



A female megachile leafcutter bee collecting pollen from a blanket flower (*Gaillardia aristata*) to use in making a beelof. Image courtesy of Jim McCulloch.

# Bee-yond the Basics: Harnessing SAS, SQL, and Python for Data Analytics in Pharma

PHARMASUG PRE-CONFERENCE SEMINAR

CHARU SHANKAR

Companion Document – Getting Started with SAS Viya Workbench

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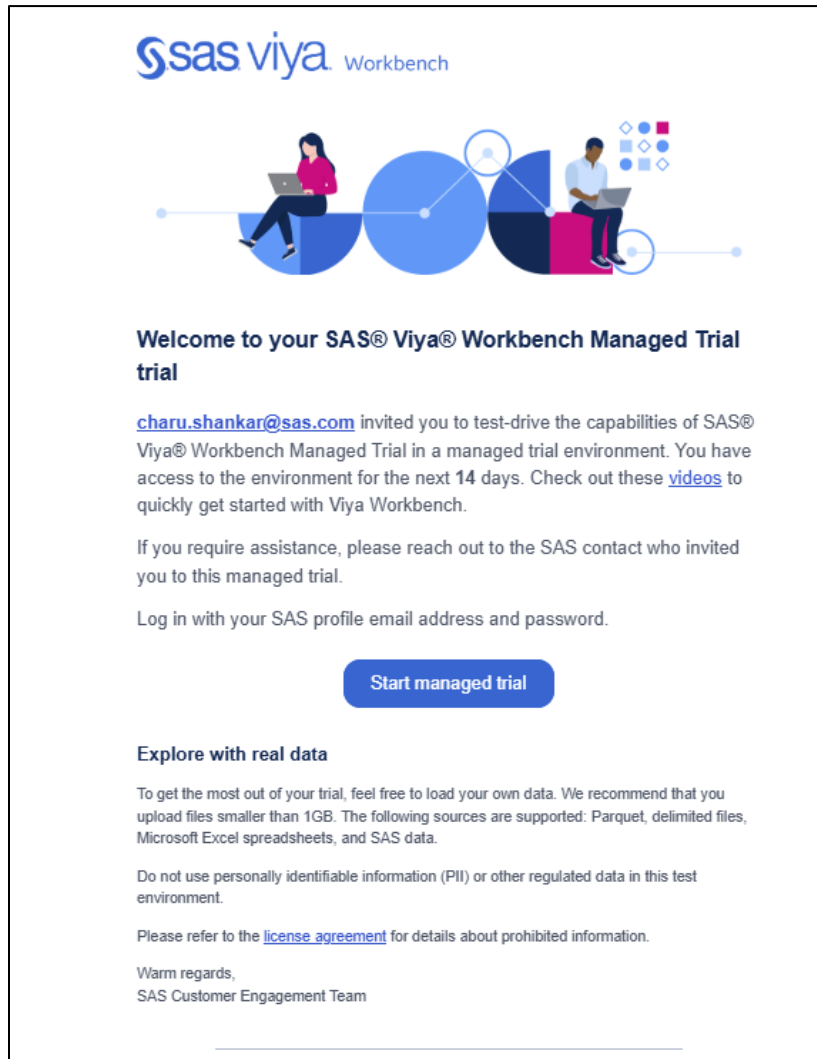
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## LAUNCH SAS Viya Workbench

- Locate the SAS Viya Workbench Managed trial email invitation From the SAS Customer Engagement Team.

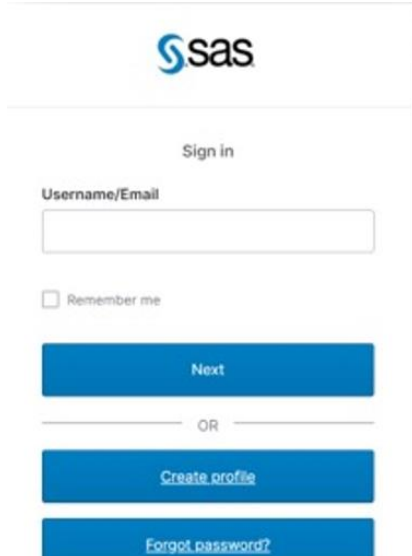
☐ ☆ > SAS Customer Engage. Welcome to your SAS® Viya® Workbench trial - Your trial is ready. Let's get started.

- Launch Workbench by clicking on the Start Managed Trial link in the invitation email



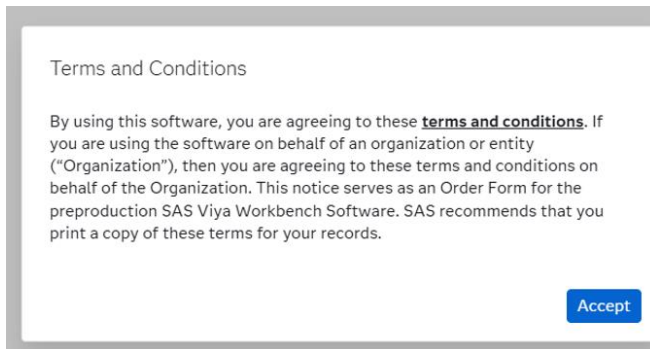
## LOGIN With SAS Profile

- You will then be promoted to sign in with your SAS Profile credentials. Click on create Profile if profile doesn't exist



The image shows the SAS sign-in interface. At the top is the SAS logo. Below it is the text "Sign in". There is a text input field labeled "Username/Email". Below the input field is a checkbox labeled "Remember me". There are three blue buttons: "Next", "Create profile", and "Forgot password?". The "Next" button is positioned below the "Remember me" checkbox. The "Create profile" and "Forgot password?" buttons are positioned below the "Next" button, separated by a horizontal line with the text "OR" in the center.

- Accept the terms and conditions  
(click on the terms & conditions & save those for your records)

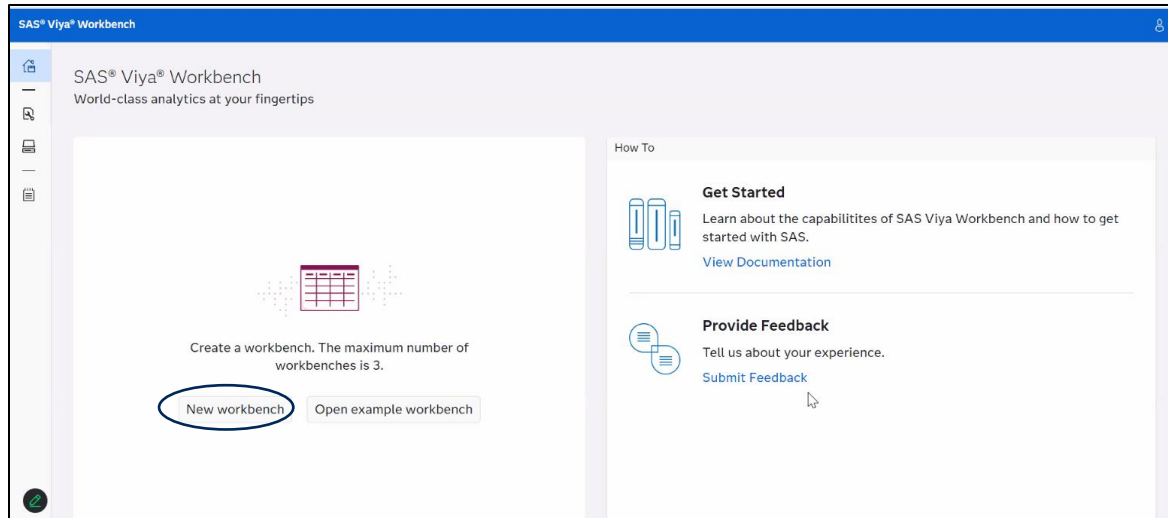


The image shows a "Terms and Conditions" dialog box. It contains the following text: "By using this software, you are agreeing to these **terms and conditions**. If you are using the software on behalf of an organization or entity ("Organization"), then you are agreeing to these terms and conditions on behalf of the Organization. This notice serves as an Order Form for the preproduction SAS Viya Workbench Software. SAS recommends that you print a copy of these terms for your records." At the bottom right of the dialog is a blue button labeled "Accept".

- Once logged in, you will land at the Workbench Home Page:

## CREATE A New On Demand Computing Environment

Select New Workbench when you land at the Viya Workbench Home page



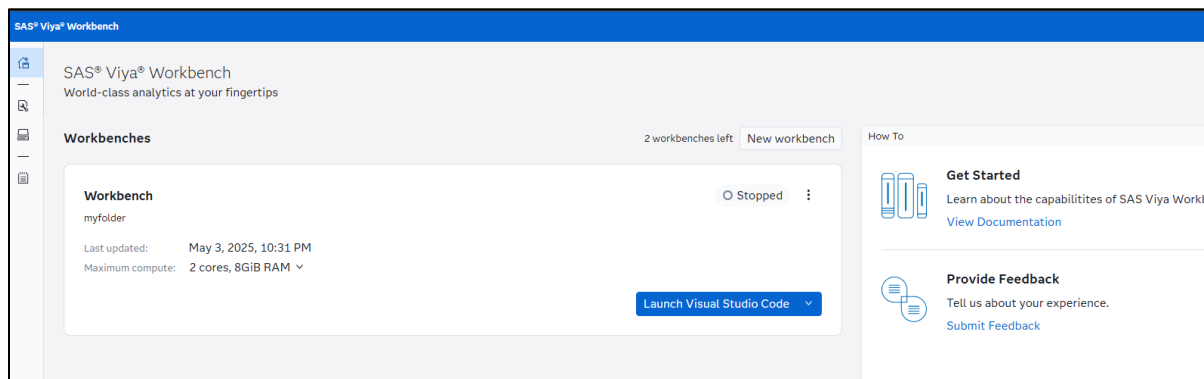
- Create a new workbench from the Workbench setting screen
- Retain the settings at their default; leave the maximum compute core to use at 2 cores and then click **OK**.

Your workbench is created!

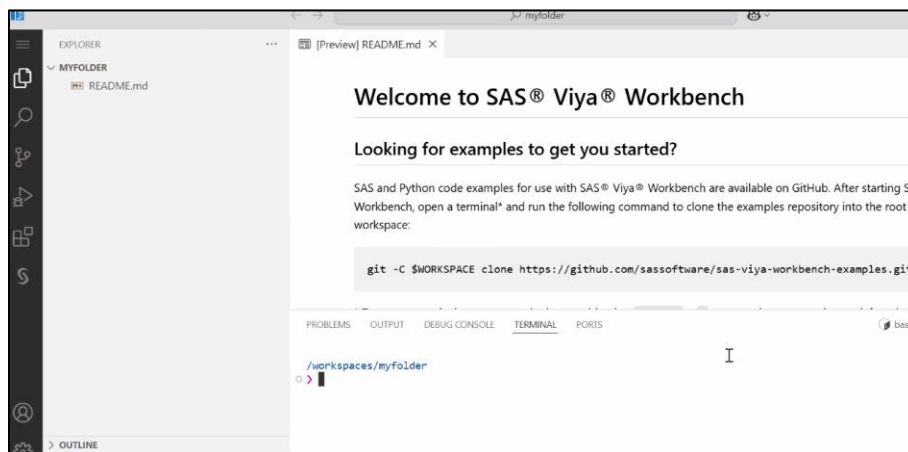
## LAUNCH Visual Studio Code

VS Code in SAS Viya Workbench provides a versatile, integrated environment for coding, debugging, and managing data science projects, allowing users to efficiently work with both Python and SAS scripts.

- Click the Open Visual Studio Code button:



Your workbench container loads! And welcome to **Visual Studio!**

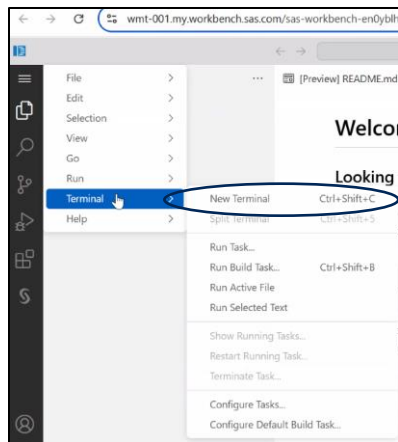


## CLONE The GitHub Repository

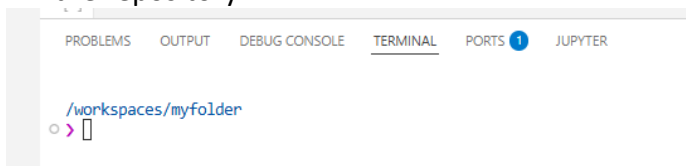
To get the data for analysis, we'll clone the Pharmsug25 GitHub repository, where it's already available.

*Note: You don't need to type "bash" before `cd /workspaces/myfolder` in SAS Viya Workbench because it already runs in a Bash shell, the default command-line environment for interacting with Linux systems.*

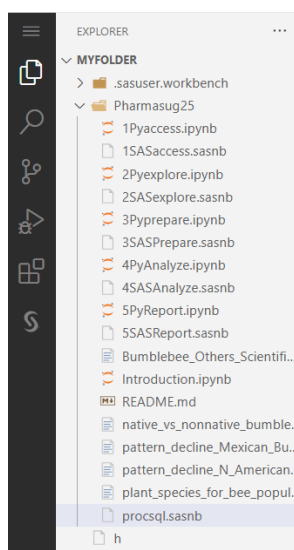
- Click on the hamburger (3 horizontal lines) icon on the top left corner of your workbench screen & select New terminal



- In your terminal, navigate to the directory where you want to store your local copy of the repository

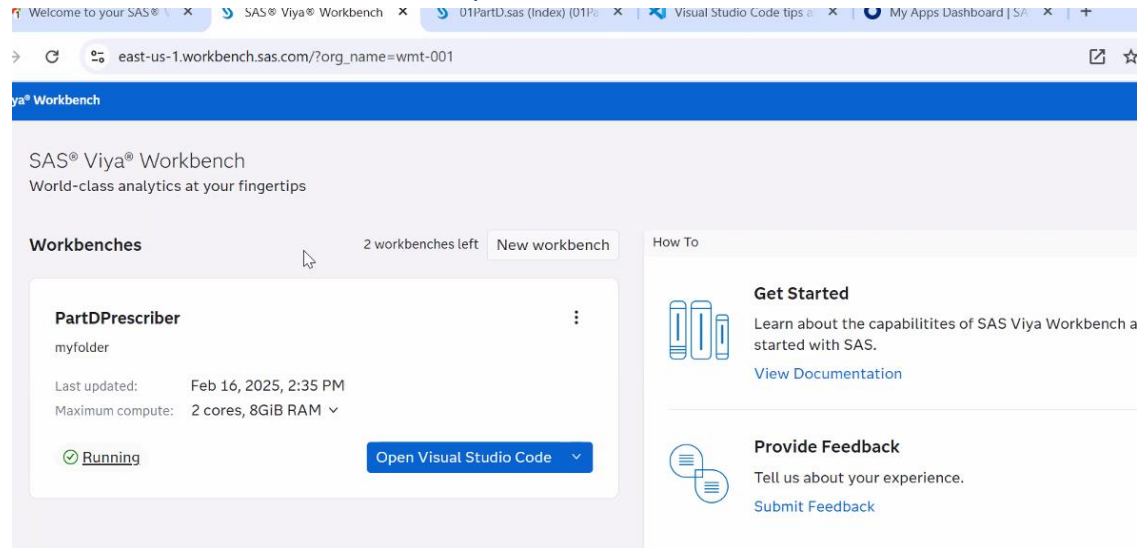


- Type the following command.  
`cd /workspaces/myfolder`
- Clone your GitHub repository by typing the following command.  
`git clone https://github.com/CharuSAS/Pharmasug25.git`
- Close the terminal window by clicking the **X** button in the corner of the window.
- Expand the Pharmasug25 folder
- The cloned data and notebooks will be visible



## APPENDIX

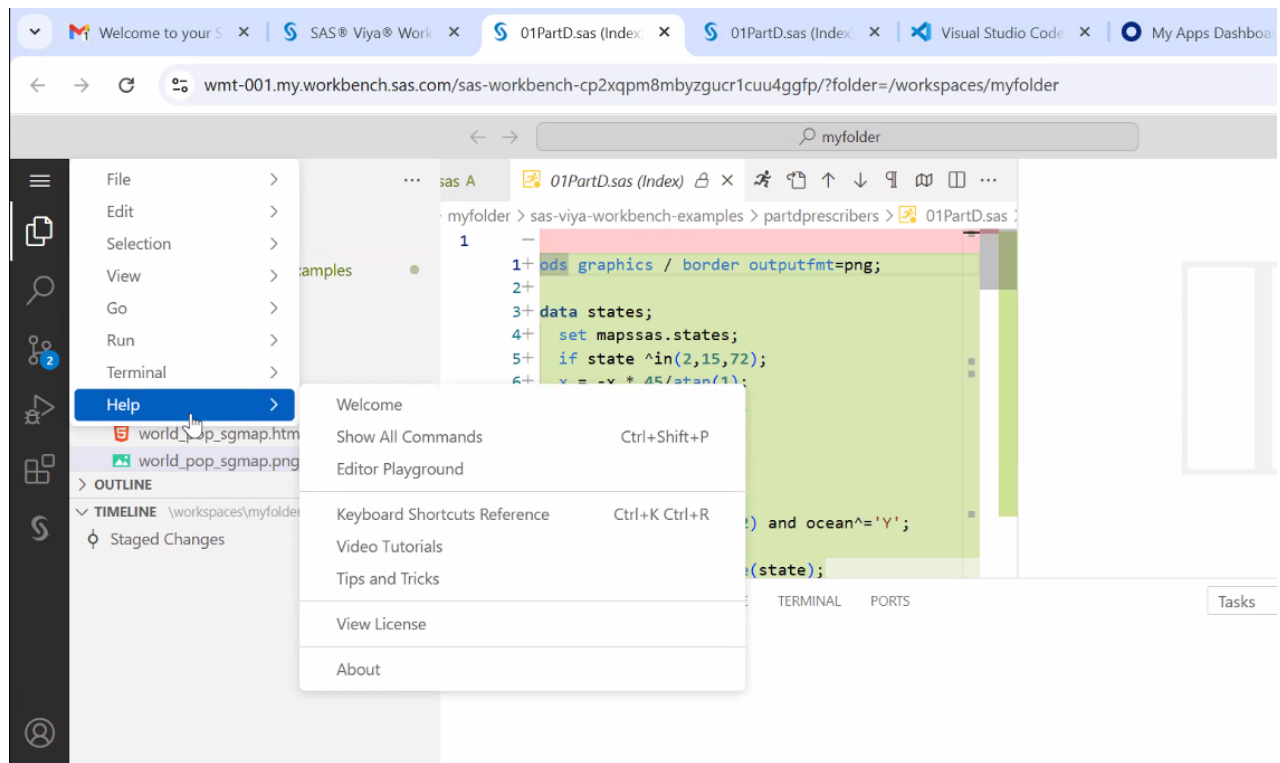
### Get started documentation for samples



The screenshot shows the SAS Viya Workbench interface. The browser address bar displays the URL: `east-us-1.workbench.sas.com/?org_name=wmt-001`. The page header includes the SAS logo and the text "SAS® Viya® Workbench". Below the header, the main content area is divided into two sections. On the left, under the heading "Workbenches", there is a list of workbenches. The first workbench, "PartDPrescriber", is highlighted. It shows a status of "Running" with a green checkmark and a button labeled "Open Visual Studio Code". To the right of the workbench list, there is a "How To" section with two items: "Get Started" and "Provide Feedback". The "Get Started" item includes a link to "View Documentation". The "Provide Feedback" item includes a link to "Submit Feedback".



## Visual Studio Code Primer



## Keyboard Shortcuts for Visual Studio Code

Use these keyboard shortcuts to save time spent on a project in Visual Studio Code.

<b>Foundation</b>	B	Aadd cell below
	M	Convert to markdown
	Y	Cconverts to code cell
	X	Cut code
<b>General</b>	Ctrl+Shift+N	New window/instance (Opens a new window immediately)
	Ctrl+Shift+W	Close window/instance (Closes new window immediately)
<b>Navigation</b>	Ctrl+X	Cut line (empty selection) You can erase the whole line you selected.
	Alt+ ↑ / ↓	Move line up/down. Without having to erase
	Shift+Alt + ↓ / ↑	Copy line up/down. Copies the line as many times as you press the arrow.
	Ctrl+Shift+K	Delete line. This will delete the whole line instantly.
	Home / End	Go to beginning/end of line.
	Ctrl+Home	Go to beginning of file
	Ctrl+End	Go to end of file
<b>Search and replace</b>	Ctrl+F	Find. This will open the search global find sidebar.
	Ctrl+H	Replace. Opens the taskbar where you can specify replacement

<b>Multi-cursor and selection</b>	Alt+Click	Insert cursor. You can insert the cursor on as many lines at once and write the same thing at the same time on all lines
	CTRL+D	Multi-select an element. E.g. change the H3 tags to the H4 tags (all of them) in a file. Select one H3 tag and use the shortcut. This will find every H3 tag and give you an active cursor for further action.
	Ctrl+U	Undo last cursor operation.
	Shift+Alt+I	Insert cursor at end of each line selected
	Ctrl+L	Select current line. Same as mouse copy and paste.
<b>Rich language editing</b>	Ctrl+Space	Trigger suggestion. The program will automatically suggest.
	Shift+Alt+F	Format document
<b>Editor management</b>	Ctrl+F4, Ctrl+W	Close editor
	Ctrl+\	Split editor
	Ctrl+ 1 / 2 / 3	Focus into 1 <sup>st</sup> , 2 <sup>nd</sup> or 3 <sup>rd</sup> editor group
<b>File Management</b>	Ctrl+N	New File
	Ctrl+O	Open File
	Ctrl+S	Save
	Ctrl+Shift+S	Save As
	Ctrl+F4	Close
	Ctrl+Shift+T	Reopen closed editor
	Ctrl+Tab	Open next
<b>Display</b>	Ctrl+B	Toggle Sidebar visibility
	Ctrl+Shift+F	Show Search
	Ctrl+Shift+G	Show Source Control
	Ctrl+Shift+H	Replace in files
	Ctrl+Shift+U	Show Output panel
	Ctrl+Shift+V	Open Markdown preview
<b>Integrated Terminal</b>	Ctrl+`	Show integrated terminal
	Ctrl+Shift+`	Create new terminal