Microsoft

AZ-400.00 Learning Path 09: Implement continuous feedback

Agenda

- Module 01: Implement tools to track usage and flow.
- Module 02: Develop monitor and status dashboards.
- Module 03: Share knowledge within teams.
- Module 04: Design processes to automate application analytics.
- Module 05: Manage alerts, Blameless retrospectives and a just culture.
- Labs & Learning Path review and takeaways.

Learning Path overview

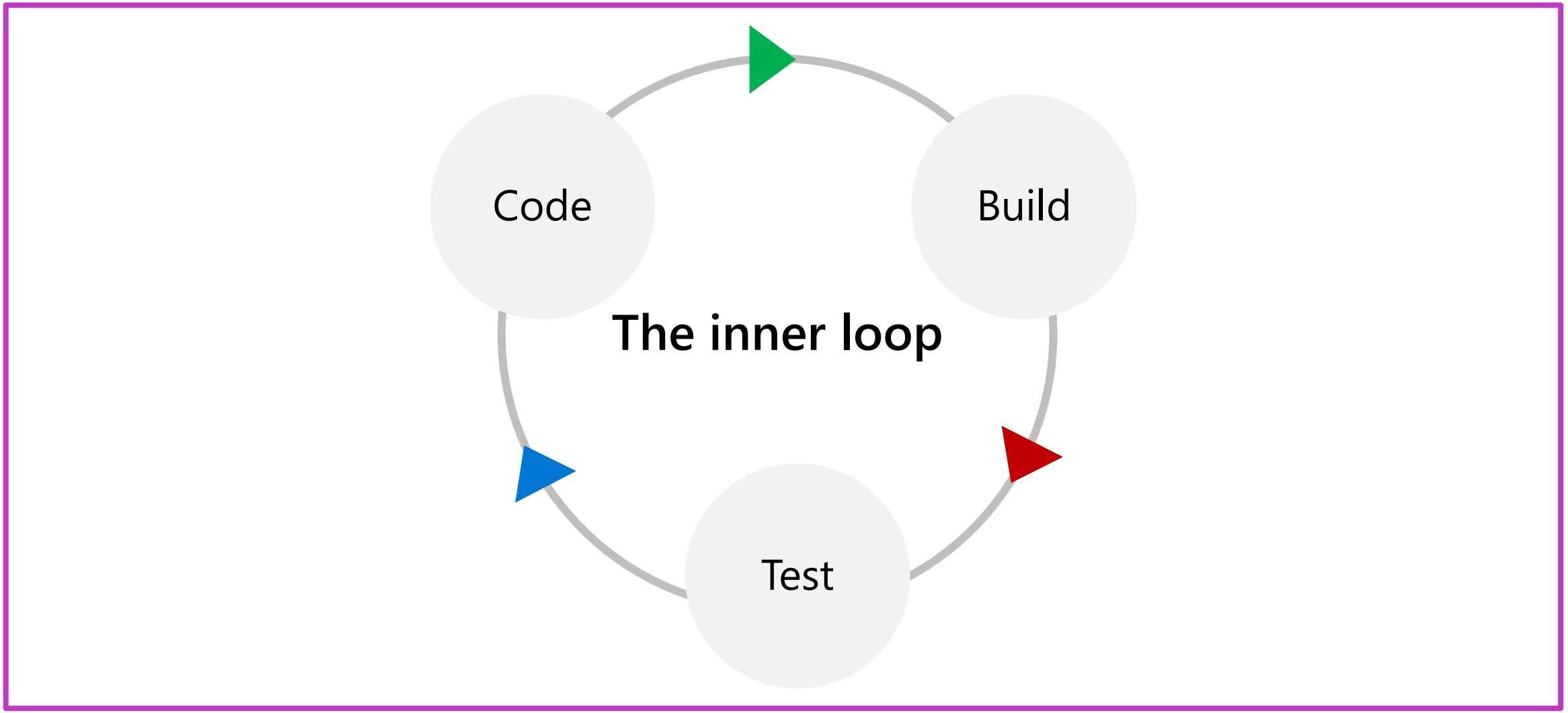
Learning objectives

After completing this Learning Path, students will be able to:

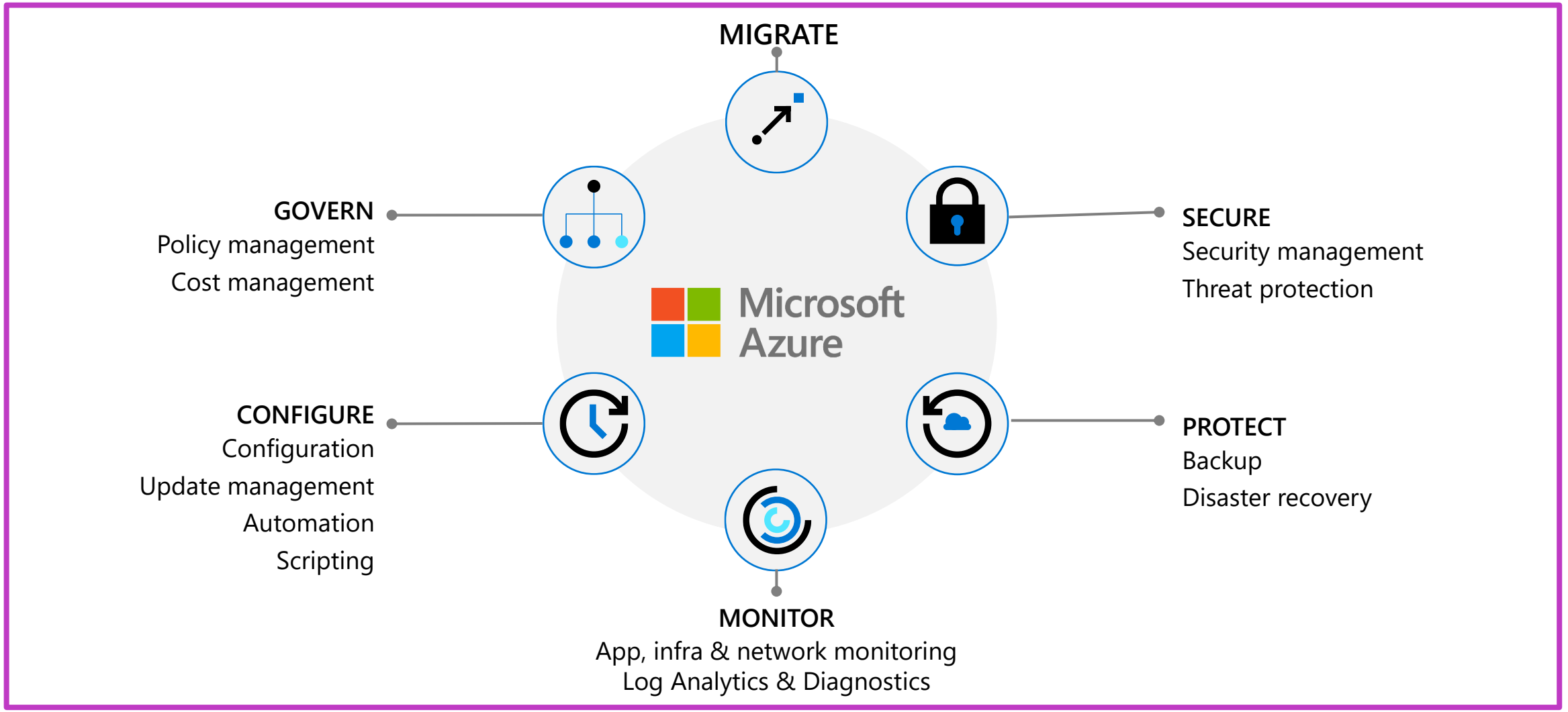
1. Develop monitoring and status dashboards
2. Implement tools to track system usage, feature usage, and flow
3. Integrate and configure ticketing systems with development team's work management
4. Design processes to automate application analytics
5. Manage alerts and reduce meaningless and non-actionable alerts
6. Carry out blameless retrospectives and create a just culture

Module 01: Implement tools to track usage and flow

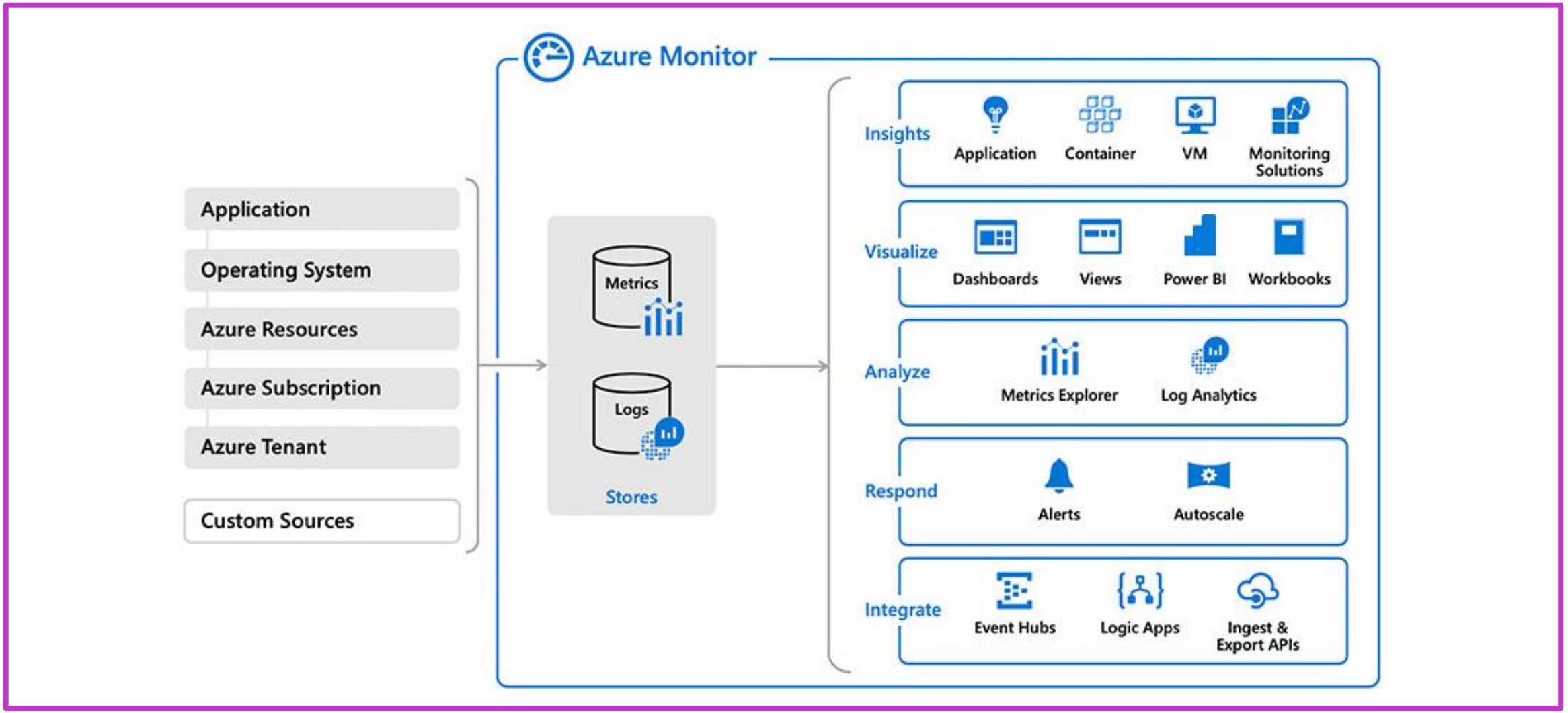
Understand the inner loop



Introduction to continuous monitoring



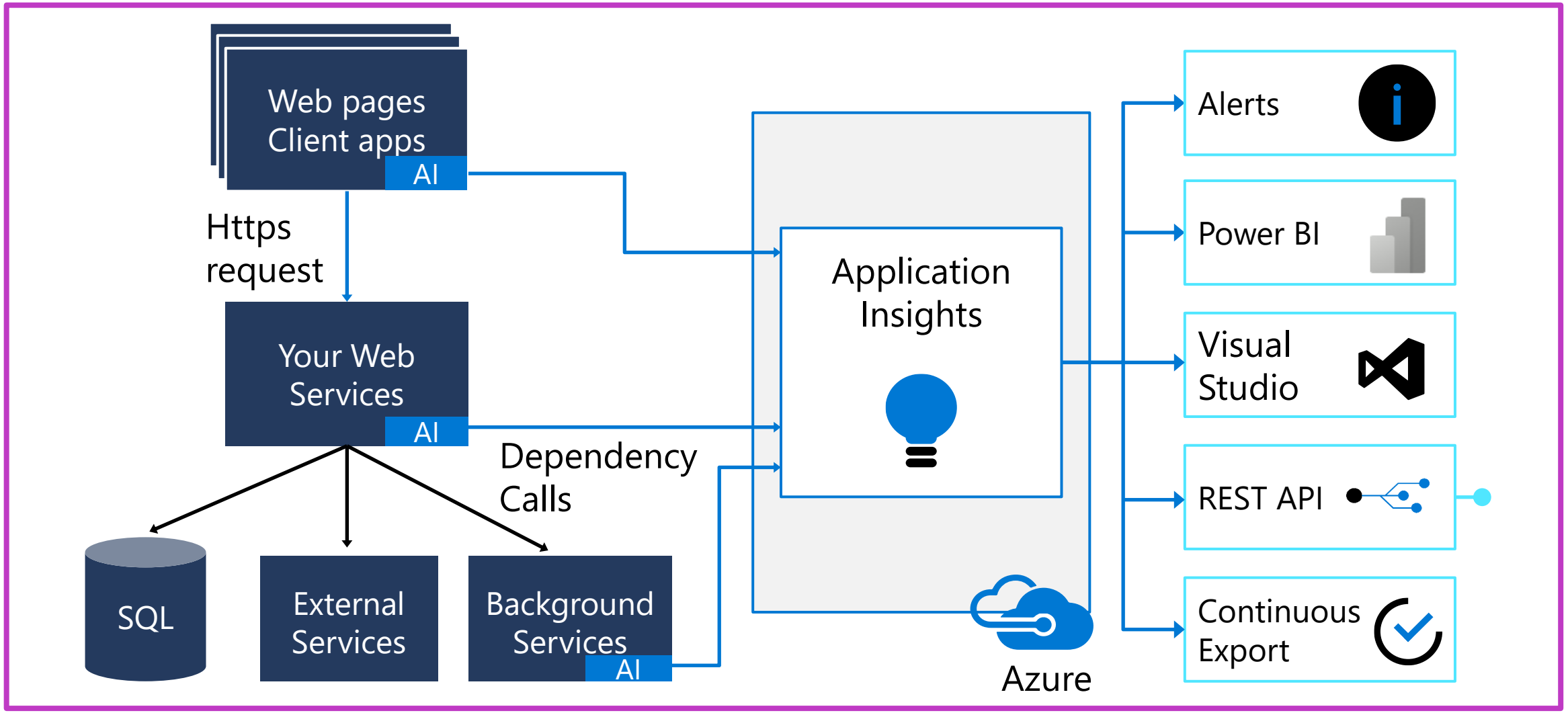
Explore Azure Monitor and Log Analytics



Examine Kusto Query Language (KQL)

1. KQL is the language used to query Log Analytics
2. Supports queries and control commands
3. Supported within Azure Data Explorer and Azure Data Studio (with notebook support)

Explore Application Insights



Implement Application Insights

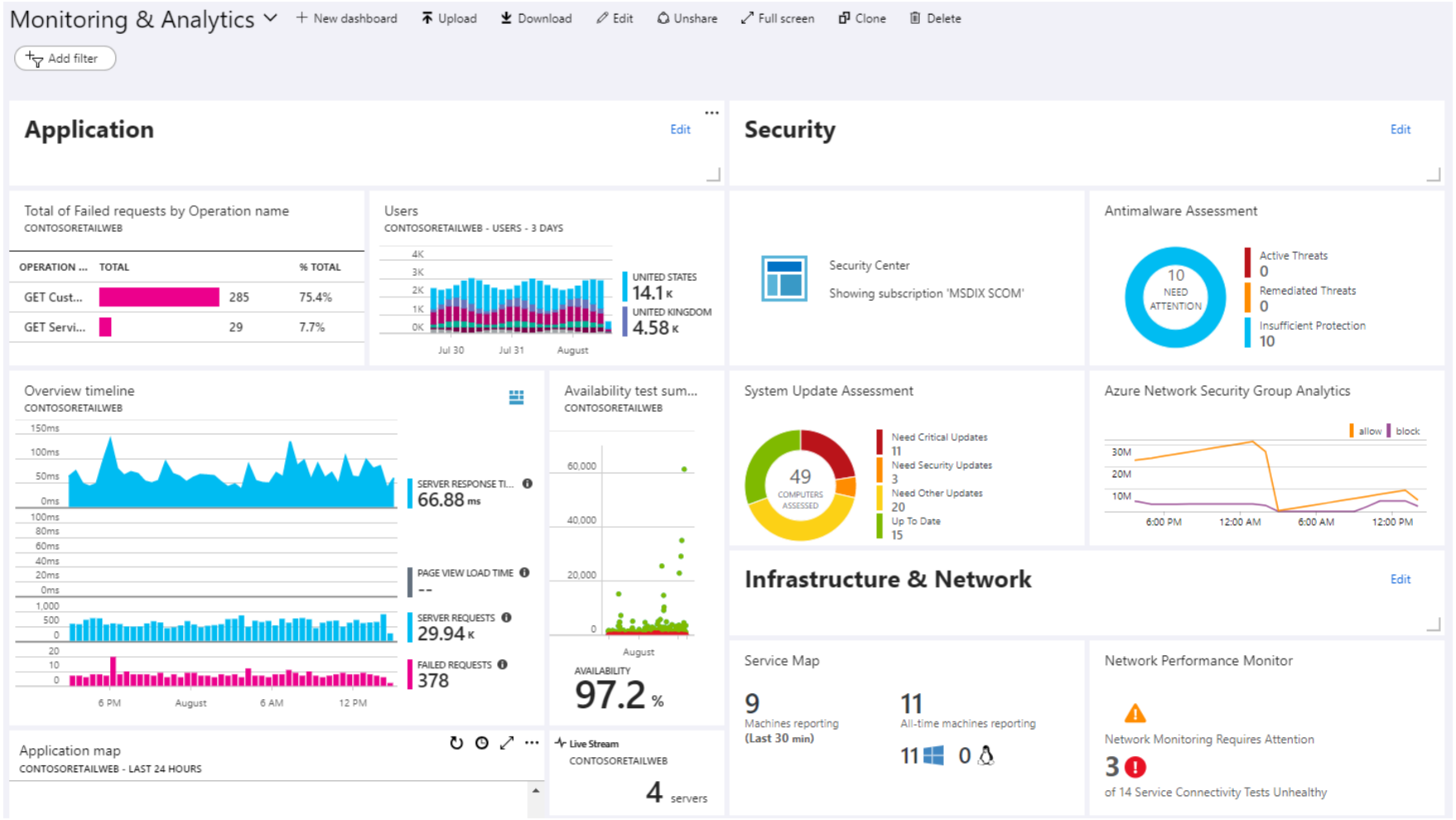
1. Monitor
2. Detect, diagnose
3. Build, measure, learn

Demonstration: Add Application Insights to an ASP.NET core application

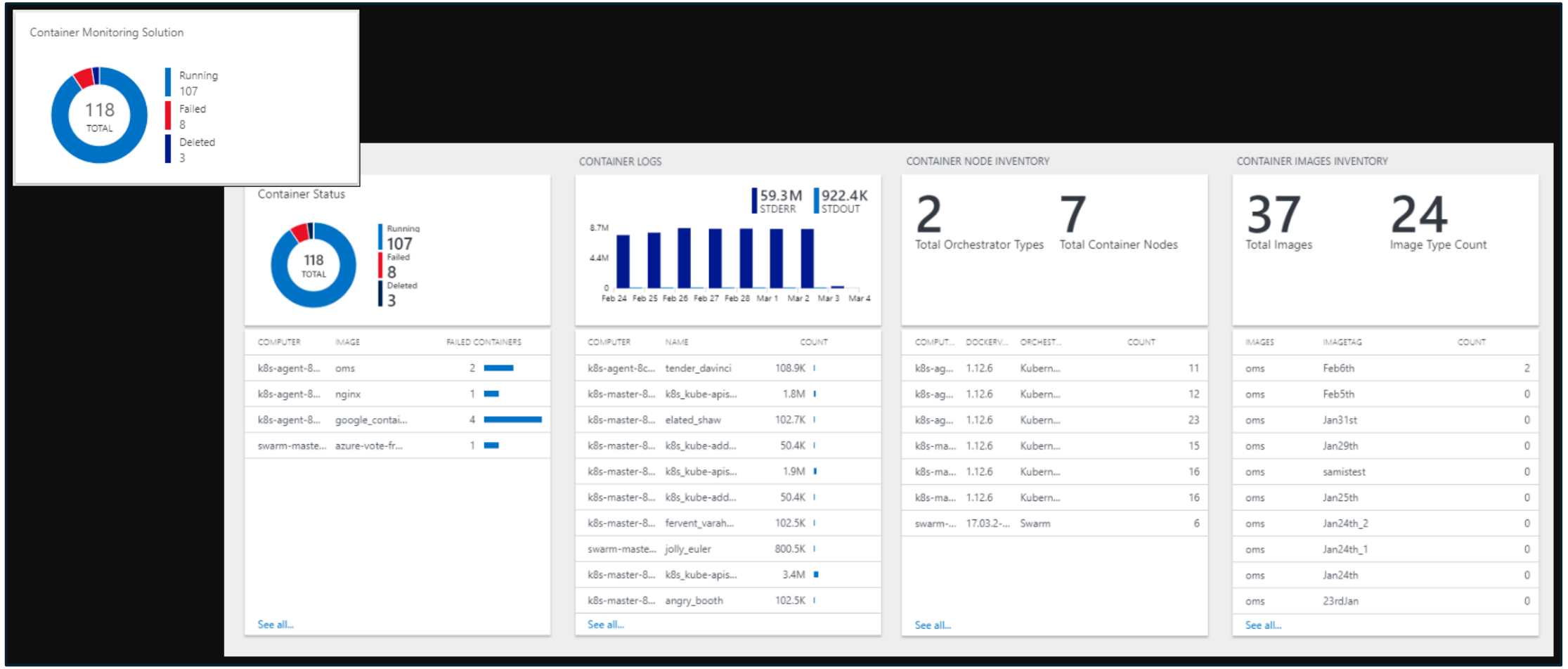
DEMO

Module 02: Develop monitor and status dashboards

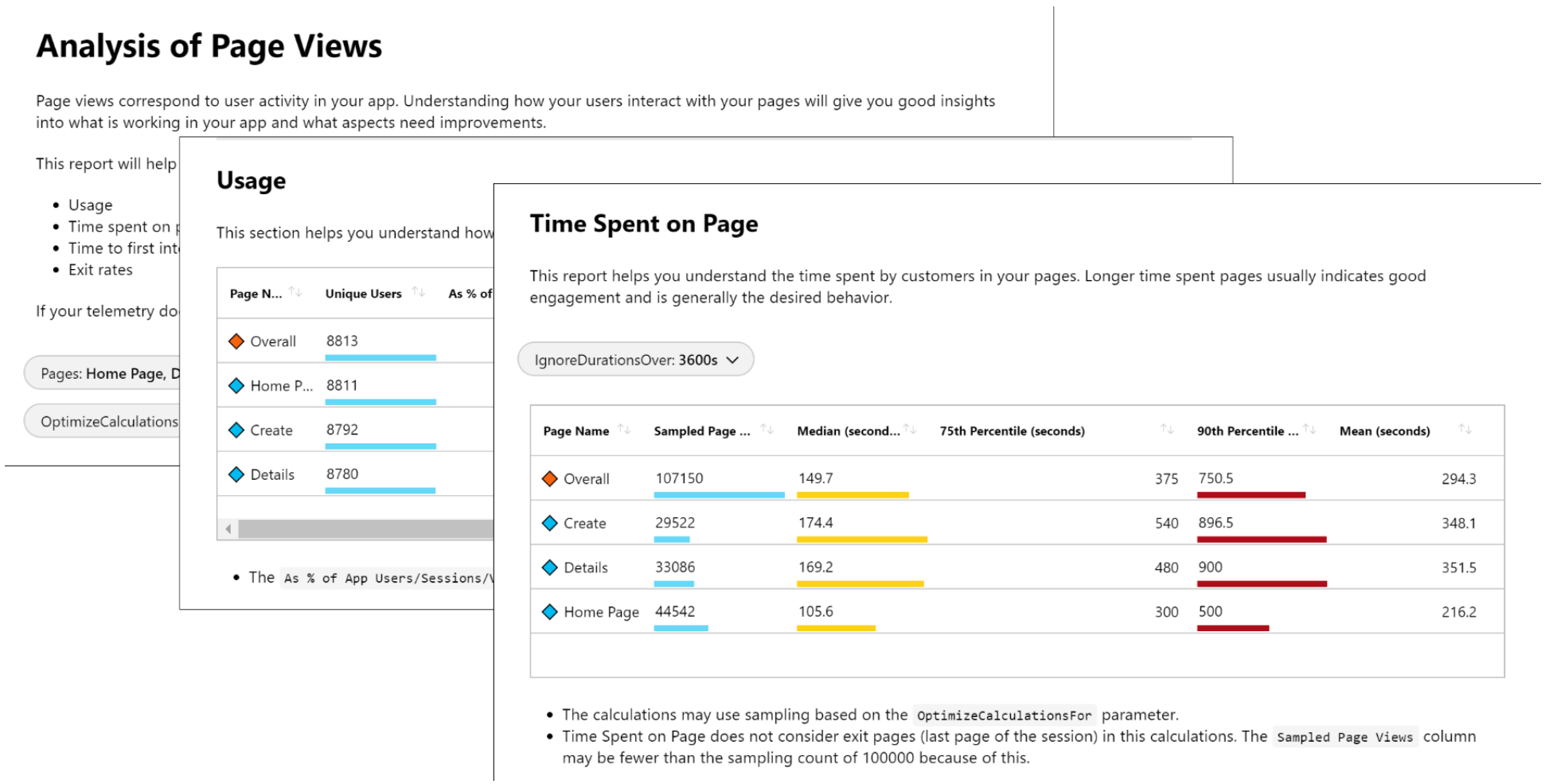
Explore Azure Dashboards



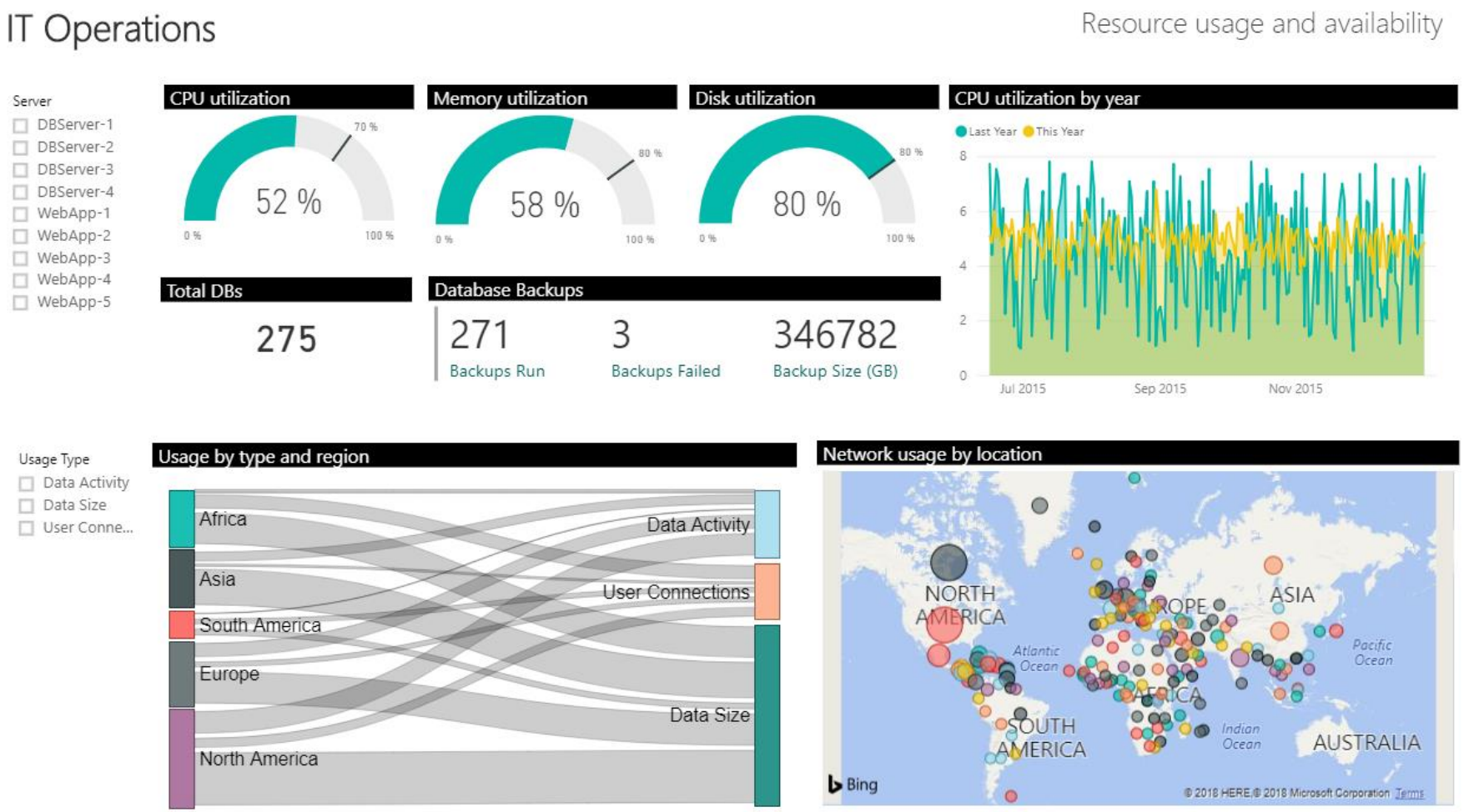
Examine view designer in Azure Monitor



Explore Azure Monitor workbooks



Explore Power BI



Build your own custom application

1 **Advantages:**

- Complete flexibility
- Combine metrics and log data

2 **Disadvantages:**

- Significant engineering required

Module 03: Share knowledge within teams

Share acquired knowledge within development teams

1. Organizational knowledge is acquired over time
2. Organizational knowledge can easily be lost through staff turnover
3. Relearning old lessons is wasteful and expensive

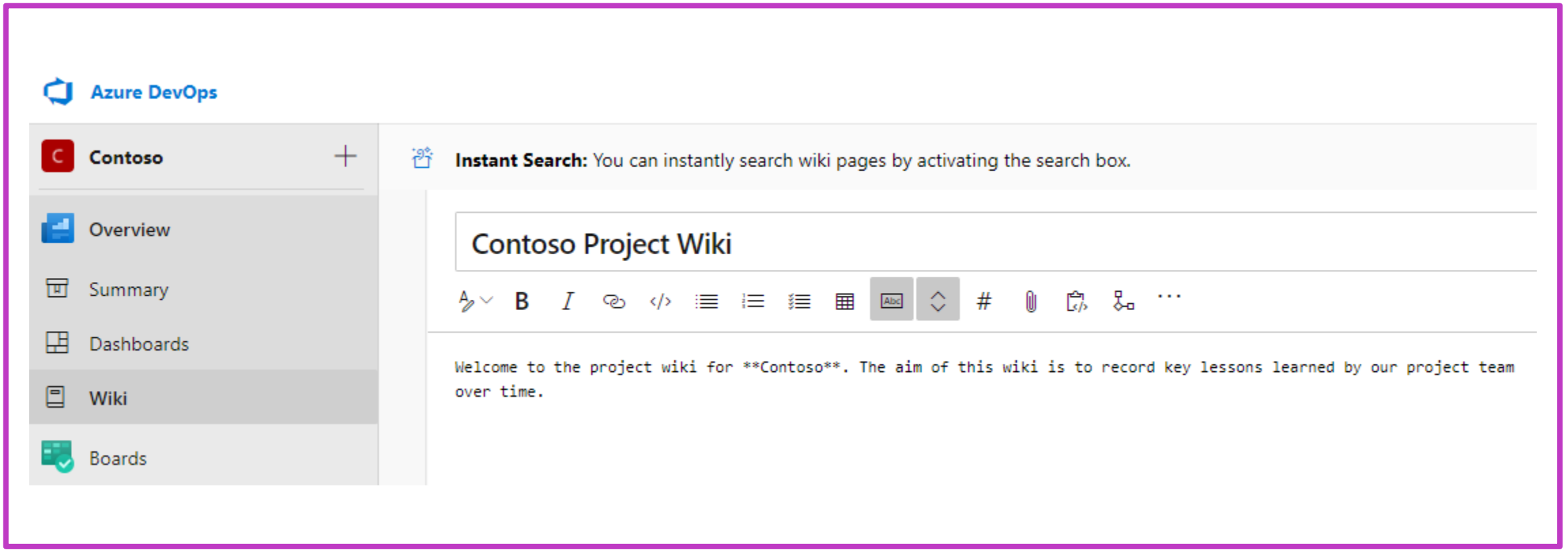
Discussion: Tools for knowledge sharing

Which knowledge sharing tools do you currently use?

What do you or don’t you like about the tools?

Introduction to Azure DevOps project wikis

Created in Azure DevOps projects, stored in a repository



Wiki contents

Written in markdown and can contain file attachments, including videos

Supports insertion of Mermaid diagrams

```
Welcome to the project wiki for **Contoso**. The aim of this wiki is to record key lessons learned by our project team
over time.

::: mermaid
 graph LR;
 A[Wiki supports Mermaid] --> B[Visit https://mermaidjs.github.io/ for Mermaid syntax];
:::
```

Welcome to the project wiki for **Contoso**. The aim of this wiki is to record key lessons learned by our project team over time.

Module 04: Design processes to automate application analytics

Explore rapid responses and augmented search

1. In Agile teams, issues that “slip through the cracks” directly impact end-users
2. Speedy resolution required – even if root cause determined later
3. Large volume of infrastructure and application logs to search
4. Augmented search uses semantic processing, statistical models, and ML

Integrate telemetry

Benefits:

- Provides detailed accurate insights on usage
- Monitors an object while physically far removed from it

Challenges:

- Do end users want it enabled?
- Users might not be comfortable with being monitored

Examine monitoring tools and technologies

1. Synthetic monitoring
2. Alert management
3. Deployment automation
4. Analytics

Explore IT Service Management Connector

Advantages:

- Create an incident or alert in your service desk solution based on alerts from Azure
- Sync incident data from service desk solution to Azure Log Analytics
- Correlate service desk data with Log Analytics data

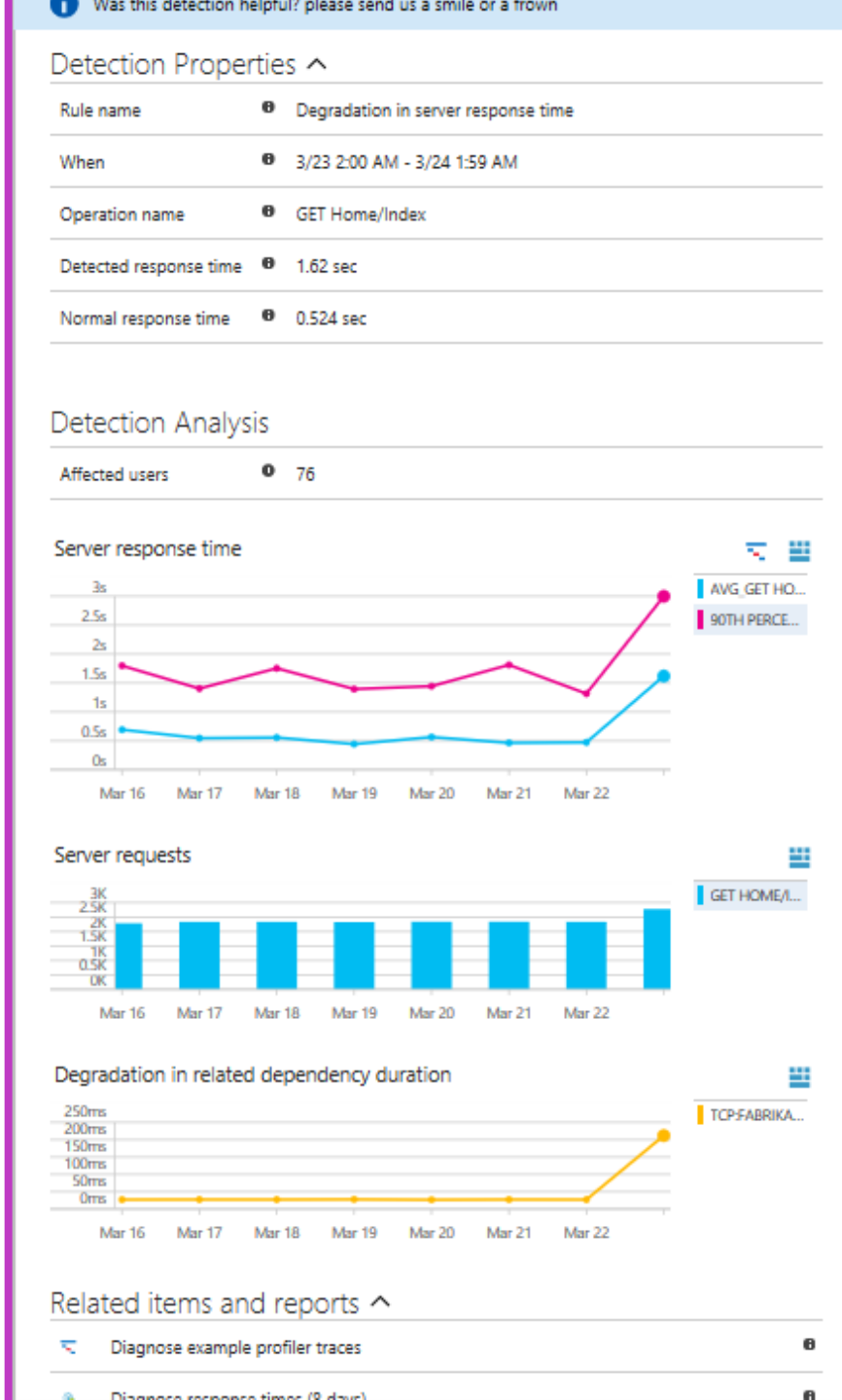
Module 05: Manage alerts, Blameless retrospectives and a just culture

Examine when to get notifications

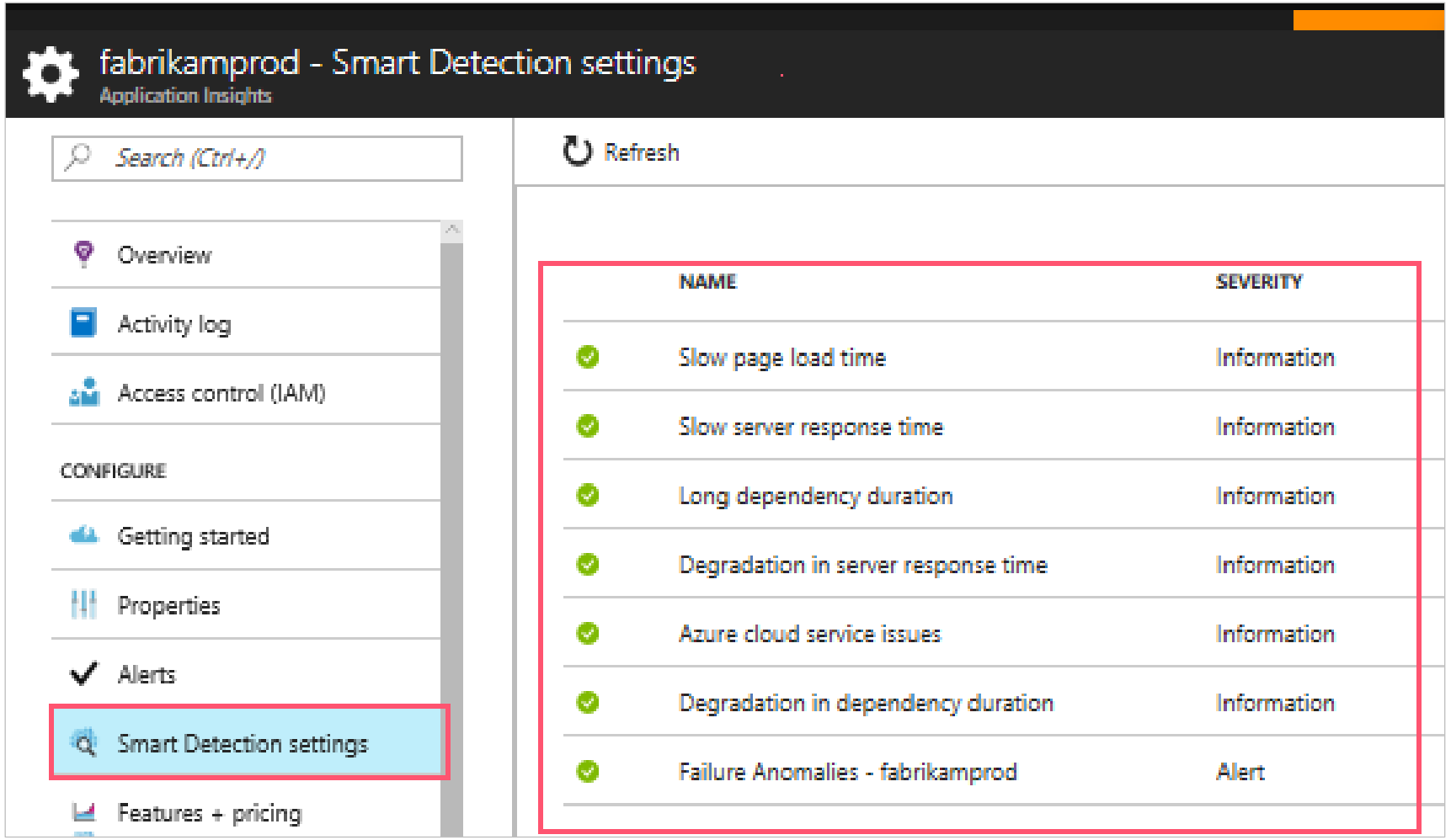
Application Insights automatically analyzes the performance of your web application and can warn you about potential problems

Explore how to fix it

1. Triage (how many users/ops are affected?)
2. Scope (all traffic or some pages?)
3. Diagnose (often will suggest the issue)



Explore smart detection notifications



Improve performance

1. Triage
2. Diagnose slow page loads
3. Improve slow pages

Example: Understand server response time degradation

1. Response time compared to normal response time
2. Number of affected users
3. Average response time
4. Count of this operation requests on the day of detection and 7 days before
5. Correlation between degradation in this operation and degradations in related dependencies
6. Links to help diagnose the problem

Reduce meaningless and non-actionable alerts

Monitoring and alerting enables a system to tell us when it's broken, or, potentially, what's about to break

Alerts requesting immediate action should be urgent, important, actionable, and real

Discussion: Blameless retrospective

What does it mean to have a blameless retrospective?

Labs

Lab: Monitoring application performance with Application Insights

Lab overview:

In this lab, you'll learn about how you can add Application Insights to an existing web application, as well as how to monitor the application via the Azure portal.

Objectives:

- Deploy Azure App Service web apps
- Generate and monitor Azure web app application traffic by using Application Insights
- Investigate Azure web app performance by using Application Insights
- Track Azure web app usage by using Application Insights
- Create Azure web app alerts by using Application Insights

Duration:

Lab: Sharing team knowledge using Azure project wikis

Lab overview:

In this lab, you will create and configure wiki in an Azure DevOps, including managing markdown content and creating a Mermaid diagram.

Objectives:

- Create a wiki in an Azure Project
- Add and edit markdown
- Create a Mermaid diagram

Duration:

Learning Path review and takeaways

What did you learn?

1. Develop monitoring and status dashboards
2. Implement tools to track system usage, feature usage, and flow
3. Integrate and configure ticketing systems with development team's work management
4. Design processes to automate application analytics
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Learning Path review questions

1. Does Azure Monitor allow you to create alerts from log queries?
2. What features are provided by Azure Monitor?
3. What query language can you use to query Azure Log Analytics?
4. What platform integrations does Azure Monitor provide to visualize your logs in real time?
5. True or False: Application Insights analyses the traffic from your website against historic trends and sends you smart detection notifications on degradation.