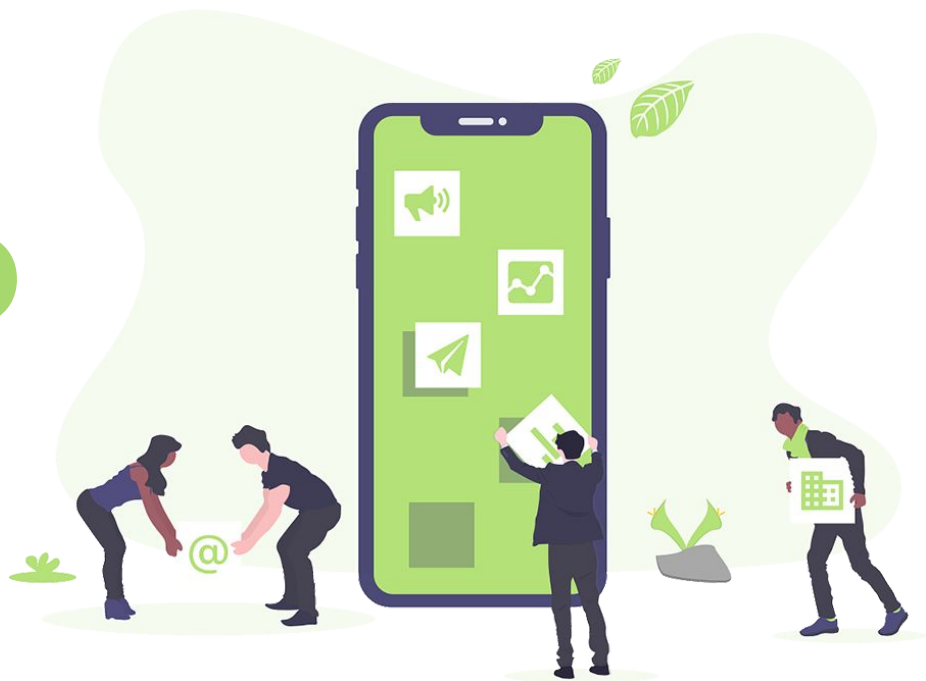
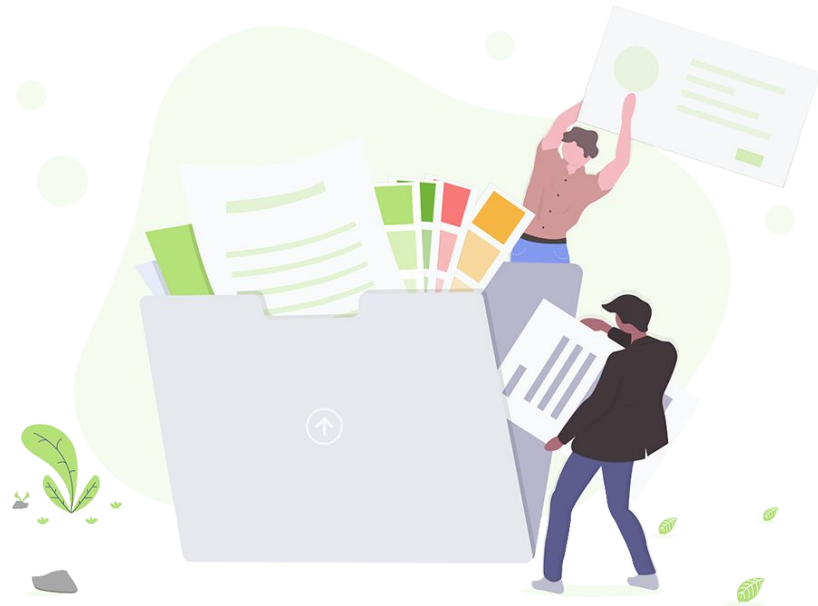


- Log4net
- Serilog
- Sentry.io



1. Log4net



Estrutura

- O framework é construído sobre o conceito de camadas e possui 4 principais componentes: Logger, Repository, Appender, e Layout.
- Suporta múltiplos frameworks
- XML and C# based
- Dynamic configuration
- Modular and extensible desing
- Alta performace com frequabilidade
- Filtros

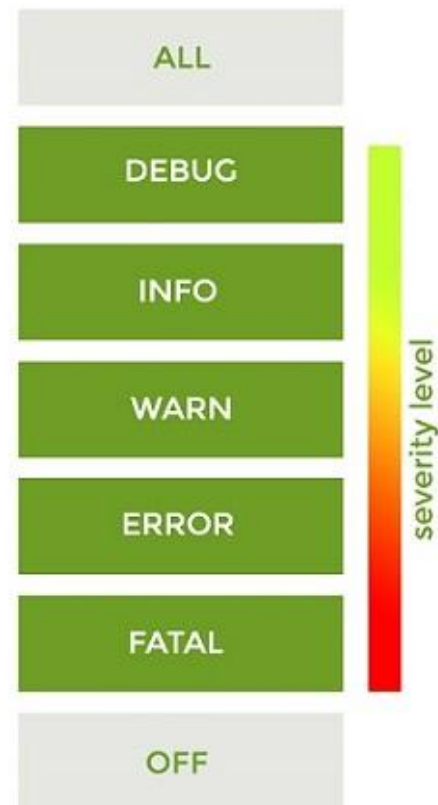
```
<filter
type="log4net.Filter.Level
IRangeFilter">
  <levelMin value="INFO"
/>
  <levelMax
value="FATAL" />
</filter>
```

Níveis

o log4Net oferece sete níveis de log:

1. Off
2. Fatal
3. Error
4. Warn
5. Info
6. Debug
7. All

LOG4NET LEVELS



Layouts

sequência	descrição
%date	Mostra a data usando as informações de fuso horário local. Esta data pode ser formatada usando as chaves e um padrão de layout como %date{MMMM dd, aaaa hh:mm:ss,fff} para exibir a saída como "01 de janeiro de 2011 14:15:43,767 " . E aconselhável que você use um dos formatadores de datas do log4net (ABSOLUTE , DATE , ou ISO8601) , uma vez que oferecem um melhor desempenho.
%utcdatetime	É igual ao modificador date% , mas gera em tempo universal. Os modificadores de data/hora todos funcionam da mesma maneira .
%exception	Se uma exceção é passada, ela será inserida e uma nova linha será colocada após a exceção. Se nenhuma exceção for passada , essa entrada será ignorada e nenhuma nova linha irá ser colocada. A nova linha é geralmente colocado na extremidade do log de entrada, e, geralmente, uma nova linha também é colocada antes da exceção.
%level	Este é o nível especificado para o evento (DEBUG , INFO, WARN , etc.)
%message	Esta é a mensagem que você passou para o log de eventos.
%newline	Esta é uma nova entrada de linha . Com base na plataforma na qual você está usando o aplicativo, esta será traduzida para o caractere de nova linha apropriado. <i>(Este é o método preferido para introduzir uma nova linha e não tem problemas de desempenho em comparação com os operadores específicos da plataforma.)</i>
%timestamp	Indica o número de milissegundos desde o início da aplicação.
%thread	Informa o nome da thread onde a entrada foi feita <i>(ou o número se o segmento não for nomeado)</i> .
%identity	Indica o nome do usuário atual usando o método Principal.Identity.Name
%location	É útil se você estiver rodando no modo Debug . Informa onde o método log foi chamado <i>(número da linha, método)</i> .
%line	Indica o número da linha de código de entrada
%method	Indica o método que chamou o log de entrada
%username	Exibe a saída da propriedade WindowsIdentity .

Outputs types

Log4Net possui saída para vários destinos de log. E para tal utiliza do Appender para registrar eventos de log em alguma representação externa. Por exemplo:

- `log4net.Appender.RollingFileAppender`
- `log4net.Appender.ConsoleAppender`
- `log4net.Appender.AdoNetAppender`
- `log4net.Appender.SmtpAppender`
- `log4net.Appender.RollingFileAppender`

Todos os tipos é possível ver na documentação oficial:

<https://logging.apache.org/log4net/release/features.html>



2. Serilog



Estrutura

- É fácil de configurar, possui uma API limpa e é portátil entre plataformas .NET recentes.
- Suporta múltiplos frameworks
- XML and C# based configuration
- Dynamic configuration
- Modular and extensible desing
- Alta performace com frequabilidade

- Filtros

```
Log.Logger = new LoggerConfiguration()  
    .MinimumLevel.Debug()  
    .WriteTo.Console()  
    .CreateLogger();
```

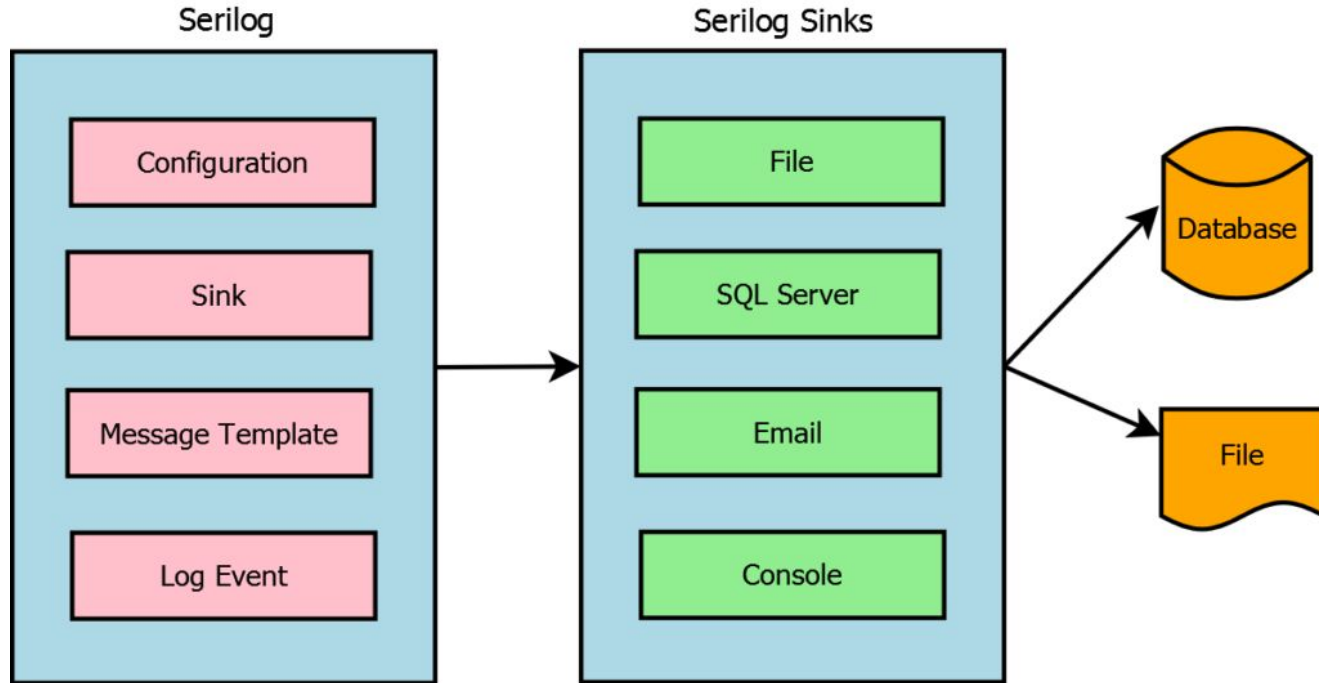

Níveis

o serilog oferece seis níveis de log:

1. Verbose
2. Debug
3. Information
4. Warning
5. Error
6. Fatal



Outputs types



Outputs types

O serilog também possui saída para vários destinos de log.
Por exemplo:

- Serilog.Sinks.File
- Serilog.Sinks.Console
- Serilog.Sinks.Email
- Serilog.Sinks.AzureDocumentDB
- Serilog.Sinks.NLog
- Serilog.Sinks.Log4Net
- Serilog.Sinks.MariaDB
- Serilog.Sinks.Sentry

<https://github.com/serilog/serilog/wiki/Provided-Sinks>

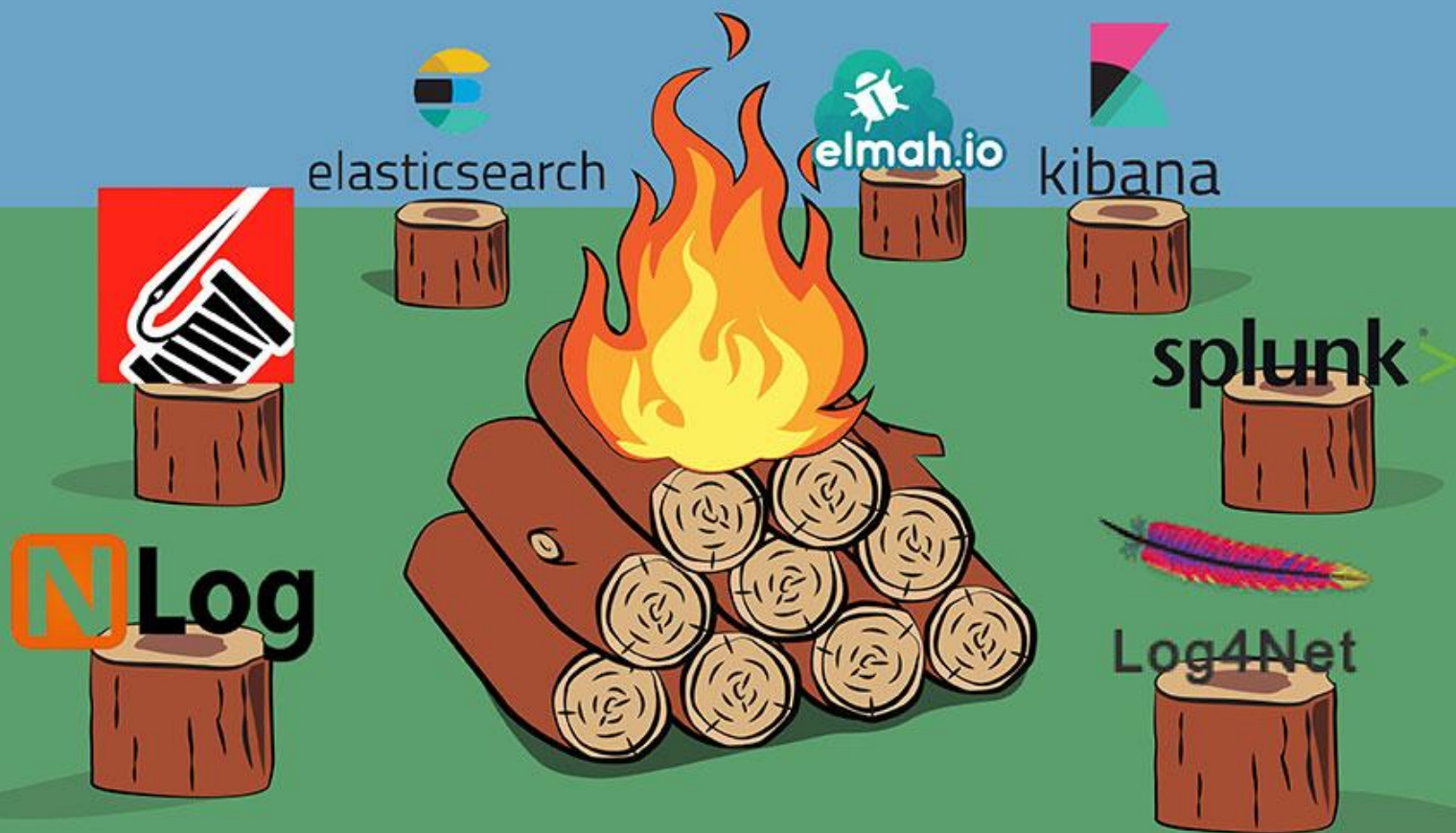


Modern day Practice!

1. Use Log Levels
2. Use structured Logging
3. Use Log Exceptions
4. Use Logging Frameworks
5. Apply Log context
6. Enable only high-severity logs in Production
7. Redact Sensitive Information



Qual escolher?



	Package	Downloads
1	newtonsoft.json	19,568,208
2	castle.core	6,239,462
3	serilog	5,474,291
20	nlog	2,470,448
28	log4net	1,975,222

● Serilog
Search term

● nlog
Search term

● log4net
Search term

+ Add comparison

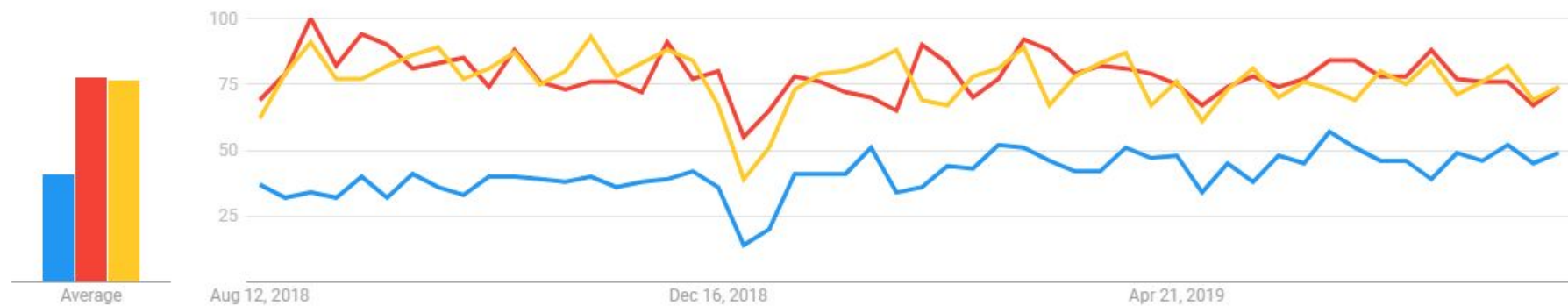
Worldwide ▾

Past 12 months ▾

All categories ▾

Web Search ▾

Interest over time ?



Logging VS monitoring

Competidores ou complementos?



3. Sentry.io

The most popular open
source



Estrutura

O Sentry é uma empresa de código aberto, fornecendo uma plataforma de monitoramento de aplicativos que ajuda a identificar problemas em tempo real.

- Se tudo der errado, você saberá onde os erros estão acontecendo, com que frequência eles acontecem e quem é afetado
- URL, os parâmetros e as informações da sessão do erro.
- Filtro traços barulhentos com aplicativos, estrutura e visualizações de erro brutas.

SENTRY.IO

Sentry SDK for .NET

build passing build passing tests ✓ 3079 codecov 86% chat 65 online

Integrations	Downloads	NuGet Stable	NuGet Preview
Sentry	downloads 2.8M	nuget v2.1.4	nuget v2.1.5-beta
Sentry.Extensions.Logging	downloads 1.9M	nuget v2.1.4	nuget v2.1.5-beta
Sentry.AspNetCore	downloads 1.6M	nuget v2.1.4	nuget v2.1.5-beta
Sentry.Serilog	downloads 553k	nuget v2.1.4	nuget v2.1.5-beta
Sentry.Log4Net	downloads 51k	nuget v2.1.4	nuget v2.1.5-beta
Sentry.NLog	downloads 103k	nuget v2.1.4	nuget v2.1.5-beta
Sentry.Protocol	downloads 2.7M	nuget v2.1.4	nuget v2.1.5-beta

FB

fox ▾

slbfox

Projects

Issues

Discover

Performance

Alerts

Releases new

User Feedback

Activity

Stats

Settings

5

Setup Sentry

5 Remaining tasks

Try Business

Help

What's new 1

fox-bn ▾

All Environments ▾

Last 14 days

Issues (13)

Sort by: Last Seen ▾

Unresolved Issues ▾

is:unresolved

Resolve ▾

Ignore ▾

Merge

⋮

▶

GRAPH: 24h 14d EVENTS ⓘ USER

Error level: Error

❌

System.NullReferenceException

PropertyType.GetAll

Object reference not set to an instance of an object.

FOX-BN-A

a few seconds ago – 24 minutes old

API.Presentation.API.Middlewares.ExceptionMiddleware

1

2

❌

Application is shutting down...

FOX-BN-D

a minute ago – a minute old

Microsoft.Hosting.Lifetime

1

1

❌

The response could not be cached for this request.

FOX-BN-C

24 minutes ago – 24 n

Microsoft.AspNetCore.ResponseCaching.ResponseCachingMiddleware

1

1

❌

Request finished in 4871.2968ms 500 application/json

FOX-BN-B

24 minutes ago – 24 minutes old

Microsoft.AspNetCore.Hosting.Diagnostics

1

1

❌

Executed action "API.Presentation.API.Controllers.PropertyTypeController.GetAll (API..."

FOX-BN-9

24 minutes ago – 24 minutes old

Microsoft.AspNetCore.Mvc.Infrastructure.ControllerActionInvoker

1

1

❌

Route matched with "{action = \"GetAll\", controller = \"PropertyType\"}": Executing co...

FOX-BN-8

24 minutes ago – 24 minutes old

Microsoft.AspNetCore.Mvc.Infrastructure.ControllerActionInvoker

1

1

❌

No cached response available for this request.

FOX-BN-7

24 minutes ago – 24 n

Microsoft.AspNetCore.ResponseCaching.ResponseCachingMiddleware

1

1

❌

Request starting HTTP/2 GET https://localhost:5001/propertyTypes/combo

1

1

log20200719.log X

API.Presentation.API > logs > log20200719.log

```
30     at Microsoft.AspNetCore.Mvc.Infrastructure.ResourceInvoker.<InvokeAsync>g__Logged|17_1(ResourceInvoker inv
31     at Microsoft.AspNetCore.Builder.RouterMiddleware.Invoke(HttpContext httpContext)
32     at API.Presentation.API.Middlewares.GlobalMiddleware.InvokeAsync(HttpContext context, RequestDelegate next
33     at Microsoft.AspNetCore.Builder.UseMiddlewareExtensions.<>c__DisplayClass5_1.<<UseMiddlewareInterface>b__1
34 --- End of stack trace from previous location where exception was thrown ---
35     at API.Presentation.API.Middlewares.ExceptionMiddleware.InvokeAsync(HttpContext context, RequestDelegate r
36 System.NullReferenceException: Object reference not set to an instance of an object.
37     at API.Presentation.API.Controllers.PropertyTypeController.GetAll() in C:\Users\luxfacta\Music\treinamento
38     at Lambda_method(Closure , Object , Object[] )
39     at Microsoft.Extensions.Internal.ObjectMethodExecutor.Execute(Object target, Object[] parameters)
40     at Microsoft.AspNetCore.Mvc.Infrastructure.ActionMethodExecutor.SyncActionResultExecutor.Execute(IActionRe
41     at Microsoft.AspNetCore.Mvc.Infrastructure.ControllerActionInvoker.InvokeActionMethodAsync()
42     at Microsoft.AspNetCore.Mvc.Infrastructure.ControllerActionInvoker.Next(State& next, Scope& scope, Object&
43     at Microsoft.AspNetCore.Mvc.Infrastructure.ControllerActionInvoker.InvokeNextActionFilterAsync()
44 --- End of stack trace from previous location where exception was thrown ---
45     at Microsoft.AspNetCore.Mvc.Infrastructure.ControllerActionInvoker.Rethrow(ActionExecutedContextSealed cor
46     at Microsoft.AspNetCore.Mvc.Infrastructure.ControllerActionInvoker.Next(State& next, Scope& scope, Object&
47     at Microsoft.AspNetCore.Mvc.Infrastructure.ControllerActionInvoker.InvokeInnerFilterAsync()
48 --- End of stack trace from previous location where exception was thrown ---
```


BREADCRUMBS

	Microsoft.AspNe...	Request starting HTTP/2 GET https://localhost:5001/propertyTypes/combo	21:56:37
	Microsoft.AspNe...	No cached response available for this request.	21:56:37
	Microsoft.AspNe...	Route matched with "{action = \"GetAll\", controller = \"PropertyTypeCore.Mvc.IActionResult GetAll()\" on controller \"API.Presentation.API.Controllers.PropertyTypeController\" (\"API.Presentation.API\")}.". Executing controller action with signature "Microsoft.AspNetCore.Mvc.IActionResult GetAll()" on controller "API.Presentation.API.Controllers.PropertyTypeController" ("API.Presentation.API").	21:56:39
	Microsoft.AspNe...	Executed action "API.Presentation.API.Controllers.PropertyTypeController.GetAll (API.Presentation.API)" in 1672.7139ms	21:56:41
	exception	System.NullReferenceException: Object reference not set to an instance of an object.	21:56:41

System.NullReferenceException .

● Object reference not set to an ins... | API.Presentation.API.Middlewares.ExceptionMiddleware

✓ Resolve ▼

⊗ Ignore ▼

★

🗑️ ▼

● Share ▼

Details Comments 0 User Feedback 0 Attachments Tags Events Merged

Event [cd89d32897b942aead17fa71beb5ce9a](#)
Jul 19, 2020 9:56:41 PM UTC | [JSON \(39.1 KB\)](#)

◀ Older

New ▶

When: 14 minutes ago
Jul 19, 2020 9:56:41 PM UTC
Release: *not configured*

LAST SEEN

When: 14 minutes ago
Jul 19, 2020 9:56:41 PM UTC
Release: *not configured*

MESSAGE

```
Unexpected error: System.NullReferenceException: Object reference not set to an instance of an object.
    at API.Presentation.API.Controllers.PropertyTypeController.GetAll() in C:\Users\luxfacta\Music\trilha10\3-Sentry.io\serilog with sentry.io\api\API.Presentation.API\Controllers\PropertyTypeController.cs:line 36
    at lambda_method(Closure , Object , Object[] )
    at Microsoft.Extensions.Internal.ObjectMethodExecutor.Execute(Object target, Object[] parameters)
    at Microsoft.AspNetCore.Mvc.Infrastructure.ActionMethodExecutor.SyncActionResultExecutor.Execute(
    IActionResultTypeMapper mapper, ObjectMethodExecutor executor, Object controller, Object[] arguments)
    at Microsoft.AspNetCore.Mvc.Infrastructure.ControllerActionInvoker.InvokeActionMethodAsync()
    at Microsoft.AspNetCore.Mvc.Infrastructure.ControllerActionInvoker.Next(State& next, Scope& scope, Object& state, Boolean& isCompleted)
```


What is the best alternative to Sentry?

- Rollbar
- Raygun
- AirBrake
- Bugsnag
- Logentries
- ErrLytics
- AppFlux



Airbrake.io



Airbrake.io

<https://stephaniebritoc-gmail-com.airbrake.io/>
<https://github.com/airbrake/sharpbrake>

NuGet

Package	Description	NuGet link
Sharpbrake.Client	C# client with support for .NET 4.5.2 and above	nuget v5.1.0
Sharpbrake.Http.Module	HTTP module for ASP.NET request pipeline	nuget v3.1.0
Sharpbrake.Http.Middleware	Middleware component for new ASP.NET Core pipeline	nuget v3.1.0
Sharpbrake.NLog	Airbrake NLog target	nuget v2.1.0
Sharpbrake.NLog.Web	Airbrake NLog target for ASP.NET	nuget v2.1.0
Sharpbrake.Log4net	Airbrake log4net appender	nuget v2.1.0
Sharpbrake.Log4net.Web	Airbrake log4net appender for ASP.NET	nuget v2.1.0
Sharpbrake.Extensions.Logging	Airbrake provider for Microsoft.Extensions.Logging	nuget v2.1.0



Errors

Please visit the dashboard for more info:

[Errors Dashboard](#)



Deploys

Please visit the dashboard for more info:

[Deploys Dashboard](#)



Performance data

Please visit the dashboard for more info:

[Performance Dashboard](#)

Status: unresolved ☒ Search...

☐ 1-4 of 0

Received 1 new error and 1 new occurrence

☐ 1 info 32 seconds ago

Hosting environment: Production

☐ 1 info 32 seconds ago

Content root path: C:\Users\luxfacta\Music\treinamento\Trilha10\3-Sentry.io\log4net with airbrake.io\api\API.Presentation.API

☐ 1 info 32 seconds ago

Now listening on: http://localhost:5000

☐ 1 info 32 seconds ago

Application started. Press Ctrl+C to shut down.

Chart times in UTC



New errors

4 100%

Occurrences accepted

5 100%

Deploys

0

Code

+0 -0

Hotspots

4 Microsoft.Extensions.Logging.Log4NetLogger

No Activity Yet

As you use Airbrake, you will see a timeline of your project activity here.

See when a [team member](#) resolved an error.

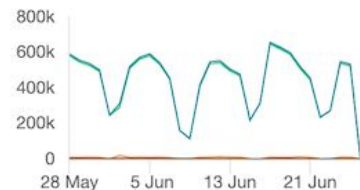
And when a new comment has been made.

You can also [track deploys](#).

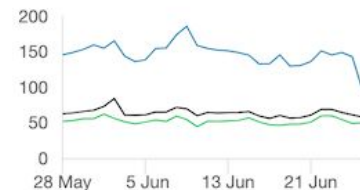
[Add your team members](#) and see each other's activity here.



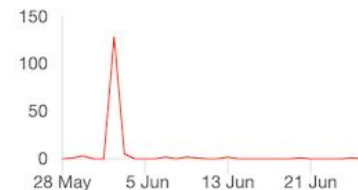
Requests



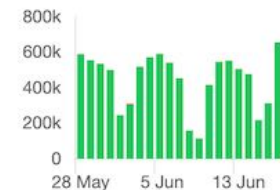
Timing [ms]



Errors



User Satisfaction (Apdex)



170 Routes, Page 1 of 9

ROUTE	REQUESTS		RESPONSE CODES				RESPONSE TIME (PERCENTILE)		ERRORS
	TOTAL	RATE	2XX	3XX	4XX	5XX	50TH	95TH	OCCURRE
pr POST /store (.:format)	12.5k	0.29/min					747.69 ms	3.20 s	60
pr POST /api/v4/activity (.:format)	10.5k	0.24/min	2xx 9.1k	3xx 0	4xx 0	5xx 1.3k	3.89 ms	12.80 ms	54
pr GET /member/newsletter_subscribe (.:format)	248	< 0.01/min					26.22 ms	58.78 ms	23
pr POST /store_webhooks (.:format)	48.3k	1.12/min					2.62 ms	2.10 s	17
pr GET /auth/integration/callback (.:format)	4k	0.09/min					1.51 ms	88.15 ms	3

RAYGUN

appsettings.json

```
"RaygunSettings": {  
  "ApiKey": "bcdqkQdhc1t9EczXON4g"  
}
```



<https://app.raygun.com/instructions/25m1vkj/cr>

Startup.cs

```
using Mindscape.Raygun4Net.AspNetCore;  
  
public class Startup  
{  
    public void ConfigureServices(IServiceCollection services)  
    {  
        services.AddMvc();  
        services.AddRaygun(Configuration);  
    }  
  
    public void Configure(IApplicationBuilder app, IHostingEnvironment env, ILoggerFactory loggerFactory)  
    {  
        app.UseExceptionHandler("/Home/Error");  
        app.UseRaygun();  
        app.UseStaticFiles();  
        app.UseMvc(routes =>  
        {  
            routes.MapRoute(  
                name: "default",  
                template: "{controller=Home}/{action=Index}/{id?}");  
            });  
        }  
    }  
}
```

Copy

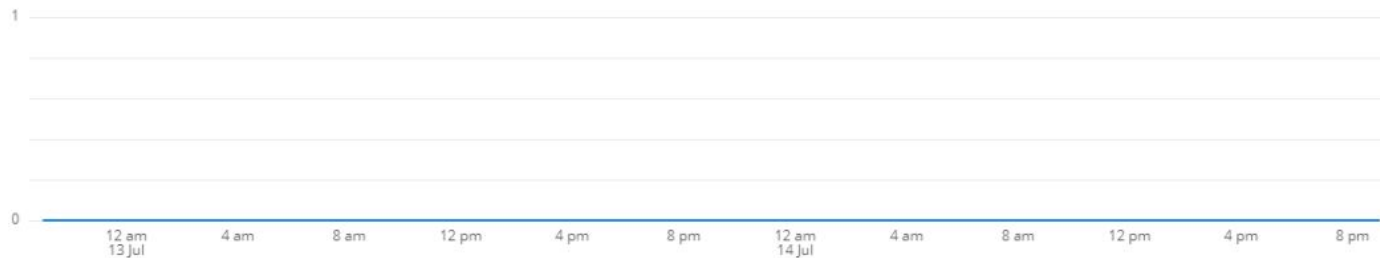
You have 15 days remaining on your Crash Reporting trial. [Upgrade now](#)

Q Search errors

Add filter +

07/12/2020 9:22 PM - 07/14/2020 9:22 PM

Errors by hour



My errors 0

Active 0

Resolved 0

Ignored **0**

Permanently ignored 0


☐ Message

Last seen

Count

Users

No errors, congratulations!

My errors 0		Active 1		Resolved 0		Ignored 0		Permanently ignored 0	
<input type="checkbox"/>	Message					Last seen	Count	Users	
<input type="checkbox"/>	NullReferenceException: Object reference not set to an instance of an object. [Returned while handling GE...	3 minutes ago				1	1		

Applications ▾

Dashboards ▾

app

Invite team

Crash Reporting

- Settings
- Inbound filters
- Reports
- Export

Real User Monitoring

APM

Users

Deployments

Application settings

Integrations

What's New

Contact Raygun

You have 15 days remaining on your Crash Reporting trial. [Upgrade now](#)

NullReferenceException: Object reference not set to an instance of an object. [Returned while handling GET Request]

1 event

Setup an integration +

Active

Assign to ▾

July 19th 2020, 9:21:24 pm

< Newest

<

>

Oldest >

Summary

Error details

HTTP

Environment

Raw data

Error instance data

Occurred on	July 19th 2020, 9:21:24 pm - 3 minutes ago	★
Class name	System.NullReferenceException	★
Message	Object reference not set to an instance of an object.	★
Version	1.0.0.0	★
Tags	None provided	★

Stacktrace

Message: Object reference not set to an instance of an object.

```
API.Presentation.API.Controllers.PropertyTypeController.GetAll() in C:\Users\luxfacta\Music\treinamento\Trilha10\3-Sentry.io\serilog with raygun\api\API.Presentation.API\Controllers\PropertyTypeController.cs:37
(unknown).lambda_method(Closure , Object , Object[]) :-1
```

Total instances

1

Between July 12th 9pm and July 19th 9pm

[View all instances](#)

Instance history

Oldest

When: 3 minutes ago

Time: 9:21:25 pm

Date: July 19th 2020

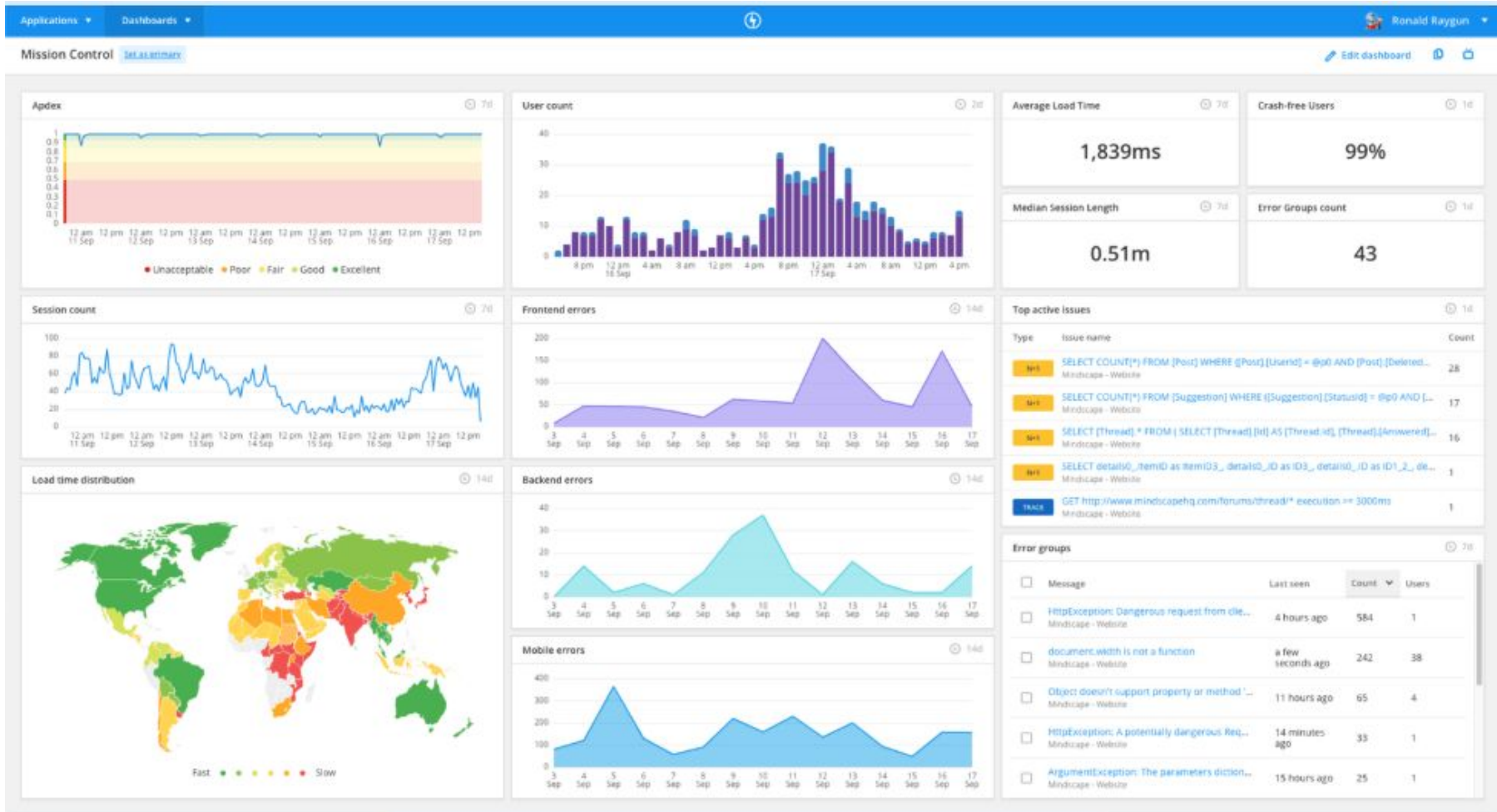
Newest

When: 3 minutes ago

Time: 9:21:24 pm

Date: July 19th 2020

31



Bugsnag



SEVERITY

The severity of an error is automatically captured, but can be overridden within your Bugsnag configuration. There are three levels:

- Info
- Warning
- Error

<https://www.bugsnag.com/>

```
options.Filters.Add(typeof(NotificationFilter));  
});  
services.AddBugsnag(configuration => {  
    configuration.ApiKey = "8172ffc3e76c4d14a7d57d9e9c50e220";  
});  
}
```

1 Error

Introduced Today (1)

Open (1)

- For review (1)
- Assigned to me (0)
- Assigned to anyone (0)
- Issue created (0)

Fixed (0)

Snoozed (0)

Ignored (0)

Bookmarks

+ Bookmark current search

<input type="checkbox"/> ERROR	EVENTS	USERS	LAST TWO WEEKS	STAGE	SEVERITY
<input type="checkbox"/> System.Exception /propertyTypes/combo Test error about 1 minute ago	1	-		P	HANDLED

Thanks!

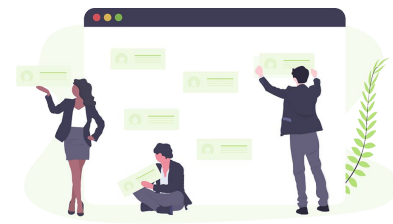
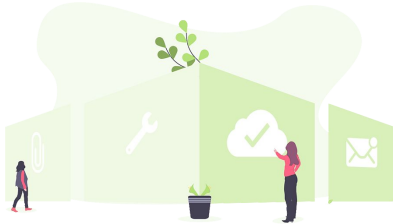
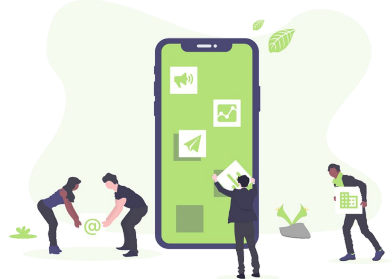
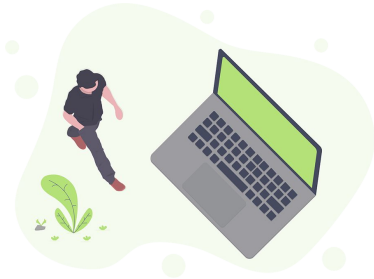
Any questions?

You can find me at:

- @username
- user@mail.me



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Diagrams and infographics

