

Activate Azure with Application Insights

POC Deployment Guide

May 23, 2023

Version 1.0

MICROSOFT MAKES NO WARRANTIES, EXPRESS OR IMPLIED, IN THIS DOCUMENT.

Complying with all applicable copyright laws is the responsibility of the user. Without limiting the rights under copyright, no part of this document may be reproduced, stored in or introduced into a retrieval system, or transmitted in any form or by any means (electronic, mechanical, photocopying, recording, or otherwise), or for any purpose, without the express written permission of Microsoft Corporation.

Microsoft may have patents, patent applications, trademarks, copyrights, or other intellectual property rights covering subject matter in this document. Except as expressly provided in any written license agreement from Microsoft, our provision of this document does not give you any license to these patents, trademarks, copyrights, or other intellectual property.

The descriptions of other companies' products in this document, if any, are provided only as a convenience to you. Any such references should not be considered an endorsement or support by Microsoft. Microsoft cannot guarantee their accuracy, and the products may change over time. Also, the descriptions are intended as brief highlights to aid understanding, rather than as thorough coverage. For authoritative descriptions of these products, please consult their respective manufacturers.

© 2018 Microsoft Corporation. All rights reserved. Any use or distribution of these materials without express authorization of Microsoft Corp. is strictly prohibited.

Microsoft and Windows are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

The names of actual companies and products mentioned herein may be the trademarks of their respective owners.

Contents

1	Introduction	4
1.1	Objectives.....	4
1.2	Prerequisites	4
1.3	Estimated Time to Complete	4
1.4	Scenario.....	4
2	Exercise 1: Download and run sample application	5
2.1	Create Application Insight Azure resource.....	5
2.2	Running the application	8
3	Exercise 2: Integrating with Application Insights	8
3.1	Setup Application Insights for PartUnlimited	9
3.2	Setup Application Insights authenticated users monitoring	13
3.3	Running the application	14
4	Exercise 3: Examining Application Insights Usage Analysis.....	20
4.1	Examining Users, Sessions and Events.....	20
4.1.1	Users.....	20
4.1.2	Sessions.....	23
4.1.3	Events	25
4.2	Examining Funnels	26
4.3	Examining User Flows.....	28
4.4	Examining Impact.....	31
4.5	Creating Cohort.....	33
4.6	Viewing Workbook	37

1 Introduction

In this lab you will integrate Azure Application Insights into the existing application.

1.1 Objectives

After completing this lab, you will be able to:

- Deploy Azure Application Insights into the existing ASP.NET Core application
- Implement application Usage Analysis in Azure Application Insights

1.2 Prerequisites

- Microsoft Azure Subscription
- Internet Connectivity
- Visual Studio 2022 / 2019
- Access to Azure Portal
- Hands-on experience developing ASP.NET Core applications
- Basic understanding of Azure and its application development model

1.3 Estimated Time to Complete

This lab should take up to **two hours** depending on prior Azure knowledge and familiarity with Azure Portal and Visual Studio.

1.4 Scenario

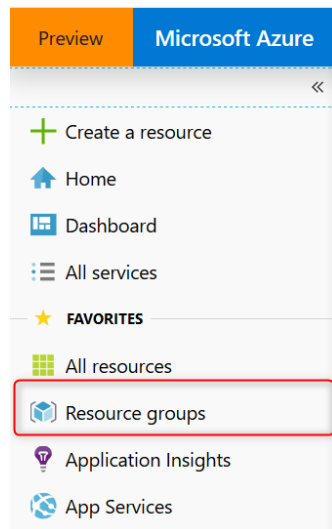
To demonstrate the capabilities of the Azure Application Insights, we will be deploying a number of features that will touch on Azure application monitoring capabilities. This will include integrating sample application with Azure Application Insights. We will then explore application usage analysis features of Azure Application Insights.

2 Exercise 1: Download and run sample application

For the first exercise in this lab, we will be reusing an existing application to use as a baseline for Application Insights integration

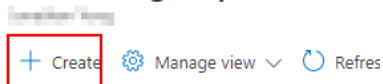
2.1 Create Application Insight Azure resource

1. Log on to the Azure Portal: <https://portal.azure.com>
2. Click on Resource Groups



3. Click **Create** and then name your group **PartsUnlimited_RG** and create it in **East US**.
When you're done, click **Create**.

Resource groups



Showing 1 to 21 of 21 records.

[Basics](#) [Tags](#) [Review + Create](#)

Resource group - A container that holds related resources for an Azure solution. The resource group can include all the resources for the solution, or only those resources that you want to manage as a group. You decide how you want to allocate resources to resource groups based on what makes the most sense for your organization. [Learn more](#)

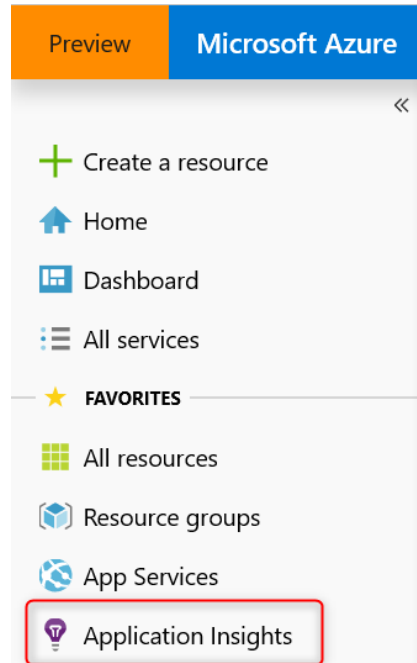
PROJECT DETAILS

* Subscription	Consumption interne Microsoft Azure
* Resource group	PartsUnlimited_RG

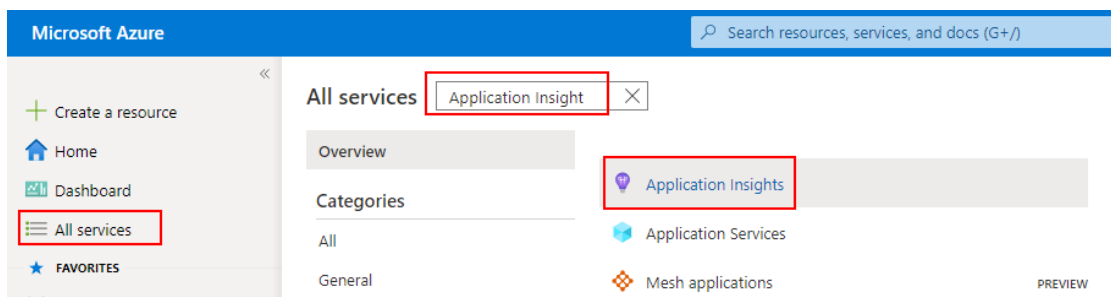
RESOURCE DETAILS

* Region	East US
----------	---------

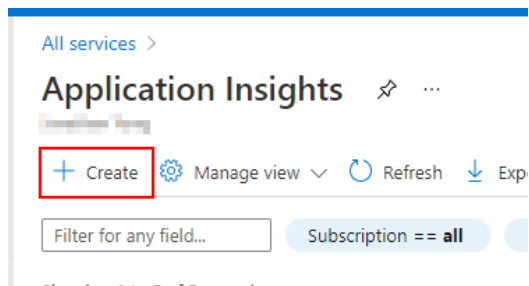
- Now that your resource group has been created, we can now create your Application Insights instance. Begin by clicking on **Application Insights** in your favorite's menu.



Note: If you don't see a particular option in the menu, click on **All Services** to find those that aren't in the favorites. You can then add them to you favorites by clicking on the star next to its name.



- Click **Create** to create an Application Insight resource.



6. Select the resource group you just created. Name the application insight "PartsUnlimitedAppInsight", select **East US** for the Region. Click **Create**.

PROJECT DETAILS

Select a subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription * ⓘ

Resource Group * ⓘ [Create new](#)

INSTANCE DETAILS

Name * ⓘ ✓

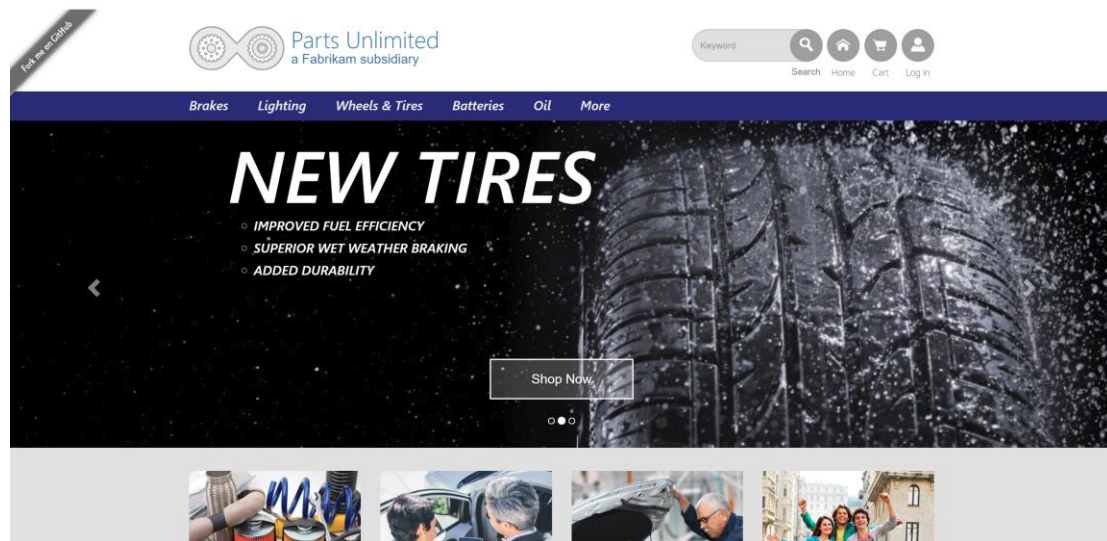
Region * ⓘ ✓

2.2 Running the application

1. Open the Visual Studio solution of modified Parts Unlimited ASP.NET Core application supplied with the lab materials (PartsUnlimited.sln)
2. Run the application



3. Explore the application, browse the catalog and add some products to the shopping cart.



3 Exercise 2: Integrating with Application Insights

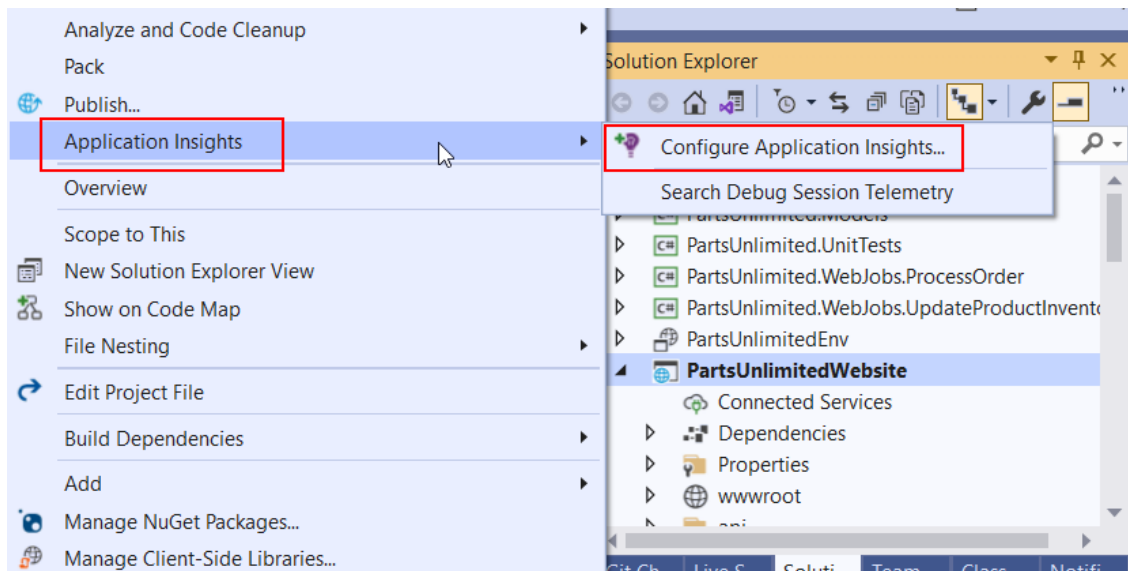
Application Insights is an extensible Application Performance Management service for web developers on multiple platforms and can be used to monitor your live web application and automatically detect performance anomalies.

Azure Application Insights also helps you gain deep understanding into how people use your app. Every time you update your app, you can assess how well it works for users. With this knowledge, you can make data driven decisions about your next development cycles.

3.1 Setup Application Insights for PartUnlimited

For this exercise, we will examine how to update Parts Unlimited application source code to integrate with Application Insights to enable usage analysis data collection.

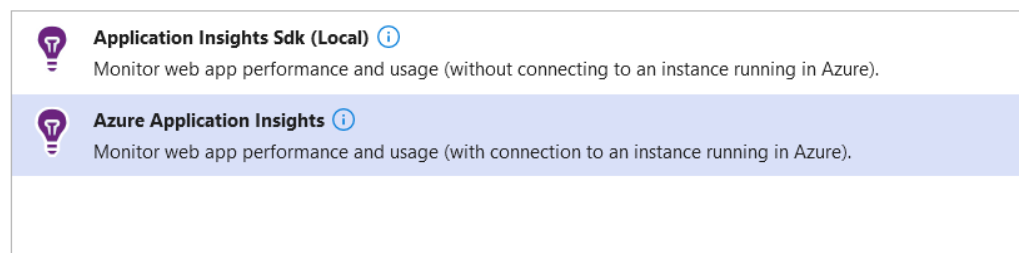
1. From Visual Studio solution Explorer tab, right click the **PartUnlimitedWebsite** project. Select "**Application Insights | Configure Application Insights ...**" option.



2. Select the **Azure Application Insights** and click **Next**.

Configure dependency

Select a service dependency to add to your application.



3. Select the Azure subscription where you previously create the Application Insight resource and the Application Insights instance you created. Click **Next**.

Configure Azure Application Insights

Select a service dependency to add to your application.

Microsoft account
dianmar_gmail@hotmail.com

Subscription name

Windows Azure RM:US - Visual Studio Ultimate

Application Insights instances

Name	Resource group	Location
PartsUnlimitedAppInsight	PartsUnlimited_RG	East US
aspnetcoreauthenticationfacebook	DevOps_AzureRM_Storage	South Central US
aspnetcoreauthenticationgoogle	DevOps_AzureRM_Storage	South Central US
aspnetcoreauthenticationmicrosoftaccount	DevOps_AzureRM_Storage	South Central US
aspnetcoreauthenticationopenidconnect	DevOps_AzureRM_Storage	South Central US

- In the Configure Azure Application Insights dialog, select **Local user secrets files**, click **Next**. Click **Finish**.

Configure Azure Application Insights

Provide connection string name and specify how to save it

Connection string name

APPINSIGHTS_CONNECTIONSTRING

Connection string value

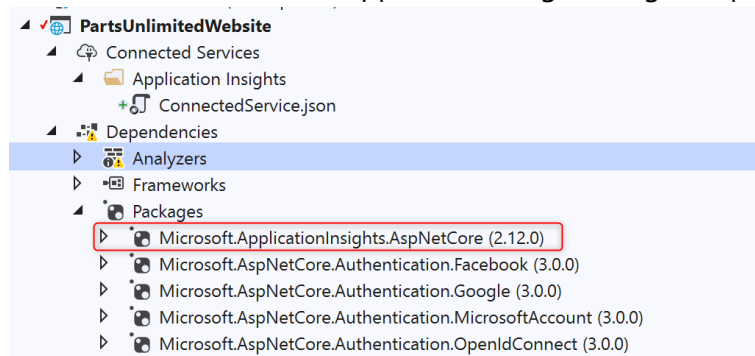
Tip: avoid pasting application secrets directly into your code.

Save connection string value in [Learn more](#)

☒ Local user secrets file

☐ None

- Let highlight the modifications that has been done by the Application Insights integration tool
 - Check the "PartsUnlimitedWebsite" for Application Insights Nuget Dependencies



- Check the configuration file "appsettings.config" for the Application Insights Instrumentation key.

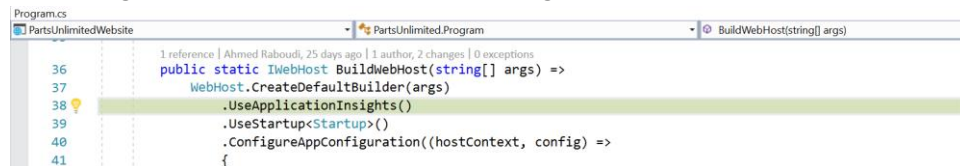


```

1  {
2    "ApplicationInsights": {
3      "InstrumentationKey": "e4fb1fd0-c480-4676-b38a-XXXXXXXXXXXX"
4    }
5  }

```

- Check the Program.cs file for **Server** monitoring



```

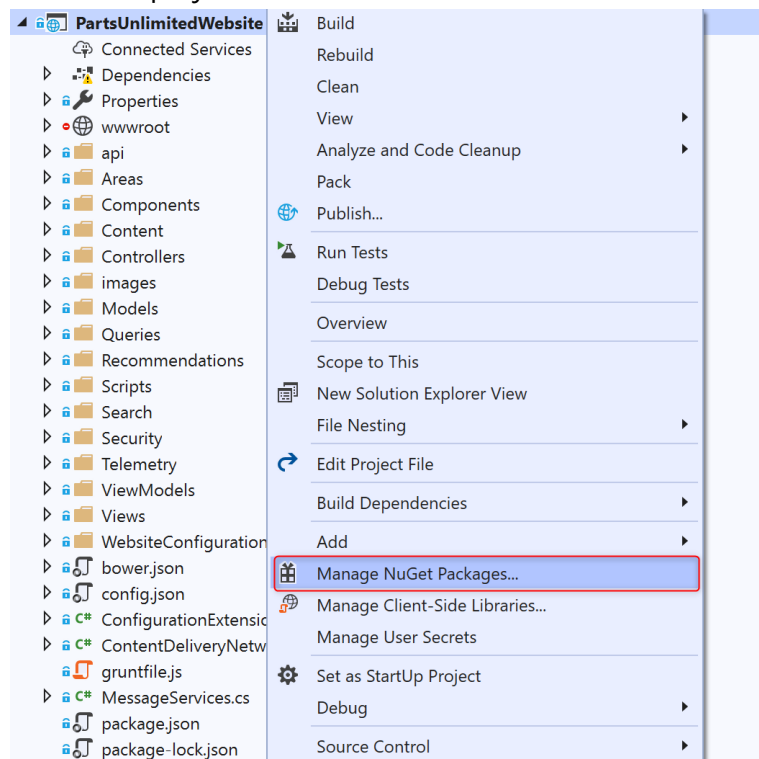
36 public static IWebHost BuildWebHost(string[] args) =>
37     WebHost.CreateDefaultBuilder(args)
38         .UseApplicationInsights()
39         .UseStartup<Startup>()
40         .ConfigureAppConfiguration((hostContext, config) =>
41         {

```

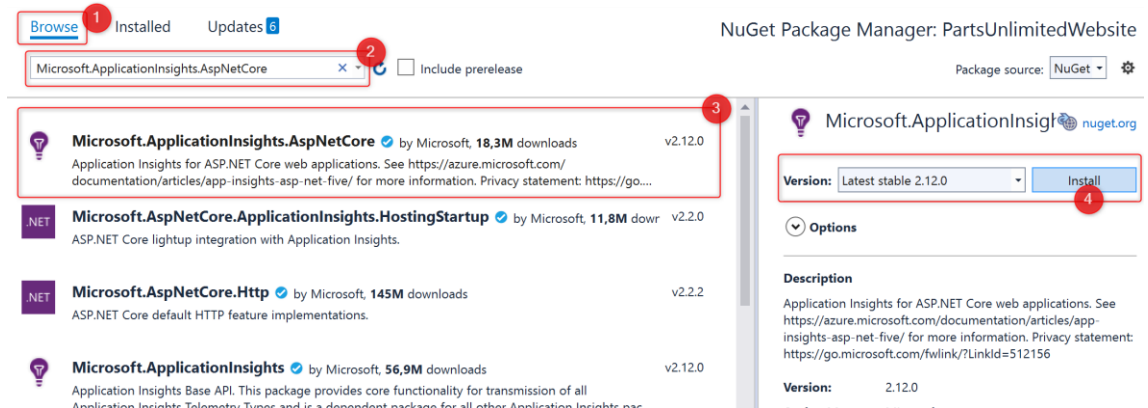
Note:

If you experience an error regarding restoring “[Microsoft.ApplicationInsights.AspNetCore](#)” nuget package then follow those steps:

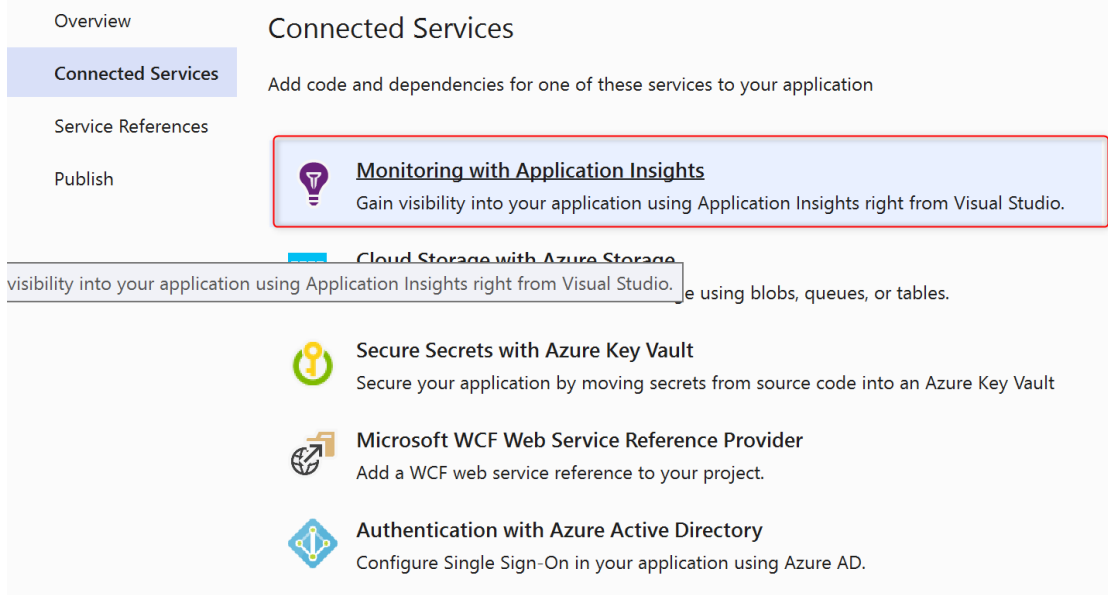
- Manually add the “[Microsoft.ApplicationInsights.AspNetCore](#)” nuget package to the “PartUnlimitedWebsite” project



- Browse for the package “[Microsoft.ApplicationInsights.AspNetCore](#)” and install the latest version.



- Click "Save All" option under "File" top menu.
- Right click on the "PartUnlimitedWebsite" project on the Solution Explorer view. Click the "Add" option, select the "Connected Service" option and click on "Monitoring with Application Insights"



- Repeat the steps from 2 to 5 to setup Application Insights
6. Lets add the additional necessary code to enable application insight to capture the telemetry from your application. Open **Views/Shared/_Layout.cshtml** under the "PartsUnlimitedWebsite" project, add the following code to the top of the file.

```
@inject Microsoft.ApplicationInsights.AspNetCore.JavaScriptSnippet JavaScriptSnippet
```
 7. Add the following code after `@await Component.InvokeAsync("Configuration")`.

```
@Html.Raw(JavaScriptSnippet.FullScript)
```

```

1  @inject Microsoft.ApplicationInsights.AspNetCore.JavaScriptSnippet JavaScriptSnippet
2  @using System.Globalization
3  @using PartsUnlimited
4  @using Microsoft.DotNet.InternalAbstractions
5
6  <!DOCTYPE html>
7  <html lang="en">
8  <head>
9      <meta charset="utf-8" />
10     <meta name="viewport" content="width=device-width, initial-scale=1.0">
11     <link rel="Icon" href="/images/favicon.ico" />
12     <title>@ViewBag.Title - Parts Unlimited</title>
13     @await Component.InvokeAsync("Configuration")
14     @Html.Raw(JavaScriptSnippet.FullScript)
15

```

3.2 Setup Application Insights authenticated users monitoring

For this exercise, we will examine how to update Parts Unlimited application source code to enhance usage analysis data collection for authenticated users.

1. Open the file **Views/Shared/_login.cshtml** under the "PartsUnlimitedWebsite" project.

- Add the following at the beginning of the file:

```
@using System.Security.Claims
```

- Add this code to the end of the authenticated section:

```

<script>
    appInsights.setAuthenticatedUserContext("@User.FindFirstValue(ClaimTypes.NameIdentifier)");
</script>

```

- The _Login.cshtml should look like that after you have finished your modifications

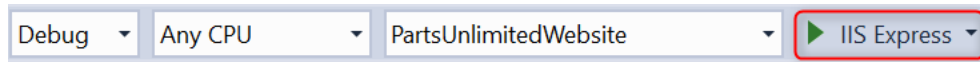
```

1  @using System.Security.Claims
2  @if (User.Identity.IsAuthenticated)
3  {
4      var isNtlm = User.Identity.AuthenticationType == "NTLM";
5
6      <li class="dropdown">
7          <a href="@Url.Action("Index", "Store")" id="profile-link" class="dropdown-toggle head-link" data-toggle="dropdown">
8              <ul class="dropdown-menu">
9                  <li>@Html.ActionLink("Manage Account", "Index", "Manage", routeValues: null, htmlAttributes: new { title = "Ma"
10                     <li>@Html.ActionLink("View Orders", "Index", "Orders", new { Area = string.Empty })</li>
11                     @if (!isNtlm)
12                     {
13                         <li>
14                             @*Either NTLM will be used or social authentication will be used. Based on the authentication schemes
15                             @using (Html.BeginForm("LogOff", "Account", FormMethod.Post, new { id = "logoutForm" })))
16                             {
17                                 @Html.AntiForgeryToken()
18                             }
19                             <a href="javascript:document.getElementById('logoutForm').submit()">Log off</a>
20                         </li>
21                     }
22                 </ul>
23             </li>
24             <script>
25                 appInsights.setAuthenticatedUserContext("@User.FindFirstValue(ClaimTypes.NameIdentifier)");
26             </script>
27         }
28     }
29     else
30     {
31         <li>@Html.ActionLink("Log in", "Login", "Account", routeValues: null, htmlAttributes: new { id = "login-link", @class
32     }
33

```

3.3 Running the application

Once the application is integrated with Application Insights, run the solution



1. Browse available product's categories




2. Browse a product description



3. click "ADD TO CART" button

Brake Rotor



\$18.99

In Stock (Ships 1-3 days)

Description


Our Brake Rotor Performs well in wet conditions with a smooth responsive feel. Machined to a high tolerance to ensure all of our Brake Rotors are safe and reliable.

Disk Design	Cross Drill Slotted
Construction	Vented Rotor
Diameter	10.3 in.
Finish	Silver Zinc Plated
Hat Finish	Black E-coating
Material	Cast Iron

ADD TO CART

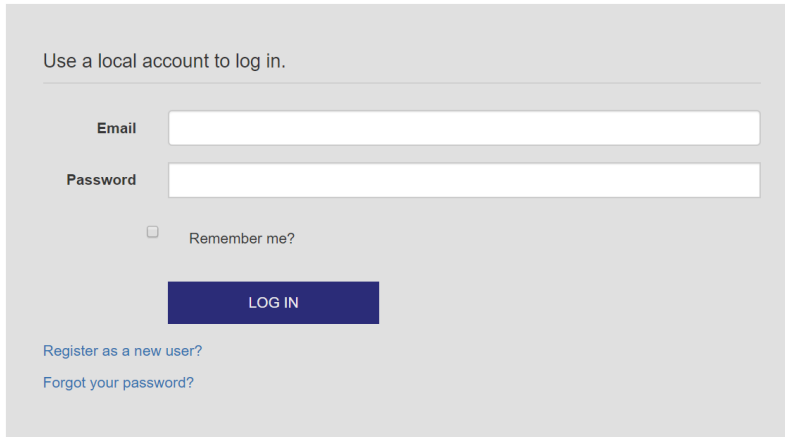
- Click "Checkout" button

Review your Cart

Product Description	Quantity	Price
 <p>Brake Rotor Our Brake Rotor Performs well in wet conditions with a smooth responsive feel. Machined to a high tolerance to ensure all of our Brake Rotors are safe and reliable.</p>	1	\$18.99
		REMOVE
Sub Total		\$18.99
Shipping		\$5.00
Tax		\$1.20
Total		\$25.19
		CHECKOUT

- Click the "Register as a new user?" link to signup

Log in.



Use a local account to log in.

Email

Password

☐ Remember me?

LOG IN

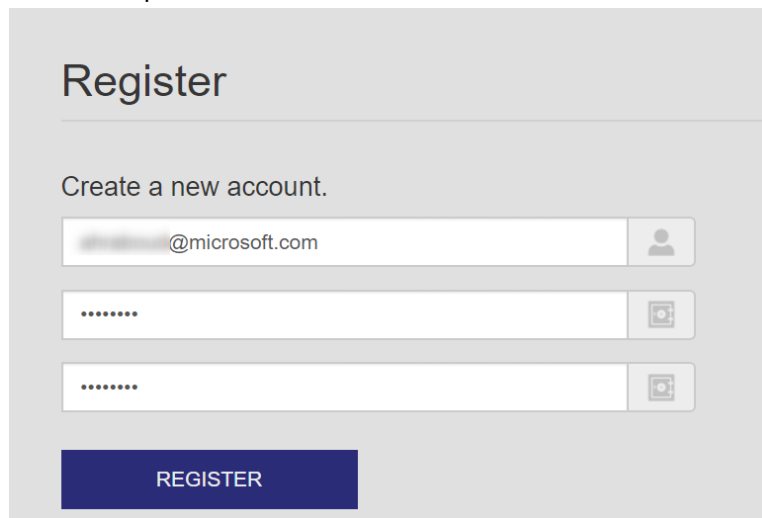
[Register as a new user?](#)

[Forgot your password?](#)

Use another service to log in


There are no external authentication services configured. See [this article](#) for details on setting up this ASP.NET application to support logging in via external services.


6. Fill your account Email and Password then click "**Register**" button. You don't need to enter a real email since this application is not able to send email, you will not go through a real email confirmation process.




Register

Create a new account.

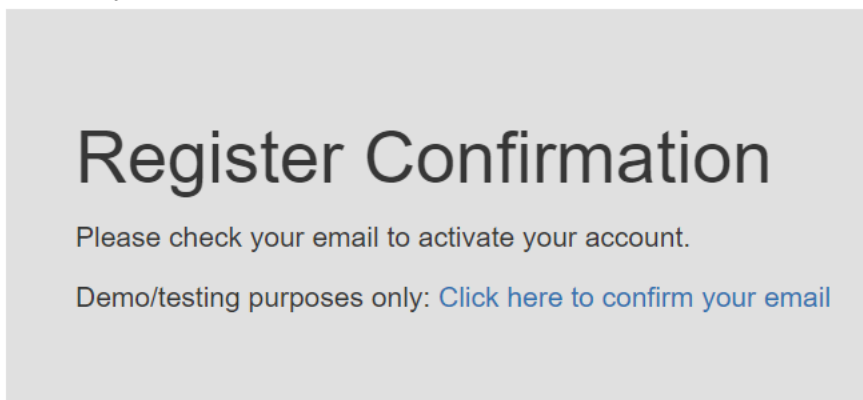






REGISTER

7. Confirm you email



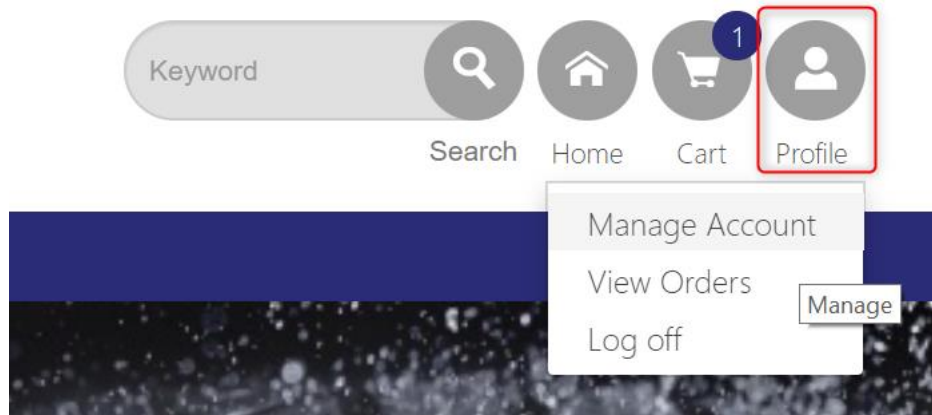
Register Confirmation

Please check your email to activate your account.

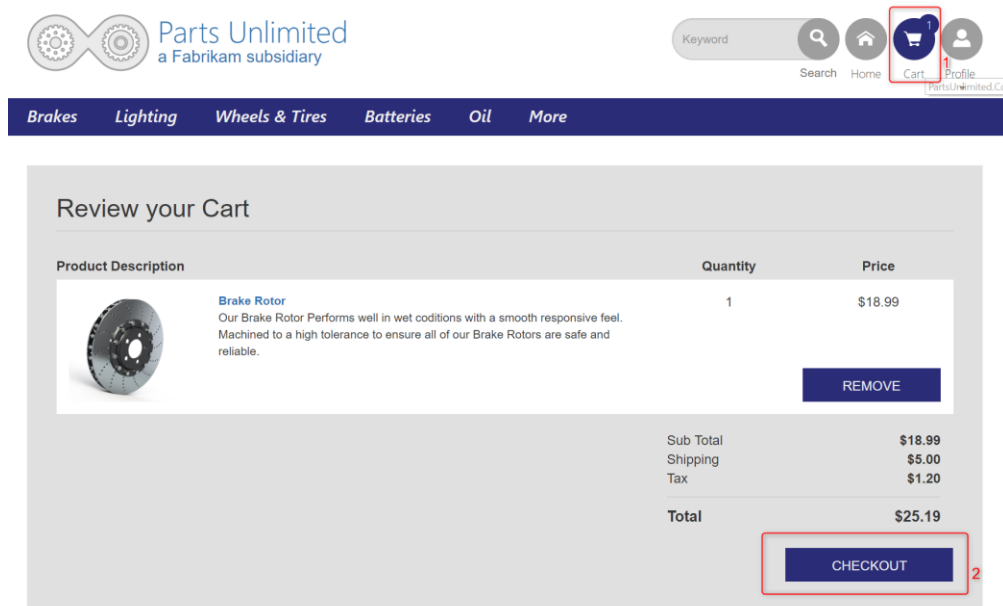
Demo/testing purposes only: [Click here to confirm your email](#)

8. Now Signin using the newly created account credentials

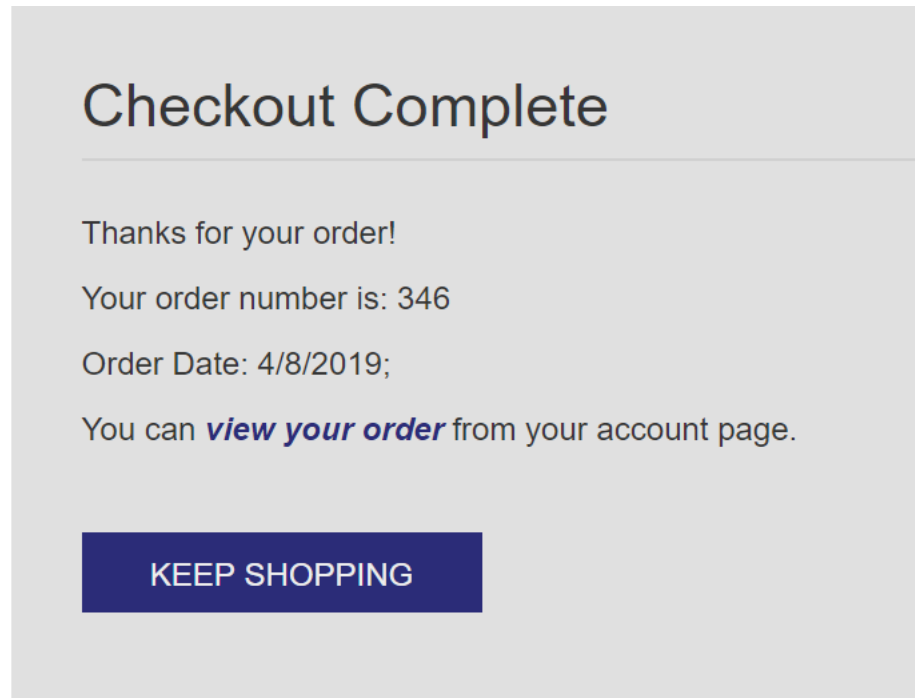
9. Click on your "Profile" link and choose "Manage Account" to visit you profile management page.



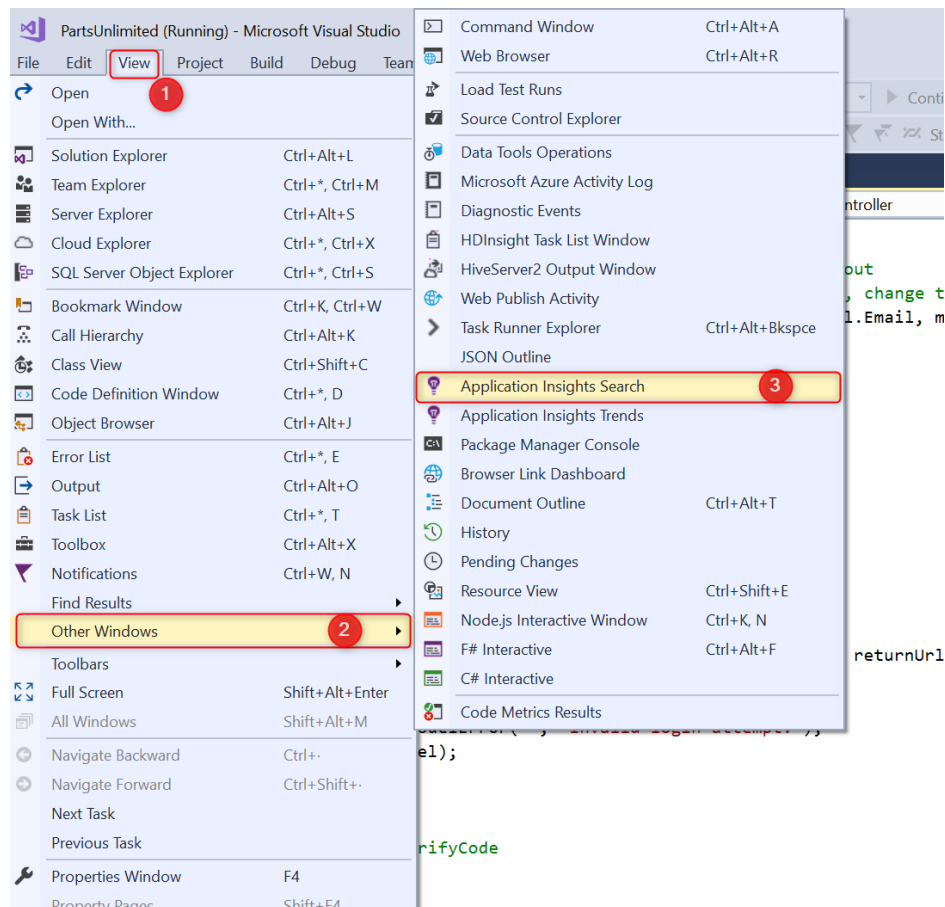
10. Now go back to you Cart summary page and click the "Checkout" button



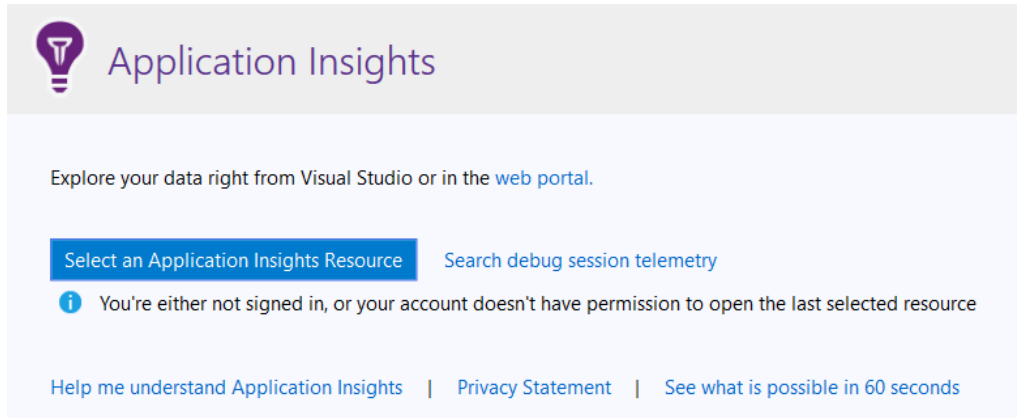
11. Enter a shipping address and "FREE" as the promo code. Click "Submit" button.
12. Confirm your order



- Go back to Visual Studio and open the "View | Other Windows | Application Insights Search" View

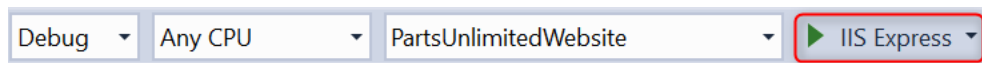


14. Click on the **Search debug session telemetry**.

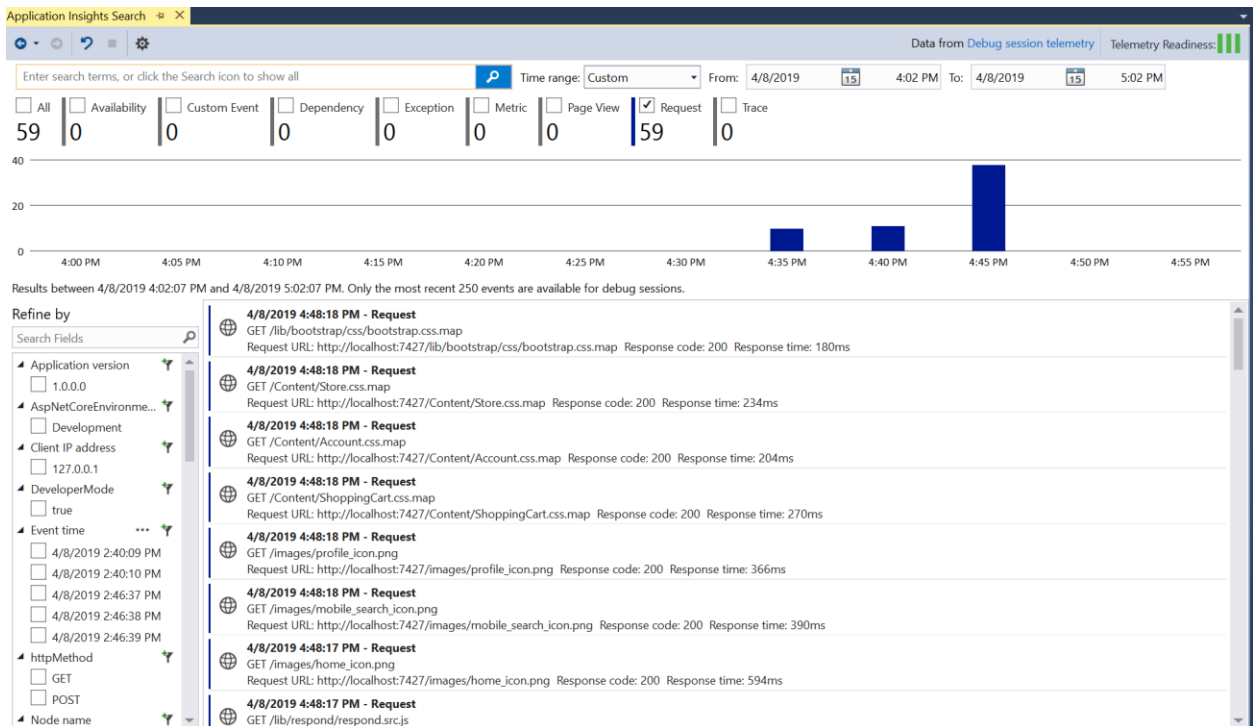


15. Replay steps from 1 to 12 many times using browser private navigation feature to generate more user's related metrics.

Note: If you are not able to use the Private Navigation feature from your browser you can use a different browser or close your browser each time you finish the test and click again on the Run button from Visual Studio



16. You can browse and search the collected metrics locally using the "Application Insights Search". If you don't what you can search for, just click the Search icon and continue to explore.

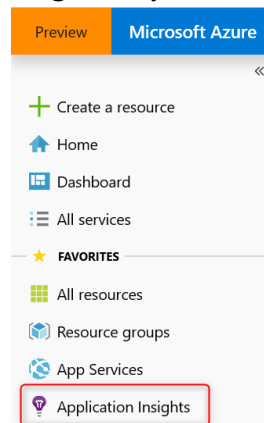


17. You can search for "checkout" and "login". Look at the result of the search.

4 Exercise 3: Examining Application Insights Usage Analysis

In this section, we are going to generate and examine usage analyze data captured while running Parts Unlimited application integrated with Application Insights

1. Go to the Azure portal <https://portal.azure.com>
2. Begin by clicking on **Application Insights** in your favorite's menu.



3. Select the "PartsUnlimitedWebsite" Application Insight instance

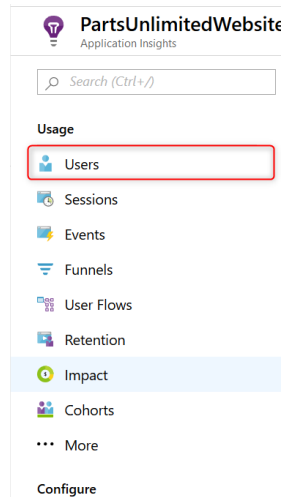
4.1 Examining Users, Sessions and Events

Find out when people use your web app, what pages they're most interested in, where your users are located, and what browsers and operating systems they use. Analyze business and usage telemetry

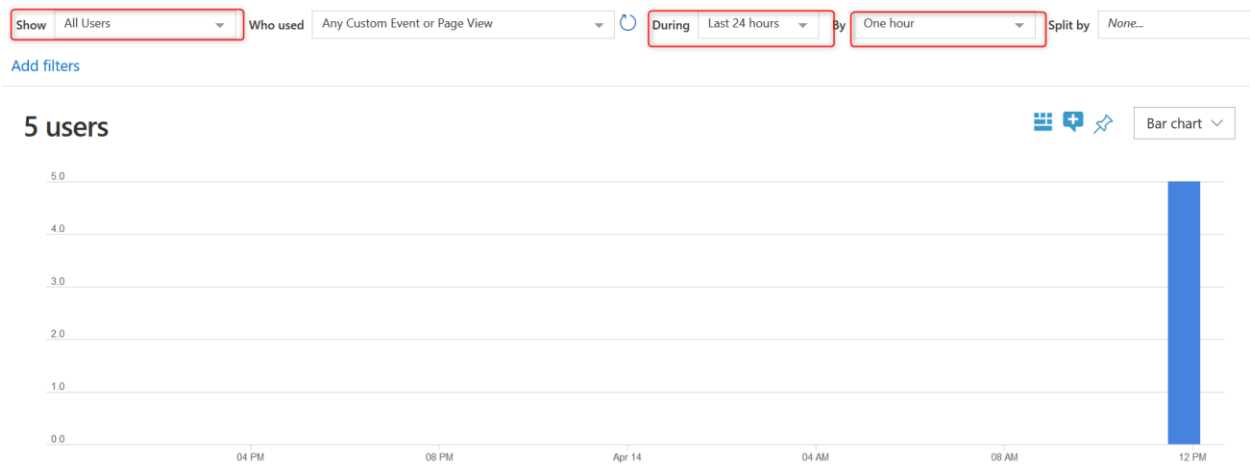
4.1.1 Users

How many people used your app and its features? Users are counted by using anonymous IDs stored in browser cookies. A single person using different browsers or machines will be counted as more than one user.

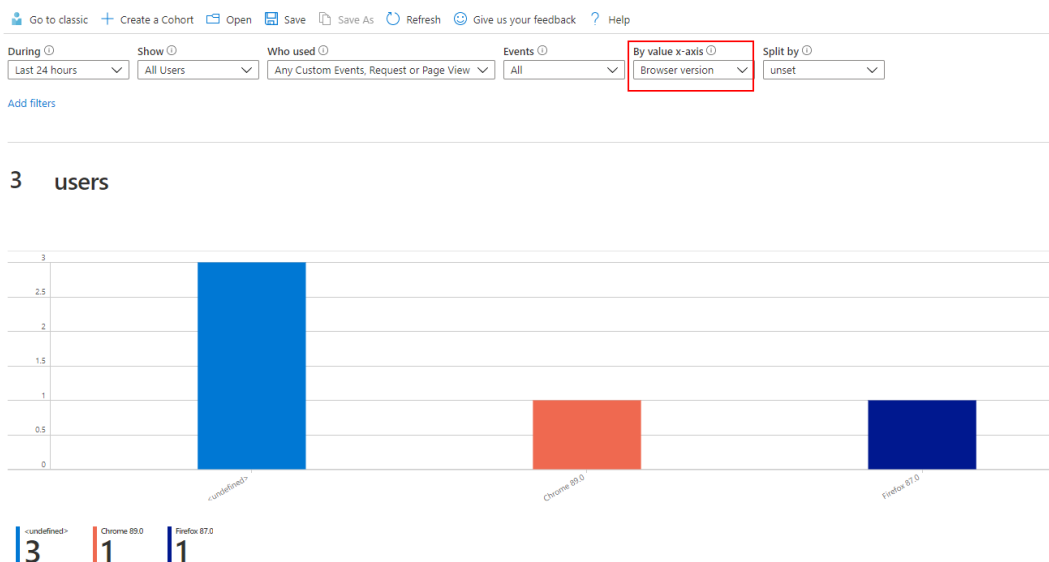
1. Go to the **Users** Blade



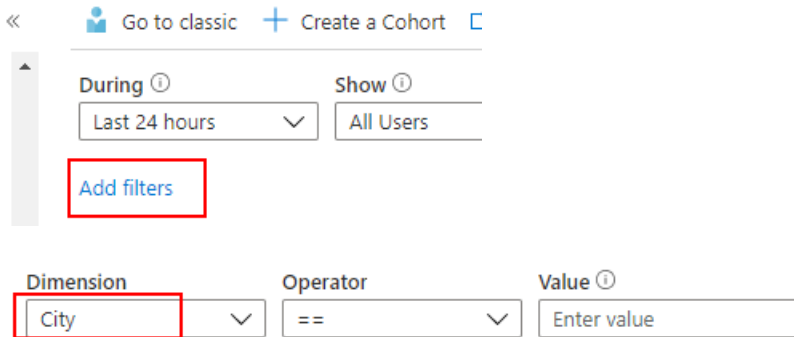
- As soon as the user blade have been loaded, you have an insight about all users' statistics since the last 24 hours by hour






- Change the By clause to Browser to group metrics on the chart by **Browser Version**



- Click the "Add filters" link and create a new filter based on the City



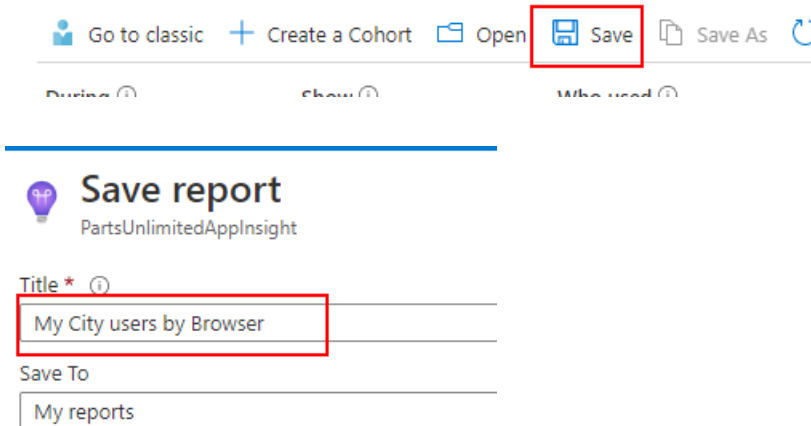
«  Go to classic  Create a Cohort 







During ⓘ Last 24 hours Show ⓘ All Users

Add filters


Dimension City Operator == Value ⓘ Enter value

- Now click "Save" to save the report and name it "My City users by Browser" to be able to open it later using the "Open" button



 Go to classic  Create a Cohort  Open  **Save**  Save As 

During ⓘ Show ⓘ Who used ⓘ

 **Save report**
PartsUnlimitedAppInsight

Title * ⓘ
My City users by Browser

Save To
My reports

- Go to the "Meet your users" section



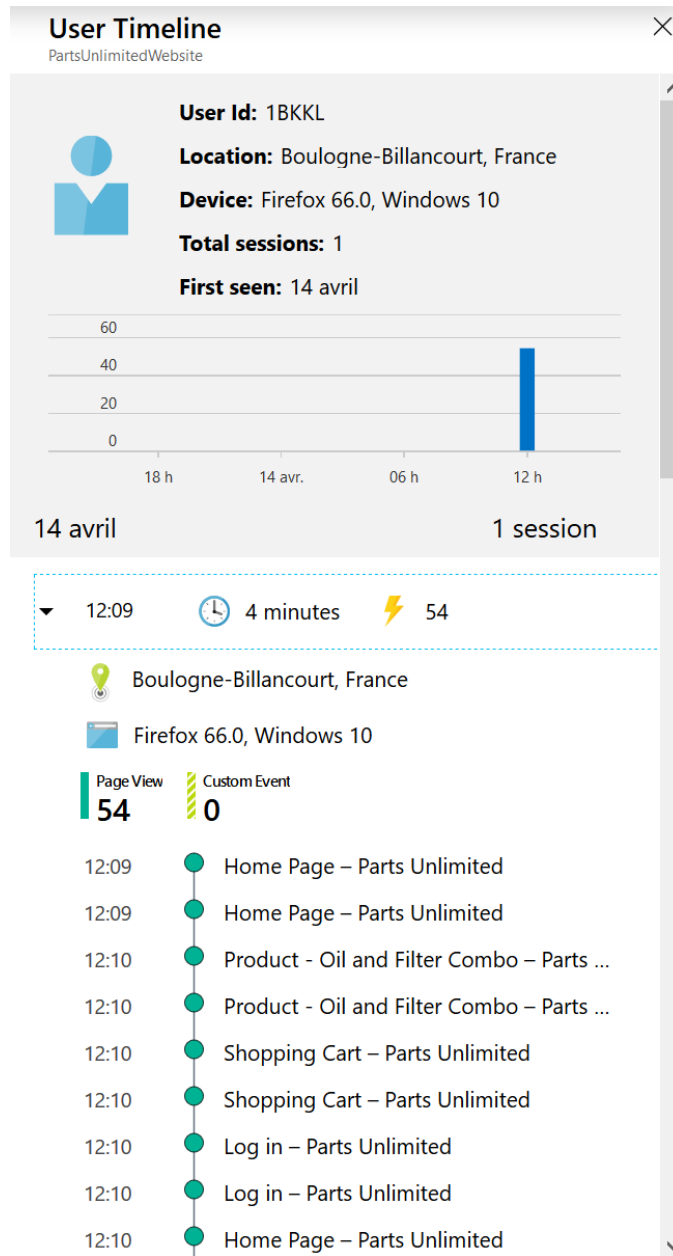
MEET YOUR USERS Show Any 5 Users

User	Sessions	Events	OS	Browser
Boulogne-Billancourt, Fra...	1	54	Windows 10	Firefox 66.0
Boulogne-Billancourt, Fra...	1	2	Windows 10	Chrome 73.0
Boulogne-Billancourt, Fra...	1	34	Windows 10	Firefox 66.0
Boulogne-Billancourt, Fra...	1	18	Windows 10	Firefox 66.0
Boulogne-Billancourt, Fra...	1	16	Windows 10	Firefox 66.0

Note: If you don't have a "Meet your users" section click on the "View More Insights" button

View More Insights

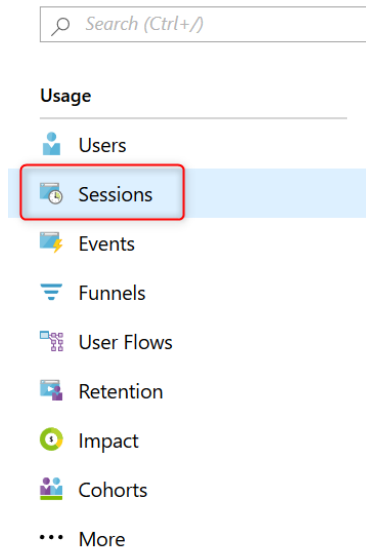
- Click on any user to open the Timeline blade to have an overview about all the user actions over all sessions



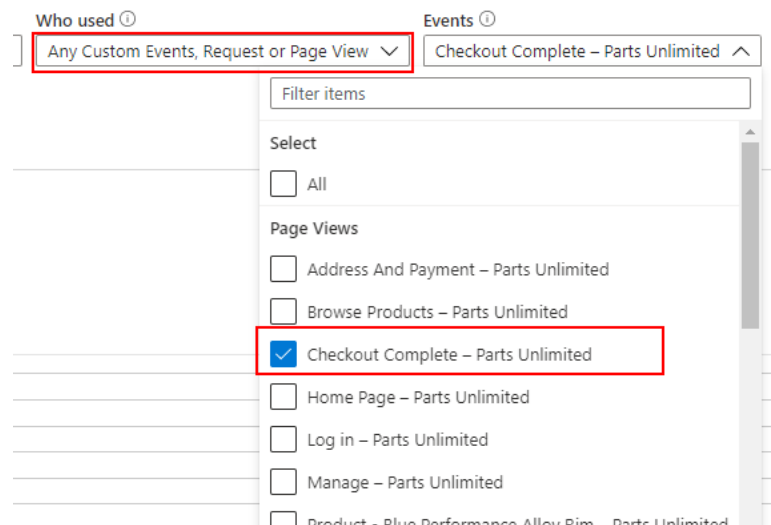
4.1.2 Sessions


How many sessions of user activity have included certain pages and features of your app? A session is counted after half an hour of user inactivity, or after 24 hours of continuous use.

1. Go to the **Sessions** Blade



2. As soon as the session blade have been loaded All users report, you have an insight about all sessions' statistics since the last 24 hours grouped by hour.
3. Change the "Events" chart parameter to check sessions that have specific events only



Note: If you don't see the Page Views section click on the refresh button  next to the "Who used" chart parameter.






4. Go to the "Active Sessions" section

MEET YOUR USERS					Show Any 5 Users 
 Boulogne-Billancourt, Fra...	 Boulogne-Billancourt, Fra...	 Boulogne-Billancourt, Fra...	 Boulogne-Billancourt, Fra...	 Boulogne-Billancourt, Fra...	
Sessions: 1	Sessions: 1	Sessions: 1	Sessions: 1	Sessions: 1	
Events: 54	Events: 2	Events: 34	Events: 18	Events: 16	
OS: Windows 10	OS: Windows 10	OS: Windows 10	OS: Windows 10	OS: Windows 10	
Browser: Firefox 66.0	Browser: Chrome 73.0	Browser: Firefox 66.0	Browser: Firefox 66.0	Browser: Firefox 66.0	

Note: If you don't have a "Active Sessions" section click on the "View More Insights" button

[View More Insights](#)

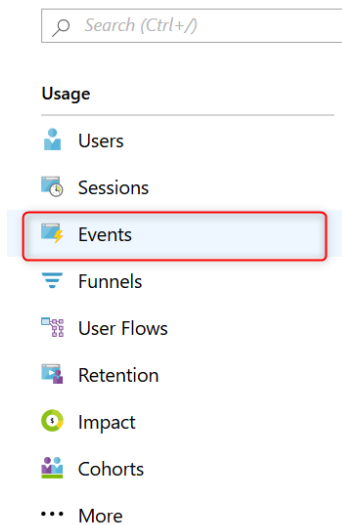
- Click on any session to open the Timeline blade to have an overview about this session events

ACTIVE SESSIONS					Show Any 5 sessions ▼ 🔄
 Boulogne-Billancourt, Fra...	 Boulogne-Billancourt, Fra...	 Boulogne-Billancourt, Fra...	 Boulogne-Billancourt, Fra...	 Boulogne-Billancourt, Fra...	
Events: 54	Events: 34	Events: 18	Events: 16	Events: 2	
OS: Windows 10	OS: Windows 10	OS: Windows 10	OS: Windows 10	OS: Windows 10	
Browser: Firefox 66.0	Browser: Firefox 66.0	Browser: Firefox 66.0	Browser: Firefox 66.0	Browser: Chrome 73.0	

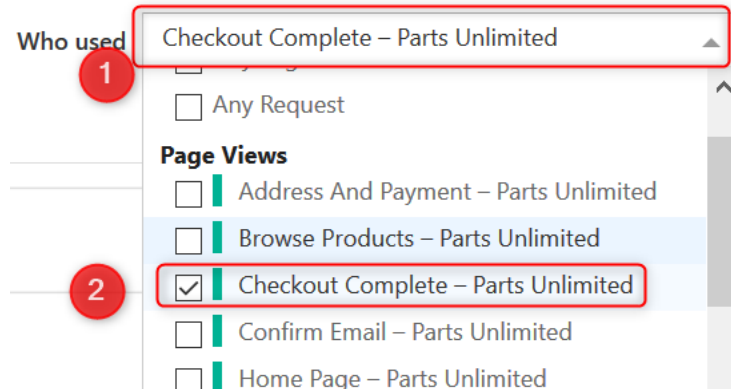
4.1.3 Events


How often certain pages and features of your app are used? A page view is counted when a browser loads a page from your app, provided you have instrumented it. Examining Cohorts

- Go to the **Events** Blade




- As soon as the Events blade have been loaded All users report, you have an insight about all Events statistics since the last 24 hours grouped by hour.
- Change the "Who Used" chart parameter to get an overview about specific events only



Note: If you don't see the Page Views section click on the refresh button  next to the "Who used" chart parameter.

- Go to the "Event Statistics" section

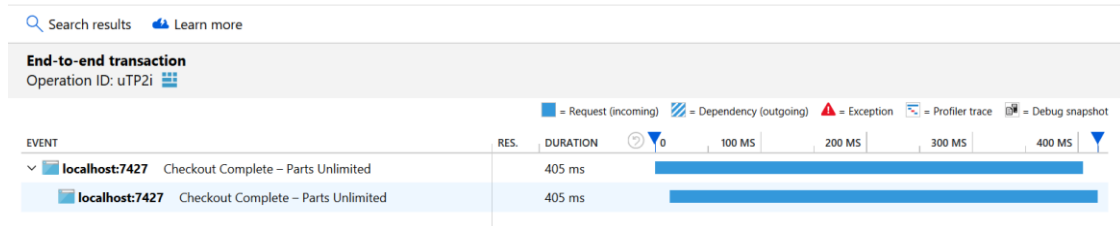
EVENT STATISTICS Page View 2

NAME	USERS	SESSIONS	COUNT
Overall	1	1	2
 Checkout Complete - Parts Unlimited	1	1	2

Note: If you don't have a "Event Statistics" section click on the "View More Insights" button

[View More Insights](#)

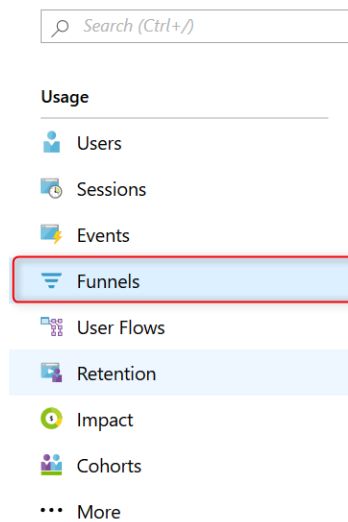
- Click on any event to open the "End-to-end transaction details" view to have more details



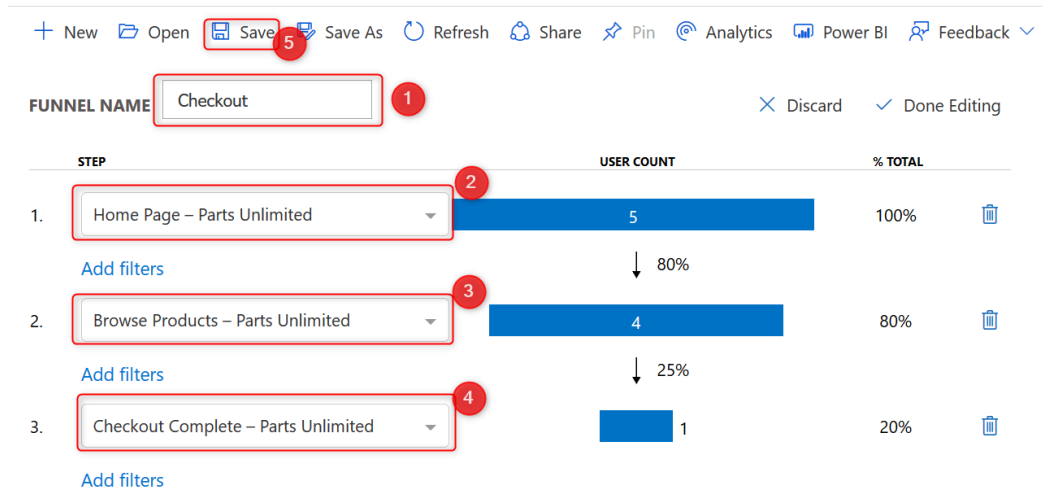
4.2 Examining Funnels

Understanding the customer experience is of the utmost importance to your business. If your application involves multiple stages, you need to know if most customers are progressing through the entire process, or if they are ending the process at some point. The progression through a series of steps in a web application is known as a funnel. You can use Azure Application Insights Funnels to gain insights into your users and monitor step-by-step conversion rates.

1. Go to the Funnels Blade





2. Create a new Funnel named "Checkout" to analyze the behavior of users that have been able to make a checkout and save it on "My Reports"

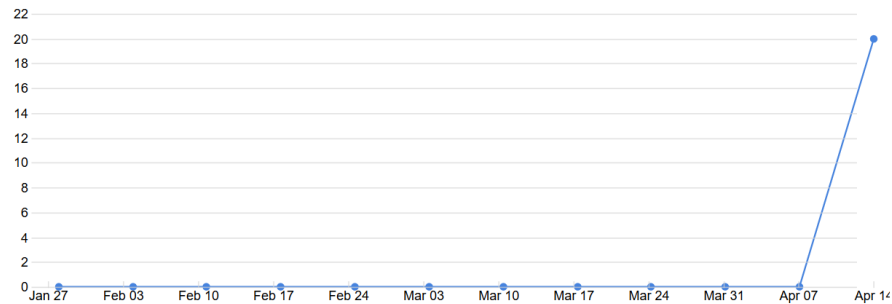


3. Check the "summary" section for conversion rate

SUMMARY

CONVERSION	START COUNT	END COUNT
20%	5 	1 

HISTORICAL CONVERSION BY WEEK

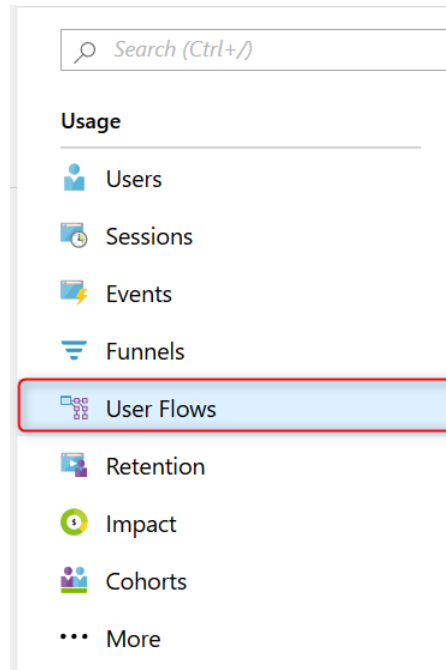


4.3 Examining User Flows

The User Flows tool visualizes how users navigate between the pages and features of your site. It's great for answering questions like:

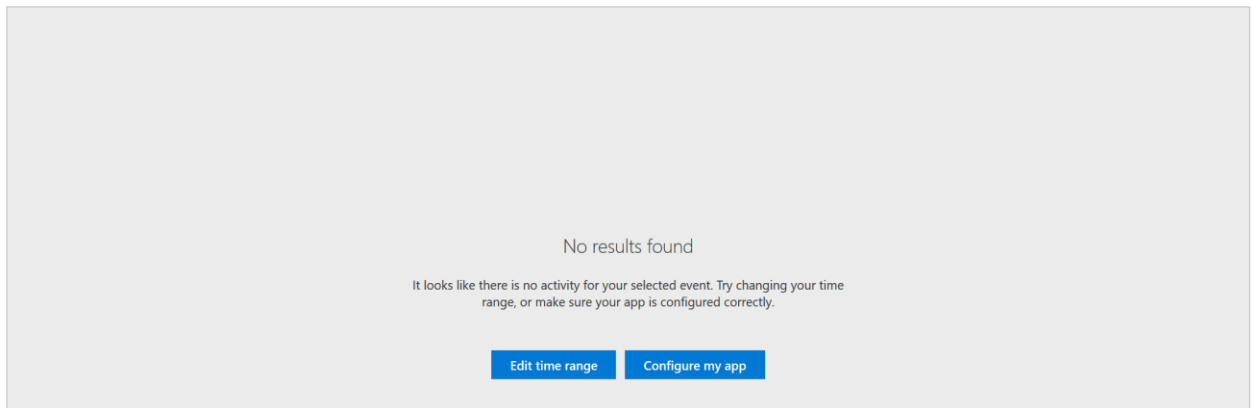
- How do users navigate away from a page on your site?
- What do users click on a page on your site?
- Where are the places that users churn most from your site?
- Are there places where users repeat the same action over and over?

1. Go to the User Flows Blade



2. Click the “Edit” button

What happens before and after ... ?



3. Configure the “User Flow as following” and click “Create Graph” button

Edit

Initial Event

Home Page – Parts Unlimited 1

Time Range **Scope** **Optimize for**

1 day 2 Sessions Performance

Filters

[Add filter](#)

Included Events (97) [Exclude all events](#)

All events 3

Event	Count
Address And Payment – Parts Unlimited	266
Browse Products – Parts Unlimited	262626
Checkout Complete – Parts Unlimited	244
Confirm Email – Parts Unlimited	444
DEBUG /	133
GET /Content/Account.css	192525
GET /Content/Account.css.map	033

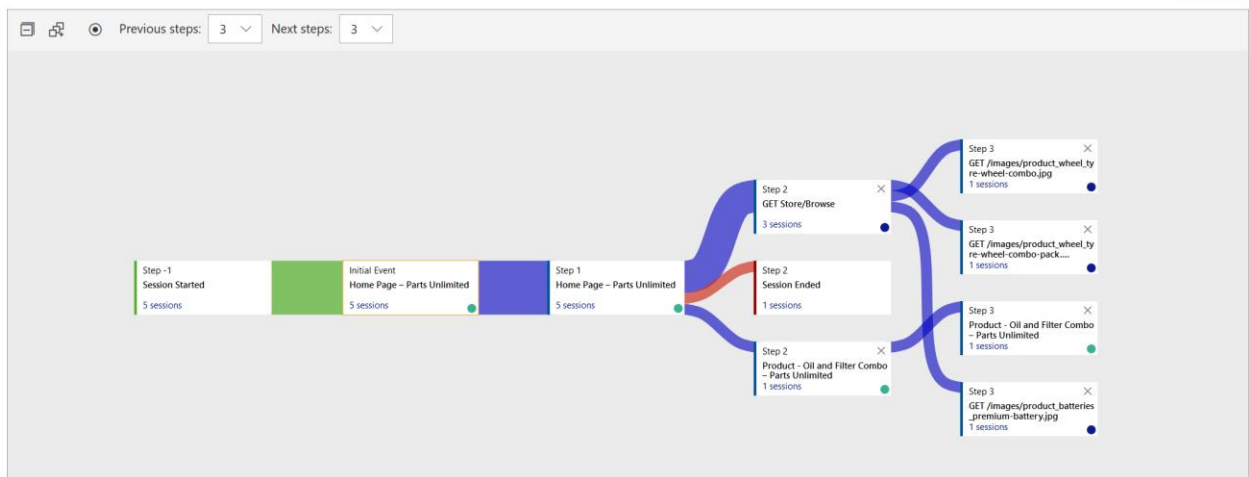
Excluded events

[Create Graph](#) 4 [Cancel](#)

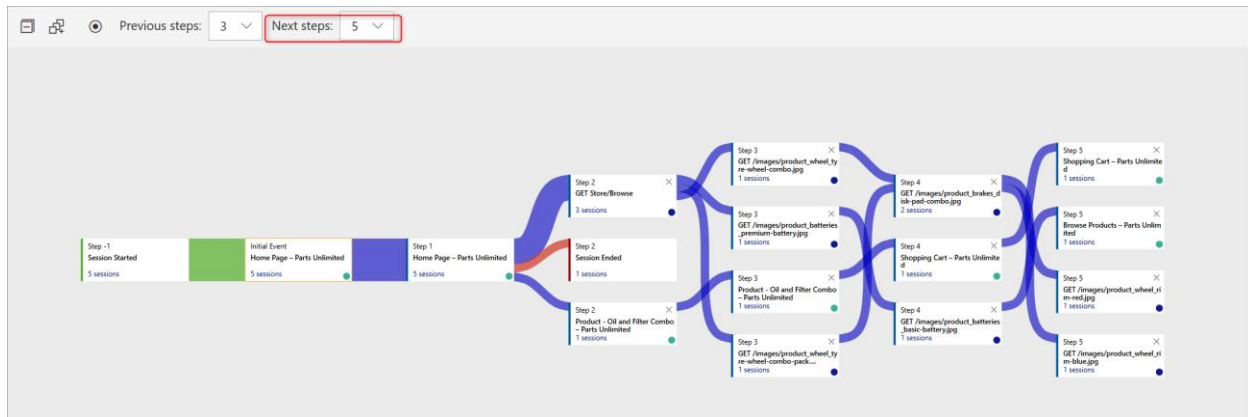
4. Analyze your users flow before and after the home Page

What happens before and after [Home Page – Parts Unlimited](#) ?

[Edit](#)



5. Change the Next steps" filter to 9 to see more steps



6. Click on the "Edit" button to filter the displayed events to page view only

Edit

Initial Event
Home Page - Parts Unlimited

Time Range
1 day

Scope
Sessions

Optimize for
Performance

Filters
Add filter

Included Events (19) Exclude all events

All page views 1

All events	
All page views	Home Page - Parts Unlimited 266
All exceptions	Parts Unlimited 262626
	Parts Unlimited 244
All requests	Parts Unlimited 444
	Home Page - Parts Unlimited 203030
	Log in - Parts Unlimited 161818
	Product - Blue Performance Alloy Rim - Parts Unlimited 222

Excluded events









Create Graph 2 Cancel

4.4 Examining Impact

Impact analyzes how load times and other properties influence conversion rates for various parts of your app. To put it more precisely, it discovers how any dimension of a page view, custom event, or request affects the usage of a different page view or custom event.

1. Go to the Impact Blade

Usage

-  Users
-  Sessions
-  Events
-  Funnels
-  User Flows
-  Retention
-  **Impact**
-  Cohorts
- ... More

2. Click the Impact Analysis Workbook



Good News: The User Impact Analysis experience is moving to Azure Workbooks

Workbooks let you customize reports using a flexible canvas for data analysis, connect to more data sources, and display your data with r

You can find the new User Impact Analysis workbook in the gallery under the name "User Impact Analysis", or by clicking the "Impact Ana
you can still access the classic User Impact Analysis experience. [Classic impact](#)

If you saved any customized classic User Impact Analysis views, we recommend you save your customizations as new custom workbooks.

Impact Analysis Workbook

3. Let's analyze the impact of user device type on the Checkout event.


- For Selected event: Home Page – Parts Unlimited
- For analyze how its: Device type
- For Impacting event: Checkout Complete – Parts Unlimited

Impact ...

PartsUnlimitedAppInsight

 Workbooks  Edit     ? Help  Auto refresh: Off

 Application Insights based Workbooks are transitioning to full Azure Workbooks. New saved Workbooks inside Application Insights will be full Azure Workbooks. Legacy Workbooks will be avail

During ⓘ	Selected event ⓘ	analyze how its ⓘ	Impacting event ⓘ	Bucketize by ⓘ
Last 24 hours ▼	 Home Page – Parts Unlimited ▼	Device type ▼	 Checkout Complete – Parts Unlimited ▼	Ventiles ▼

Hide Filters Add selected event filters Add impacting event filters

Show data

4. Click **Show data**

[Hide Filters](#) Add selected event filters Add impacting event filters

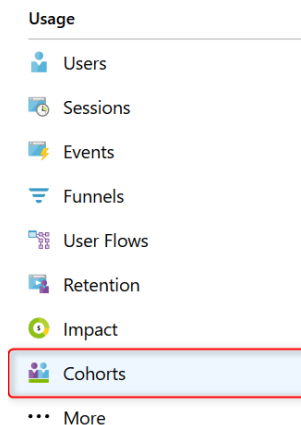
"Checkout Complete – Parts Unlimited" usage bucketized by "client_Type" of "Home Page – Parts Unlimited"

Bucket	↑↓	"Checkout Complete – Parts Unlimited" Us...↑↓	Conversi... ↑↓
Browser		5 events with 3 converted and 2 lost	60%
Overall		5 events with 3 converted and 2 lost	60%

4.5 Creating Cohort

A cohort is a set of users, sessions, events, or operations that have something in common. In Azure Application Insights, cohorts are defined by an analytics query. In cases where you have to analyze a specific set of users or events repeatedly, cohorts can give you more flexibility to express exactly the set you're interested in.

1. Go to the Cohorts Blade



2. Let's create a new cohort that will bookmark your country users

Use cohorts to bookmark particular groups of users, sessions, events or operations.

Once you define a cohort, it will appear as an option in the Users, Sessions and Events tools in Application Insights

Saved Cohorts **Template Gallery** ¹

Get started with creating a cohort by selecting one of our example templates below - or dive right in and create a new cohort from scratch

Users

- Blank Users cohort
- Blank Authenticated users cohort** ²
- Engaged Authenticated Users -- by Days Used
- Engaged Users -- by Days Used

Sessions

- Blank Sessions cohort
- Long sessions

Events

- Blank Events cohort
- Events Picker

3. Provide a description for the cohort

← Back to gallery Rename Delete Revert changes Save Save As Share Refresh Feedback ? Help

Markdown text to display

```
## Country Authenticated users cohort
---
Get authenticated users from a specific country
```

Done Editing

4. Add a new parameter

Add Parameter Style: Pills

5. Fill the parameter settings and click on "Samples" button

New Parameter
PartsUnlimitedWebsite

Save Cancel ? Help

* Parameter name ¹ Country

Parameter type ² Drop down

Required? ☐

Allow multiple selections ☐

Limit multiple selections ☐

Delimiter

Quote with

Explanation

Hide parameter in reading mode ☐

Get data from ³ Query JSON

Application Insights Logs Query ⁴

Run Query Time Range Samples

6. Pick the Country sample, click 'Use this sample'

New Parameter

PartsUnlimitedWebsite

Close Samples

An Activity Picker

Creates a dropdown that lets a user pick from the top 20 events/pageviews/requests in the last 24 hours. Use in a query like `where name == '{parameter}'`, or `where name in {parameter}` if allowing multiple selections.

```

union customEvents, pageViews, requests
| where timestamp > ago(24h)
| summarize count() by name
| top 10 by count_
| order by count_desc
| extend label = strcat(name, " (", count_, ")")
| project name, label

```

Use this sample

A Country Picker

Creates a dropdown that lets a user pick from the 100 countries with the most events in the last 14 days. Use in a query like `where client_CountryOrRegion == '{parameter}'`

```

union customEvents, pageViews, requests
| where timestamp > ago(14d)
| summarize count() by client_CountryOrRegion
| top 100 by count_
| order by client_CountryOrRegion asc
| project client_CountryOrRegion

```

Use this sample

7. Save the parameter

New Parameter

PartsUnlimitedWebsite

Save

Cancel

Help

* Parameter name

Country

8. Set the country value to your specific country

Add Parameter

Style

Pills

Country

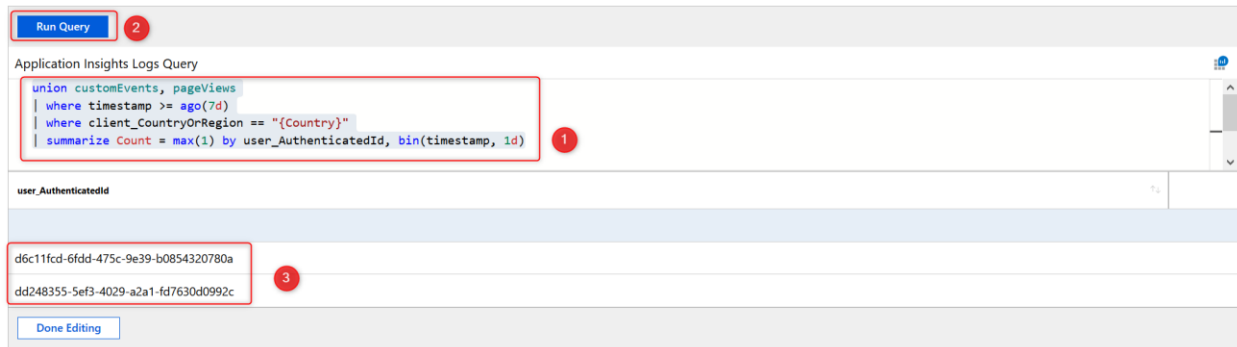
France

9. Paste the following query in the Application Insights Logs query textbox and click the "Run Query" button to get the result overview

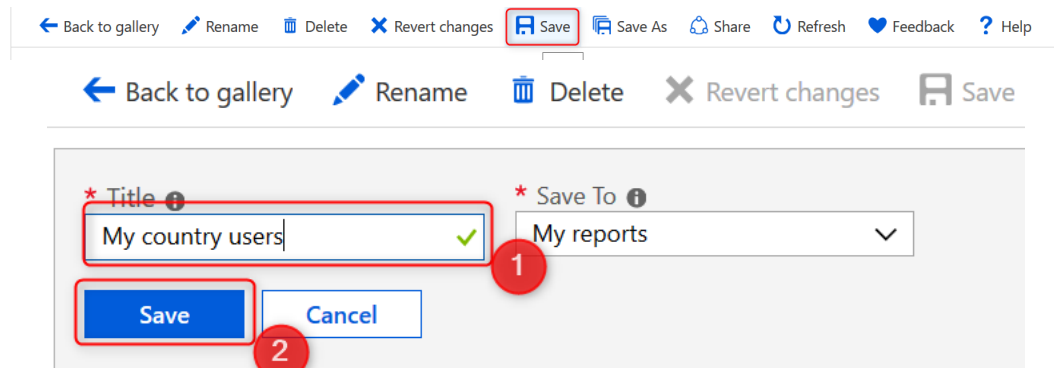
```

union customEvents, pageViews
| where timestamp >= ago(7d)
| where client_CountryOrRegion == "{Country}"
| summarize Count = max(1) by user_AuthenticatedId, bin(timestamp, 1d)

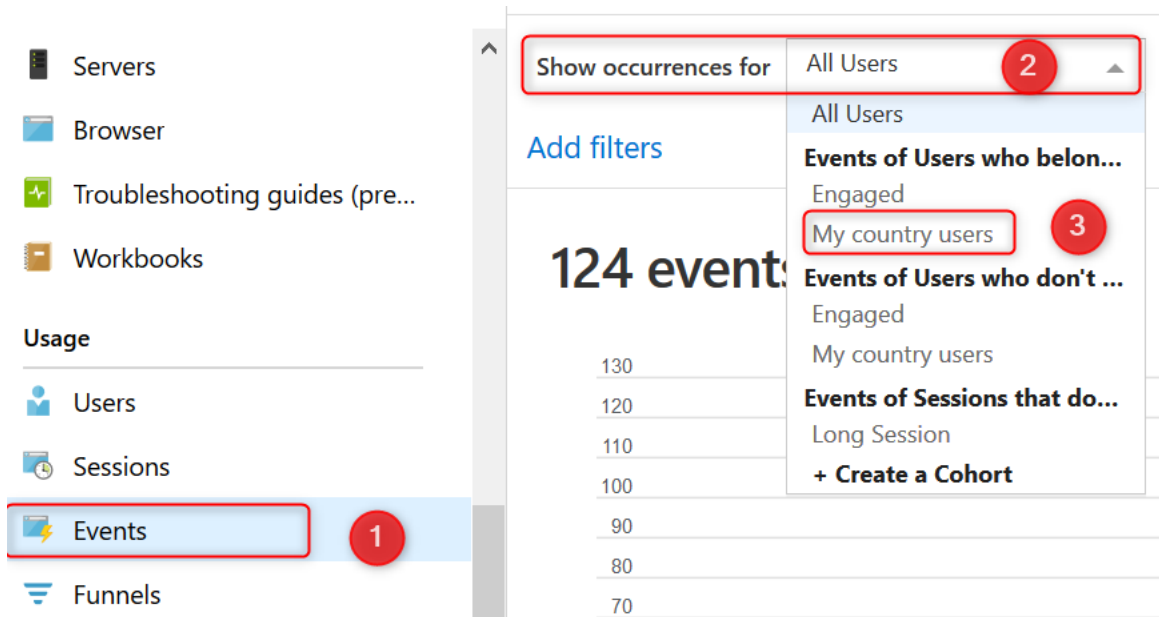
```



10. Save the cohort



11. Go the Events blade and chose "Event of users that belong to My country users" cohort as a filter



Note: The cohort will be available on Users or Session or Events blades

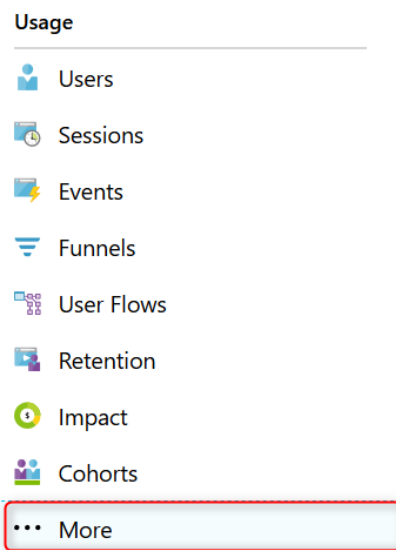
4.6 Viewing Workbook

Workbooks combine text, Analytics queries, Azure Metrics, and parameters into rich interactive reports. Workbooks are editable by any other team members who have access to the same Azure resources.

Workbooks are helpful for scenarios like:

- Exploring the usage of your app when you don't know the metrics of interest in advance: numbers of users, retention rates, conversion rates, etc. Unlike other usage analytics tools, workbooks let you combine multiple kinds of visualizations and analyses, making them great for this kind of free-form exploration.
- Explaining to your team how a newly released feature is performing, by showing user counts for key interactions and other metrics.
- Sharing the results of an A/B experiment in your app with other members of your team. You can explain the goals for the experiment with text, then show each usage metric and Analytics query used to evaluate the experiment, along with clear call-outs for whether each metric was above- or below-target.
- Reporting the impact of an outage on the usage of your app, combining data, text explanation, and a discussion of next steps to prevent outages in the future.

1. Go to the More Blade to open the Workbook view



2. Choose the "Analysis of Page Views" Template

+ New Refresh Feedback ? Help Community Git repo Browse across galleries

All Workbooks Public Templates My Templates

Filter by name or category Subscript... Resource Group : All Reset filters

Public Templates (18)

Template name	Category	Description
Empty	Quick start	A completely empty workbook.
Default Template	Quick start	A report with text and query sections.
Active Users	Usage	
Analysis of Page Views	Usage	

3. Add the Checkout page to "Pages" filter and analyze the "Checkout page" views statistics

Analysis of Page Views

Page views correspond to user activity in your app. Understanding how your users interact with your pages will give you good insights into what is working in your app and what aspects need improvements.

This report will help you understand common page view behaviors like:

- Usage
- Time spent on page
- Time to first interaction
- Exit rates

If your telemetry does not include page views, then follow these [instructions](#) to begin collecting -- it is relatively straightforward.

Pages: 4 selected OtherFilters: Enter value TimeRange: Last 30 days OptimizeCalculationsFor Balance

Usage

This section shows the pages used -- in terms of # of users, sessions and views.

Page Name	As % of app Users	Unique Sessions	As % of app Sessions	Total Page Views	As % of app Page Views
Shopping Cart - Parts Unlimited	100	7	100	81	55.86
Home Page - Parts Unlimited	100	7	100	30	20.69
Checkout Complete - Parts Unlimited	80	4	57.14	26	17.93
Product - Filter Set - Parts Unlimited	80	4	57.14	26	17.93

4. Edit the workbook

← Gallery Edit

Time to First Interaction

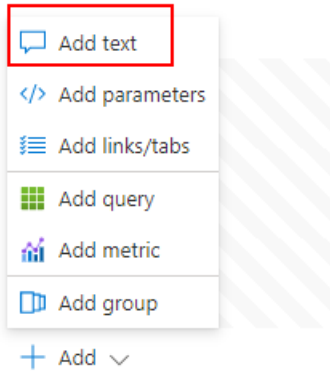
Switch this workbook between editing mode and reading mode.

This report helps you understand the time it takes for users to interact with your app's UI/flow.

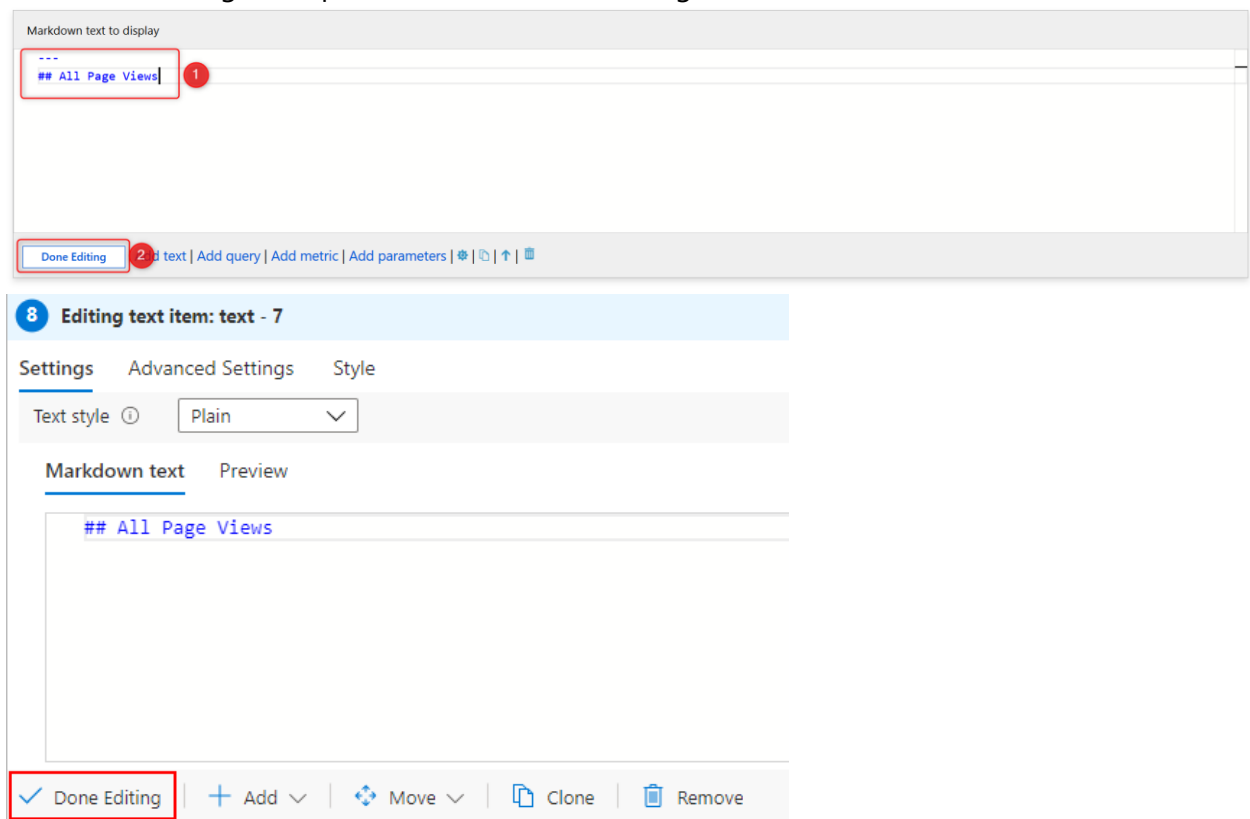
In reading mode, the view is simplified for reading instead of editing.

Editing mode shows all content of the workbook, including steps and parameters that would be hidden in reading mode.

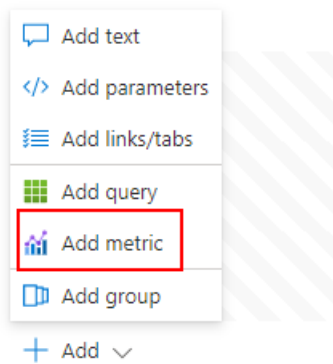
5. Go to the bottom of the workbook and click the "Add text" link



6. Add the following description and click 'Done Editing'.

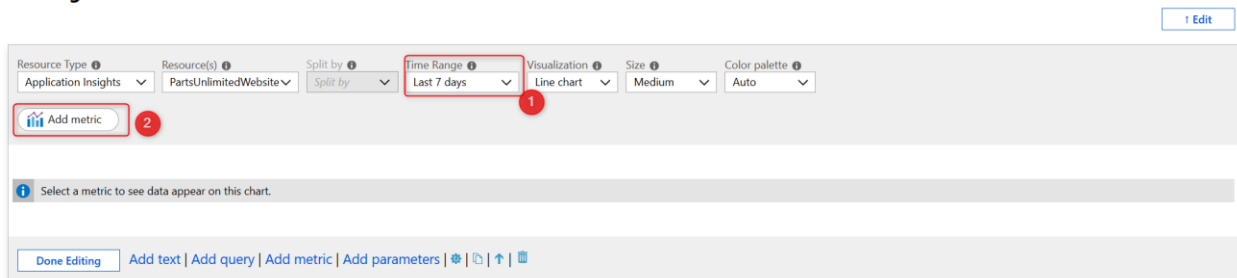


7. Go to the bottom of the workbook and click the "Add metric" link

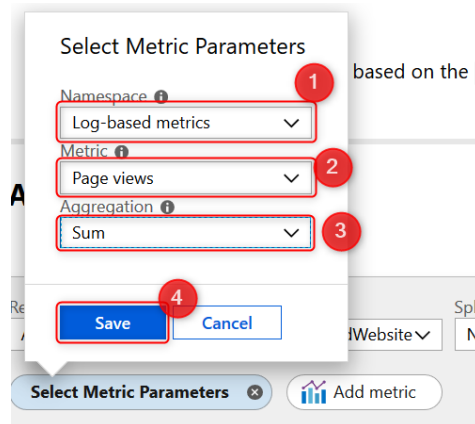


8. Click "Add metric"

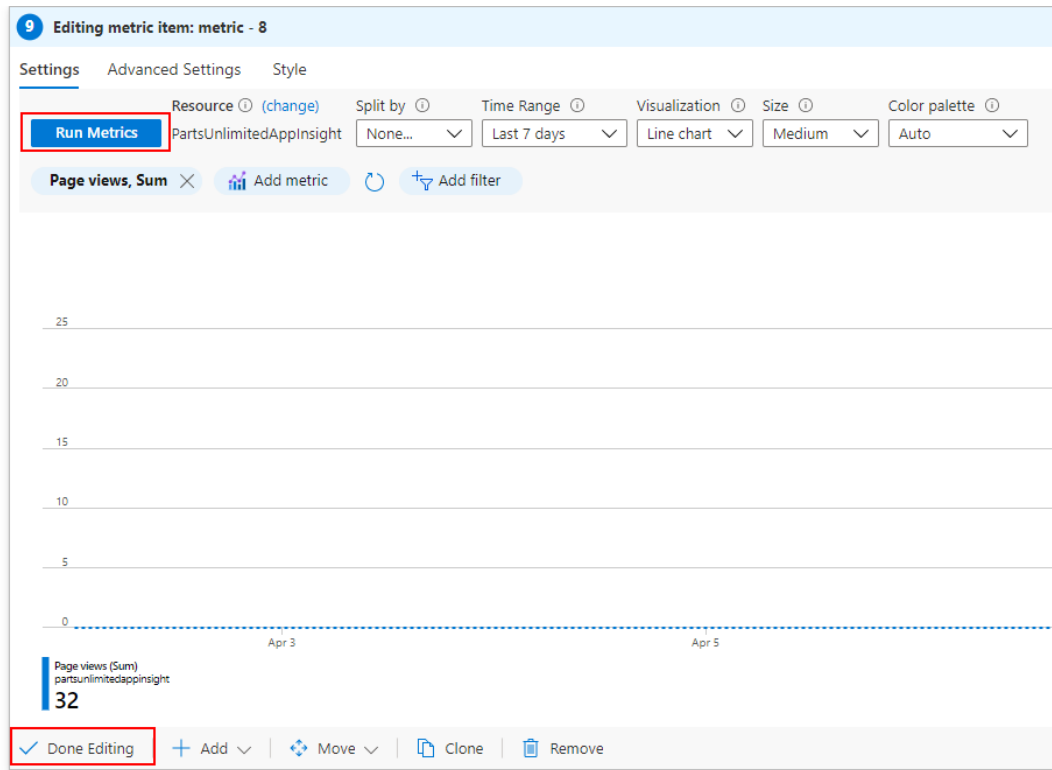
All Page Views



9. Provide the metric parameters, click Save.



10. Click on 'Run Metrics' and 'Done Editing' button.



11. Click the "Done Editing" button on the top.



12. You should be able to see the chart at the bottom of the page.

