Find and diagnose run-time exceptions with Azure Application Insights

Azure Application Insights collects telemetry from your application to help identify and diagnose run-time exceptions. This tutorial takes you through this process with your application. You learn how to:

- Modify your project to enable exception tracking
- Identify exceptions for different components of your application
- View details of an exception

Prerequisites

To complete this tutorial:

- Install Visual Studio 2017 with the following workloads:
  - ASP.NET and web development
  - Azure development
- Deploy a .NET application to Azure and enable the Application Insights SDK.
- The tutorial tracks the identification of an exception in your application, so modify your code in your development or test environment to generate an exception.

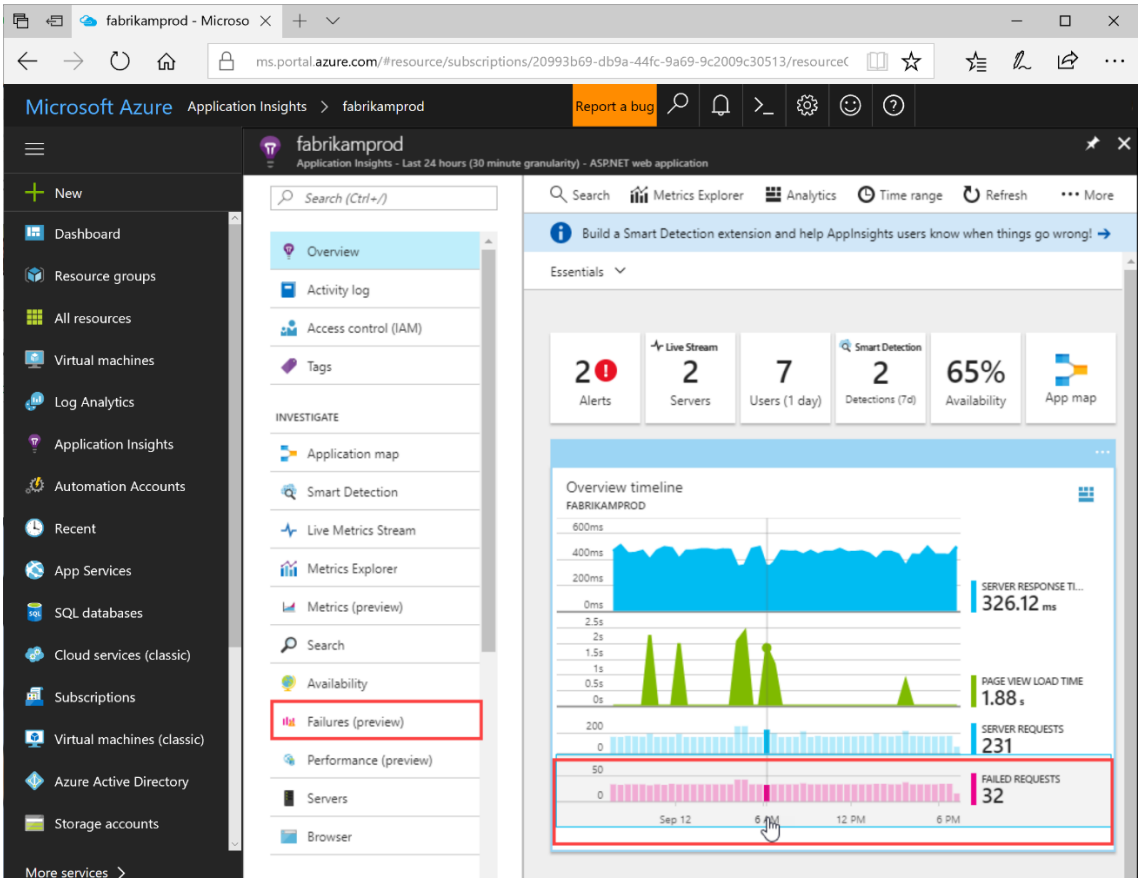
Log in to Azure

Log in to the Azure portal at https://portal.azure.com.

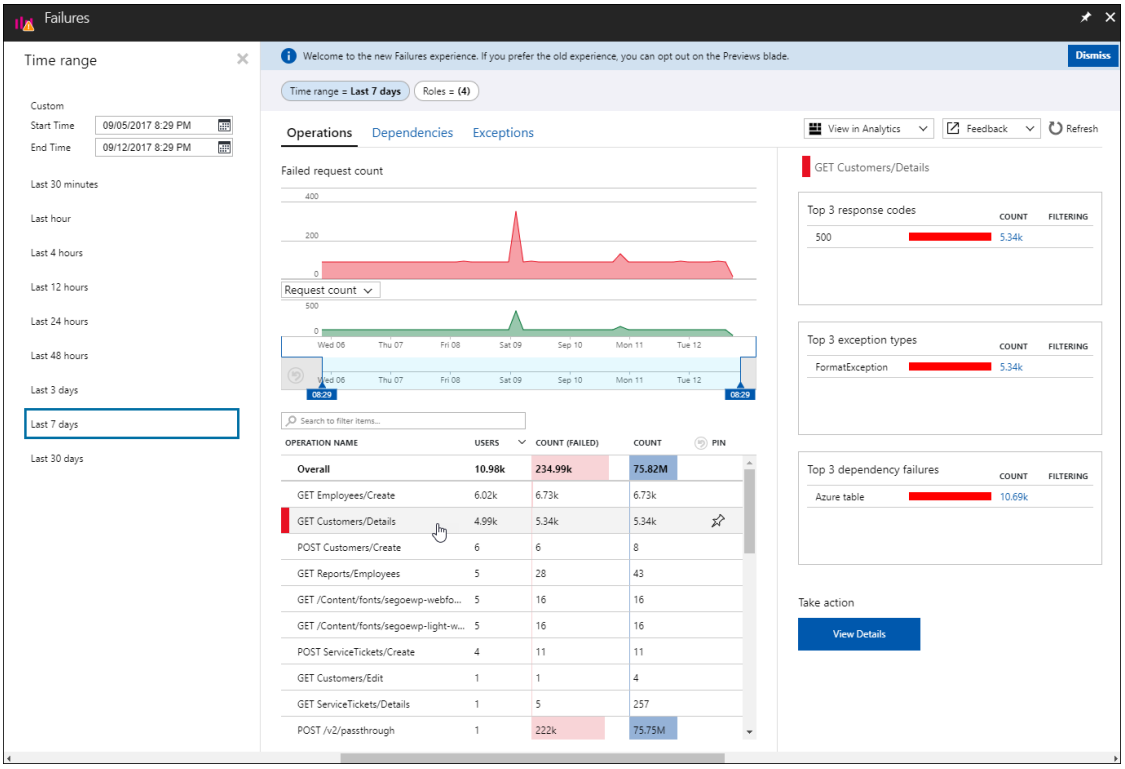
Analyze failures

Application Insights collects any failures in your application and lets you view their frequency across different operations to help you focus your efforts on those with the highest impact. You can then drill down on details of these failures to identify root cause.

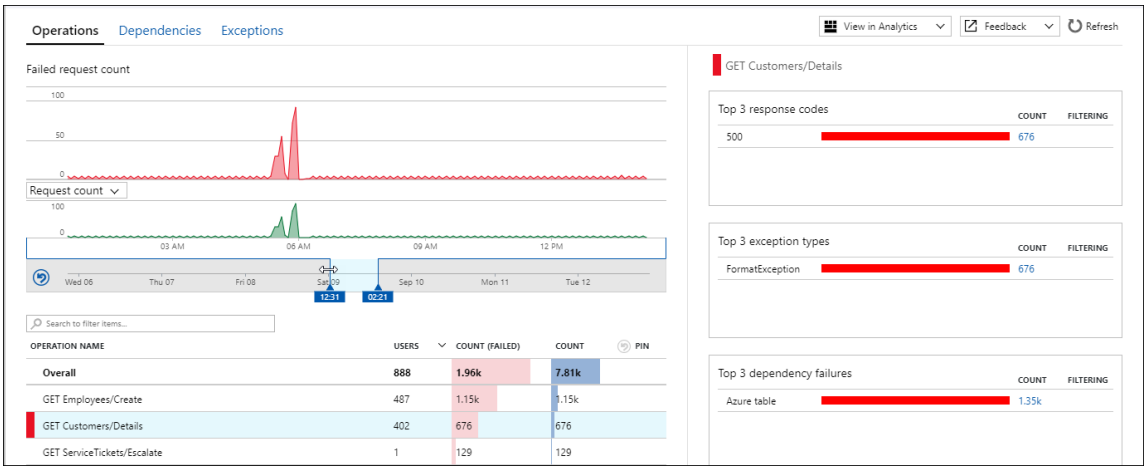
1. Select Application Insights and then your subscription.
2. To open the Failures panel either select Failures under the Investigate menu or click the Failed requests graph.



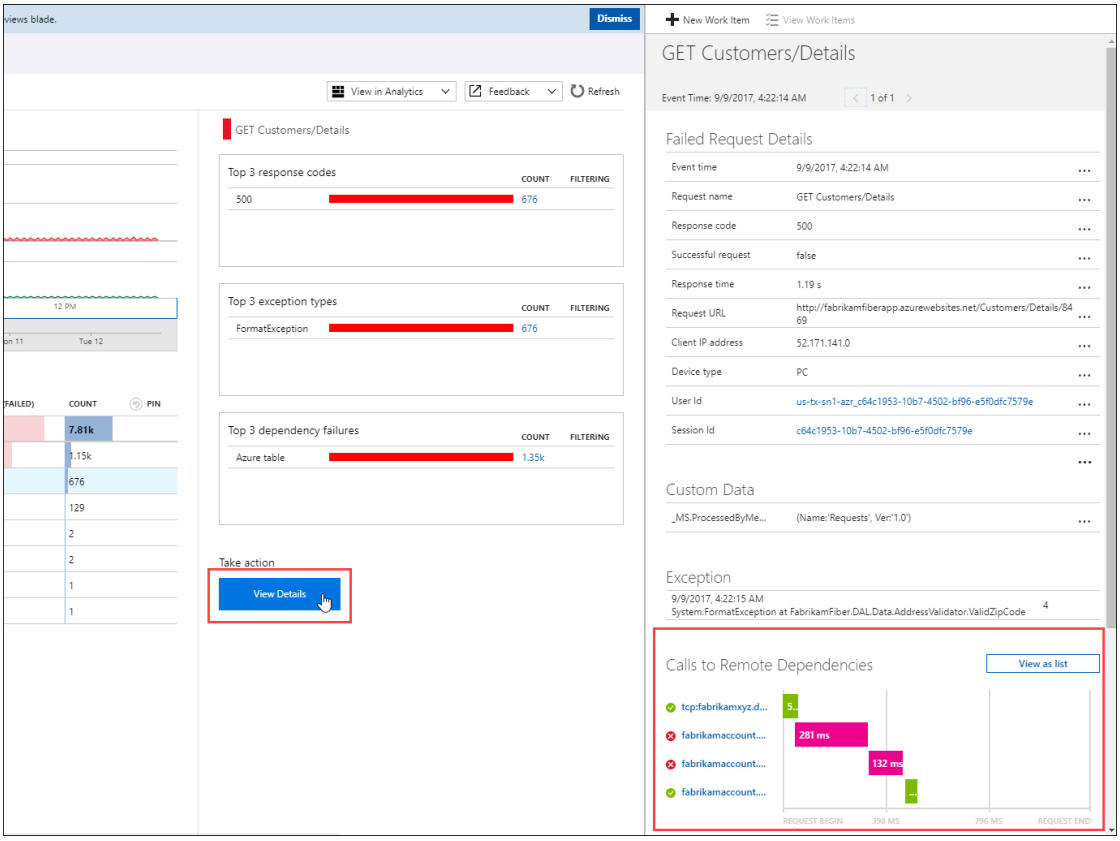
3. The Failed requests panel shows the count of failed requests and the number of users affected for each operation for the application. By sorting this information by user you can identify those failures that most impact users. In this example, the GET Employees/Create and GET Customers/Details are likely candidates to investigate because of their large number of failures and impacted users. Selecting an operation shows further information about this operation in the right panel.



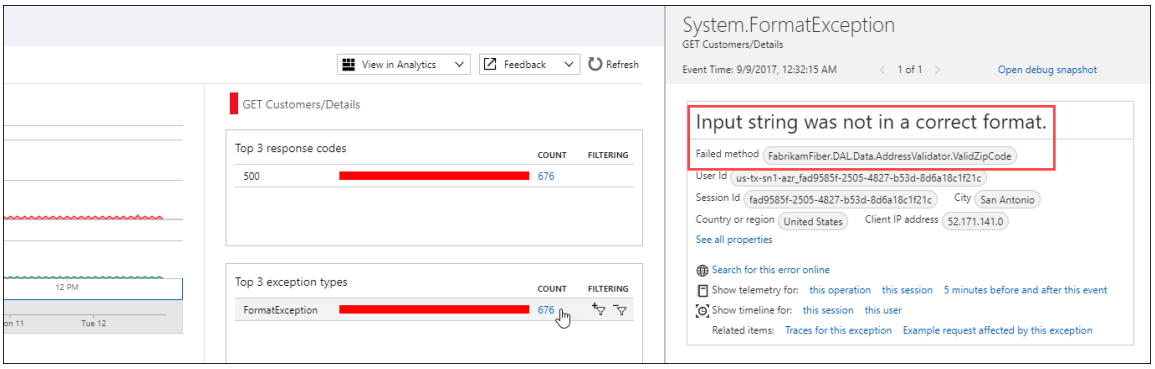
4. Reduce the time window to zoom in on the period where the failure rate shows a spike.



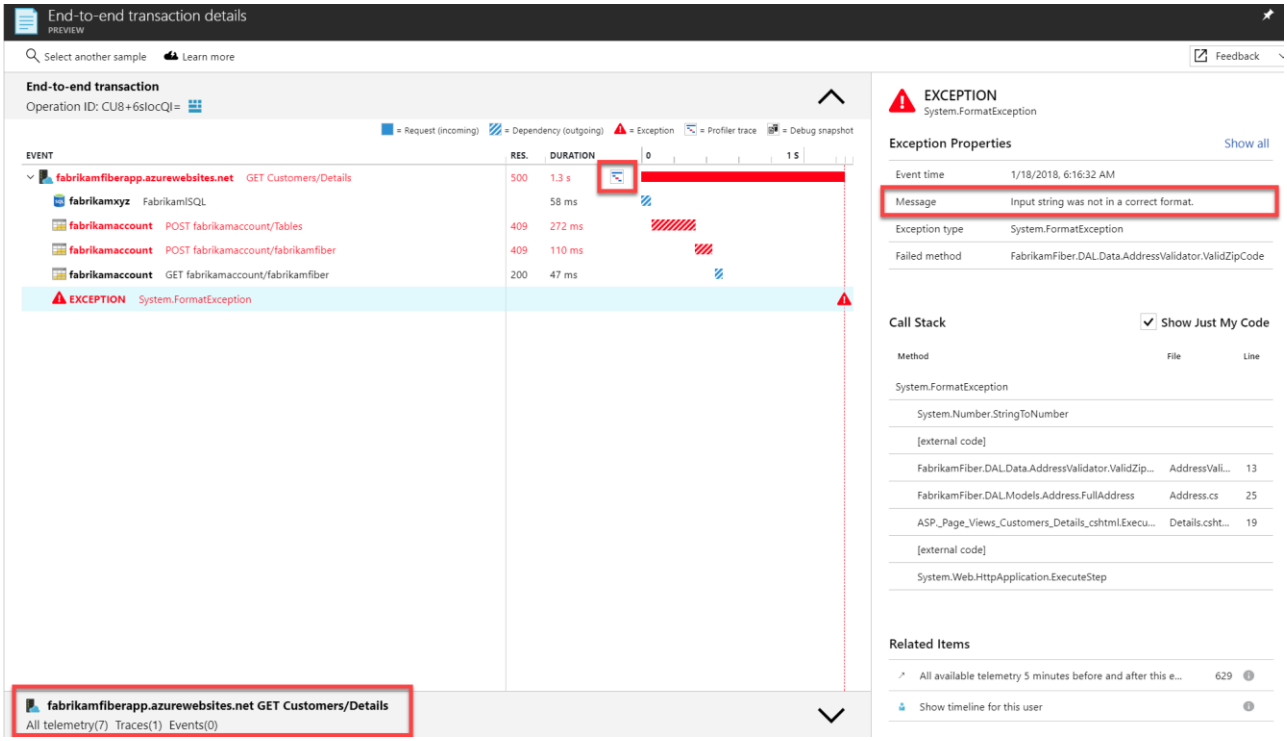
5. Click View Details to see the details for the operation. This includes a Gantt chart that shows two failed dependencies which collectively took almost half of a second to complete. You can find out more about analyzing performance issues by completing the tutorial Find and diagnose performance issues with Azure Application Insights.



6. The operations detail also shows a FormatException which appears to have caused the failure. Click the exception or on the Top 3 exception types count to view its details. You can see that it's due to an invalid zip code.



With the preview enabled, you can see the time spent in dependency calls, along with any failures or exceptions in a unified experience. For cross-component transactions, the Gantt chart along with the details pane can help you quickly diagnose the root-cause component, dependency or exception. You can expand the bottom section to see time-sequence of any traces or events collected for the selected component-operation. Learn more about the new experience


End-to-end transaction details
PREVIEW
Select another sample
Learn more
Feedback
End-to-end transaction
Operation ID: CU8+6sIocQI=
= Request (incoming)
= Dependency (outgoing)
= Exception
= Profiler trace
= Debug snapshot
EVENT
RES.
DURATION
0
1 S
fabrikamfiberapp.azurewebsites.net GET Customers/Details 500 1.3 s
fabrikamxyz FabrikamISQL 58 ms
fabrikamaccount POST fabrikamaccount/Tables 409 272 ms
fabrikamaccount POST fabrikamaccount/fabrikamfiber 409 110 ms
fabrikamaccount GET fabrikamaccount/fabrikamfiber 200 47 ms
EXCEPTION System.FormatException
fabrikamfiberapp.azurewebsites.net GET Customers/Details
All telemetry(7) Traces(1) Events(0)
EXCEPTION
System.FormatException
Exception Properties
Show all
Event time 1/18/2018, 6:16:32 AM
Message Input string was not in a correct format.
Exception type System.FormatException
Failed method FabrikamFiber.DAL.Data.AddressValidator.ValidZipCode
Call Stack
Show Just My Code
Method
File
Line
System.FormatException
System.Number.StringToNumber
[external code]
FabrikamFiber.DAL.Data.AddressValidator.ValidZip... AddressVali... 13
FabrikamFiber.DAL.Models.Address.FullAddress Address.cs 25
ASP._Page_Views_Customers_Details_cshtml.Execu... Details.csht... 19
[external code]
System.Web.HttpApplication.ExecuteStep
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Show timeline for this user