

# SAS® Event Stream Manager

Take control of your SAS Event Stream Processing environment by simplifying and automating deployments across servers and projects



## What does SAS® Event Stream Manager do?

SAS Event Stream Manager integrates SAS Event Stream Processing studio and server components, so you can get the most value possible from your event stream projects.<sup>1</sup> Use it to:

- Manage multiple SAS Event Stream Processing environments.
- Deploy multiple SAS Event Stream Processing projects to multiple SAS servers on the edge or in the cloud.
- Monitor the health of SAS Event Stream Processing projects and servers running in the cloud, on-premises and on the edge.

## Why is SAS® Event Stream Manager important?

It simplifies and automates the deployment of SAS Event Stream Processing projects and analytics for rapid decision making – with no disruption to service.

## For whom is SAS® Event Stream Manager designed?

It is designed for application developers, IT engineers and system architects who want to extract maximum value from streaming data in their own SAS environments.

## Key Benefits

- **Skip sending manual alerts.** Get alerts automatically when new champion analytical models are available for updating on servers.
- **Let the software handle the logistics.** With SAS Event Stream Manager, you won't need to copy files to deploy to SAS Event Stream Processing servers or use manual command line instructions to interact with the servers.
- **Know what's running on a server now and what ran in the past.** SAS Event Stream Manager shows all SAS Event Stream Processing projects currently running on a server and provides a historical log of all previous projects.
- **Avoid having to manually summarize deployment status.** The software summarizes the state of the SAS Event Stream Processing server assigned to each deployment and to all the projects running on those servers, so administrators see a high level of detail.
- **Simplify project version control.** Easily see how SAS Event Stream Processing projects have changed over time and test new versions before promoting them for live use.

## Overview

IoT is evolving, but one thing won't change: the massive volume and velocity of diverse IoT data streaming from sensors, devices, transmissions, operational transactions and more. This proliferation of data at the edge of the network and in the cloud makes it essential to automate and scale processes. Accomplishing this requires you to manage your SAS Event Stream Processing servers flexibly.

But not all servers are the same – they run different projects and support different initiatives. The challenge is not only monitoring server health; you also need governance to know what versions of software are running on which servers, and to see their statuses at any given time. In addition, lag time between building models and deploying them can negatively affect results. If you're unsure when and how to deploy the latest, most effective models due to a disconnect with data scientists' efforts, it puts your deployments at risk. Attempting to manually connect the dots opens the process up to significant error and costly delays.

SAS Event Stream Manager provides a repeatable, automated and traceable process to help you effectively monitor, govern and track large groups of SAS Event Stream Processing servers. The solution works from edge to enterprise in the cloud, on-premises or at the edge.

<sup>1</sup> SAS Event Stream Processing (SAS® Viya® enabled) is a licensing prerequisite and is priced separately. SAS Event Stream Manager requires SAS Event Stream Processing (SAS Viya enabled) 4.3 or later. It cannot be added to a SAS Event Stream Processing 4.2 or earlier deployment.

# Capabilities

- **Traceability.** All actions that start or stop SAS Event Stream Processing projects are recorded.
- **Flexibility.** Users can customize deployment scripts (templates) to suit their specific needs and the streaming environment, including defining environments for management.
- **Governance.** With version control, automated alerting and monitoring, users always know the health of their streaming environments and can assess the effects of changes.
- **Collaboration.** Developers can integrate analytics into a SAS Event Stream Processing project, prepare it for deployment, and then

deploy the new or updated version of the project to the appropriate streaming environment.

- **Repeatability.** Using job templates means the same steps are always performed. So you can be confident that actions were tested, verified and rolled out to multiple SAS Event Stream Processing servers.
- **Intuitive interface.** With an easy-to-use, graphical interface, users won't need command line access or scripting skills to get projects up and running.

## Product Overview

### Create and manage deployments

Manage collections of edge or cloud-based SAS Event Stream Processing servers by grouping related servers via server name and HTTP port information or by using known Kubernetes-based clusters and containers. Each deployment summarizes the health of the servers assigned to it, and each can be marked as production or nonproduction. During deployment, use filtering, tagging and sorting to quickly and easily manage collections of user-defined servers (Figure 1).

### Manage registered servers

Use SAS Event Stream Manager to register SAS Event Stream Processing servers with machine name and HTTP port information. Automatically discover active SAS Event Stream Processing servers and quickly assign to a deployment. You can monitor health status (online or offline), the software version that's running and the server host – all from the intuitive SAS Event Stream Manager interface using REST APIs from the server. Cloud-based SAS Event Stream Processing servers are available to simplify deployment to dynamic, Kubernetes-based servers.

Register multiple servers quickly and build collections of servers to manage. See health status, a list of projects by server (edge or cloud), connectivity to servers, metering updates and analytics licensing (on a per-server basis). Metering statistics include the number of events that have been ingested by the sum of all source windows across all servers with valid SAS Event Stream Processing licenses. Metering servers collect this information, and the interface displays current metrics using the metering server collection interval (Figure 2).

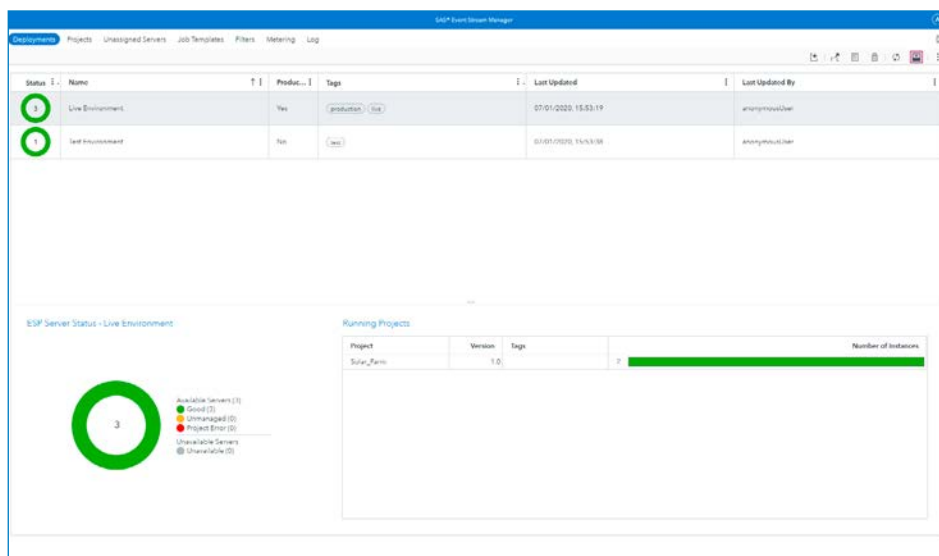


Figure 1. Group related servers via server name and HTTP port information or for cloud clusters.

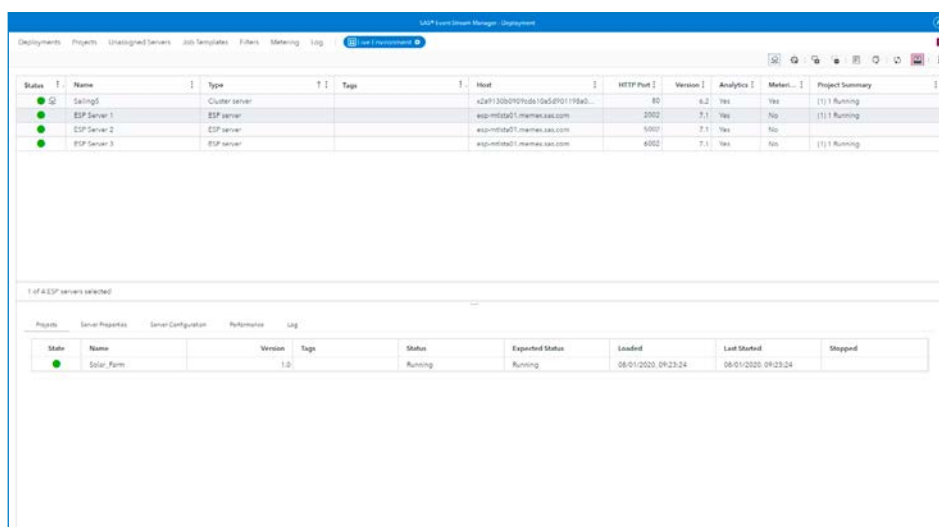


Figure 2. From an intuitive interface, you can monitor server health, software version, host data, metering status and deployment membership.

## Upload projects

SAS Event Stream Processing project versions are validated and made available from ESP Studio using a shared file system. These governed project versions are then available for publishing from SAS Event Stream Manager. The shared file system provides a single version of the truth.

SAS Event Stream Manager uses project versions to track changes to SAS Event Stream Processing projects and to simplify project rollback if a problem is detected during execution. Administrators mark projects with a production or nonproduction status when deploying to identify projects targeted for production versus those still in development and testing. The solution tracks information that includes project metadata, project XML, project diagram, project version and analytical models imported from SAS Model Manager, which is licensed separately (Figure 3).

## Configure filters

Filters identify a subset of servers within a deployment and can be specific to a single deployment or made available for all deployments. They use a simple filter expression language to create a filtered list of SAS Event Stream Processing servers. Users can specify this list when using job templates for deployment actions, simplifying deployments that target specific subsets of servers (Figure 4).

## Create and upload job templates

Use job templates to define specific actions for deploying SAS Event Stream Processing projects to servers. The solution controls template versions to track changes, and you can mark templates as production or nonproduction. Use job templates to deploy to a single server, to all servers in a deployment, or to a specific SAS Event Stream Processing server based on a filter (Figure 5).

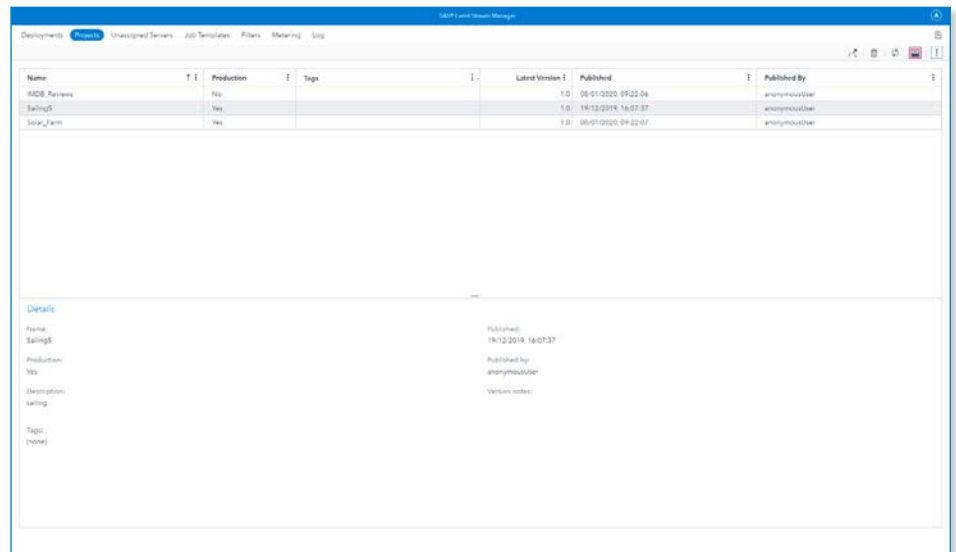


Figure 3. Publish projects, manage cloud resources and make them available through SAS Event Stream Manager.

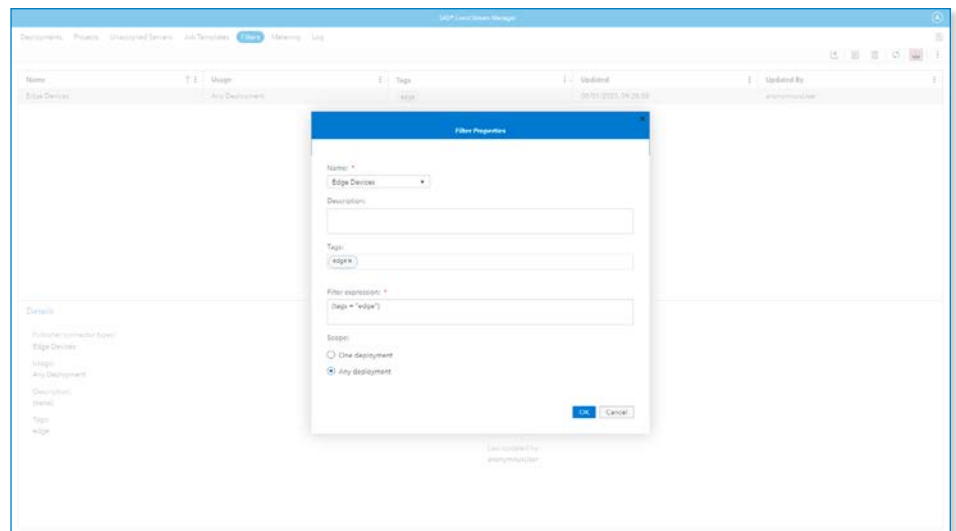


Figure 4. Create filtered lists of servers to simplify deployments that target specific server subsets.

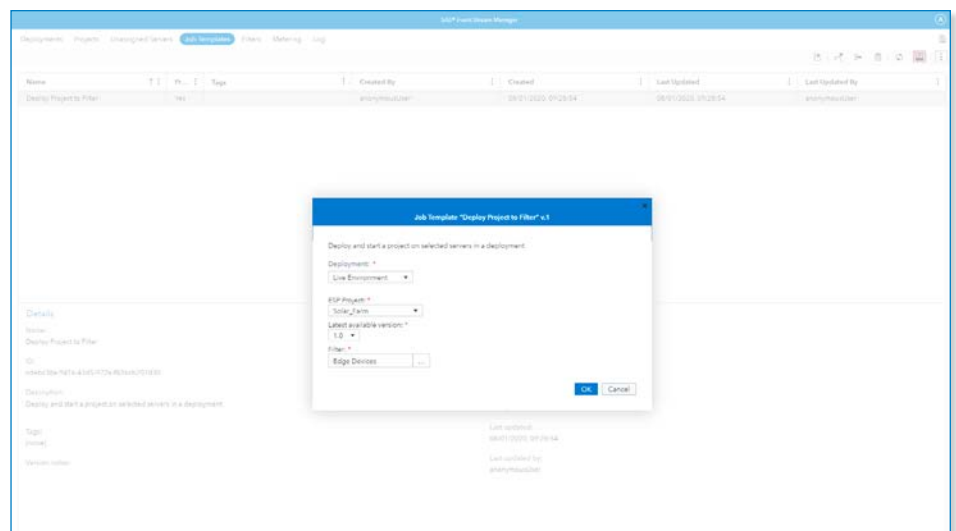


Figure 5. Define actions for deploying projects to servers by using job templates.

## Deploy projects to servers and monitor servers and running projects

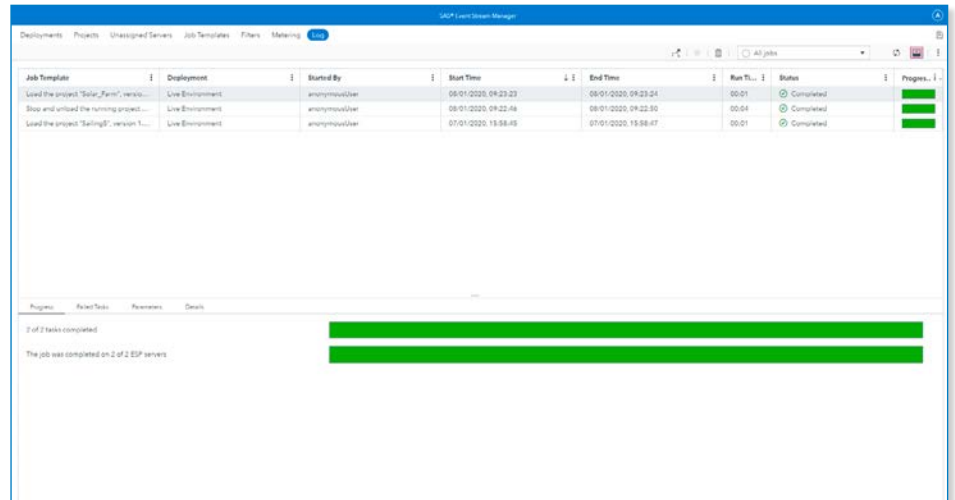
Jobs result from executing a job template. The jobs page displays the status of active and historical jobs, including:

- Name of the job template from which the job was created.
- Name of the deployment the job template ran against.
- User who deployed the job template.
- Time at which the job template was deployed.
- Time at which the job was completed.
- Time it took for all individual tasks in this job to be completed.
- Status of the job (indicates if the job completed with or without errors).
- The job's progress (indicates what percentage of the job is complete).

**Note:** Through integration with SAS Model Manager (licensed separately), event-driven alerts are sent when a new champion analytical model is designated for SAS Event Stream Processing projects that were deployed using SAS Event Stream Manager. SAS Event Stream Manager tracks the projects deployed to SAS Event Stream Processing servers, including the analytic models used in the deployed projects (Figure 6).

## Learn More

To learn more about SAS Event Stream Manager, please visit [SAS Technical Documentation](#).



| Job Template                             | Deployment       | Started By    | Start Time           | End Time             | Run Th... | Status    | Progress                         |
|--|------------------|---------------|----------------------|----------------------|-----------|-----------|----------------------------------|
| Load the project 'Sales_Fact', versio... | Live Environment | anonymoususer | 08/01/2020, 09:23:23 | 08/01/2020, 09:23:24 | 00:01     | Completed | <div style="width: 100%;"></div> |
| Stop and unload the running project...   | Live Environment | anonymoususer | 08/01/2020, 09:22:58 | 08/01/2020, 09:22:59 | 00:04     | Completed | <div style="width: 100%;"></div> |
| Load the project 'SalesF', version 1...  | Live Environment | anonymoususer | 07/01/2020, 15:58:45 | 07/01/2020, 15:58:47 | 00:01     | Completed | <div style="width: 100%;"></div> |

7 of 2 tasks completed  
The job was completed on 2 of 2 ESP servers

Figure 6. See the status of active and historical jobs, such as users, time of completion and time required for individual tasks to be completed.

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