



Software

FOR MARKET LEADERS

prodot GmbH

Full-Stack Monitoring mit Azure Application Insights



23.01.2018



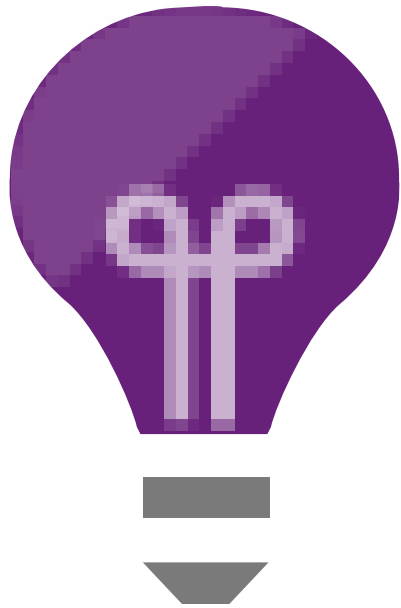
Agenda

- Azure Application Insights – Ein Überblick
- Full-Stack Monitoring
- Demos
- Multi-Component
- Versioning



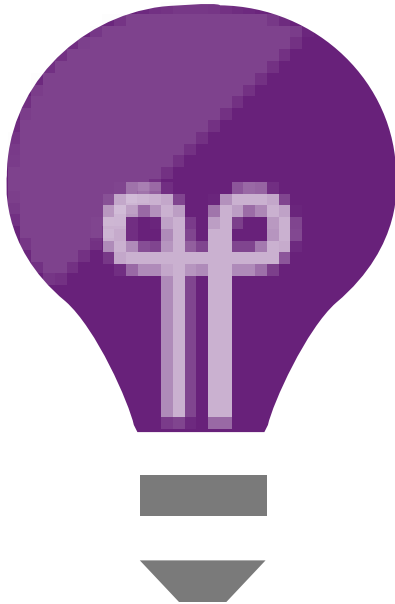


Azure Application Insights



Monitoring

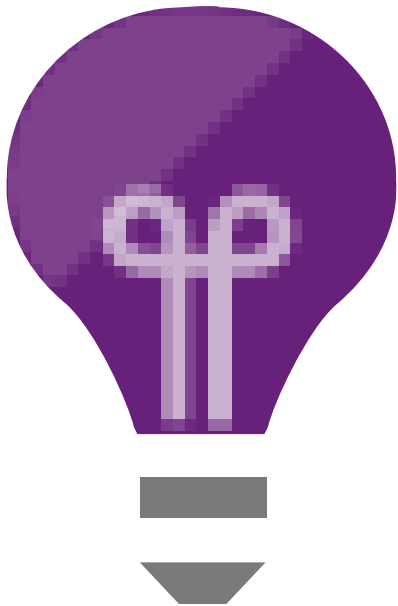
Log-Files reichen doch!



Monitoring

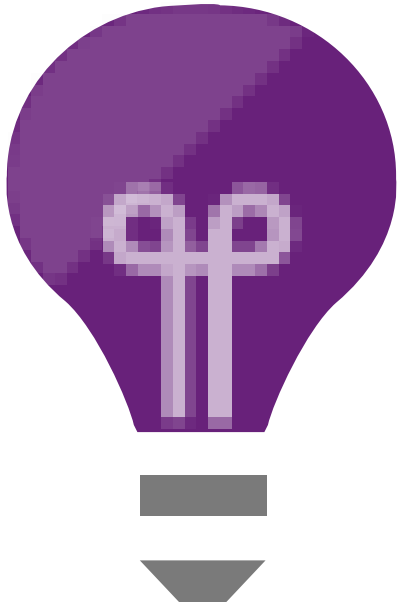
Log-Files reichen doch!

- Re-aktiv, nicht Pro-aktiv
- Schwer zu durchsuchen
- Erzeugt potenziell eine hohe zusätzliche Last
- Schwierig in Managed- oder Serverless-Umgebungen
- Schlechte Integration mit Abhängigkeiten (Datenbanken, externe Dienste, ...)
- Erfordert zur Auswertung zusätzliche Tools



Application Insights

Was ist das überhaupt?



Application Insights

Was ist das überhaupt?

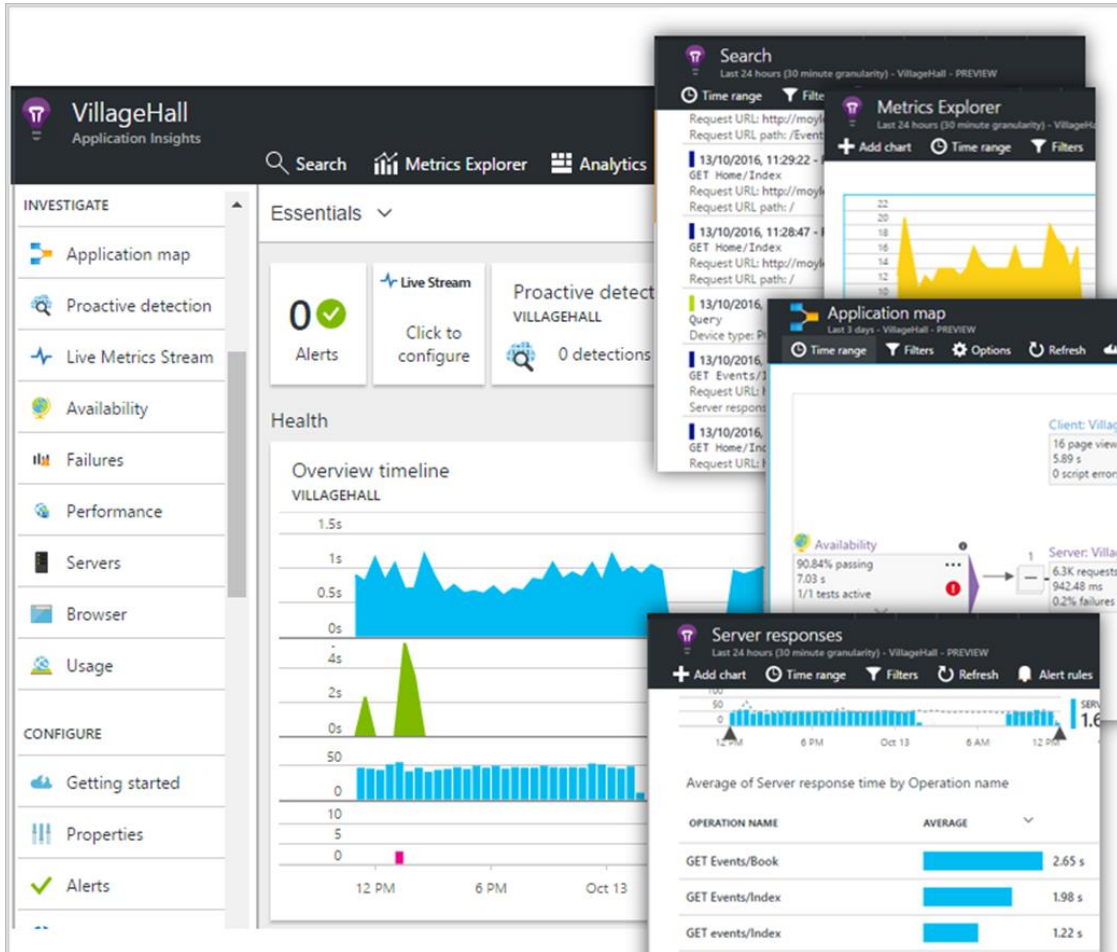
*“Application Performance
Management Service”*

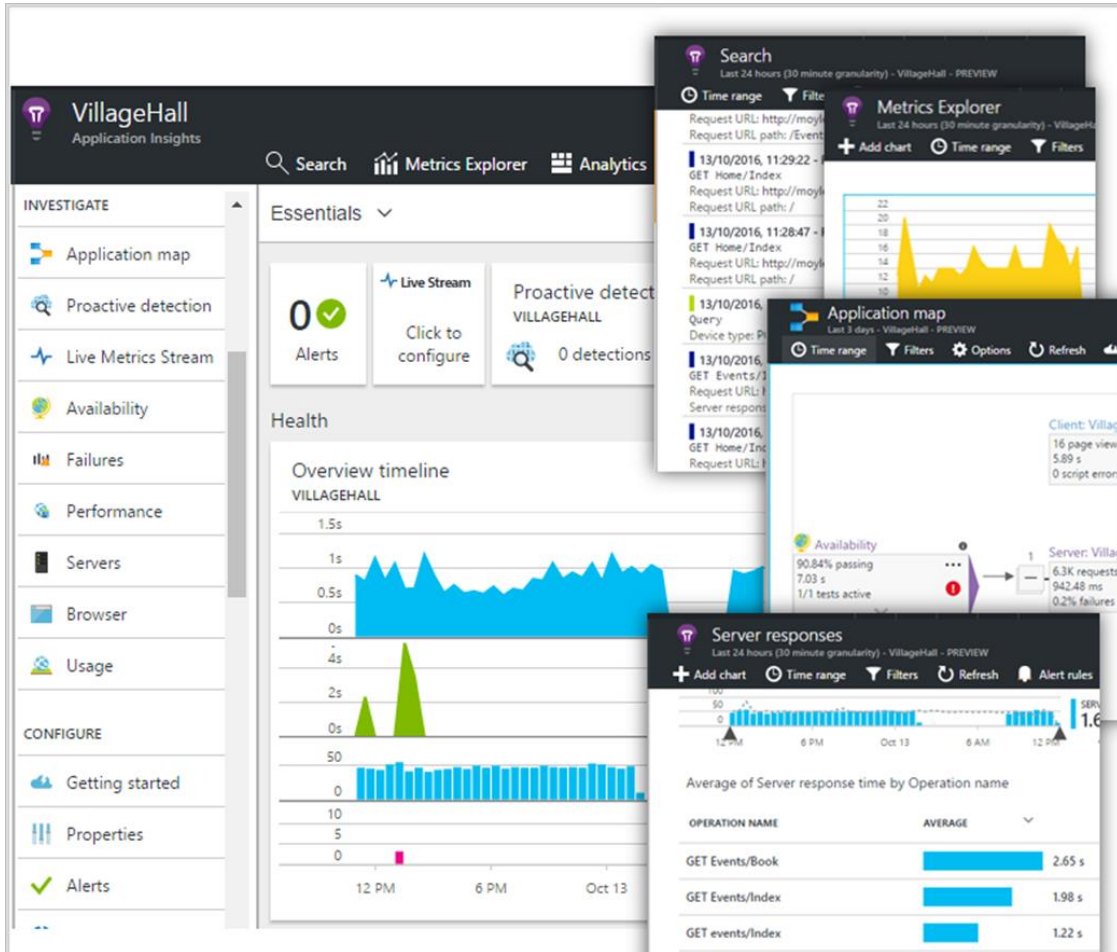
- Azure Application Insights Documentation



Application Insights

Ein Überblick



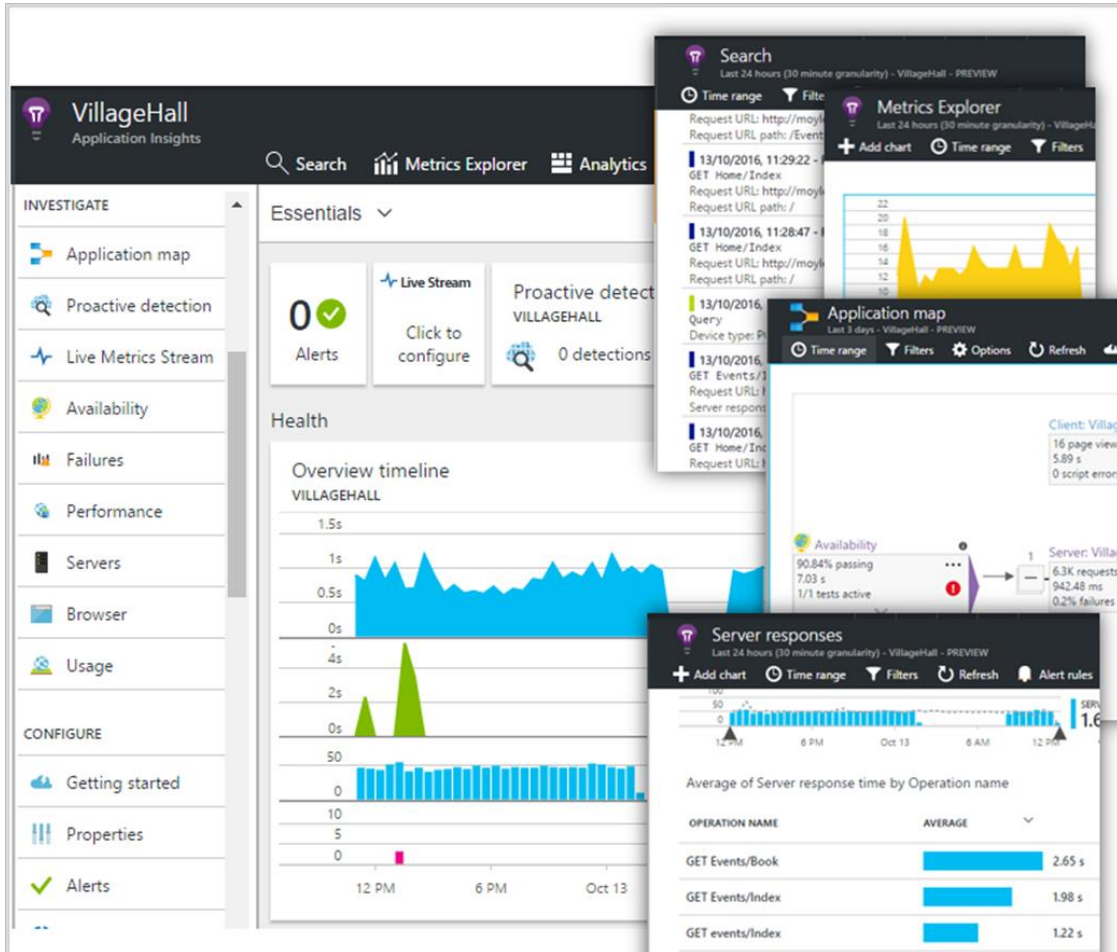


Application Insights

Ein Überblick

- Sammeln von Telemetrie

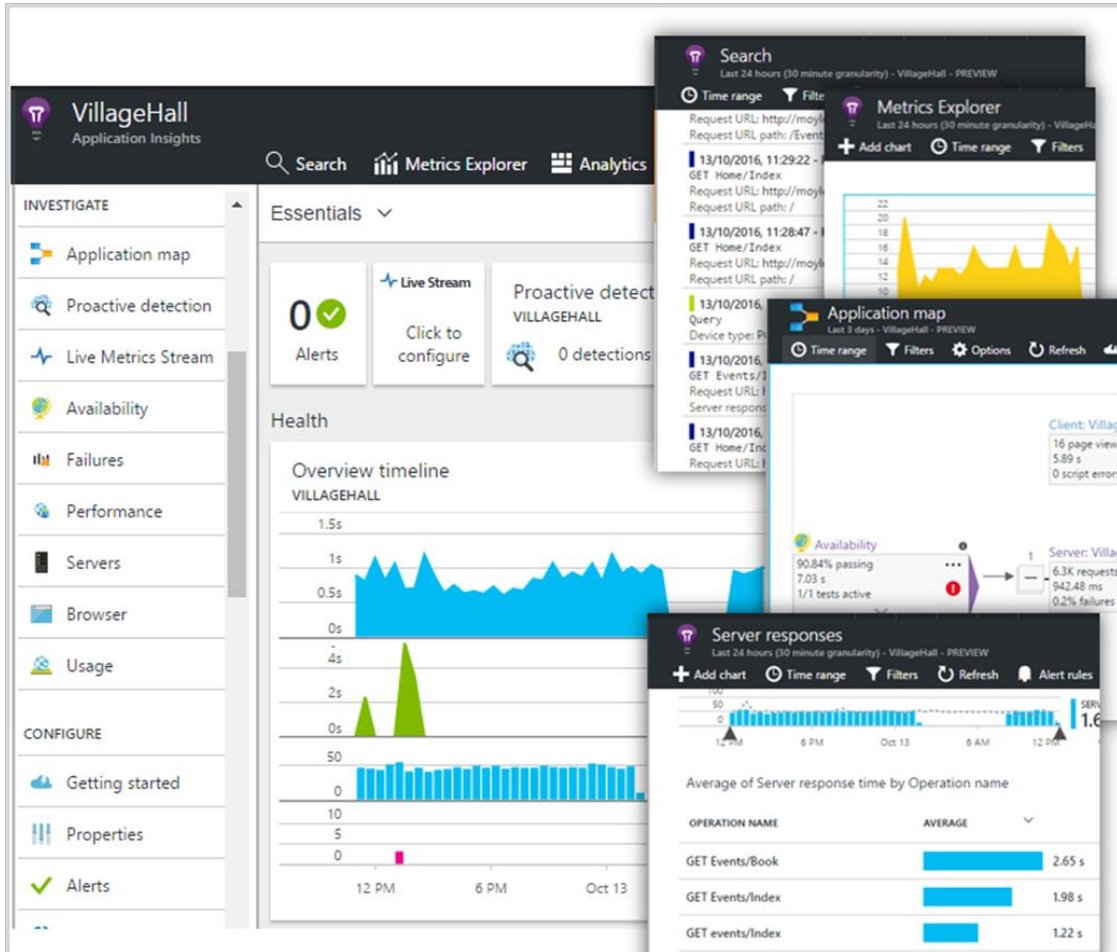




Application Insights

Ein Überblick

- Sammeln von Telemetrie
- Überwachen der Anwendung(en)

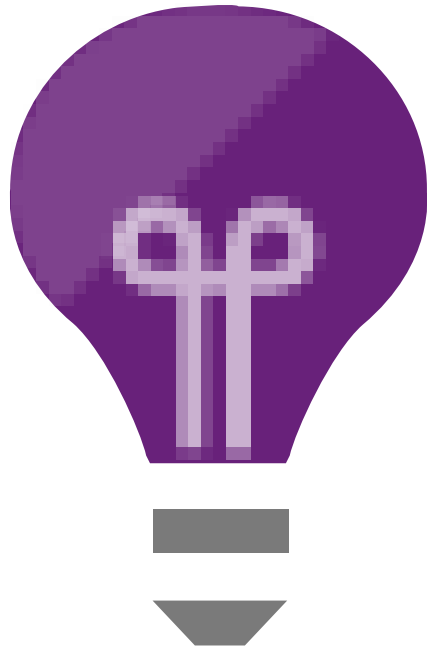


Application Insights

Ein Überblick

- Sammeln von Telemetrie
- Überwachen der Anwendung(en)
- Auswerten der Daten

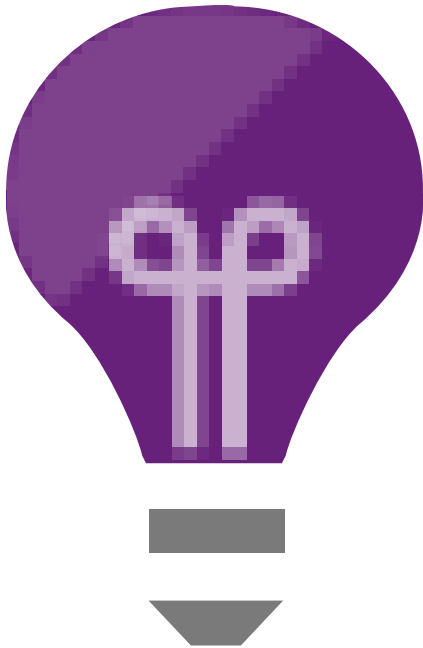




Application Insights

Telemetry - Performance

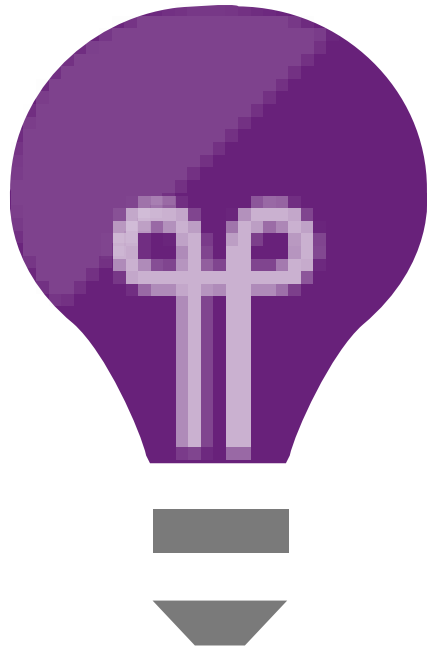
- Request rates/times
- Dependency rates/times
- Ajax-Request rates/times
- Host Performance



Application Insights

Telemetry - Reliability

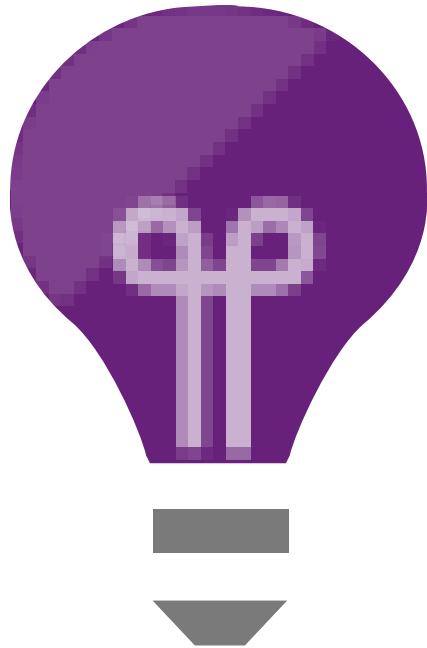
- Server/Client Exceptions
- Performance Counters
- Host diagnostics
- Logs



Application Insights

Telemetry - Usability

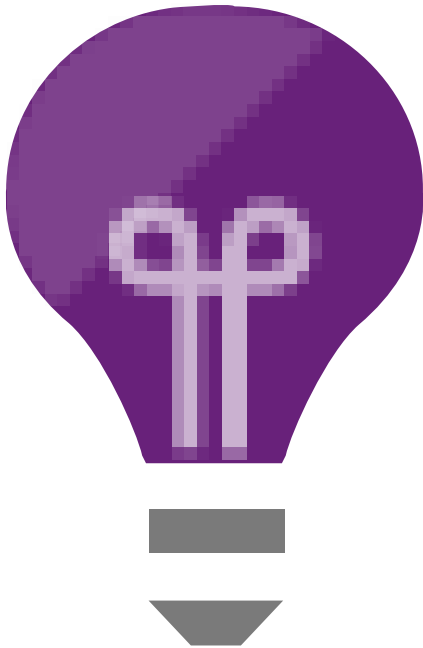
- Page views
- Page performance
- User/Session counts



Application Insights

Überwachen

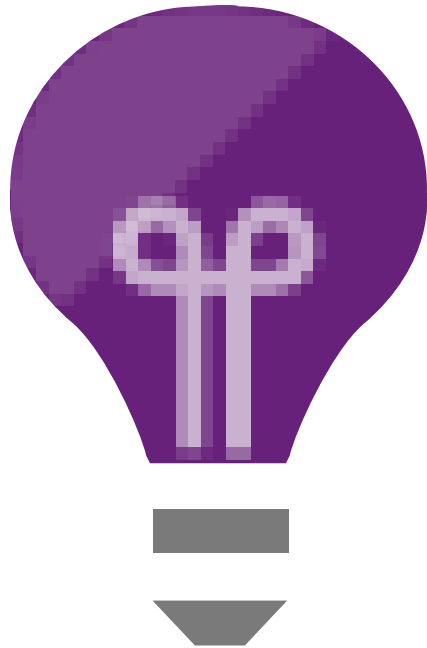
- Alarme
 - Portal
 - Mail
 - Webhooks
- Smart Detection
- Availability/Performance Tests



Application Insights

Auswerten

- Dashboards
- Reports
- Live Metrics Stream
- Analytics
- Application Map



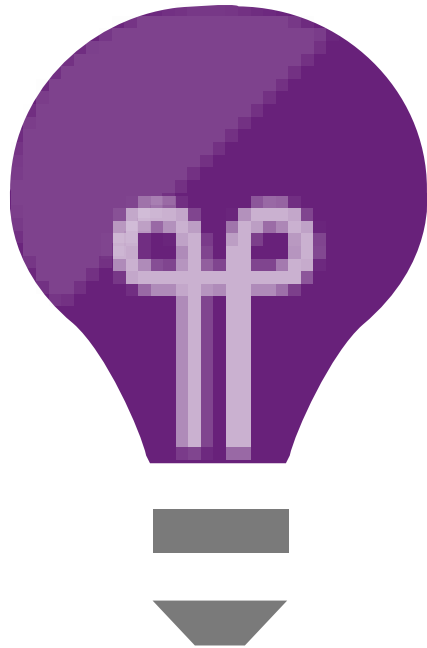
Application Insights

Und vieles mehr...

- Integrationen in
 - Visual Studio (Code)
 - Eclipse
 - ...
- DevOps mit VSTS
- REST-APIs



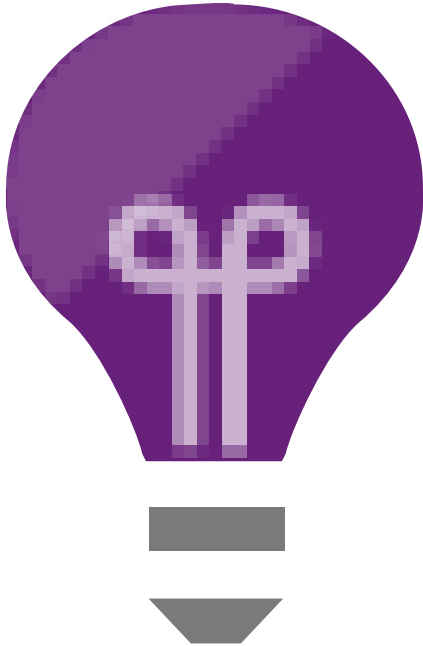
Full-Stack Monitoring



Application Insights

Full-Stack - Server

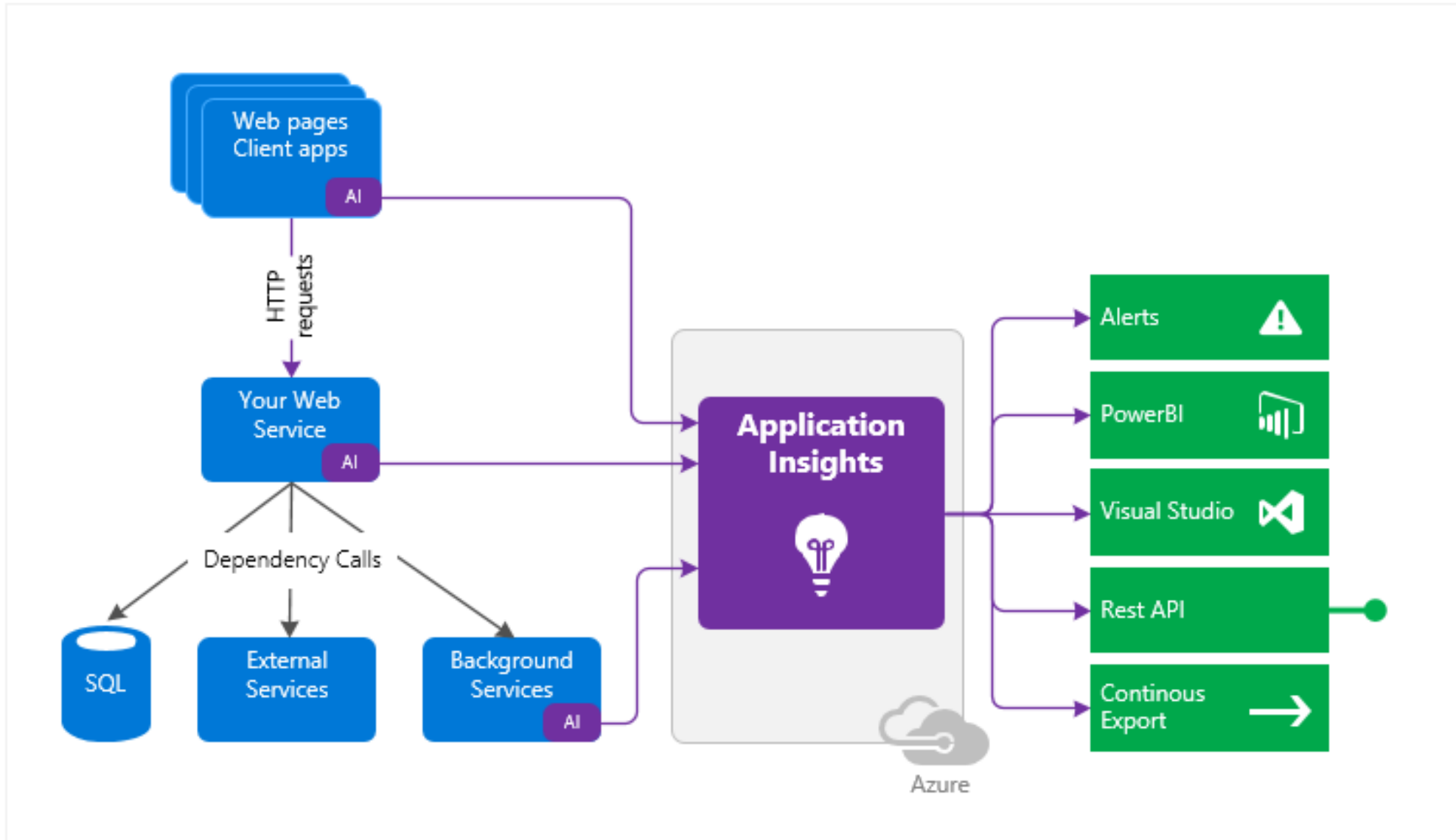
- ASP.NET (Core)
- Java
- NodeJs
- Service Fabric
- Docker
- .NET-Framework



Application Insights

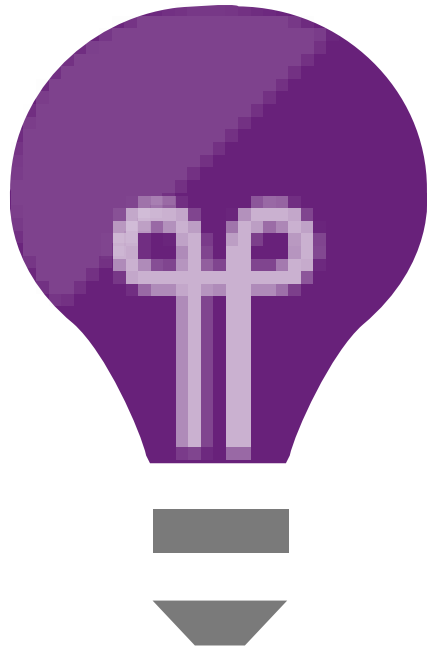
Full-Stack - Client

- Javascript – Single Page Applications
- .NET-Framework
- NodeJs
- Java
- UWP/WPF*
- Xamarin – Mobile*



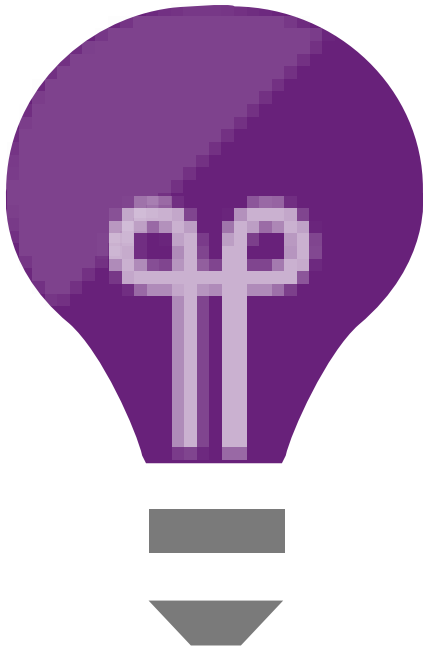
Application Insights – Wie funktioniert es?





Application Insights

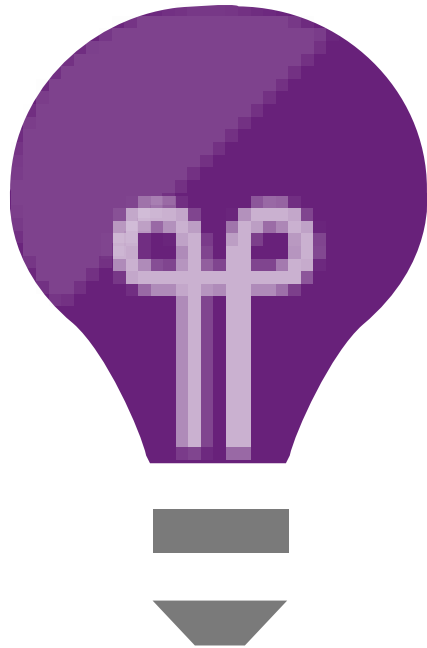
SDK – In drei Schritten



Application Insights

SDK – In drei Schritten

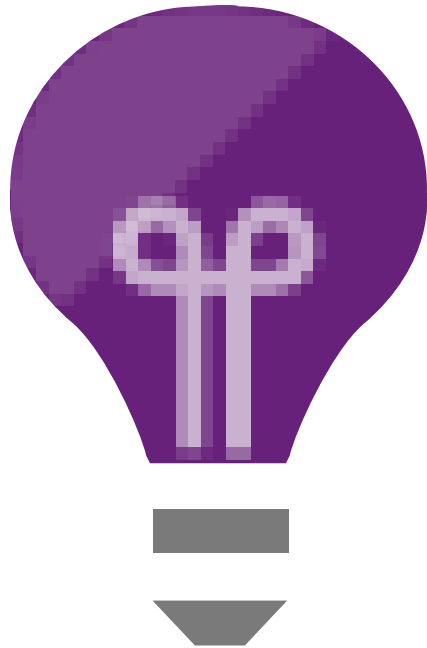
- Installieren des SDK über
 - Nuget
 - Npm
 - Azure Portal



Application Insights

SDK – In drei Schritten


- Installieren des SDK über
 - Nuget
 - Npm
 - Azure Portal
- Konfigurieren des Instrumentation Keys



Application Insights

SDK – In drei Schritten

- Installieren des SDK über
 - Nuget
 - Npm
 - Azure Portal
- Konfigurieren des Instrumentation Keys
- Anpassen/Erweitern über eigene Events/Metriken



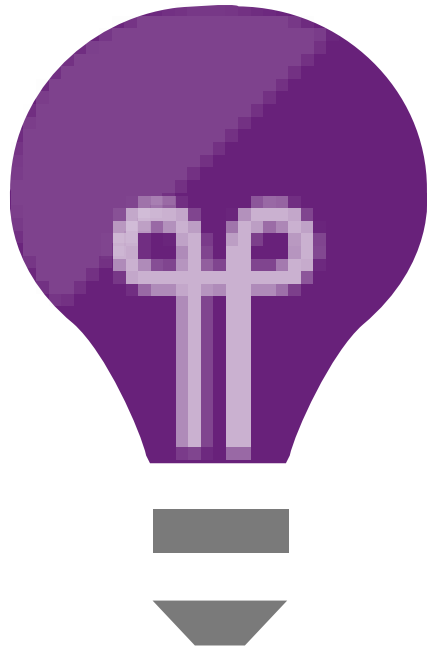
Demo
Rest API



Demo
Single Page
Application



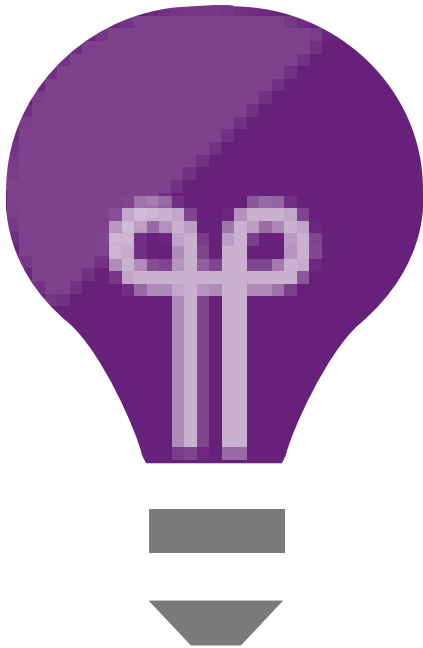
Multi-Component Monitoring



Application Insights

Wie viele Application Insights Instanzen braucht man?

- Bisher eine Instanz
 - pro Komponente
 - pro Umgebung (Dev, Staging, Production)



Application Insights

Wie viele Application Insights Instanzen braucht man?

- Zukünftig (Preview)
 - Nur noch eine Instanz pro Umgebung
 - cloud_Role- und
 - cloud_RoleInstance-Parameter

Application Insights

Multi-Component Monitoring

```
public class MultiComponentTelemetryInitializer : ITelemetryInitializer
{
    public void Initialize(ITelemetry telemetry)
    {
        var requestTelemetry = telemetry as RequestTelemetry;
        if (requestTelemetry?.Context?.Cloud == null)
        {
            return;
        }

        requestTelemetry.Context.Cloud.RoleName = "Web API";
        requestTelemetry.Context.Component.Version = "v0.1.0";
    }
}
```

Application Insights

Multi-Component Monitoring – Startup.cs

```
public void Configure(IApplicationBuilder app, IHostingEnvironment env)
{
    if (env.IsDevelopment())
    {
        app.UseDeveloperExceptionPage();
    }

    var initializer = new MultiComponentTelemetryInitializer();
    var configuration = app.ApplicationServices.GetService<TelemetryConfiguration>();
    configuration.TelemetryInitializers.Add(initializer);

    app.UseMvc();
}
```




Versionierung

Application Insights

Versioning via Telemetry_INITIALIZER – app.module.ts

```
constructor() {  
  AppInsights.downloadAndSetup(this.config);  
  
  AppInsights.queue.push(() => {  
    AppInsights.context.addTelemetryInitializer(envelope => {  
      const telemetryItem = envelope.data.baseData;  
      const context: Microsoft.ApplicationInsights.ITelemetryContext = AppInsights.context;  
  
      context.application.ver = 'v0.0.1';  
      envelope.tags['ai.cloud.role'] = 'Meetup SPA';  
    });  
  });  
}
```



Github



[Demo @ Github.com](https://github.com/pseudorng)

Twitter



[@pseudorng](https://twitter.com/pseudorng)



Thank you.

People. Passion. **Performance.**



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