

ASK THE EXPERT

How Do I Modify SAS[®]9 Programs to Run in
SAS[®] Viya[®]?

Stacey Syphus

Director of Education, SAS





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Director of Education, SAS

Stacey leads a group responsible for developing and delivering training for SAS programming, business intelligence and data management. Since 2001, she has worked with hundreds of SAS customers to train both novice and expert SAS users. In addition to spending time in the classroom, she also writes courses and designs custom training about SAS programming, SAS Viya, SAS Studio and SAS® Enterprise Guide®. Stacey received her MS in statistics from Brigham Young University.

SAS Viya



Executes traditional
SAS®9 code

SAS
Compute
Server



SAS Cloud
Analytic
Services
(CAS)

Executes CAS-enabled
code in parallel on
in-memory data



SAS Compute Server

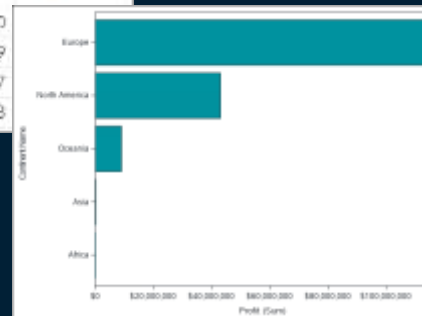
Standard SAS code
executes on the SAS
Compute Server.

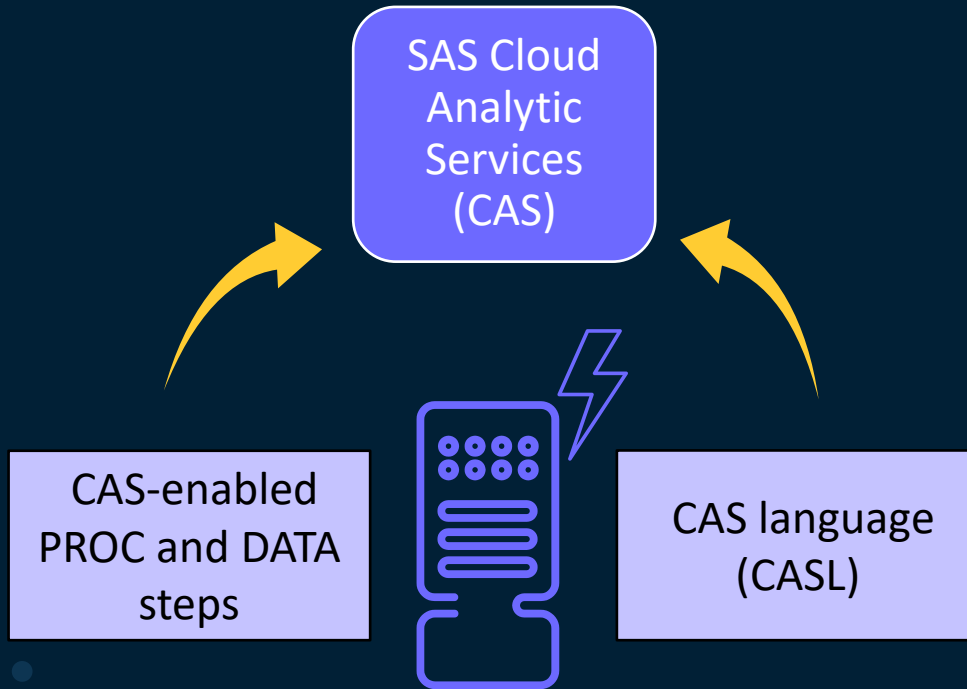
```
libname pvbase "&path/data";  
  
data profit;  
    set pvbase.orders;  
    ...  
run;  
  
proc means data=profit;  
    ...  
run;
```

The MEANS Procedure

Analysis Variable : Profit

Continent Name	N Obs	Sum	Mean
Africa	770	-127.6800000	-0.1658162
Asia	1110	15503.70	
Europe	653684	5659450.59	
North America	235708	2121645.57	
Oceania	60397	462934.63	





There are different ways to execute code in CAS.

SAS 9/Compute Server Program



SAS Cloud Analytic Services (CAS)

```
proc casutil;  
  load <options>;  
  contents <options>;  
quit;  
  
data casuser.profit;  
  set casuser.orders;  
  ...  
run;  
  
proc mdsummary data=casuser.profit;  
  var RetailPrice;  
  output out=mycas.orders_sum;  
run;
```

CAS-enabled steps
share similar
syntax with
traditional SAS
code but execute
in CAS.

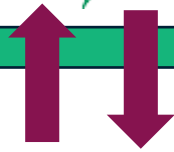


Caslib

In-Memory (Tables)



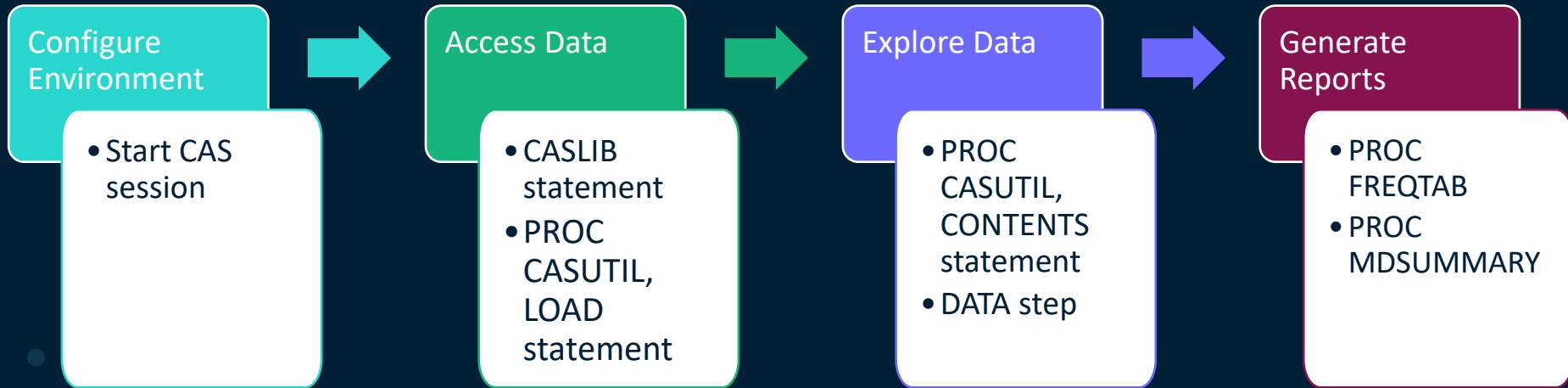
Data Source (Files)



A caslib is a container with two main areas, one for in-memory tables and another for data source files.



SAS Viya, CAS-enabled steps



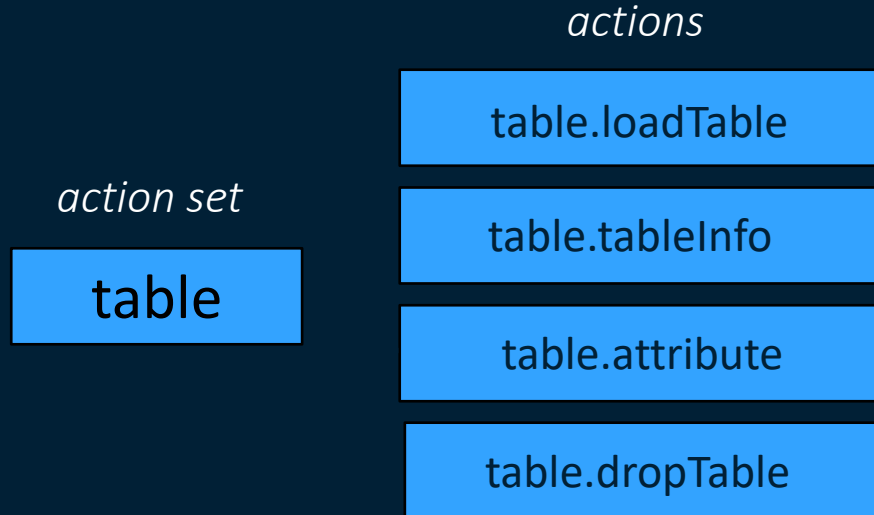
SAS Cloud
Analytic
Services
(CAS)

CAS language
(CASL)

You can use the CAS procedure
and CASL to call CAS actions.

```
proc cas;  
  table.loadTable ...;  
  dataStep.runCode ...;  
  simple.summary...;  
quit;
```

- An action set is a collection of CAS actions.
- A CAS action performs a single task.
- Action are defined as *action-set.action*.



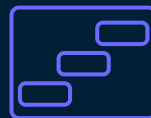
CASL and CAS actions
execute only in CAS.



table.loadTable



simple.summary

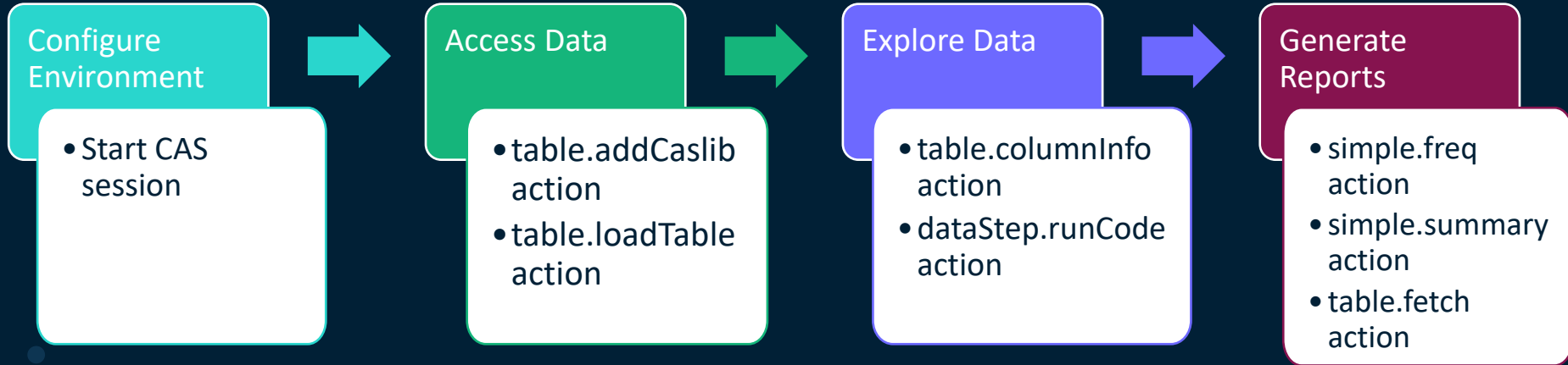


datastep.runCode



CAS

SAS Viya, CAS Language (CASL)



Is CAS always faster?

It depends ...

Compute
Server

CAS





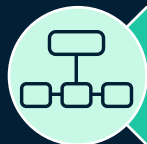
Why isn't CAS
always faster?



Start services



Load data into memory



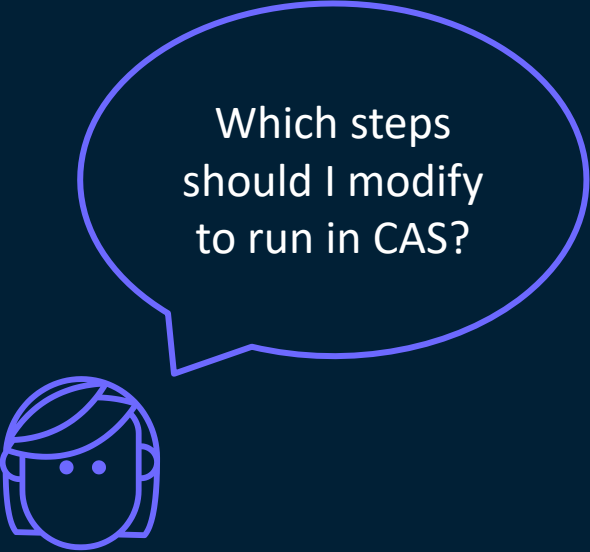
Distribute data and processing
among worker nodes



Return results to controller



Deliver combined results to the
client



Which steps
should I modify
to run in CAS?



steps using data sources
larger than 50 GB



long-running steps (30 minutes+)



computationally demanding PROCs



DATA steps with many computations,
functions, or conditional logic

Q&A

Please submit your questions using the Q&A icon located in the menu at the bottom of your screen



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Thank you
for joining us for
this SAS webinar