings: Select your PDF page size, pages to print and page timeout. Or enable Excel export of selected table and matrix visuals along with your PDFs.

2.2.3   Slicer and Filter Setup

The next step is to define the report or page level slicers and filters on which the PDFs are to be generated and enter their values. This can be done in one of two ways, with **Filter/slicer input mode** set to **Manual** or to **API**. In the manual mode, you can enter the values in the table shown below or bulk upload them as a CSV file, using the CSV template on this tab.

This section details the Manual mode. The **API input mode** is explained in the API Integration section of this document.

Slicer values and contacts

MANUAL ▾

Filter/slicer input mode

Reporting period ⓘ

LAST_MONTH ▾

Report Date Field ⓘ

Report Date Field

File name prefix ⓘ

File Prefix

File name format: Prefix, Slicer value,
Reporting Period.pdf
File name eg: BH Report, Allan Guinot,
Apr-19.pdf

⬆ Choose File | No file chosen   ⬇

Acti...	Slicer Name	Slicer Value	To Email (; separated)	CC Email (; separated)	BCC Email (; separated)
☐ true	District Manager <> ...	Tina Lassila	kiran@vegasolutions.in; kira...	ishan@bihelper.tech;kiran@...	
☐ true	District Manager <> ...	Andrew Ma	kiran@vegasolutions.in	ishan@bihelper.tech;kiran@...	kiran@bihelper.tech
☐ true	District Manager <> ...	Allan Guinot	kiran@vegasolutions.in	ishan@bihelper.tech;kiran@...	
☐ true	District Manager <> ...	Chris Gray	kiran@vegasolutions.in	ishan@bihelper.tech;kiran@...	

Remove selected   Add row

- **Applying Slicers in Power BI**

BI Helper supports slicers on the first page of a Power BI report, even with the first page hidden. Slicer names in BI Helper must follow the format: **Slicer Title<>Table Name/Column Name**.
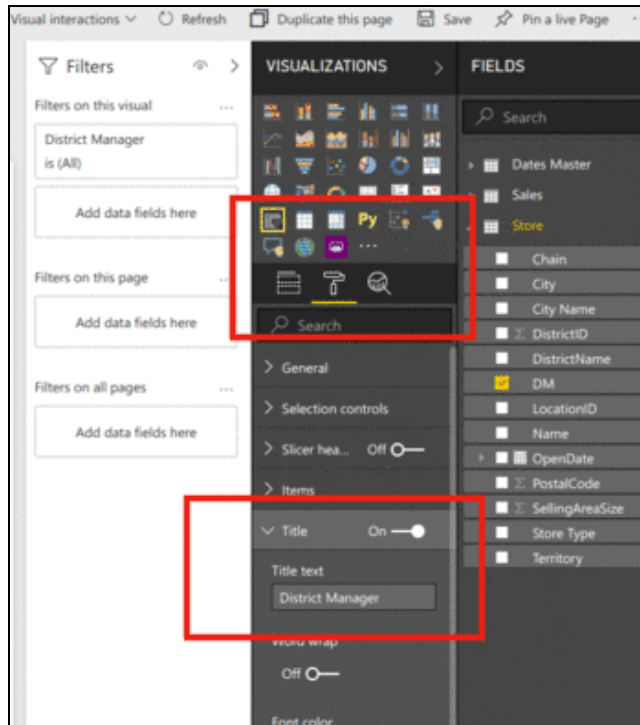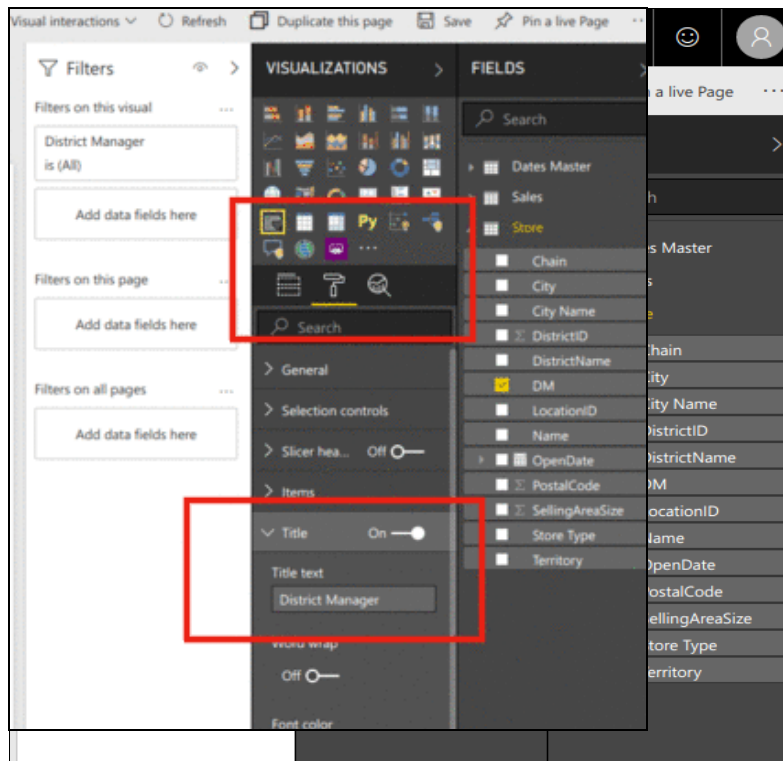

Example: The **DM** column in the **Store** table is used to build a slicer titled **District Manager**. PDF reports are to be generated for four district managers - Tina Lassila, Andrew Ma, Allan Guinot and Chris Gray, and emailed to selected recipients.

In the Slicer Name column in the above table, enter **District Manager<>Store/DM**. For each slicer value, enter the name (e.g., Tina Lassila) and the mail IDs to which the PDF is to be sent (To, Cc and Bcc).

BI Helper identifies slicers using the 'Title' field in the Power BI formatting options.

- **Applying Filters in Power BI**

BI Helper supports **report level filters**. In your Power BI report, open the filter pane. Filter names must follow the format: *Table Name/Column Name*.

Example: The **DM** column in the **Store** table is a report level filter. PDF reports are to be generated for four district managers - Tina Lassila, Andrew Ma, Allan Guinot and Chris Gray, and emailed to selected recipients.

In the Slicer Name column, enter the filter name as **Store/DM.** For each filter value, enter the name (e.g., Tina Lassila) and the mail IDs to which the PDF is to be sent (To, Cc and Bcc).

Important: Slicer and Filter Syntax

Slicer and filter names and values in BI Helper are case-sensitive and have to be entered exactly as in your Power BI report.

Numeric slicers and filters: Please use the format **int(12345)** to enter the values of numeric slicers and filters.

Date slicers and filters: BI Helper supports 'Between' date slicers and filters. Enter date slicer / filter values as **StartDate :: EndDate** in the ISO 8601 format, e.g., 2021-03-01T00:00:00 **::** 2021-03-31T00:00:00.

- **Multiple Slicers and Filters in Power BI**

If your report uses multiple slicers or filters or combinations of the two, separate the names and values using the pipe operator ' | '. In the above example, to apply a custom date slicer and the district manager slicer, enter:
Slicer Name: Date<>Dates Master/Date | District Manager<>Store/DM
Slicer Value: 2021-03-01T00:00:00Z::2021-03-31T00:00:00Z | Allan Guinot
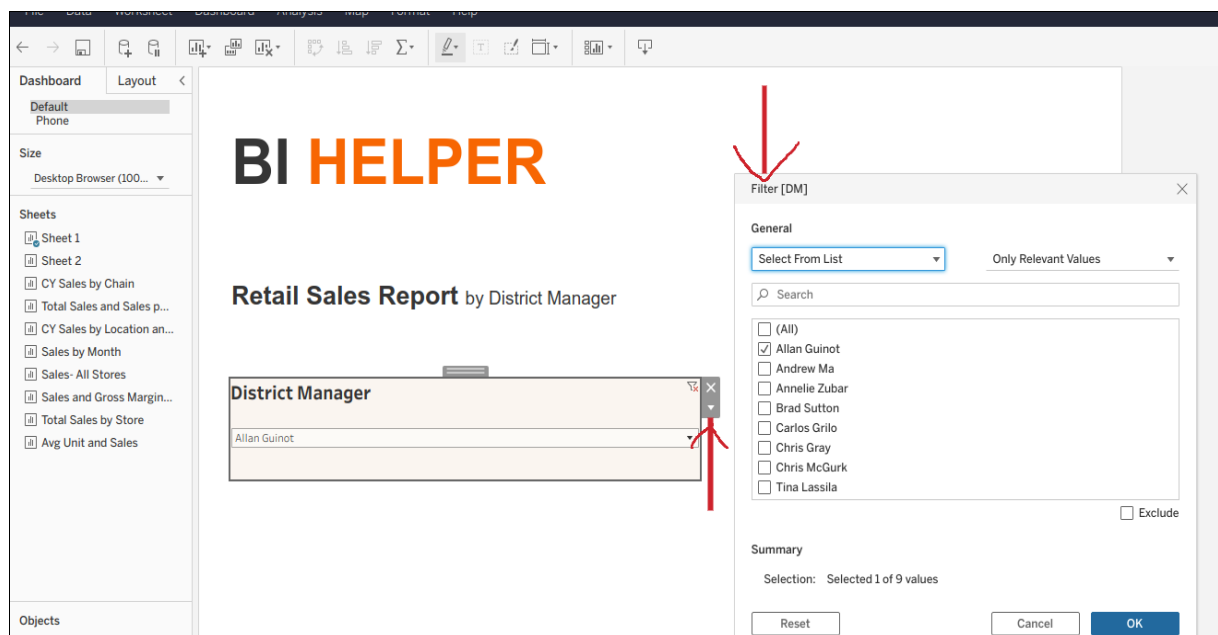
- **CSV Upload of Slicers and Filters**

You can bulk upload filter and slicer names and values and recipient email IDs as a CSV file, using the CSV template in the Generate PDF tab. Please DO NOT rearrange, edit or delete the column headers in the CSV template.

- **Applying Filters in Tableau Online**

BI Helper filters a view using fields in the underlying workbook data. All the mentioned filters are applied to the selected views. The filtered views are then downloaded as an image and combined to create a PDF.

To filter a query view using a field, you need to provide BI Helper with the **Field Name** and **Field Values.** Field name and field values are case-sensitive and must be entered exactly as in your Tableau workbook.

Example: To generate a PDF for every **District Manager**, clicking on Edit Filter shows that its Field Name is **DM.** The Field Values are Allan Guinot, Andrew Ma, Annelie Zubar and so on.

The corresponding BI Helper setup for Tableau Online is:

- **Applying Multiple Filters in Tableau Online**

To apply multiple filters in Tableau Online, separate the Field Names and Field values using the pipe operator 'ǀ'. For example, to apply District Manager and Region filters on a view, enter:

Field Name: DM ǀ Region
Field Value: Chris Gray ǀ Europe

The BI Helper configuration for multiple filters in Tableau Online is:

	Field Name		Field Value	
Active	Slicer Name		Slicer Value	To Email (; separated)
☐ true	DM | Region		Annelie Zubar | United Kingdom	ishan@vegasolutions.in
☐ true	DM | Region		Chris Gray | Canada	ishan@vegasolutions.in
☐ true	DM | Region		Andrew Ma | France	ishan@vegasolutions.in
☐ true	DM | Region		Allan Guinot | China	ishan@vegasolutions.in
☐ true	DM | Region		Brad Sutton | Australia	ishan@vegasolutions.in
☐ true	DM | Region | City		Carlos Grilo | USA | Los Angeles	ishan@vegasolutions.in
☐ true	DM | Region | City		Chris McGurk | USA | Boston	ishan@vegasolutions.in
☐ true	DM | Region		Tina Lassila | Brazil	ishan@vegasolutions.in
☑ true	DM | Region		Valery Ushaov | South Africa	ishan@vegasolutions.in

2.2.4   Setup of Email Recipients

For each filter / slicer value, enter the recipient email IDs in the table.

To send a report to multiple recipients (To, Cc or Bcc), please separate the email IDs by a semicolon (;). If you don't want to send a particular PDF to any user, please use a dummy email ID for that report.

BI Helper does not validate the slicer / filter and contact email information provided by you. Please enter these values in BI Helper to exactly match the values in your Power BI or Tableau Online reports.
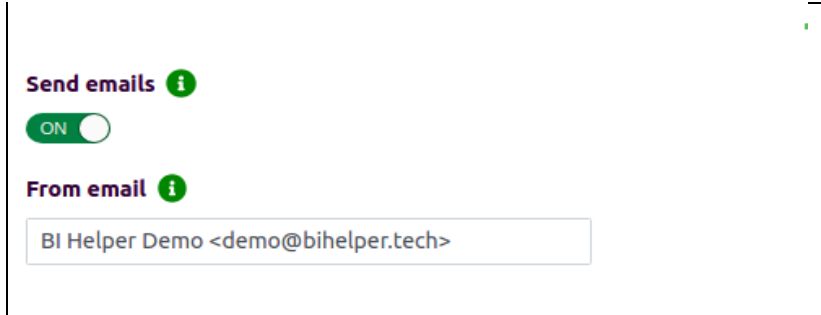
2.3   Send Email

Sender email ID

BI Helper uses the email account specified in 'From email' as the sender email ID. Once you enter the sender email ID in this box, BI Helper sends an authorization request to the email account, which you need to approve in order to allow BI Helper to use it for your report campaigns.

Emails sent from BI Helper have a high trust factor because they originate from AWS. These emails do not need to be whitelisted and are not classified as spam by receiving mail servers, ensuring that your reports are delivered as intended.

Disabling emails

If you want to generate PDF reports but NOT send them, simply turn OFF the 'Send emails' button in the Send Email tab.

Send emails ⓘ

`ON ⬤`

From email ⓘ

BI Helper Demo <demo@bihelper.tech>

Attaching images to email

Please use the Attach Image icon in the mail formatting menu to add images to your email.

Please do NOT copy an email/image from another HTML client to the BI Helper email body. Copy-pasted emails/images from another client are added in inline embedded format, which does not work well with webmail services and is blocked completely by Microsoft Outlook.

3. JOB STATUS MONITORING

Job Status

Jobs can be scheduled to run at a given date and time in the Schedule Report tab, or they can be run on demand by clicking the Run Now button in the **Job Summary** tab (see arrow in below image).

BI Helper offers the flexibility to split report generation and email delivery. You can generate PDF reports, save them in a secure folder, review and then send them to your selected recipients at a later time.

Job completion status can be checked in the **Job Execution History** tab which is opened by clicking on the Timer icon of the job.

The Job Execution History tab has details of PDF generation and emails sent for the last five report campaigns of the job. It provides details of success / failure at the file level, i.e., for every PDF and email to be generated and sent as part of the job.

The following operations can be performed in this tab:

1. Edit: Editing the configuration will allow you to edit the emails and enable / disable the 'Send email' flag.
2. Send: You can control the emails to be sent at the level of each PDF or add / edit email recipients. Email IDs are comma separated (,) in this tab.

Job Failure

When a job fails, BI Helper attempts three retries before sending the error report. Please refer to the [support document](#) to understand the root-causes and the steps to fix job failures.

4. REPORT ACCESS AND SECURITY

Report Storage

BI Helper saves the generated PDF reports in Amazon S3. Data retention periods are license specific:

- Standard license: No data retention. PDFs are deleted immediately after the emails are sent.
- Premium license: PDFs are retained for 5 days to allow users time to run their SFTP downloads and are deleted thereafter.
- Enterprise license: PDF retention configured to user requirements.

File Security and User Access to PDFs

When a new client is onboarded, a new location is created in our AWS S3 where their PDFs are stored. At no stage are the PDFs of one client visible to any other client. Further, the files in Amazon S3 are AES 256 encrypted and users may provide their own keys to encrypt their data. The S3 buckets are always private and their data policy changes are strictly enforced.

Designated client folders are created on a dedicated SFTP server, mapped to the client's AWS S3 location. Users are provided with access credentials to the SFTP server, to download their files within the data retention periods defined by their licensing tiers. The SFTP server is whitelisted and not publicly accessible on the internet.

More Information on Security

Many other industry standard security features are built into BI Helper. Please write to kiran@bihelper.tech or ishan@bihelper.tech for more information.

5. API INTEGRATION

BI Helper provides the following API Integrations.

BI Helper APIs

By using BI Helper APIs you can edit, run and view the history of a job. With these APIs you can use your own scheduler, link BI Helper to your reporting application, define a dynamic email body or set up a custom PDF folder layout. Further, you can use these APIs to push events into BI Helper to trigger job execution or edit a job.

In summary, BI Helper APIs provide the full functionality of the user interface (described in the previous sections) and much more. [BI Helper API documentation](#) is available here.

Integration with Customer API Endpoints

This integration automates the update of slicer, filter and contact email information before every run of your report campaign. BI Helper calls **your application APIs** to fetch the latest slicer, filter and contact information and use them to generate PDFs and send emails. You can continue to use the scheduler, email body and other functionality provided in the BI Helper user interface.

With this integration, you can customize your job for:

File Name: You can define your file nomenclature for the PDF reports generated.

Email Subject: You can define your subject title.

Filters: You can provide any date range or any filters using the APIs and BI Helper will pull the correct values for them from your reporting system.

Folder Structure: If you want to store files in a specific folder format, you can define the folder structure in your file names and BI Helper will automatically create the folders and store your files as defined.

The following sections detail the signature of the API endpoints that BI Helper will need to call.

- **API Response Format**

Your API Endpoint should return the data in the below format. Please note:

1. All the fields given below are mandatory.
2. If statusCode is anything other than 200, the API response is considered a failure.
3. Make sure the filter_names are exactly as defined in your BI report.
4. API Authorization: See next topic.

In the following images and examples, please replace the Filter Names and Filter Values as per the format defined by Power BI or Tableau, in their PDF configuration instructions.

```json
{
  "statusCode": 200,
  "body": {
    "files_to_generate": [
      {
        "bcc_email": ["ishan@bihelper.tech","kiran@bihelper.tech"],
        "cc_email": ["ishan@bihelper.tech"],
        "to_email": ["ishan@vegasolutions.in"],
        "filters": [
          {
            "filter_name": "District Manager",
            "filter_value": "Annelie Zubar"
          },
          {
            "filter_name": "Start Date",
            "filter_value": "03/03/2019"
          },
          {
            "filter_name": "End Date",
            "filter_value": "04/04/2019"
          }
        ],
        "file_name": "Annelie Zubar, 2019-04.pdf"
      },
      {
        "bcc_email": ["ishan@bihelper.tech","kiran@bihelper.tech"],
        "cc_email": ["ishan@bihelper.tech"],
        "to_email": ["ishan@vegasolutions.in"],
        "filters": [
          {
            "filter_name": "District Manager",
            "filter_value": "Andrew Ma"
          },
          {
            "filter_name": "Start Date",
            "filter_value": "03/03/2019"
          },
          {
            "filter_name": "End Date",
            "filter_value": "04/04/2019"
```

```
            }
          ],
          "file_name": "Andrew Ma, 2019-04.pdf"
        },
        {
          "bcc_email": ["ishan@bihelper.tech","kiran@bihelper.tech"],
          "cc_email": ["ishan@bihelper.tech"],
          "to_email": ["ishan@vegasolutions.in"],
          "filters": [
            {
              "filter_name": "District Manager",
              "filter_value": "Ishan Rastogi"
            },
            {
              "filter_name": "Start Date",
              "filter_value": "03/03/2019"
            },
            {
              "filter_name": "End Date",
              "filter_value": "04/04/2019"
            }
          ],
          "file_name": "Ishan Rastogi, 2019-04.pdf"
        }
      ]
    }
}
```

- **API Field Description**

```
{
    "statusCode": <API Response Code. Only codes as 200 are accepted as a valid
response> ,
    "body": {
        "files_generated": <List of Objects> [
            {
                "bcc_email": [<Comma separated list of contacts>],
                "cc_email": [[<Comma separated list of contacts>],
                "to_email": [[<Comma separated list of contacts>],
                "filters": <List of filters to be applied> [
                    {
```

```
                            "filter_name": "Name of Filter as it appears in your BI
    Report",
                            "filter_value": "Filter value to be applied to this filter",
                    }
                ],
                "file_name": "The name you want to have for the file generated after
    the
                        application of the above set of filters"
            }
        ]
    }
}
```

- **API Authorization**

On setting up the API Integration, you can view your secret token in the Generate PDF tab in https://portal.bihelper.tech. When BI Helper calls your API, it will pass this secret token in an http header "**x-bihelper-token**". This token needs to be captured in your API implementation and will check if the API is being called from the authorized source.

DO NOT share this token with anyone. If you want to get the token reset, please write to us. BI Helper supports both GET and POST endpoints.

Demo Endpoint:
https://28ldzt956a.execute-api.us-east-1.amazonaws.com/bihelper/filters?user=ishan@bihelpe r.tech

Secret Token: j6lndQDQqjcyE7CTSoITatDeD

Try API Here: https://reqbin.com/0kmuaffk OR

```
curl --header "x-bihelper-token:j6lndQDQqjcyE7CTSoITatDeD"
https://28ldzt956a.execute-api.us-east-1.amazonaws.com/bihelper/filte
rs?user=ishan@bihelper.tech
```

6. FAQs AND SUPPORT NOTES

- BI Helper cannot email PDFs greater than 8 MB in size due to the limitations set by the AWS email system. There is no restriction on PDF size - BI Helper will generate PDFs larger than 8 MB, and will make them available in your SFTP location, but they cannot be emailed from BI Helper.
- Do not embed SVGs in the email body. SVGs will cause email failure.
- A single PDF (from your Power BI report) has to be generated within 45 mins. PDF generation time depends on page timeouts and the number of pages in your report. After 45 minutes, the job token will be revoked by Microsoft causing the PDF generation to fail.
- The default PDF process timeout is set at 48 hours for a given job. This limit is customizable.
- Empty PDFs: Please check if the page selection matches the page names in your report.
- The maximum timeout between pages is set to 180 seconds (for Power BI reports). This limit is defined by Microsoft page timeouts. If your Power BI page does not load in 180 seconds, please review your underlying Power Query and server loading.