

Training: Microsoft Monitoring

- Instrument Application with Azure Monitor Application Insights
- Troubleshooting Using Microsoft Azure Portal
- Instrument Solutions for Monitoring and Logging
- Monitor Resources with Azure Monitor
- Monitoring Microsoft Azure *skill path*
- *Query Azure Monitor Data with the Kusto Query Language*
- *AZ-204: Developing Solutions for Microsoft Azure : Optimize and Monitor*

Pluralsight Training: Google Monitoring

- Logging, Monitoring and Observability in Google Cloud
- Managing Logs, Errors and Application Performance Using Google Stackdriver
- Managing Cloud Resources Using Google Stackdriver

Learning Materials: Microsoft

Microsoft Learning

- [Application Insights](#)
- [Azure Monitor Alerts](#)
- [Azure Dashboards](#)
- [Azure Log Analytics](#)
- [Kusto Query Language](#)
- [Azure Insights Application Map](#)
- [Azure Service Health](#)
- [Application Insights availability](#)
- [Azure Monitor VM insights](#)
- [Azure Autoscaling](#)

Microsoft Learning

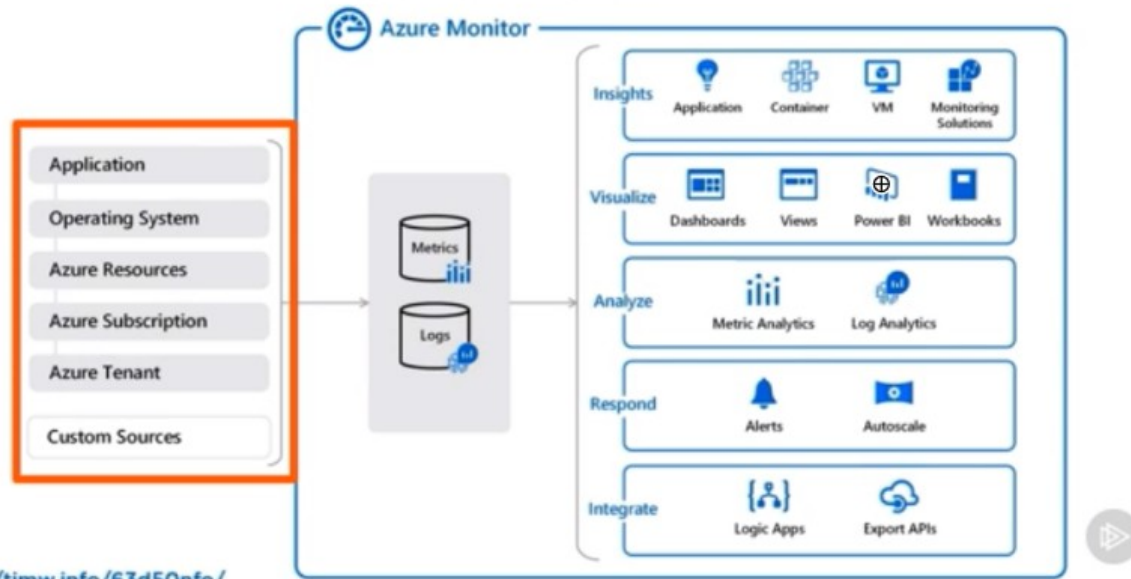
- [Azure Monitor OpenTelemetry](#)
- [Application Insights Profiler](#)
- [Application Insights Smart detection](#)
- [Application Insights AutoInstrumentation](#)
- [Application Insights Funnels](#)
- [Application Insights User Flows](#)
- [Azure Workbooks](#)
- [Application Insights Sampling](#)
- [Azure Monitor Change Analysis](#)

Learning Materials: Google

- [Introducing Stackdriver APM and Stackdriver Profiler](#)
- [Cloud Trace](#) (former Stackdriver Trace)
- [Cloud Logging API](#)
- Cloud Stackdriver Debugger
- Stackdriver Profiler
- Stackdriver Logging API

Big Picture

Azure Monitor Data Sources



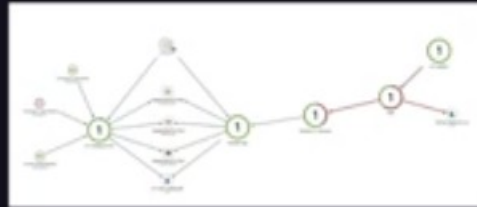
<https://timw.info/63d5Onfo/>

Big Picture



Azure Monitor

- Metrics
- Logs
- Distributed traces
- Changes



Application Insights

- Live metrics and availability
- Usage features and workbooks
- Failure and anomaly detection
- Application Map
- GitHub and Azure DevOps



Instrumenting Applications

- At run time on server
- At development time in code
- On web pages for client side
- Mobile integration with Visual Studio App Center

Application Insights

Application
Insights



Application Performance Management
(APM) service

Visualize application performance[⊕]

- Host telemetry
- Dependencies
- User behavior
- Performance anomalies

Web tests with synthetic transactions



Application Insights Components



Application Insights Components

Smart detection

- Live anomaly detection

Application map

- Visualize dependencies



Profiles

- Execution data for web requests

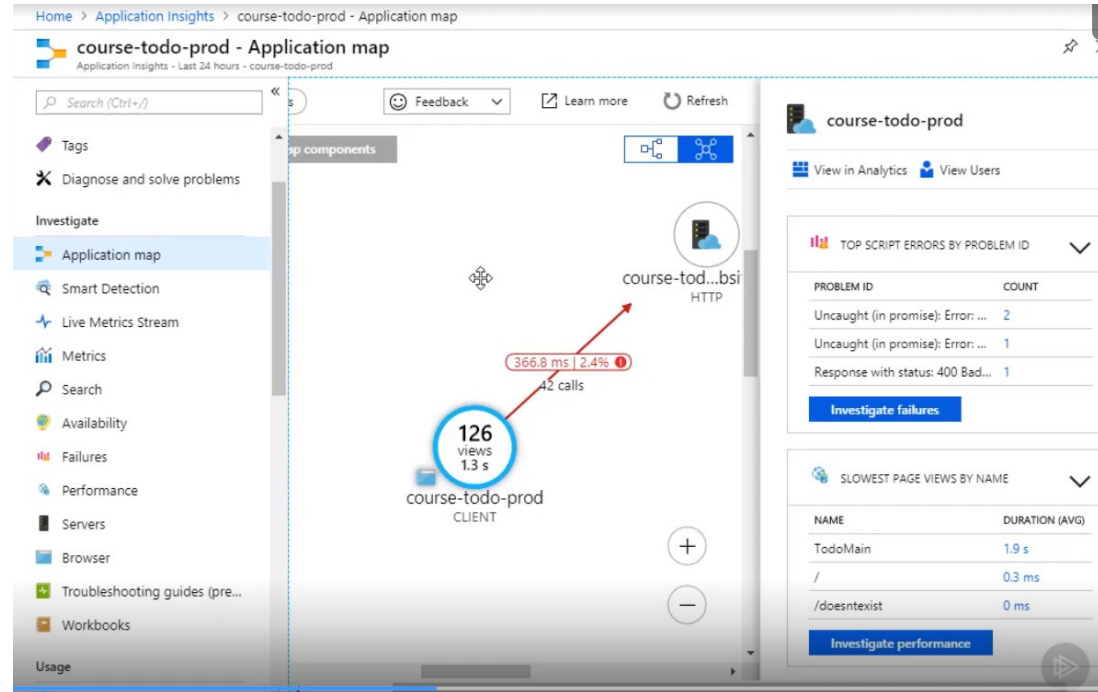
Usage analysis

- User segmentation and retention

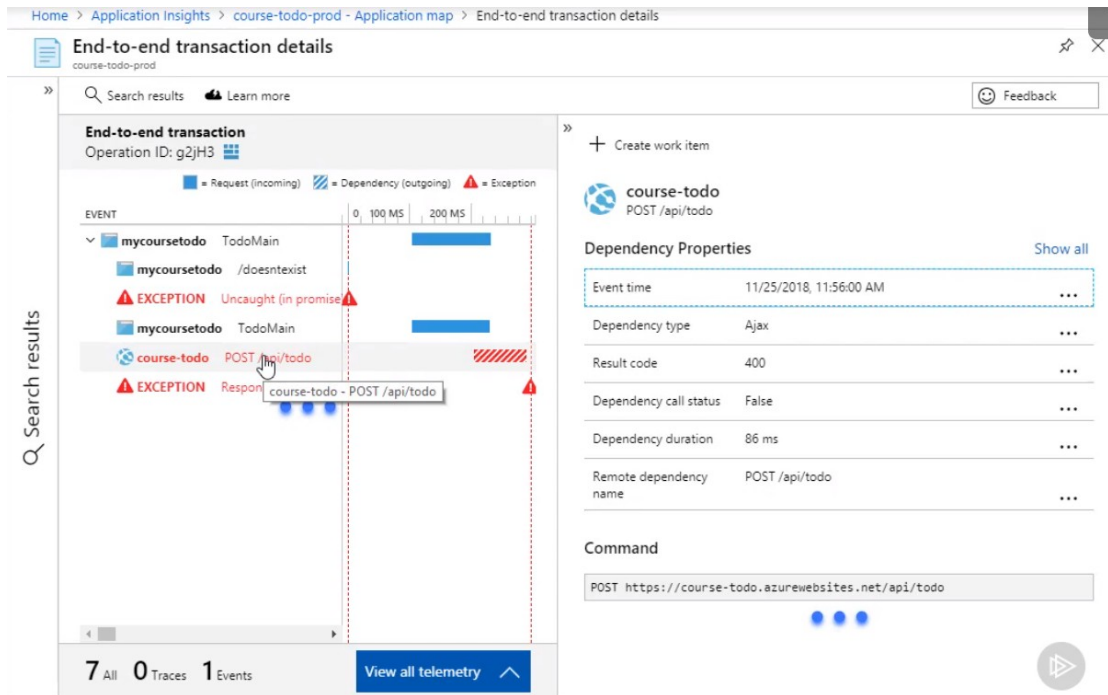
Live metrics

- Stream to dashboards

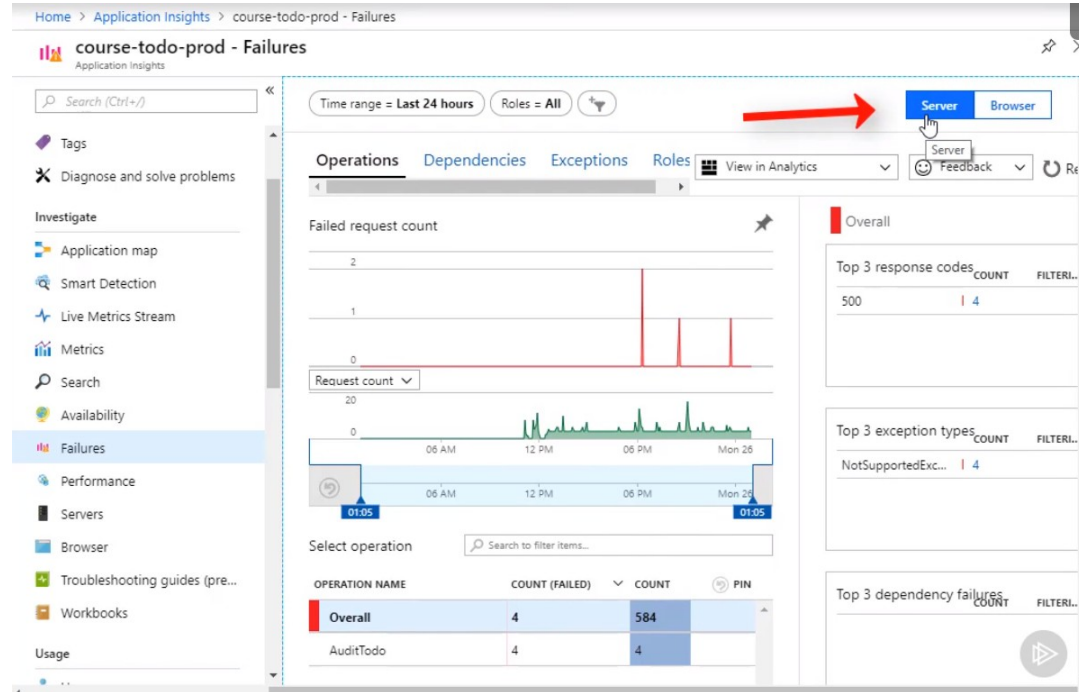
Application Map



Transactions



Distributed Tracing



Querying with KQL

Kusto Query Language (KQL)

```
let StartTime = now()-5d;
let EndTime = now()-4d; //comment
Perf
| where CounterName == "% Processor Time"
| where TimeGenerated > StartTime and TimeGenerated < EndTime
| project TimeGenerated, Computer, cpu=CounterValue
| join kind= inner (
    Perf
    | where CounterName == "% Used Memory"
    | where TimeGenerated > StartTime and TimeGenerated < EndTime
    | project TimeGenerated, Computer, mem=CounterValue
) on TimeGenerated, Computer
| summarize avgCpu=avg(cpu), maxMem=max(mem) by TimeGenerated bin=30m
```



Querying with KQL

- [Kusto Query Language: Getting Started](#)
- [Kusto Query Language: Beginning Operators](#)
- [Kusto Query Language: Scalar Operators](#)
- [Query Azure Monitor Data with the Kusto Query Language](#)
- [Azure Data Explorer - Advanced KQL](#)

URL HTTP Ping and Multi Step Web App Availability Tests

Dashboard > Resource groups > rg-cars-island > appi-cars-island

appi-cars-island | Availability

Application Insights

Search (Ctrl+ /) < > + Add test Refresh View in Logs Feed

Local Time: Last 24 hours

Availability

0.00% 20.00% 40.00% 60.00% 80.00% 100.00%

12:00 PM 06:00 PM Tu

08:45 AM

Select availability test

Search to filter items...

AVAILABILITY TEST	20 MIN	AVAILABILITY	DUR
Overall...	100.00%	71.03%	350

> Get all av... 100.00% 100.00% 238

Create test

Basic Information

Test name *
Give your test a name
[Learn more](#)

Test type
URL ping test

URL *

Parse dependent requests
☐

Enable retries for availability test failures.
☒

Test frequency
5 minutes

Test locations
5 location(s) configured

Success criteria
HTTP response: 200, Test Timeout: 120 seconds

Alerts
Enabled

Azure Shell Integration

[Microsoft Azure Resource Providers](#) available by default in Azure CLI, Powershell and Cloud Shell in Powershell mode (in a Linux container with Microsoft Core and Powershell 6.x+ available within the browser) or bash Mode:

- Microsoft.Insights
- Microsoft.KeyVault
- Microsoft.Web
- Microsoft.Storage

Public Github Projects

The screenshot shows a GitHub search interface with the query 'ApplicationInsights'. The left sidebar contains filters for repository type (Code, Repositories, Issues, Pull requests, Discussions, Users) and programming languages (C#, JavaScript, TypeScript, Java, PowerShell, HTML). The main content area displays three search results, all from the 'microsoft' organization. The first result is 'ApplicationInsights-dotnet' in C#, the second is 'ApplicationInsights-JS' in TypeScript, and the third is 'ApplicationInsights-ServiceFabric' in C#. Each result includes a star button and a 'Save' button. The search results are sorted by 'Best match' and show 387 results in 355 ms.

Filter by

- <> Code 256k
- Repositories 387**
- Issues 11k
- Pull requests 31k
- Discussions 122
- Users 2
- More

Languages

- C#**
- JavaScript
- TypeScript
- Java
- PowerShell
- HTML

387 results (355 ms) Sort by: Best match Save ...

microsoft/ApplicationInsights-dotnet ☆ Star

ApplicationInsights-dotnet

sdk monitoring azure application-insights logging

C# · ☆ 527 · Updated 9 days ago

microsoft/ApplicationInsights-JS ☆ Star

Microsoft Application Insights SDK for JavaScript

javascript typescript sdk monitoring analytics

TypeScript · ☆ 599 · Updated 19 hours ago

microsoft/ApplicationInsights-ServiceFabric ☆ Star

ApplicationInsights SDK for ServiceFabric projects

C# · ☆ 62 · Updated on Nov 28, 2022

Public Github Projects - Azure

Publicly Released SDKs (Server, Client and Mobile), Utilities, Frameworks:

- ApplicationInsights-iOS
- ApplicationInsights-Android
- ApplicationInsights-Xamarin
- opentelemetry-azure-monitor-js
- ApplicationInsights-Kubernetes
- ApplicationInsights-Docker

- ApplicationInsights-dotnet
- ApplicationInsights-JS
- ApplicationInsights-Java
- ApplicationInsights-node.js
- ApplicationInsights-aspnetcore
- ApplicationInsights-PHP
- ApplicationInsights-Python
- ApplicationInsights-Ruby
- ApplicationInsights-Go
- applicationinsights-angularplugin-js
- applicationinsights-react-js
- Applicationinsights-react-native

owner:microsoft ApplicationInsights = 40+ projects

ApplicationInsights = 340 projects

Public Github Projects - GCP

GoogleCloudPlatform repository:

- cloud-profiler-python
- cloud-profiler-java
- cloud-trace-java
- cloud-debug-java
- cloud-debug-python
- google-cloud-dotnet-debugger
- opentelemetry-operations-python
- opentelemetry-operations-js
- opentelemetry-operations-go
-
- snapshot-debugger
- gke-tracing-demo
- cloud-trace-java-instrumentation
- healthcare-data-harmonization
- cloud-logging-data-source-plugin
- opentelemetry-operations-collector
- Stackdriver-errors-js
- stackdriver-metrics-export

search through 1.5k project titles, not very effective

Releases and Compatibility

GitHub - microsoft/applicationinsights-angularplugin-js

github.com/microsoft/applicationinsights-angularplugin-js

README.md

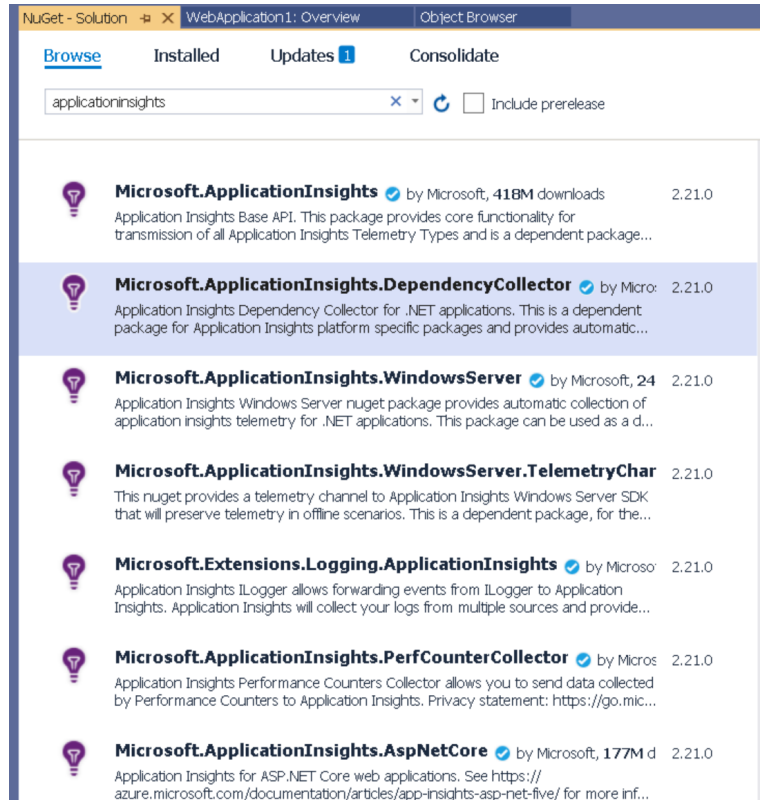
Compatibility Matrix

As part of updating to support [ApplicationInsights 3.x](#) we will be bumping the major version number of this extension to match the major version of the supported Angular version (which will be v14.x for the first release).

Additionally, as part of this change the existing v3.x extension has been moved into the [release3.x branch](#)

Version	Application Insights	Angular	Branch
14.0.0	TBD (^3.x)	peer: ^14.0.3	main
3.0.3	^2.8.14	peer: ^14.0.3	release3.x
3.0.2	^2.8.12	peer: ^14.0.3	main
3.0.1	^2.8.10	peer: ^14.0.3	main
3.0.0	^2.8.5	peer: ^14.0.3	main
2.9.2	^2.8.5	peer: ^13.0.3	main (Angular v13 support archived to Angular13 branch)
2.9.1	~2.8.2	peer: ^13.0.3	main
2.9.0	~2.8.1	peer: ^13.0.3	main
2.8.1	~2.7.4	peer: ^13.0.3	main
2.8.0	^2.7.3	peer: ^13.0.3	main
2.7.2	~2.7.5	peer: ^11.0.6	Angular11

Visual Studio IDE



Non Cloud Products



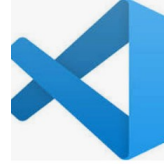
Android Studio



Firebase



Google Big Table



Visual Studio Code



Nuget



Visual Studio



Xamarin



SQL Server