

# Testing and Deploying Your API



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# Coming Up



## Options for testing API endpoints

- The HTTP\_REPL
- .http-files in Visual Studio



# Coming Up



## Hosting and deploying an API

- Hosting on Azure
- Forwarded headers middleware
- Configuring logging on Azure with Application Insights
- Storing secrets in Azure Key Vault



# Testing API Endpoints



**Test for invalid input**



**Test for correct responses**



**Test your security**



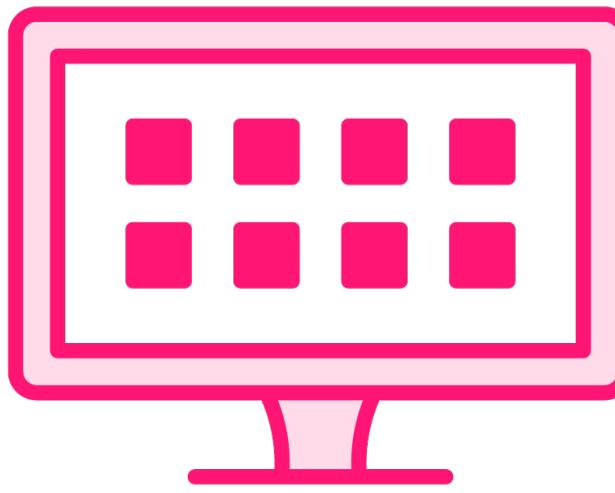
**... and more**



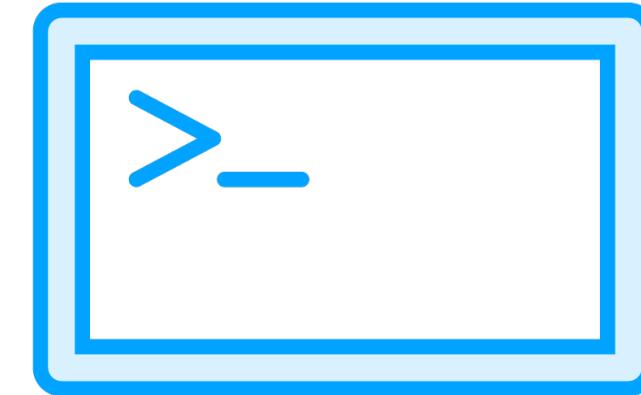
# Testing API Endpoints



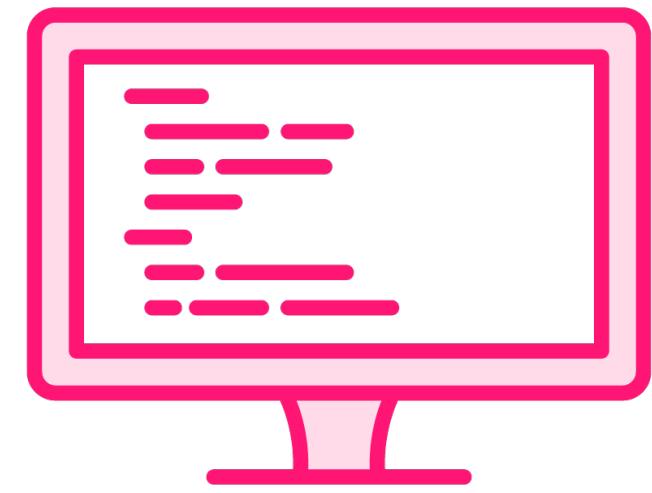
**Swagger**



**Postman**  
**(or comparable  
alternatives)**



**The HTTP REPL**



**.http files**



# Demo



## Instaling the HTTP\_REPL



# Demo



## Testing an API with the `HTTP_REPL`



## Demo



**Supporting authenticated requests when  
testing with the `HTTP_REPL`**



# Demo



## Testing with .http files



## Demo



**Supporting authenticated requests when  
testing with .http files**



# Demo



**Facilitating API testing with  
Endpoints Explorer**



# Publishing

**Creating the set of files required to run the application**



# Deploying

**Effectively copying the published files to the host**



# **Hosting and Deploying an ASP.NET Core API**

## **Local deployment:**

- `ProjectName/bin/{TypeOfBuild}/net8.0/`

## **Local process manager:**

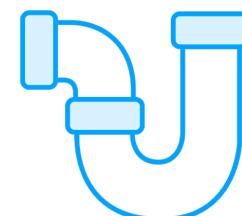
- Kestrel (default)



# Considering Your Deployment and Hosting Options



**Scalability**



**Ease of maintenance**



**Cost**



**Application-specific requirements**



...



Components like proxies  
and load balancers often  
obscure information about  
the request



# **Dealing with Proxies and Load Balancers**

**Information that's often obscured:**

- Original scheme (http(s))
- Originating client IP

**This information is forwarded in  
X-Forwarded headers**



# Demo



## Configuring the forwarded headers middleware



# Demo



## Deploying to an Azure App Service



# Demo



## Configuring logging on Application Insights



# Demo



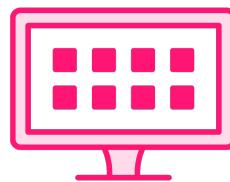
**Improving storing secrets with  
Azure Key Vault**



# Learning More About Deployments



**Consider a more full-featured database server**



**Consider API management**



**Consider automating your Azure infrastructure**



**Consider automating your deployments**



# Summary



## The HTTP REPL (Read Eval Print Loop)

- A command-line tool for testing web APIs

## .http files

- Integrated API testing approach straight from Visual Studio



# Summary



## Publishing

- Creating the set of files required to run the application

## Deploying

- Copying the published files to the host



# Summary



## Deploying to an Azure App Service

- Forwarded headers middleware
- Configure logging on Application Insights
- Store secrets in Azure Key Vault



# The End is Nigh...



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AWESOME!

