Splunk APM Quick Start Guide

Splunk APM SETUP:

1. **Install** the SignalFx-SmartAgent onto the application host/Kubernetes cluster OR deploy a OpenTelemetry-Collector within the same VPC/Environment as your application hosts/ Kubernetes cluster.

SignalFx-SmartAgent:

- Windows/Linux
- Kubernetes

OpenTelemetry-Collector:

- Deploy as Binary/Docker image
- Deploy in Kubernetes

2. **Configure** the SignalFx-SmartAgent or Opentelemetry-Collector YAML file to accept APM traces/spans

SmartAgent configuration:

- APM SmartAgent

Note: Please be sure to include these flags in the SignalFx-SmartAgent config/configmap YAML file for the agent to accept APM traces (YAML indentation **REQUIRED** for nested elements, we recommend using a YAML formatter):

- Set the **signalFxAccessToken** (This token can be found in the solution UI) to the desired org access token.
- Set the **traceEndpointUrl** to `"https://ingest.${SFX_REALM}.signalfx.com/v2/trace"`
- In the **monitors** list add a new **type** key value pair with the value of **signalfx-forwarder** and it's nested elements. Please view the example below:

```
monitors:
  - type: signalfx-forwarder
    listenAddress: 0.0.0.0:9080
    defaultSpanTags:
      environment: "${SFX_ENVIRONMENT}"
```

- Add a **writer** dictionary with a nested element of traceExportFormat set to sapm. Please view the example below:

```
writer:
  traceExportFormat: sapm
```

See an example of what the SignalFx-SmartAgent YAML config should be like here.

Opentelemetry-Collector configuration:

- Configuration YAML
- Kubernetes Configuration YAML

Note: A single Collector is generally capable of over 10,000 spans per second per CPU core. Try to leverage a ratio of 1:2 for CPU:memory and to allocate at least a CPU core per Collector. You can also deploy multiple Collectors. Each Collector runs independently, so sizing increases linearly with the number of Collectors you deploy.

- Replace the variable **${SFX_REALM}** with your organization's realm (Your organization realm can be found in the Splunk APM and IM UI under "My Profile", e.g. https://api.us1.signalfx.com).
- Replace the variable **${SFX_TOKEN}** with your organization's access token (Your organization access token can be found in the Splunk APM and IM UI under "Organization Settings").

3. **Install and initialize** the SFx/Otel tracing library to start sending traces

- .NET
- Java
- NodeJS
- Python
- Go
- Ruby
- PHP

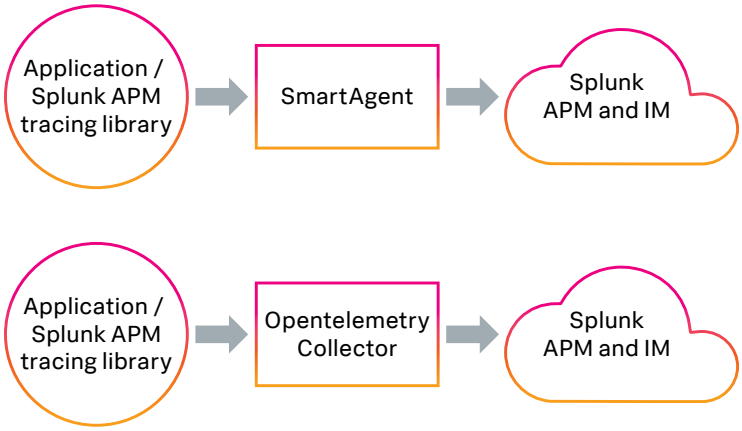
Note: Be sure to set all the required environment variables to enable the Splunk APM/Otel tracing library (Exact environment or system variables to pass may vary between tracing implementation, so please consult the tracing guide for each individual library).

If you're using kubernetes you will need to use the kubernetes downward API to dynamically set an environment variable in your pod to retrieve the host IP (This needs to be added within the service deployment YAML). The environment variable will be used by the tracer in traced applications (specifically the ENDPOINT variables for all libraries). Click here for the example.

4. **Confirm** Traces/spans are being sent to the SmartAgent and forwarded to Splunk APM.

On the SignalFx SmartAgent host/container enter in the command "signalfx-agent status" to see if the signalfx-agent is receiving traces and forwarding them to SignalFx (You can see if the signalfx-agent is forwarding traces successfully by looking at the **Trace Spans Sent** value).

Splunk APM architecture overview

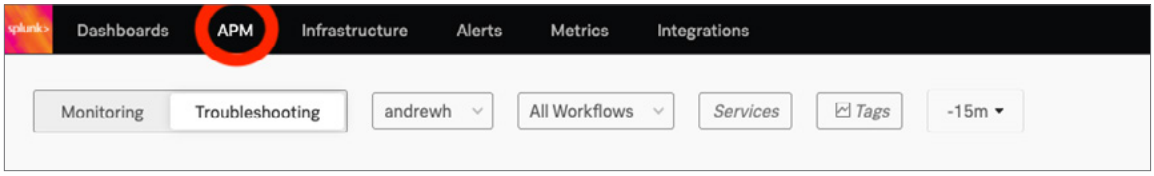


Optionally the Opentelemetry-collector can work in tandem with the Smart-Agent. To learn more about this click here.

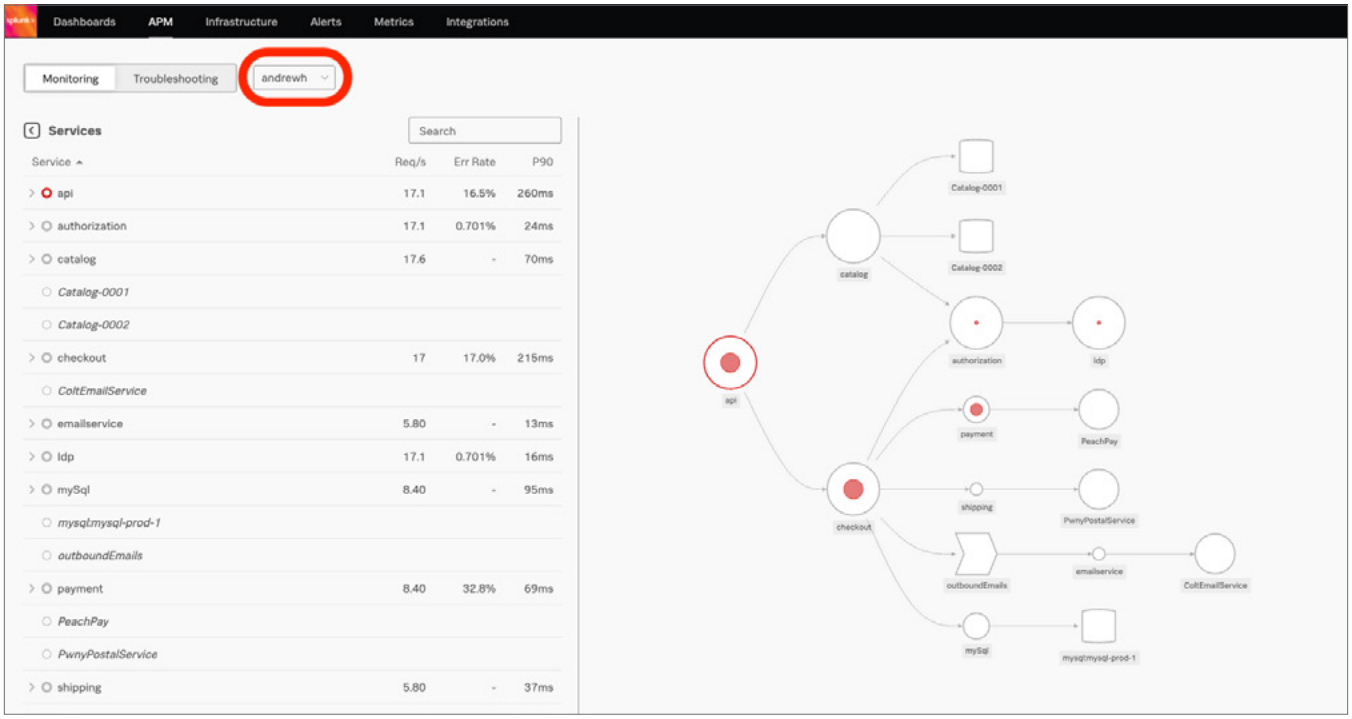
Getting started with Splunk APM

1. Discover Service Map and Troubleshooting

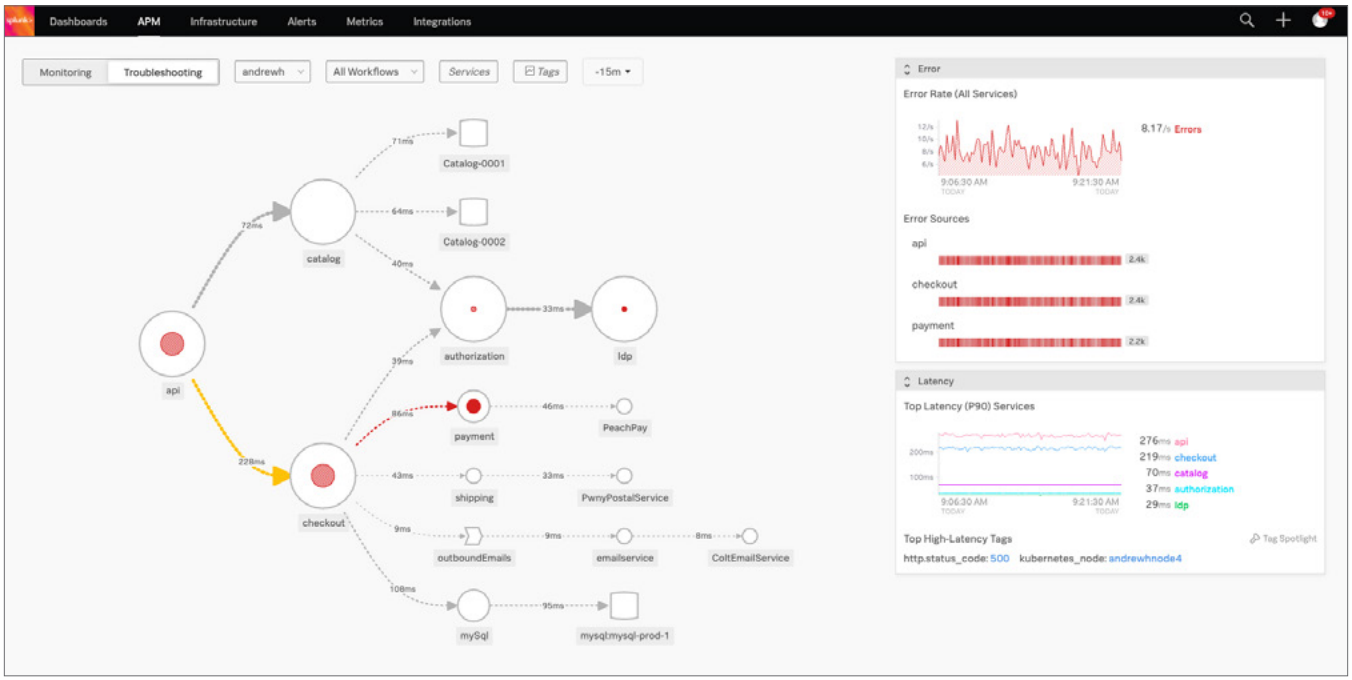
In the Splunk APM and IM UI click the **APM** tab to navigate to the service map. The service map helps give instant, accurate, and out-of-the-box visibility into all service interactions, inferred services, dependencies, and performance.



You should see your instrumented services in the service map and list. Use the service environment filter dropdown to display different service environments.

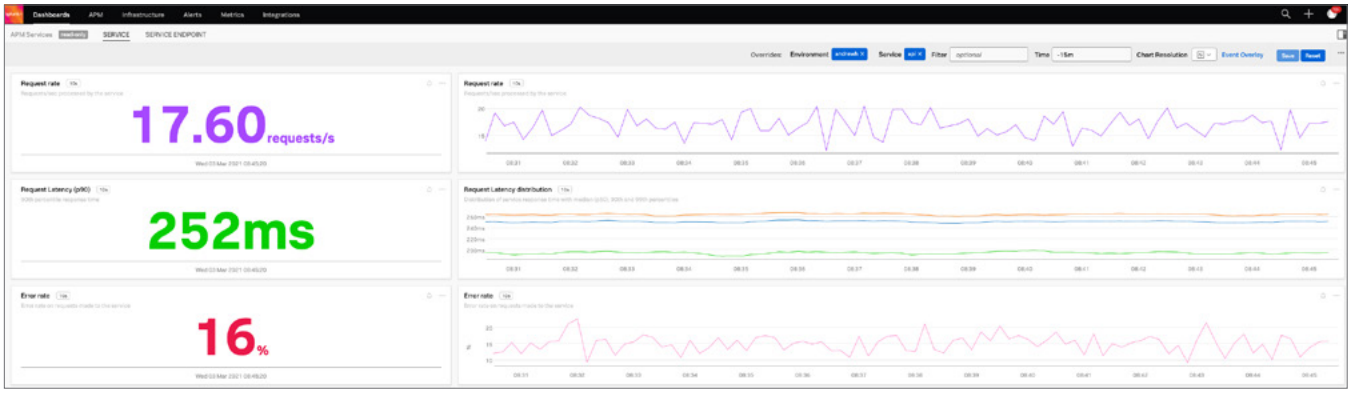


Click on the **Troubleshooting** tab to view service latency and root errors.



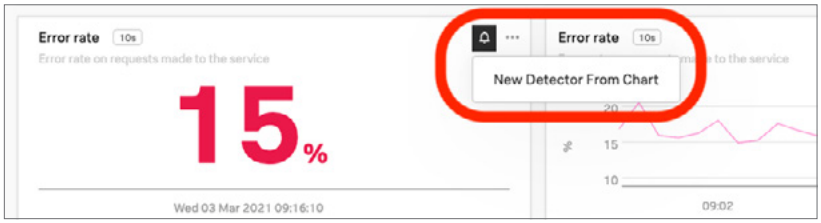
2. Discover Service Dashboards

Click on a service in the service map/list and click on **View Dashboard** to view the service and system metrics.



3. Create Detectors

To create an alert for your service metrics click on the bell icon found on a chart in the service dashboard and click **New Detector From Chart**.

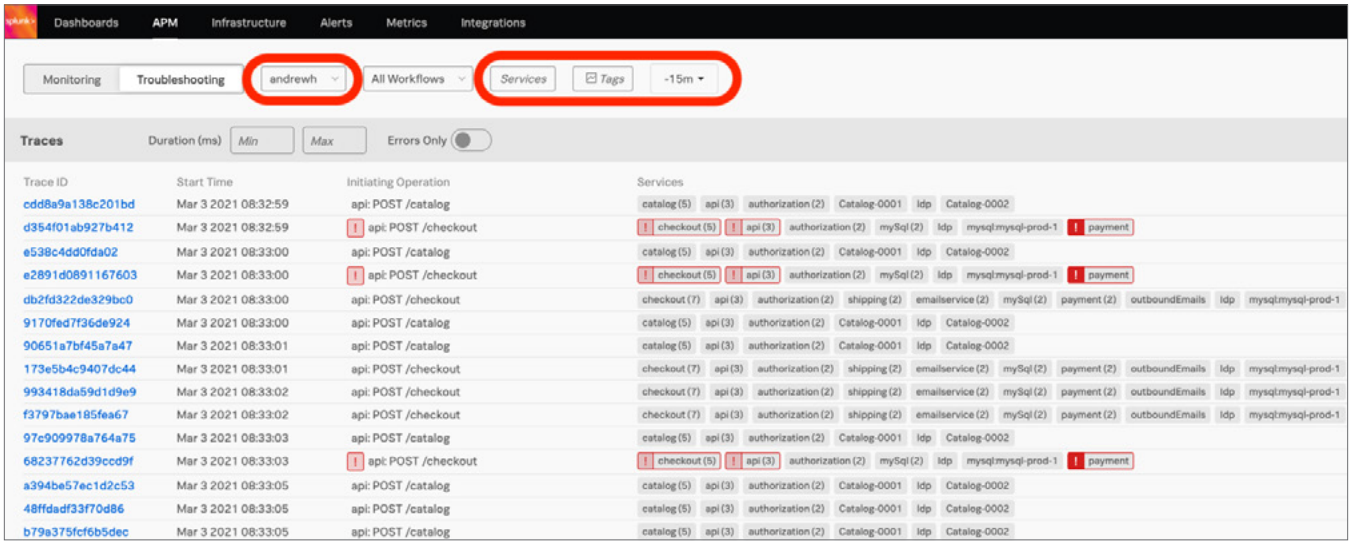


Complete the detector creation process to activate it. To learn more about detectors and alert conditions click here.

4. View your traces

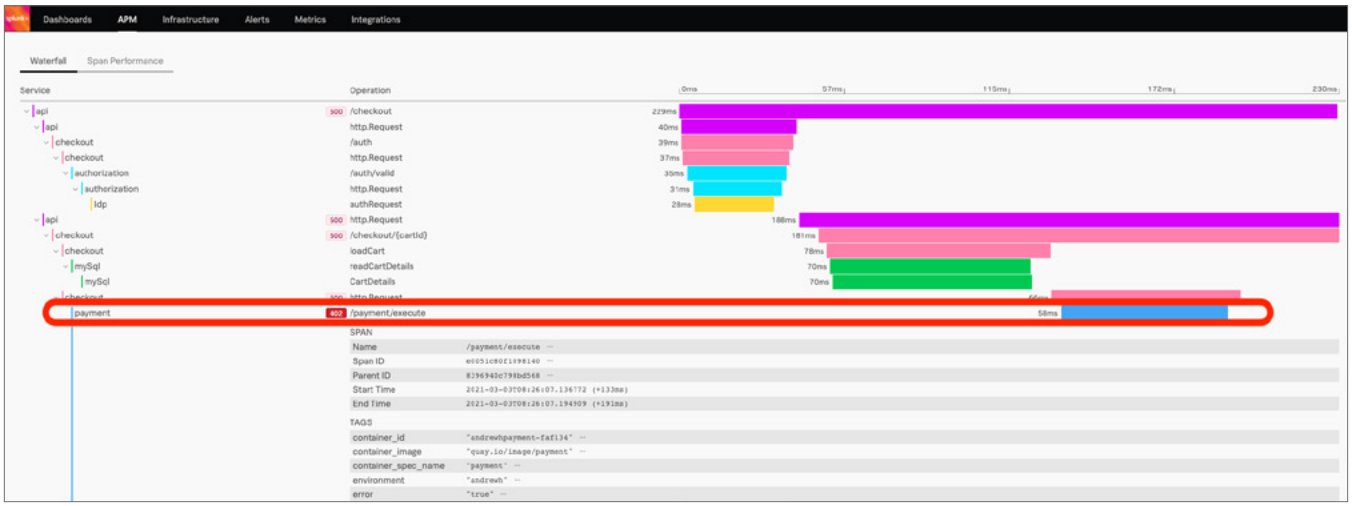
To view and drill down into a trace click on the **Show Traces** button located on the bottom left corner of the troubleshooting service map.

Filter through traces using the environment, service, tags, and timeframe filter.



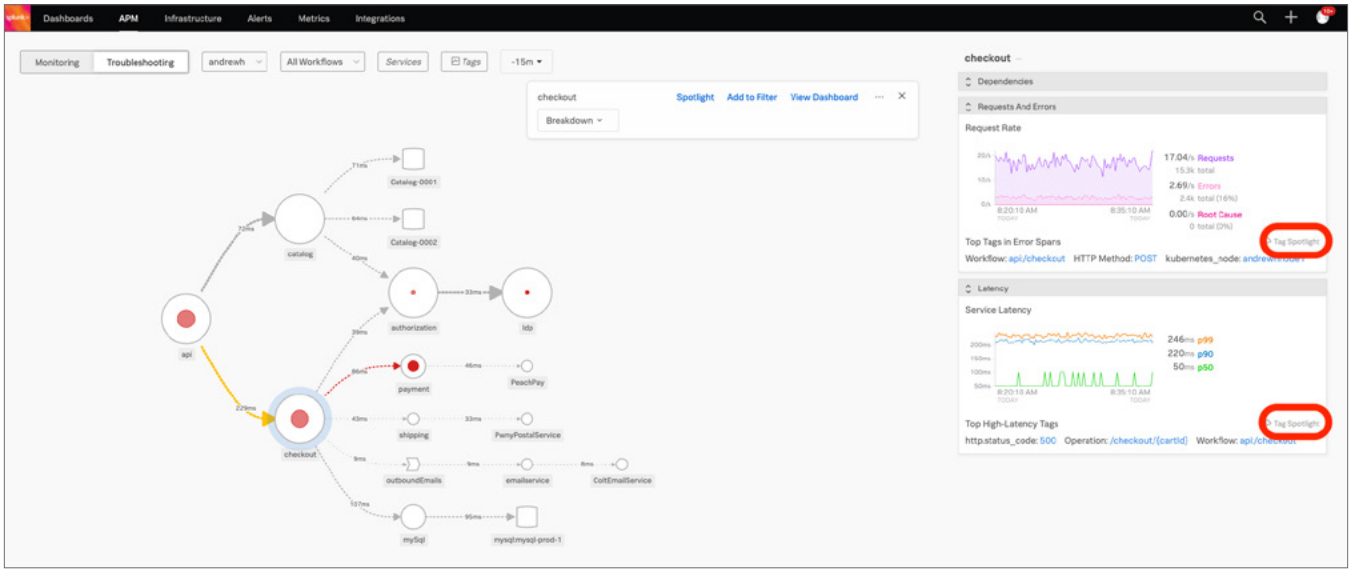
Drill down into a trace by clicking on an individual **Trace ID**.

Click on a specific span to view its metadata.



5. Indexing Tags

Indexing tags can help establish meaningful SLI's/SLO's for your service span tags. You can view indexed tags by clicking on the **Tag Spotlight** button located in the requests and errors/latency tab.



To learn more about indexed tags and how to index new span tags click here.

Check out the **Splunk APM** demo here.