



# Single Day Event

Smarter Sharing in Pharma:  
From the SAS Packages Framework to PharmaForest

Ryo Nakaya (Takeda Pharmaceutical Company Limited)

Yutaka Morioka (EPS Corporation)

Hiroki Yamanobe (Maruho Co.,Ltd.)



# Disclaimer

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# Agenda

How to Share SAS Code?

How SPF(SAS Package Framework) Work

PharmaForest

Packages

PharmaForest Gallery

Forest Navigator

Let's try - How to use

Community





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# How to Share SAS Code?

## Common Ways Today

Paper, Forums & Blogs, GitHub

- Manual copy & paste
- Requires code modification
- Risk of execution failure



## The Smart Way

### **SPF with PharmaForest**

- Centralized sharing
- Easy navigation
- Version control
- Collaboration ready





# How to Share SAS Code?

## SAS Packages Framework is best solution

**SAS Packages Framework(SPF)** standardizes how SAS code and resources are structured and shared across projects. SAS Packages Framework(SPF) developed by Bartosz Jablonski.

- Provides a unified structure for organizing SAS code, formats, macros, and functions
- Bundles code, data, and documentation into reusable SAS Packages
- Enables easy loading and distribution of shared assets across different projects
- Promotes consistent quality, efficient development, and knowledge sharing
- Each bundle is referred to as a SAS Package

### SAS Packages

SAS package is built on top of SAS Packages Framework(**SPF**) developed by Bartosz Jablonski.

You can also find more SAS Packages in the SAS Packages Archive(SASPAC).





# How to Share SAS Code?

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SPF enables package management in SAS





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# How SPF (SAS Package Framework) Work

SAS

PC

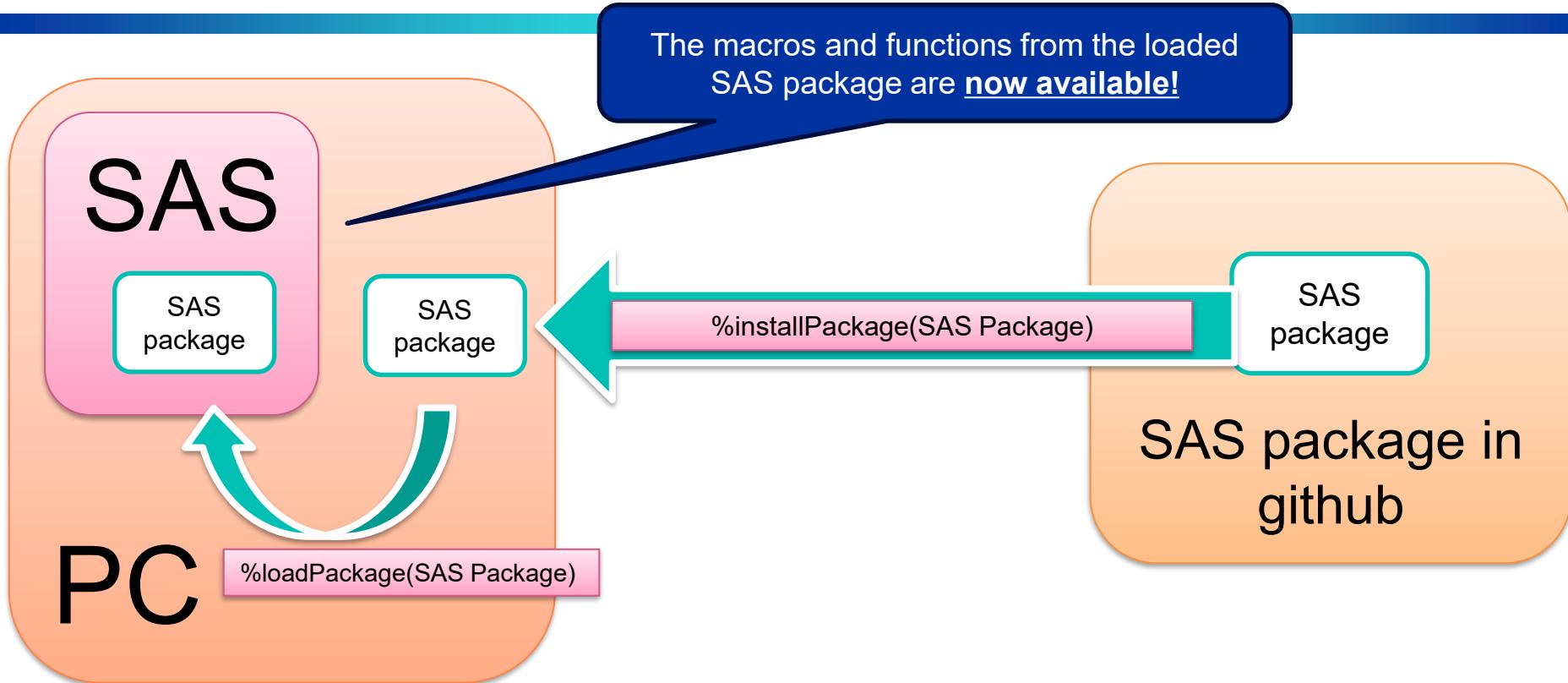
SAS packages are structured as ZIP files that  
store the code.  
(include SAS macro, function, format, etc)

SAS  
package

SAS package in  
github

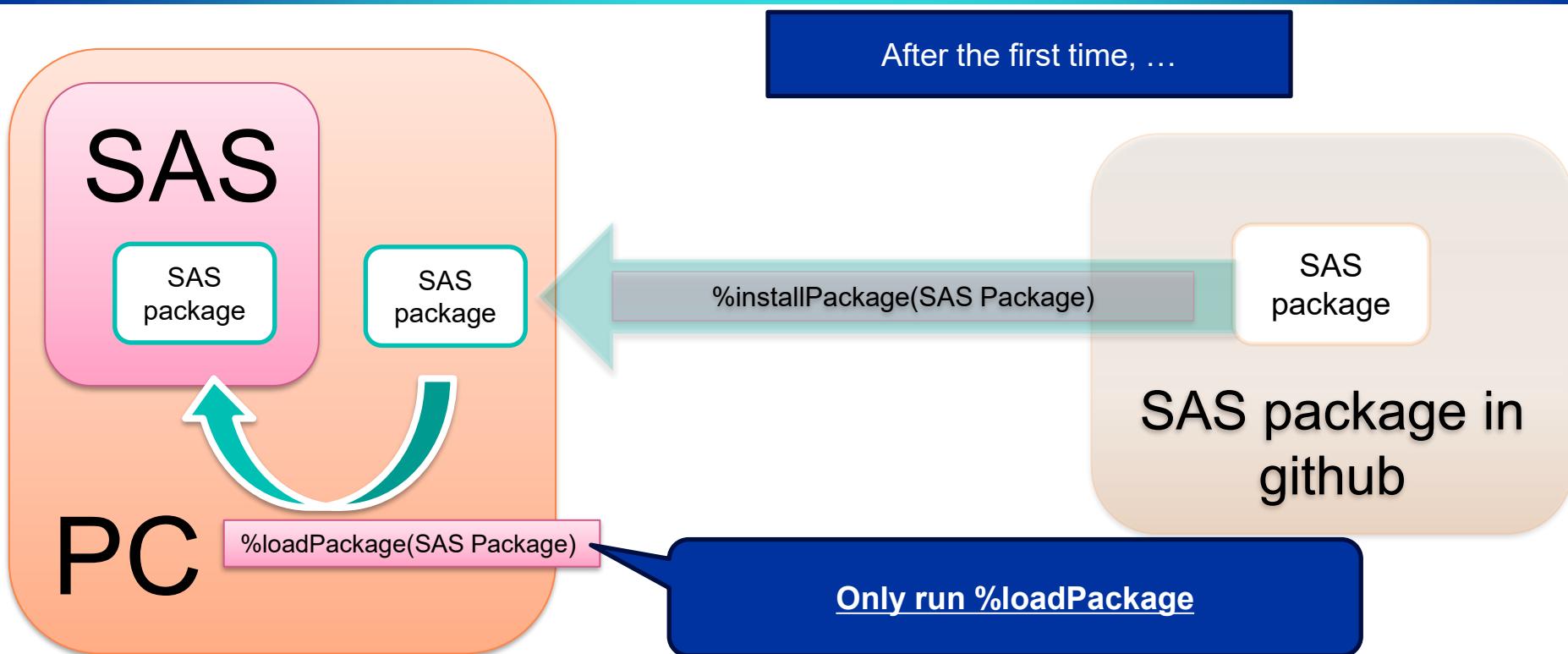


# How SPF (SAS Package Framework) Work





# How SPF (SAS Package Framework) Work





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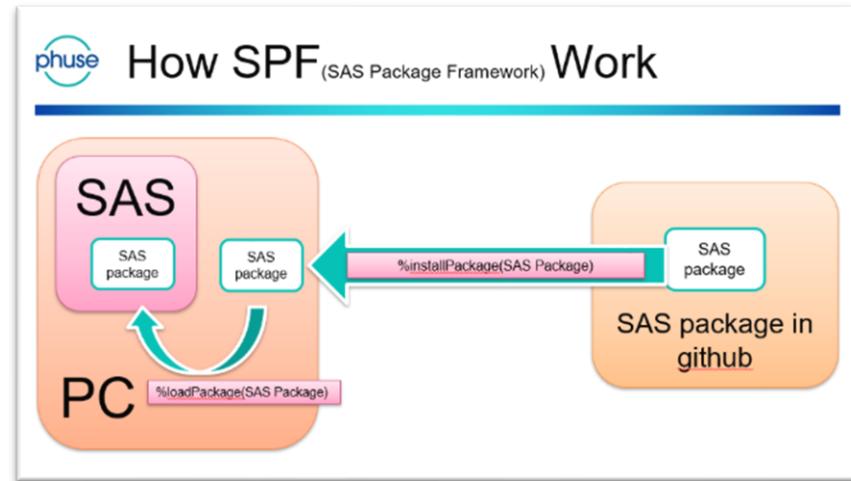




# PharmaForest



- What's PharmaForest?



To Use [OncoPlotter] package within PharmaForest,  
in an Environment with SPF (SAS Package Framework) Installed:

```
%installPackage(OncoPlotter, mirror=PharmaForest)
%loadPackage(OncoPlotter)
```



# PharmaForest

The screenshot shows the GitHub repository page for 'PharmaForest'. At the top, there's a navigation bar with links for Platform, Solutions, Resources, Open Source, Enterprise, and Pricing. Below the header, there's a sidebar with a logo featuring two red birds perched on a green tree, followed by the text 'PharmaForest'. The main content area shows a 'README.md' file and a summary that says 'PharmaForest (we have already 30 packages 🎉🎉)'. Below this, there's a brief description: 'A collaborative repository of SAS packages for pharmaceutical industry, powered by PHUSE Japan OST (Open Source Technology) WG members—Hiroki Yamanobe, Yutaka Morioka, and Ryo Nakaya—showcasing the list of available packages below. Click the QR code to visit gallery page.' At the bottom of the screenshot, there's a QR code labeled 'PharmaForest Gallery'.

- PharmaForest is available on [GitHub](#)
- Contains all available packages
  - Provides links to each package
  - Introduction to the Navigator (later mentioned)
  - Includes clear usage instructions

-Goal-

Through SAS Packages, we want to actively encourage sharing of SAS know-how that has often stayed within individuals. By



# PharmaForest

## › Packages

#	Package	#	Package	#
1	<a href="#">OncoPlotter</a> (PharmaForest original package)	16	<a href="#">maxims4sas</a> (PharmaForest original package)	31
2	<a href="#">sashash</a>	17	<a href="#">laglead</a>	32
3	<a href="#">sas_dataset_json</a>	18	<a href="#">ctcae5_grader</a>	33
4	<a href="#">SASPACer</a>	19	<a href="#">love_matrix</a>	34
5	<a href="#">misc</a> (PharmaForest original package)	20	<a href="#">SASPACerShiny (R Package)</a>	35
6	<a href="#">SAS FAKER</a>	21	<a href="#">change_tracer_dog</a>	36
7	<a href="#">SASLogChecker</a>	22	<a href="#">yaml_writer</a>	37
8	<a href="#">sas_compare</a>	23	<a href="#">Adamski</a> (PharmaForest original package)	38
9	<a href="#">rtfCreator</a>	24	<a href="#">RWDExpress</a>	39
10	<a href="#">shutter_chance</a>	25	<a href="#">freqsum</a>	40
11	<a href="#">devil</a> (PharmaForest original package)	26	<a href="#">qc_cat_referee</a>	41
12	<a href="#">xattr_kit</a>	27	<a href="#">SASToolbox</a>	42
13	<a href="#">cloak</a>	28	<a href="#">trial_flow</a>	43
14	<a href="#">yis_review_kit</a>	29	<a href="#">valivali</a> (PharmaForest original package)	44
15	<a href="#">odstable_layoutshowcase</a>	30	<a href="#">mergex</a>	45

- PharmaForest is available on GitHub
- Contains all available packages
  - [Provides links to each package](#)
  - Introduction to the Navigator (later mentioned)
  - Includes clear usage instructions





# PharmaForest



## Master Navigator(Beta version) [Dr. Forest link](#)

Dr. Forest is a master navigator of PharmaForest. He is an excellent and diligent GPT assistant who can answer most questions about PharmaForest and details of #1-#15 packages. However, please understand that he is not speaking on behalf of our organization. You need to sign up to ChatGPT (at least a free user account) to talk to him. See more about [his background](#).



## Support Navigator(Beta version) [Dr. Apple link](#)

Dr. Apple is a support navigator of PharmaForest. He has a strong character but cool GPT assistant who can answer details of #16 - #30 packages. Please understand that he is not speaking on behalf of our organization. You need to sign up to ChatGPT (at least a free user account) to talk to him. See more about [his background](#).



## Support Navigator(Beta version) [Rio link](#)

Rio is a support navigator of PharmaForest. She/He is a mysterious GPT assistant who can answer details of #31 and later packages. Please understand that she/he is not speaking on behalf of our organization. You need to sign up to ChatGPT (at least a free user account) to talk to her/him. See more about [her/his background](#).



## SAS Package Lady (Oba-chan) (Beta version) [SAS Package Lady link](#)

SAS Package Lady (Oba-chan) is a warm diner-auntie GPT persona who helps you create SAS packages. Please understand that she is not speaking on behalf of our organization. You need to sign up to ChatGPT (at least a free user account) to talk to her.

- PharmaForest is available on GitHub

- Contains all available packages

- Provides links to each package
- [Introduction to the Navigator \(later mentioned\)](#)
- Includes clear usage instructions



# PharmaForest

## What is SAS Packages?

The package is built on top of SAS Packages Framework(SPF) developed by Bartosz Jablonski.

For more information about the framework, see [SAS Packages Framework](#).

You can also find more SAS Packages (SASPacs) in the [SAS Packages Archive\(SASPAC\)](#).

## How to use SAS Packages? (quick start)

### 1. Set-up SAS Packages Framework

First, create a directory for your packages and assign a `packages` fileref to it.

```
filename packages "\path\to\your\packages";
```

Secondly, enable the SAS Packages Framework. (If you don't have SAS Packages Framework installed, follow [SPF documentation](#) to install SAS Packages Framework.)

```
%include packages(SPFinitsas)
```

### 2. Install SAS packages

## PharmaForest is available on GitHub

### Contains all available packages

- Provides links to each package
- Introduction to the Navigator (later mentioned)
- [Includes clear usage instructions](#)



# PharmaForest

## ► Goal

Through SAS Packages, we want to actively encourage sharing of SAS know-how that has often stayed within individuals. By doing this, we aim to build up collective knowledge, boost productivity, ensure quality through standardization, and energize our community.

## ► Priority

Our first priority is to share openly—and get others to share as well—so that more people can join in. On that basis, we'll work on improving quality, driving standardization, and creating long-term value.





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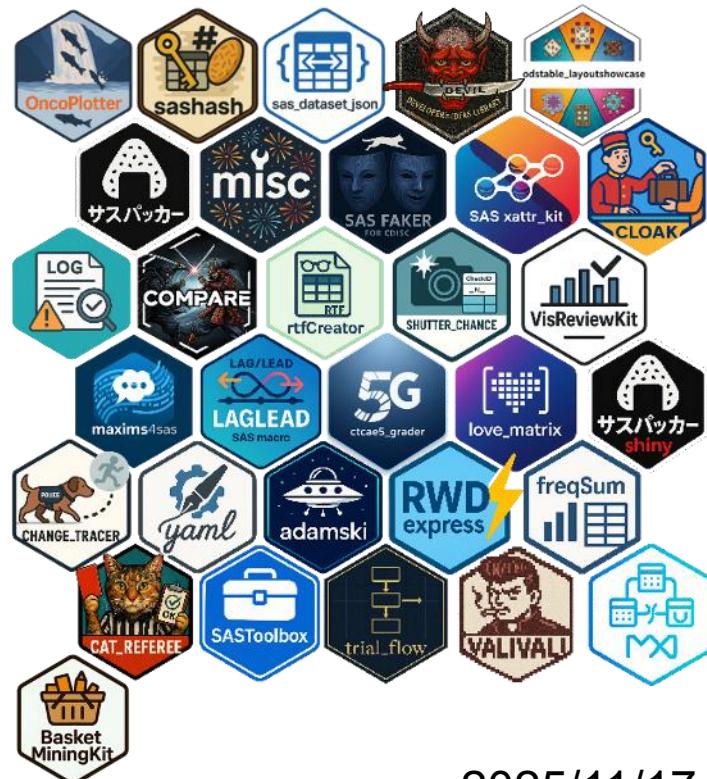
# Packages





# Packages

#	Package	#	Package	#	Package
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15	<a href="#">odstable_lavoutshowcase</a>	30	<a href="#">meraex</a>	45	





# PharmaForest Ecosystem Map



## Output / Visualization



## Other



## Checker



## Data Utility





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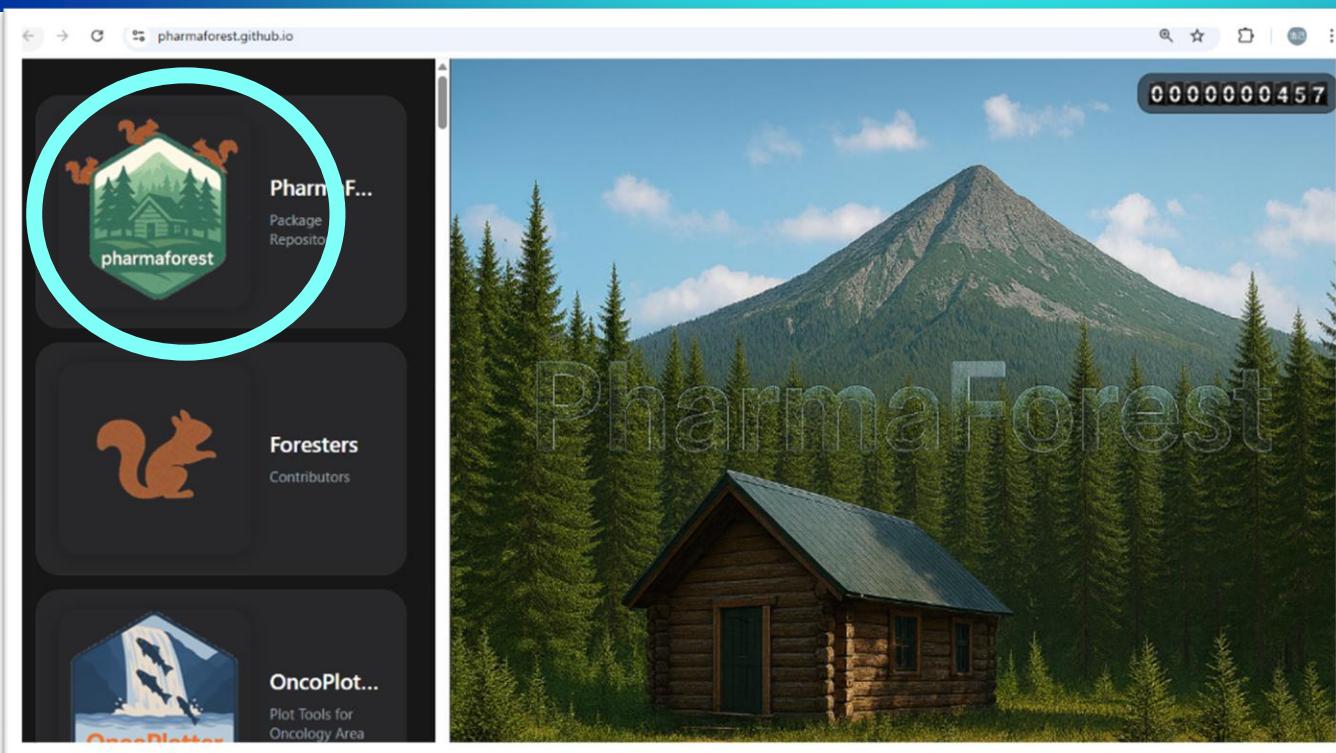
Let's try - How to use

Community





# PharmaForest Gallery



<https://pharmaforest.github.io/>





# PharmaForest Gallery

The screenshot shows the PharmaForest gallery website. On the left, there's a sidebar with three items: 'PharmaForest Package Repository' (with a cabin icon), 'Foresters Contributors' (with a squirrel icon), and 'OncoPlotter Plot Tools for Oncology Area' (with a mountain icon). The main content area has a dark background with a forest and mountain scene. At the top, it says 'PharmaForest' and lists 'SAS Packages', 'Repository', 'Open-Source', and 'MIT/Apache-2.0'. A large number '0000000457' is in the top right. Below that, a paragraph describes the project. A navigation bar below the paragraph includes buttons for 'All' (selected), 'Output/Visualization' (circled in cyan), 'Data Utility', 'Checker', and 'Other'. At the bottom, there's a grid of icons representing different SAS packages like 'OncoPlotter', 'sashash', 'sas\_dataset\_json', 'misc', etc.

<https://pharmaforest.github.io/>



# PharmaForest Gallery

The screenshot shows the homepage of the [PharmaForest GitHub repository](https://pharmaforest.github.io/). The page has a dark theme with a forest background. At the top, there's a navigation bar with links for "SAS Packages", "Repository", "Open Source", and "MIT/Apache 2.0". Below the navigation, a large heading "PharmaForest" is displayed, followed by a subtext: "A collaborative repository of SAS packages for pharmaceutical industry, powered by PHUSE Japan OST (Open Source Technology) WG members—Hiroki Yamanobe, Yutaka Morioka, and Ryo Nakaya—showcasing the list of available packages." There are several filters at the top: "All" (selected), "Output/Visualization", "Data Utility", "Checker", and "Other". A prominent feature is a circular icon for the "OncoPlotter" package, which is highlighted with a cyan circle. The "OncoPlotter" icon features a blue hexagon with a white plot and the text "OncoPlotter". Below the filters, there's a grid of smaller icons representing various SAS packages, including "misc", "SAS FAKEr", "SAS xattr\_kit", "CLOAK", "LOG", "COMPARE", and "COMBINE". On the left side of the main content area, there are three cards: "PharmaForest Package Repository" (with a cabin and trees icon), "Foresters Contributors" (with a squirrel icon), and "OncoPlotter Plot Tools for Oncology Area" (with a shark icon).



<https://pharmaforest.github.io/>



# PharmaForest Gallery

[README](#)

## OncoPlotter (Latest version 0.3.7 on 29October2025)

A SAS package to create figures commonly created in oncology studies



The repository is a collaborative project.

- %kaplan\_meier\_plot
- %swimmer\_plot
- %waterfall\_plot

---

### %kaplan\_meier\_plot

Macro: %kaplan\_meier\_plot

Purpose: This macro generates Kaplan-Meier survival plots using PROC LIFETEST in SAS.

+ 9 releases

### Packages

No packages published

### Contributors 3

 Nakaya-Ryo NAKAYA-Ryo

 Morioka-Yutaka Morioka-Yutaka

 stainlessfish

### Languages

SAS 100.0%



<https://pharmaforest.github.io/>



# PharmaForest Gallery

The screenshot shows a web browser displaying the PharmaForest Gallery at [pharmaforest.github.io](https://pharmaforest.github.io). The page features three main tool cards:

- YAML Writer**: A tool for generating YAML files. It has a hexagonal icon with a gear and pen inside, and the text "YAML Generation Tool".
- Adamski**: An Adam Creation Tool. It has a hexagonal icon with a spaceship inside, and the text "Adam Creation Tool".
- RWD Express**: A RWD handling toolkit. It has a blue hexagonal icon with a lightning bolt inside, and the text "RWD handling toolkit".

To the right of the tools, there is a larger, detailed view of the Adamski tool's landing page. The page has a dark background with a mountain and forest scene. At the top, it says "0000000457" and "Adamski" with sub-links for "ADaM", "Data Utility", and "Apache-2.0". Below this, a message reads:

The adamski package is currently under development to support ADaM creation. Let's build the spaceship [adamski] together! 🚀 Inspired by the admiral package in R, adamski aims to bring similar functionality — along with original functions and macros — to the SAS environment. We are looking for collaborators and contributors to join us on this exciting journey. If you're passionate about ADaM programming or want to help shape tools for the clinical data community, we'd love to have you onboard! 🚀

On the right side of the page, there is a sidebar with links to "License" (Apache-2.0), "Authors", "Maintainers", "Main Macros", and "Features". The "Main Macros" section lists several macros:

Apache-2.0  
PharmaForest  
PharmaForest  
%derive\_vars\_dy(),  
%derive\_var\_merged\_exist\_flag(),  
%derive\_var\_age\_years()

<https://pharmaforest.github.io>





# PharmaForest Gallery

github.com/pharmaforest/adamski

Platform Solutions Resources Open Source Enterprise Pricing Sign in

PharmaForest / adamski Public

Code Issues Pull requests Actions Projects Security Insights

main Go to file Code

Nakaya-Ryo Update Adamski\_and\_Admiral.lmd 889b361 · 10 hours ago 54 Commits

adamski Update derive\_vars\_duration.sas 19 hours ago

hist Add files via upload 2 weeks ago

Adamski\_and\_Admiral.lmd Update Adamski\_and\_Admiral.lmd 10 hours ago

README.md Update README.md 2 weeks ago

adamski.md Add files via upload 2 weeks ago

adamski.zip Add files via upload 2 weeks ago

adamski\_logo.png Add files via upload 2 months ago

adamski\_logo\_small.png Add files via upload 2 months ago

license.txt Add files via upload 3 weeks ago

README Apache-2.0 license

**Adamski (Latest version 0.0.3 on 23Oct2025)**

Adamski is a SAS package inspired by the R package [admiral]. It aims to bring the same flexible and modular ADaM derivation framework to the SAS environment. The package follows the [admiral] design principles while adapting to SAS syntax and workflows. It enables consistent, reproducible ADaM dataset creation in compliance with CDISC standards.

About

No description, website, or top

Readme Apache-2.0 license Activity Custom properties 0 stars 0 watching 0 forks Report repository

Releases 3

adamski package (version 0.0.3) 2 weeks ago + 2 releases

Packages

No packages published

Contributors 4

Nakaya-Ryo NAKAYA-Ryo

Morioka-Yutaka Morioka-)

stainlessfish

SharadChhetri09

Overview, usage instructions, version information, and other details are listed on each package page.





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# Forest Navigator

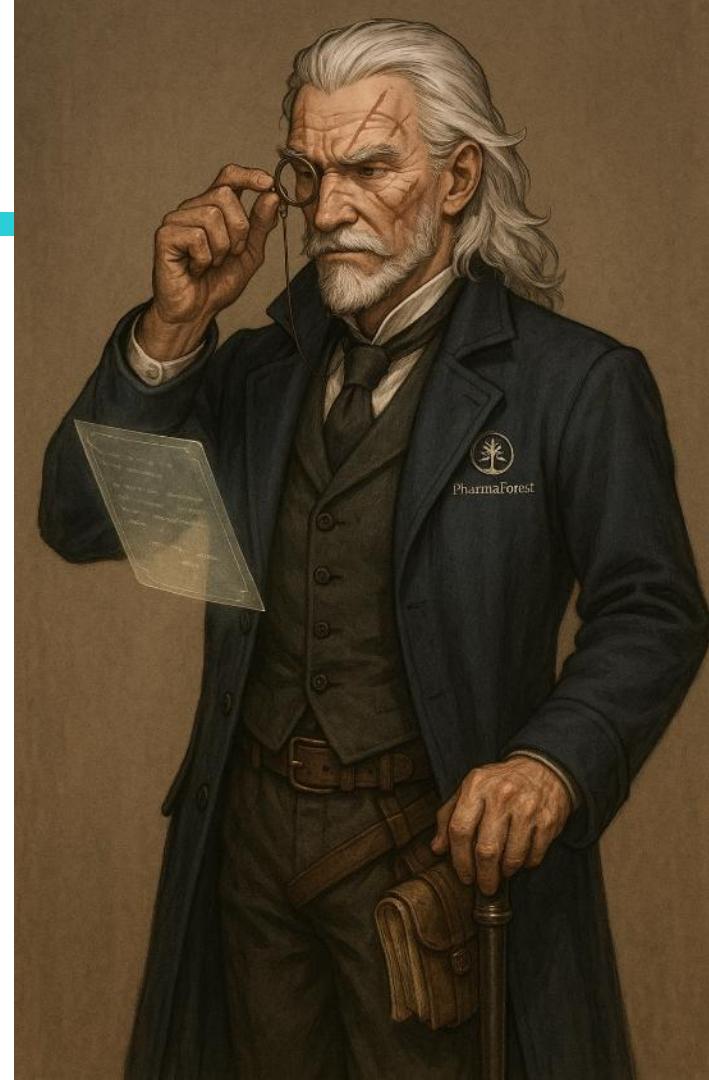
- Forest Navigator is a custom AI that guides you through package navigation. (Beta Ver)
  - Dr. Forest: Master navigator
  - Dr. Apple: Support navigator
  - Rio: Support navigator
  - SAS Package Lady: SAS Package creation supporter
- They are navigators built with MyGPT<sub>(OpenAI)</sub>, so you can ask them anything freely.
- Please understand that they are not speaking on behalf of our organization.





# Forest Navigator

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# Forest Navigator

Dr. Forest 4o ▾



How can I create a Kaplan-Meier curve?

To create a Kaplan-Meier curve using PharmaForest tools, the recommended package is **OncoPlotter**, which is PharmaForest's original visualization tool designed for clinical trial datasets, particularly in oncology.

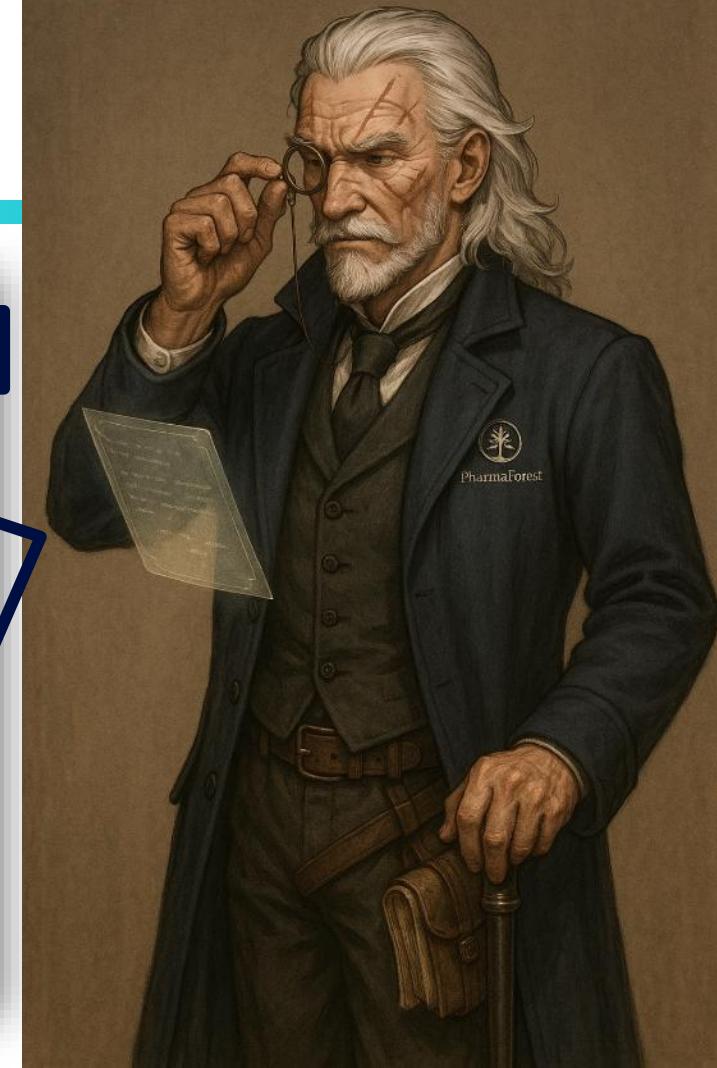
Here is how you can create a Kaplan-Meier (KM) curve using OncoPlotter:

## Step-by-Step Guide to Creating a KM Curve with OncoPlotter

### Step 1: Prepare Your Data

You'll need a dataset with at least the following columns:

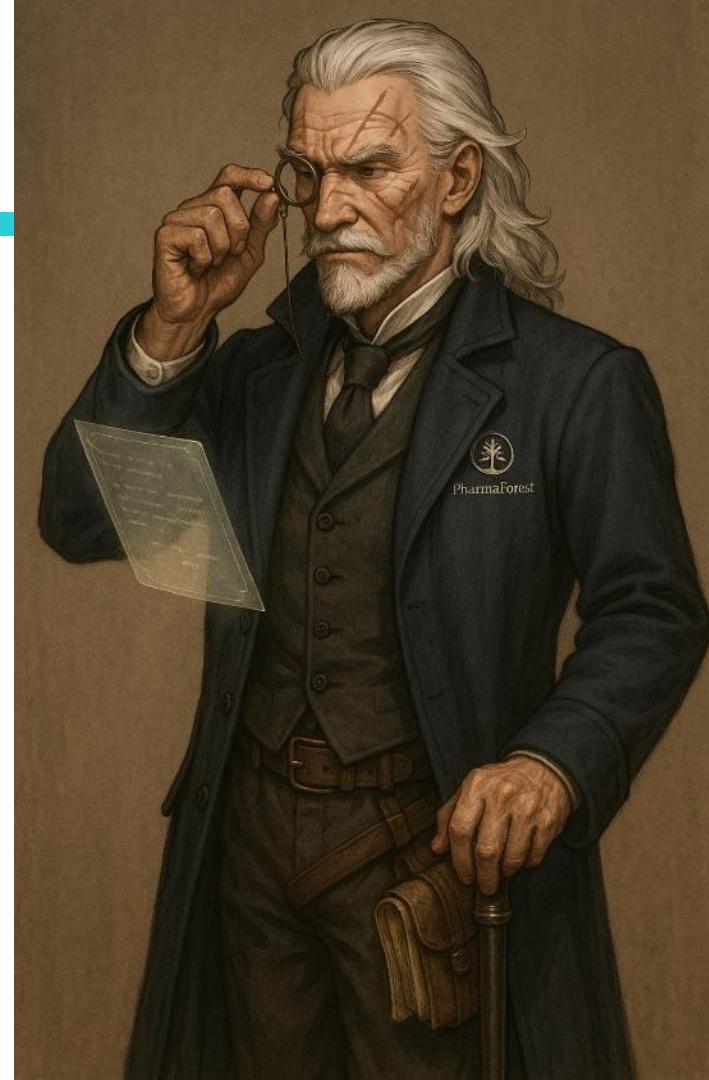
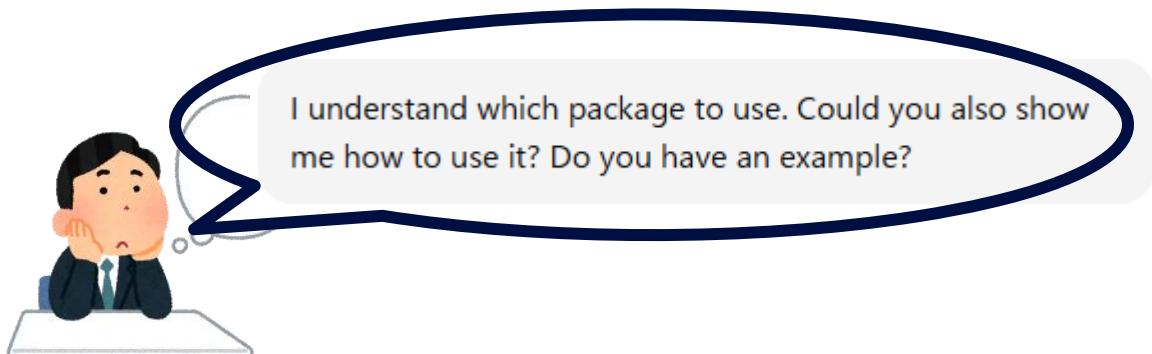
- TIME : Time to event or censoring
- STATUS : Event occurrence (e.g., 1 = event, 0 = censored)
- GROUP (optional): If you want to compare curves between groups





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# Forest Navigator

Ah, splendid — you already know which package to use.

Then let old Morio Forest walk beside you and show you *exactly* how to use `%kaplan_meier_plot` from OncoPlotter.

Everything below comes *directly* from the official OncoPlotter README

(I shall not invent anything beyond that)

## 1. The simplest example — just run it

If you want a KM plot immediately, with no setup:

```
sas  
  
%kaplan_meier_plot();
```

### What this does:

- Creates an internal dummy dataset (`dummy_adtte`)
- Draws a full Kaplan–Meier curve with:
  - survival curves
  - censor marks
  - number-at-risk table
- Opens the underlying SAS code as text

It is the cleanest, fastest way to generate a KM curve.

## 2. Example using your own dataset

Here is the official example from the README, rewritten clearly for you:

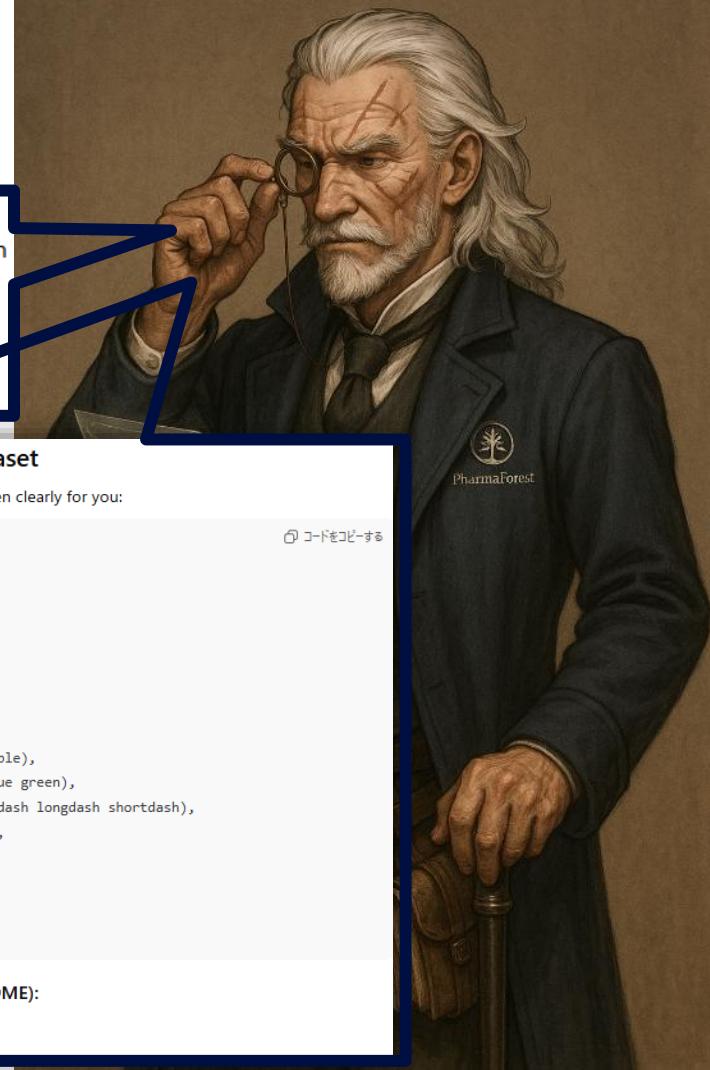
```
sas  
  
%kaplan_meier_plot(  
    data = dummy_adtte,  
    groupn = TRTPN,  
    groupc = TRTP,  
    Time_var = AVAL,  
    Censore_var = CNSR,  
    Censore_val = 1,  
    Title = %nrquote(Kaplan-Meier Curve Example),  
    Group_color_list = %nrquote(black red blue green),  
    Group_linepattern_list = %nrquote(solid dash longdash shortdash),  
    XLABEL = %nrquote(Survival Time (Month)),  
    YLABEL = %nrquote(Probability),  
    AxisValues = %nrquote(0 to 15 by 1),  
    Generate_Code = N  
);
```

コードをコピーする



Meaning of each parameter (all from the README):

- `data` — your input dataset
- `groupn` — numeric treatment group





# Forest Navigator

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Dr. Apple can answer questions about packages No.16–30.

Rio can answer questions about packages No.31 and above.





# Forest Navigator

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Please called her “Oba-chan”. (a friendly Japanese term for an older woman)

A tool that supports SAS package creation.

By providing your own code and entering the required information,  
Navigator guides you through the process of creating a SAS  
package.



How Can I Create My Own SAS Package?



Hello dear~, SAS Package Lady (オバちゃん) やけんね 😊

ご質問は「How can I create my own SAS package?」やね。英語で答えるばってん、やさしく説明するけん安心してね。  
がんばってね～ 💪 ✨

## 🌟 How You Can Create Your Own SAS Package

To create your own SAS package, you will follow a simple workflow using the **SAS Packages Framework (SPF)**. The steps are the same whether you're packaging macros, formats, FCMP functions, datasets, or IML modules.

Here's the big picture:

### ✓ Step 1 — Prepare Your Package Folder

Create a dedicated folder where your package source will live.

For example:

bash

```
C:/saspackages/MyPackage
```

This folder will contain:

- `description.sas` (package metadata)
- `license.sas` (license text)
- Subfolders like `001_libname`, `002_macro`, `003_formats`, etc.
- Your SAS content split into individual files

Easy create SAS  
Package!





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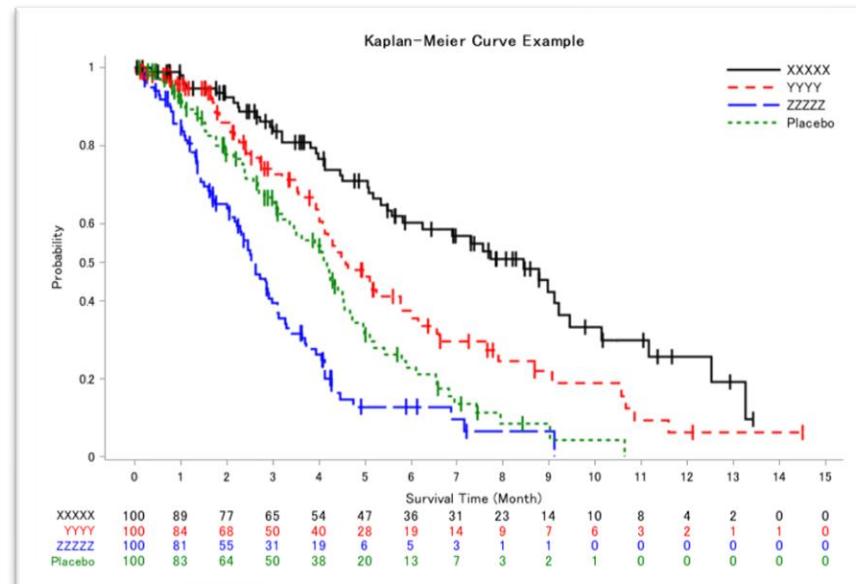


# Let's try - How to use

---

# Let's try - How to use

- How to using:
  - Set SPF
  - Install SAS package(OncoPlotter)
  - Load SAS package(OncoPlotter)
  - Run macro(or format, function) in SAS package





# Let's try - How to use

- How to using:
  - [Set SPF](#)
  - Install SAS package(OncoPlotter)
  - Load SAS package(OncoPlotter)
  - Run macro(or format, function) in SAS package

```
filename packages "C:\Temp\SAS_PACKAGES\packages";
filename SPFinit url "https://raw.githubusercontent.com/yabwon/SAS_PACKAGES/main/SPF/SPFinit.sas";
%include SPFinit;
%installPackage(SPFinit)
```



# Let's try - How to use

- How to using:
  - Set SPF
  - Install SAS package(OncoPlotter)
  - Load SAS package(OncoPlotter)
  - Run macro(or format, function) in SAS package

When using SPF, you need to set  
**Filename packages**  
as the storage location for SAS packages.

```
filename packages "C:\Temp\SAS_PACKAGES\packages";
filename SPFinit url "https://raw.githubusercontent.com/yabwon/SAS_PACKAGES/main/SPF/SPFinit.sas";
%include SPFinit;
%installPackage(SPFinit)
```



# Let's try - How to use

- How to using:
  - Set SPF
  - Install SAS package(OncoPlotter)
  - Load SAS package(OncoPlotter)
  - Run macro(or format, function) in SAS package

Only the first time, you must install SPFinit.

From the second time onward, only [filename packages]+[%include SPFinit]

```
filename packages "C:\Temp\SAS_PACKAGES\packages";
%include packages(SPFinit);
```

```
filename packages "C:\Temp\SAS_PACKAGES\packages";
```

```
filename SPFinit url "https://raw.githubusercontent.com/yabwon/SAS_PACKAGES/main/SPF/SPFinit.sas";
```

```
%include SPFinit;
```

```
%installPackage(SPFinit)
```



# Let's try - How to use

- How to using:
  - Set SPF
  - [Install SAS package\(OncoPlotter\)](#)
  - Load SAS package(OncoPlotter)
  - Run macro(or format, function) in SAS package

%installPackage is a macro in SPF.

It installs (ダウンロード) the SAS package OncoPlotter into the [packages] folder.

```
** install SAS Package;  
%installPackage(oncoplotter, sourcePath=https://github.com/PharmaForest/OncoPlotter/raw/main/)
```



# Let's try - How to use

- How to using:
  - Set SPF
  - [Install SAS package\(OncoPlotter\)](#)
  - Load SAS package(OncoPlotter)
  - Run macro(or format, function) in SAS package

%installPackage is a macro in SPF.

It installs (ダウンロード) the SAS package OncoPlotter into the [packages] folder.

When referring to PharmaForest, you can use the shorthand  
mirror=PharmaForest.

```
%installPackage(OncoPlotter, mirror=PharmaForest)
```

\*\* install SAS Package;

```
%installPackage(oncoplotter, sourcePath=https://github.com/PharmaForest/OncoPlotter/raw/main/)
```



# Let's try - How to use

- How to using:
  - Set SPF
  - Install SAS package(OncoPlotter)
  - [Load SAS package\(OncoPlotter\)](#)
  - Run macro(or format, function) in SAS package

%loadPackage is a macro in SPF.  
It loads the SAS package OncoPlotter from the [packages] folder.

```
** load SAS Package;  
%loadPackage(oncoplotter)
```



# Let's try - How to use

- How to using:
  - Set SPF
  - Install SAS package(OncoPlotter)
  - Load SAS package(OncoPlotter)
  - Run macro(or format, function) in SAS package

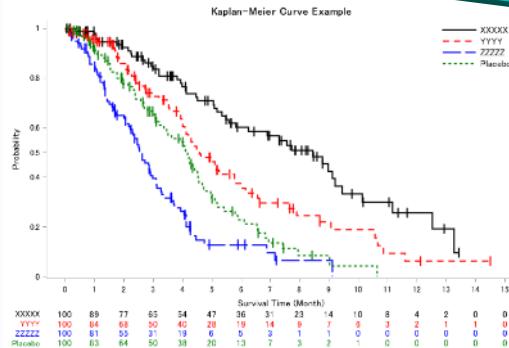
Execute a macro inside the SAS package(**OncoPlotter**).

```
** KM plot;  
%kaplan_meier_plot(  
  data = dummy_adtte,  
  groupn = TRTPN,  
  groupc = TRTP,  
  Time_var = AVAL,  
  Censore_var = CNSR,  
  Censore_val = 1,  
  Title = %nrquote(Kaplan-Meier Curve Example),  
  Group_color_list = %nrquote(black red blue green),  
  Group_linepattern_list = %nrquote(solid dash longdash shortdash),  
  XLABEL = %nrquote(Survival Time (Month)),  
  YLABEL = %nrquote(Probability),  
  AxisValues = %nrquote(0 to 15 by 1),  
  Generate_Code = N  
) ;
```

# Let's try - How to use

- How to using:
  - Set SPF
  - Install SAS package(OncoPlotter)
  - Load SAS package(OncoPlotter)
  - Run macro(or format, function) in SAS package

Execute a macro inside the SAS package(**OncoPlotter**).



```
** KM plot;  
%kaplan_meier_plot(  
  data = dummy_adtte,  
  groupn = TRPN,  
  groupc = TRTP,  
  Time_var = AVAL,  
  Censore_var = CNSR,  
  Censore_val = 1,  
  Title = %nrquote(Kaplan-Meier Curve Example),  
  Group_color_list = %nrquote(black red blue green),  
  Group_linepattern_list = %nrquote(solid dash longdash shortdash),  
  XLABEL = %nrquote(Survival Time (Month)),  
  YLABEL = %nrquote(Probability),  
  AxisValues = %nrquote(0 to 15 by 1),  
  Generate_Code = N  
)
```

# Let's try - How to use

```

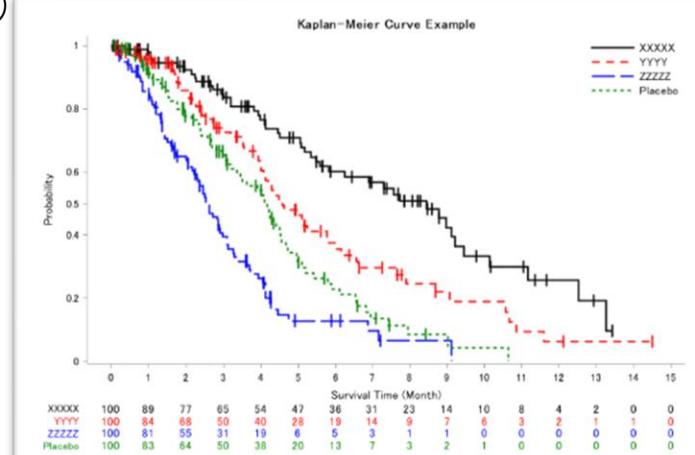
** set SPF;
filename packages "C:\Temp\SAS_PACKAGES\packages";
filename SPFinit url "https://raw.githubusercontent.com/yabwon/SAS_PACKAGES/main/SPF/SPFinit.sas";
%include SPFinit;
%installPackage(SPFinit)

** install SAS Package;
%installPackage(oncoplotter,
sourcePath=https://github.com/PharmaForest/OncoPlotter/raw/main/)

** load SAS Package;
%loadPackage(oncoplotter)

** KM plot;
%kaplan_meier_plot(
  data = dummy_adtte,
  groupn = TRTP,
  groupc = TRTP,
  Time_var = AVAL,
  Censor_var = CNSR,
  Censor_val = 1,
  Title = "Kaplan-Meier Curve Example",
  Group_color_list = "black red blue green",
  Group_linepattern_list = "solid dash longdash shortdash",
  XLABEL = "Survival Time (Month)",
  YLABEL = "Probability",
  AxisValues = 0 to 15 by 1,
  Generate_Code = N
);

```





# Agenda

How to Share SAS Code?

How SPF(SAS Package Framework) Work

PharmaForest

Packages

PharmaForest Gallery

Forest Navigator

Let's try - How to use

Community





# Community

- Activities Centered Around the LinkedIn Group **SAS Packages Users & Developers**  
<https://www.linkedin.com/groups/10149811/>
  - LinkedIn Group Members: 387 (2025/11/17)
  - PharmaForest introduction post: Over 7,500 impressions
  - Global participation: Many users from around the world, including Japan
  - Group administrators:
    - Bartosz Jabłoński
    - Ryo Nakaya
    - Yutaka Morioka
    - Hiroki Yamanobe





# Community

- You can get involved with PharmaForest in many ways! We're looking for users!
  - Use →Feel free to use it anytime!
  - Develop package →Let's create original packages together!
  - Provide →Mirror your own packages to PharmaForest!
  - Try →Share fun or lightweight programs in the “Devil” package area!
  - Feedback →Report bugs or request new features!
  - Join the community →Join our LinkedIn group [SAS Packages Users & Developers] to stay updated!





# Thank you for your attention.





# References

SAS Packages Framework

[https://github.com/yabwon/SAS\\_PACKAGES](https://github.com/yabwon/SAS_PACKAGES)

PharmaForest

<https://github.com/PharmaForest/>

SAS Packages Users & Developers [Linkedin]

<https://www.linkedin.com/groups/10149811/>

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## The Global Healthcare Data Science Community

### Contact Channels

- 📞 UK +44 1843 609600
- ✉️ office@phuse.global
- 🌐 phuse.global

### Social Media

- 🐦 @phusetwitter
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