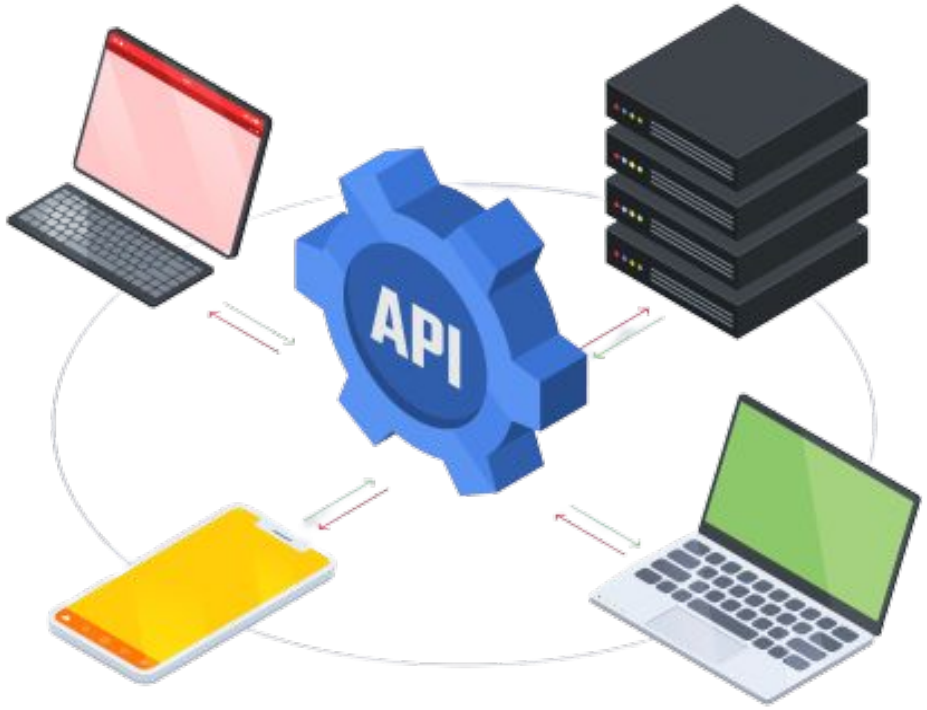
Web APIs

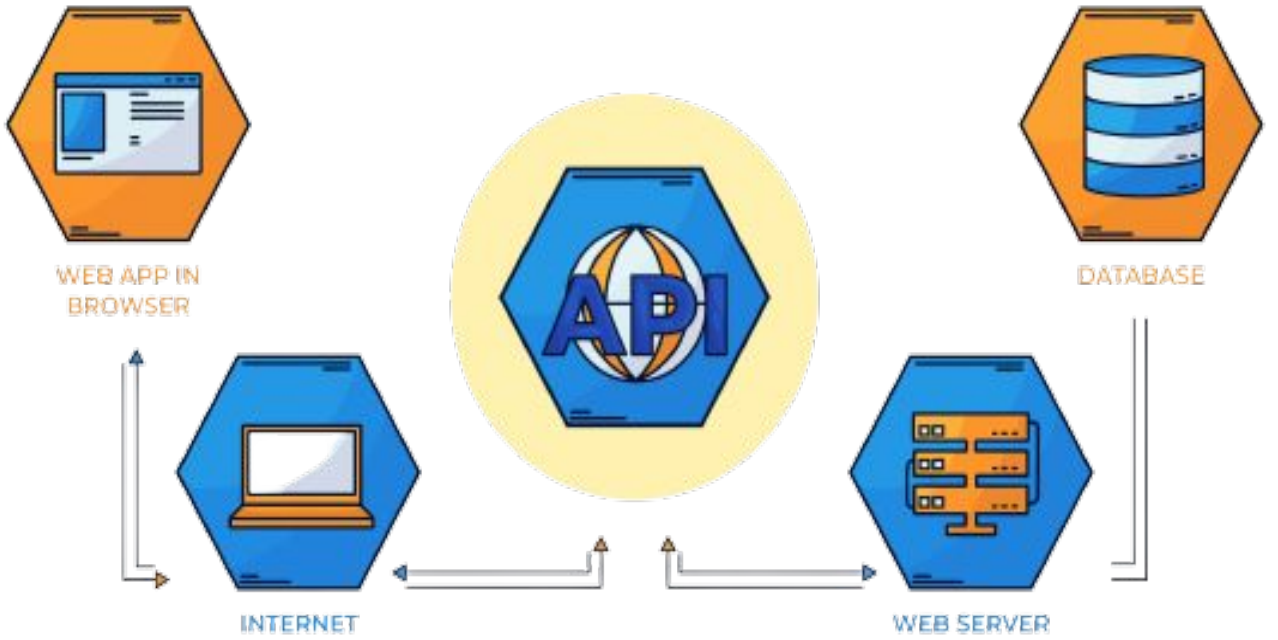
Introduction to Web APIs

- Web APIs are a type of web service that allows client applications to access data and functionality on a server.
- They are becoming increasingly popular in modern web development, as they allow developers to build more modular and scalable applications.

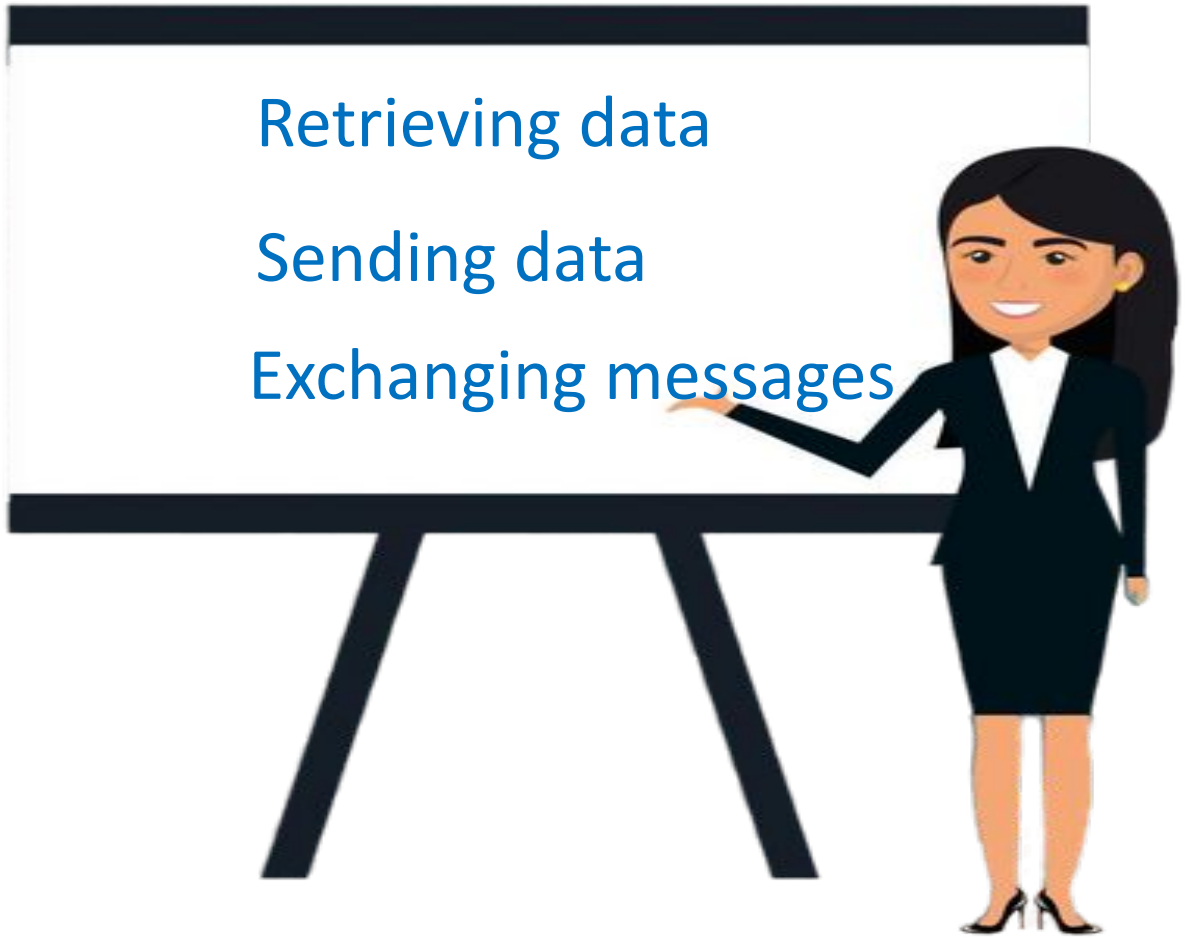


What are the benefits of using Web APIs?

- Modularization
- Scalability
- Reusability



Web APIs can be used to perform a variety of **tasks**, such as:



RESTful API

- RESTful APIs are a type of API that follows the REST architectural style.
- REST stands for Representational State Transfer, and it is a set of design principles that define how web services should be built.

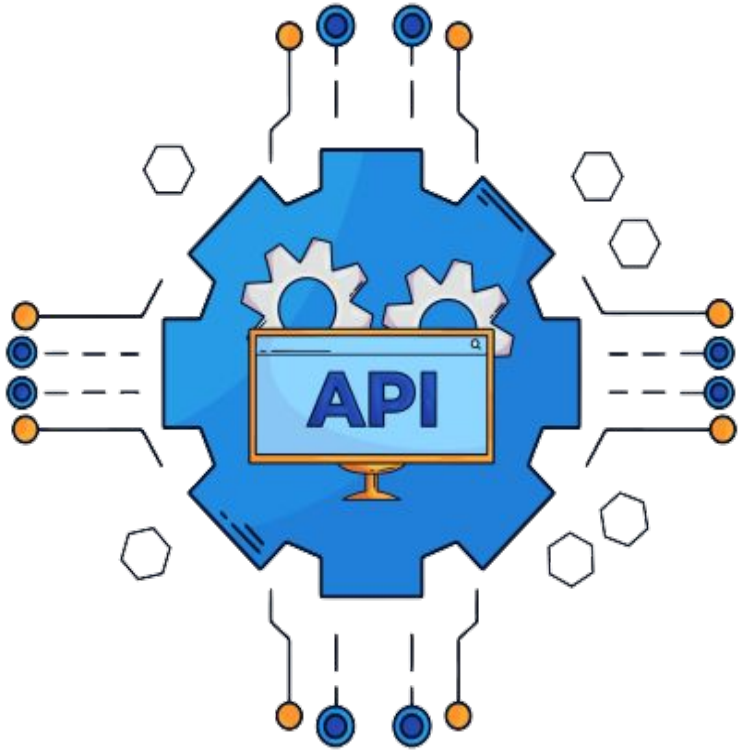
RESTful API design principles

The following are some of the key principles of RESTful API design:

- Resources: Everything in a RESTful API is a resource. A resource can be anything, such as a user, a product, or an order.
- URIs: Each resource is identified by a unique URI.
- HTTP methods: The four HTTP methods (GET, POST, PUT, and DELETE) are used to perform CRUD operations on resources.
- Representations: Resources are represented in a variety of formats, such as JSON, XML, and HTML.

Controller-based API

- A controller-based API is a type of API that uses controllers to handle HTTP requests and return responses.
- Controllers are classes that inherit from the ControllerBase class and contain methods that are called action methods.
- Action methods are used to handle specific types of HTTP requests, such as GET, POST, PUT, and DELETE.



Minimal API

- Minimal APIs are a simplified approach for building fast HTTP APIs with ASP.NET Core.
- You can build fully functioning REST endpoints with minimal code and configuration.
- Skip traditional scaffolding and avoid unnecessary controllers by fluently declaring API routes and actions.

API Versioning

- Versioning of APIs in ASP.NET Core is a process of creating different versions of an API so that new features can be added without breaking existing clients.
- This is done by adding a version number to the API's URL or HTTP header.

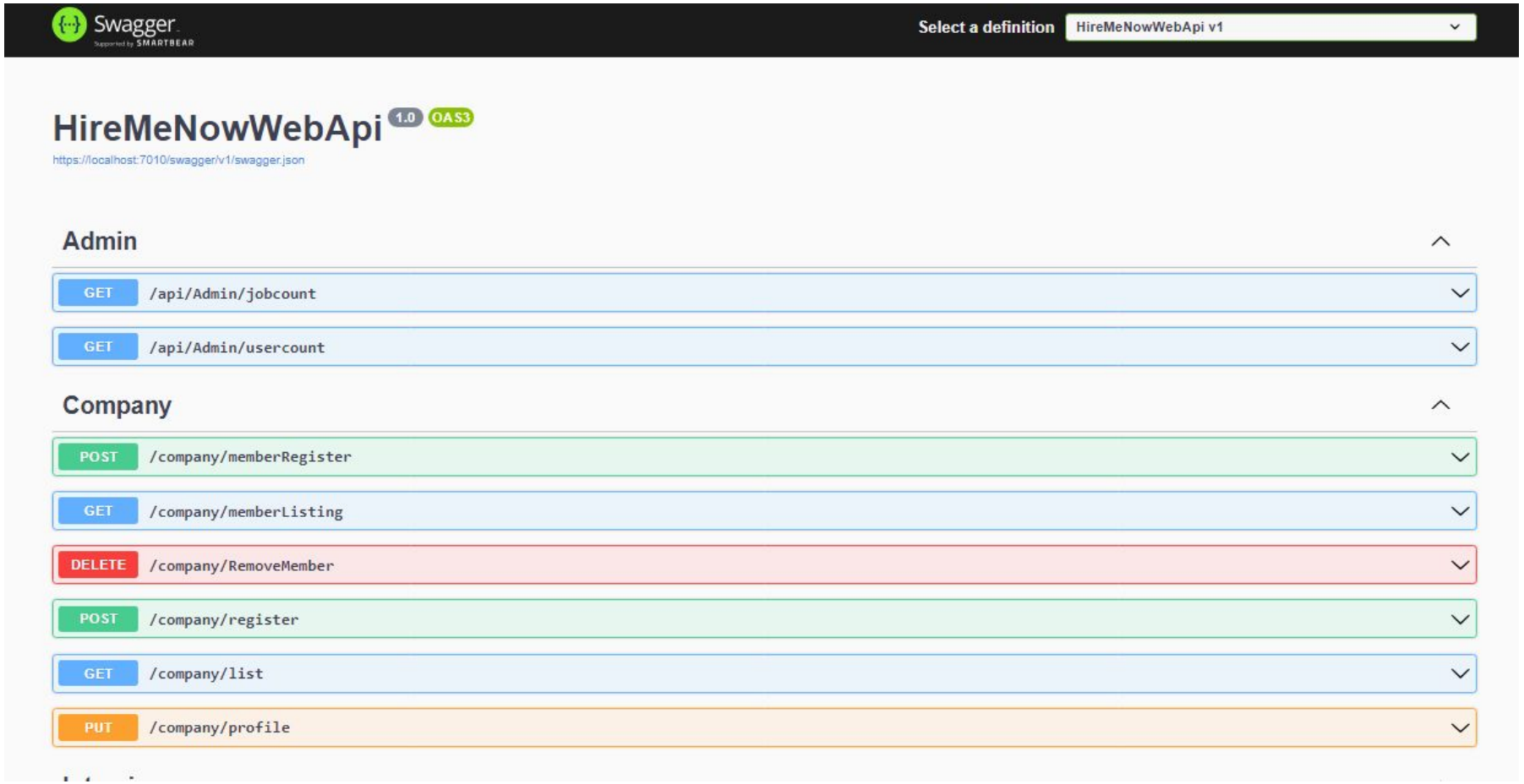
Types of API Versioning

- URL-based Versioning: In this approach, the version number is included in the API endpoint URL.For example, /api/v1/customers or /api/v2/customers.
- Query Parameter Versioning: Versioning information is passed as a query parameter in the API request. For example, /api/customers?version=1.
- Header Versioning: The version number is specified in a custom header in the API request, such as X-API-Version: 1.
- Content Negotiation: The version is determined based on the request's Accept header or content negotiation mechanism, where different media types represent different API versions.

Swagger and Postman

- Swagger and Postman are two tools that can be used to consume APIs.
- Swagger is a tool that can be used to generate documentation for APIs. Postman is a tool that can be used to send HTTP requests to APIs

Swagger


Swagger
Supported by SMARTBEAR
Select a definition
HireMeNowWebApi v1
HireMeNowWebApi
1.0
OAS3
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Admin
GET /api/Admin/jobcount
GET /api/Admin/usercount
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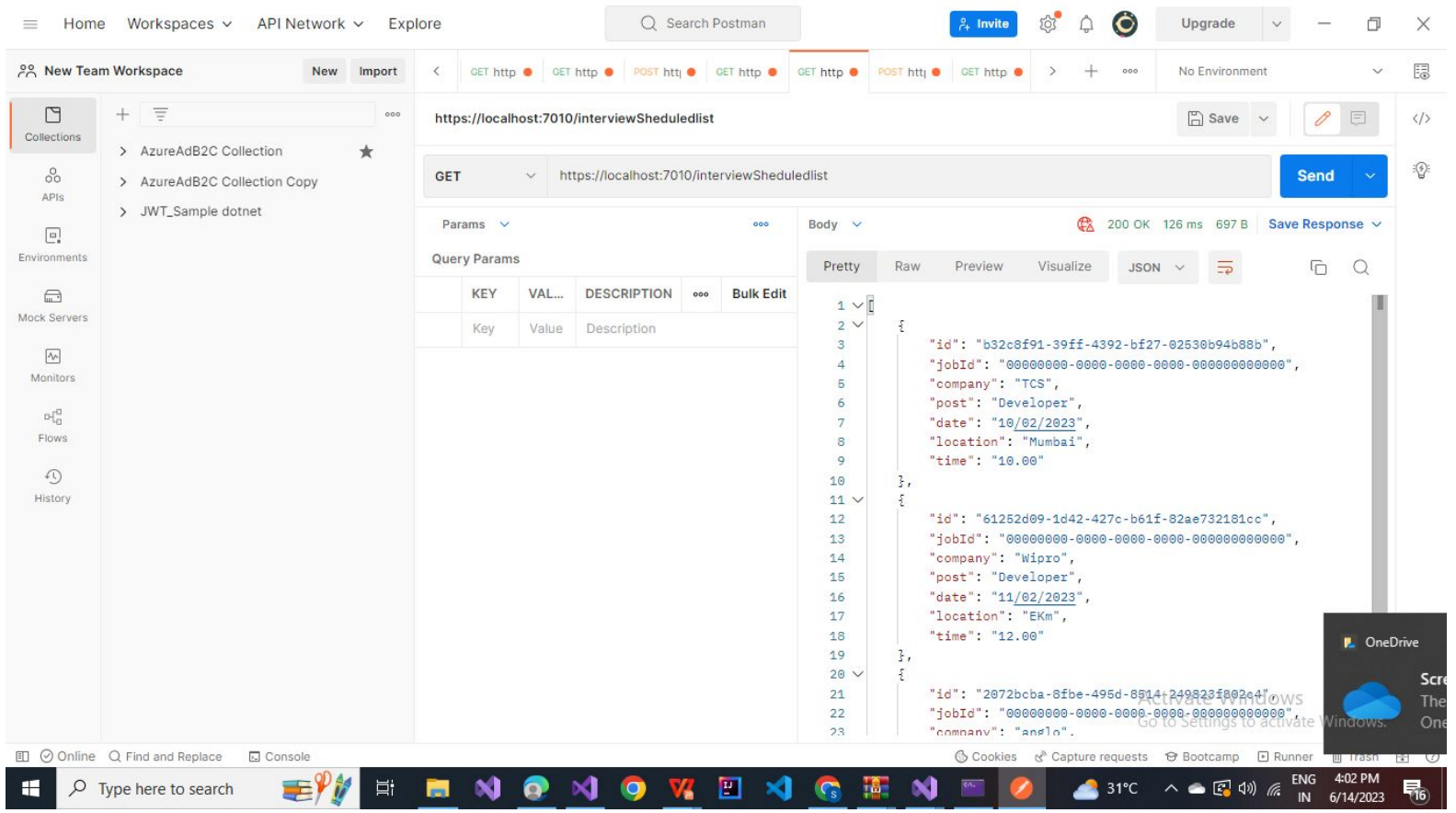
GET /company/memberListing
DELETE /company/RemoveMember
POST /company/register
GET /company/list
PUT /company/profile

Postman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Environments
Mock Servers
Monitors
Flows
History
AzureAdB2C Collection
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Bootcamp
Runner
Trash
OneDrive
Activate Windows
Go to Settings to activate Windows.
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Thank you