AWS re:Invent

NOV. 29 – DEC. 3, 2021 | LAS VEGAS, NV

ENT322

Simplifying .NET transformation

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Agenda

From app to monolith … how we got here

The refactoring process

How AWS Microservice Extractor for .NET helps

Refactoring with AWS Microservice Extractor for .NET

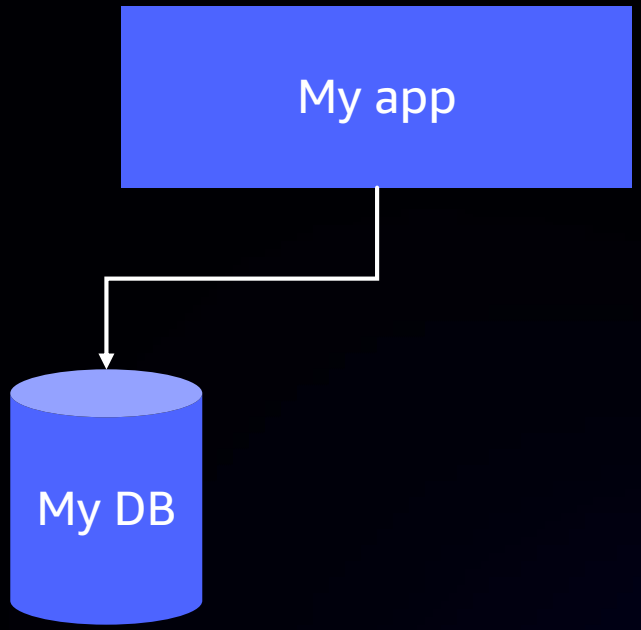
Demo

Q&A

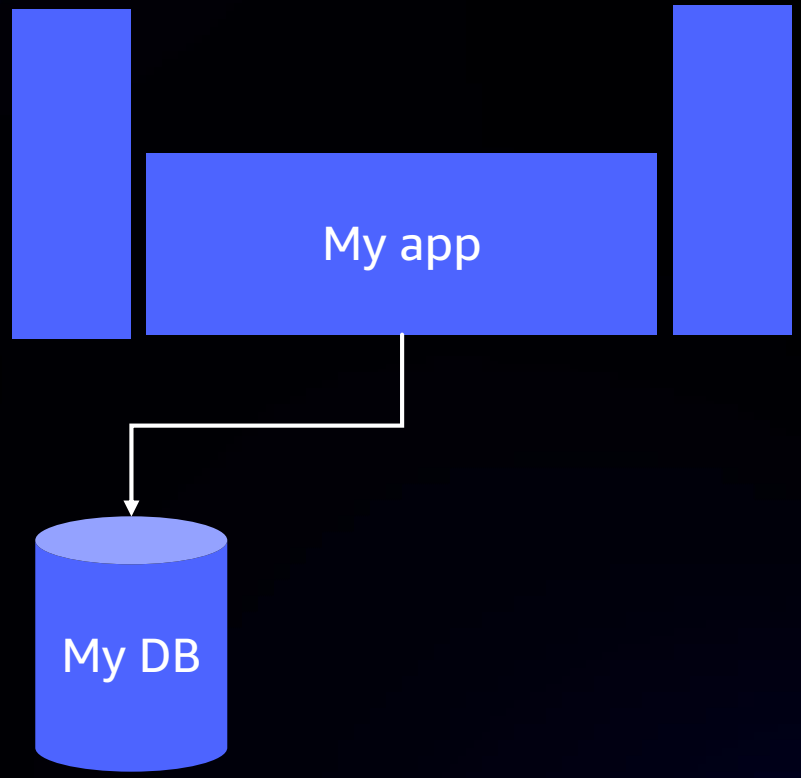
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No one sets out to build a monolith . . .

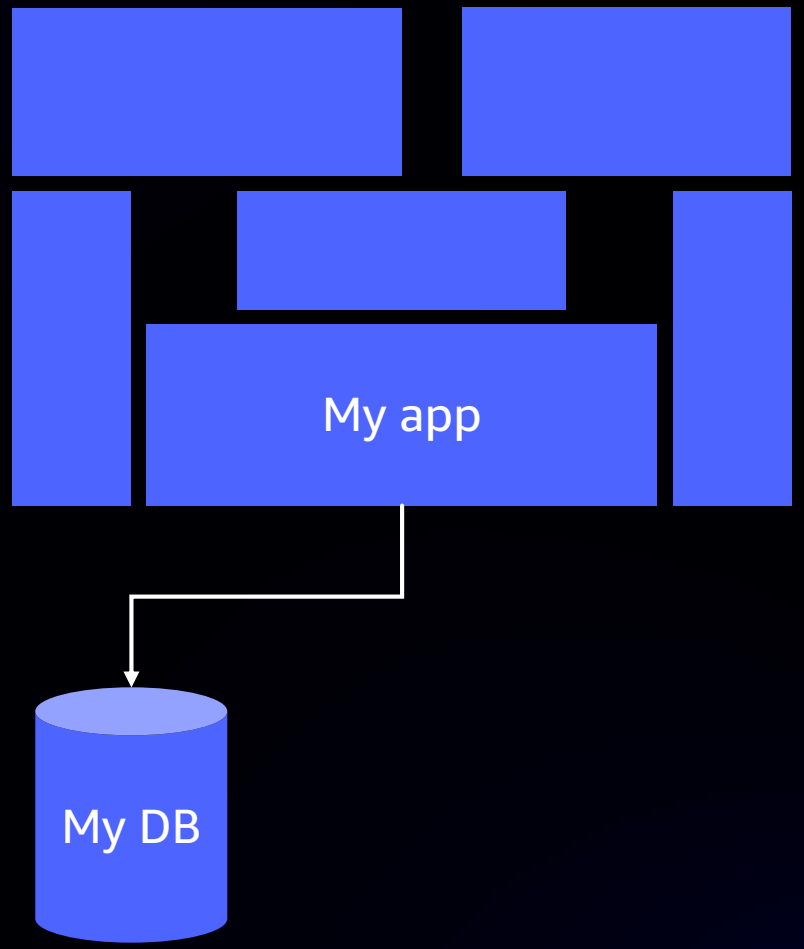
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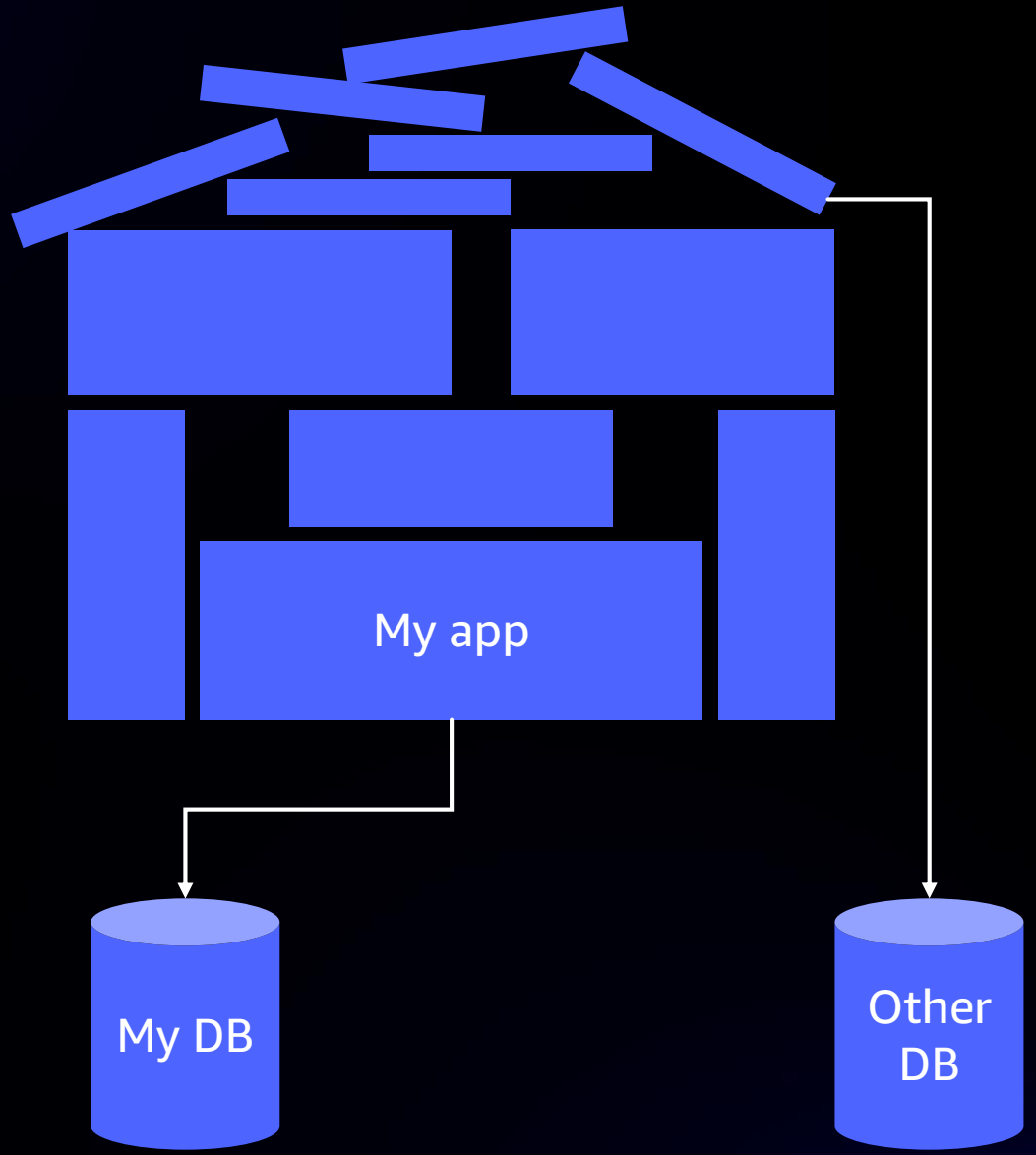
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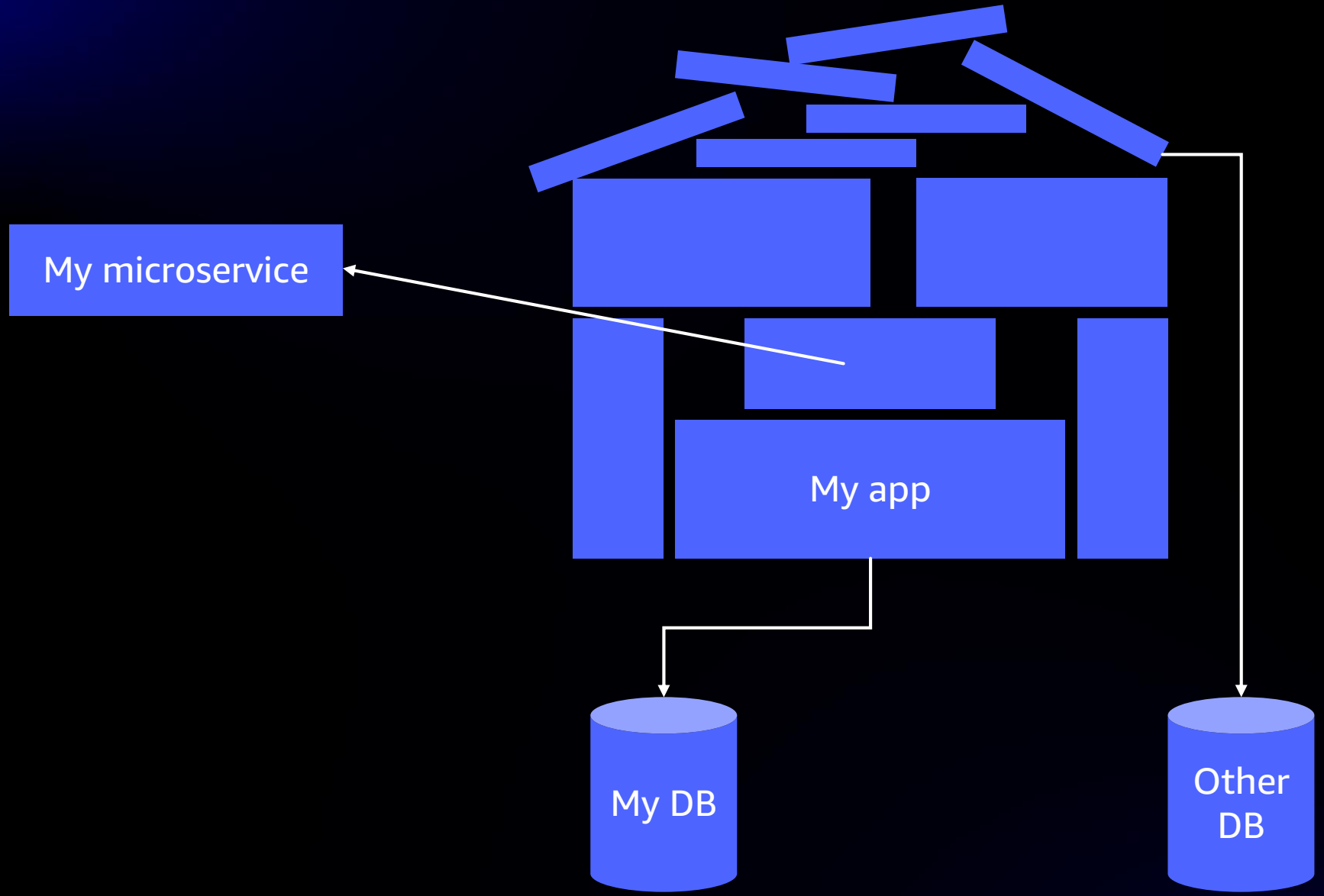


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Goals of refactoring

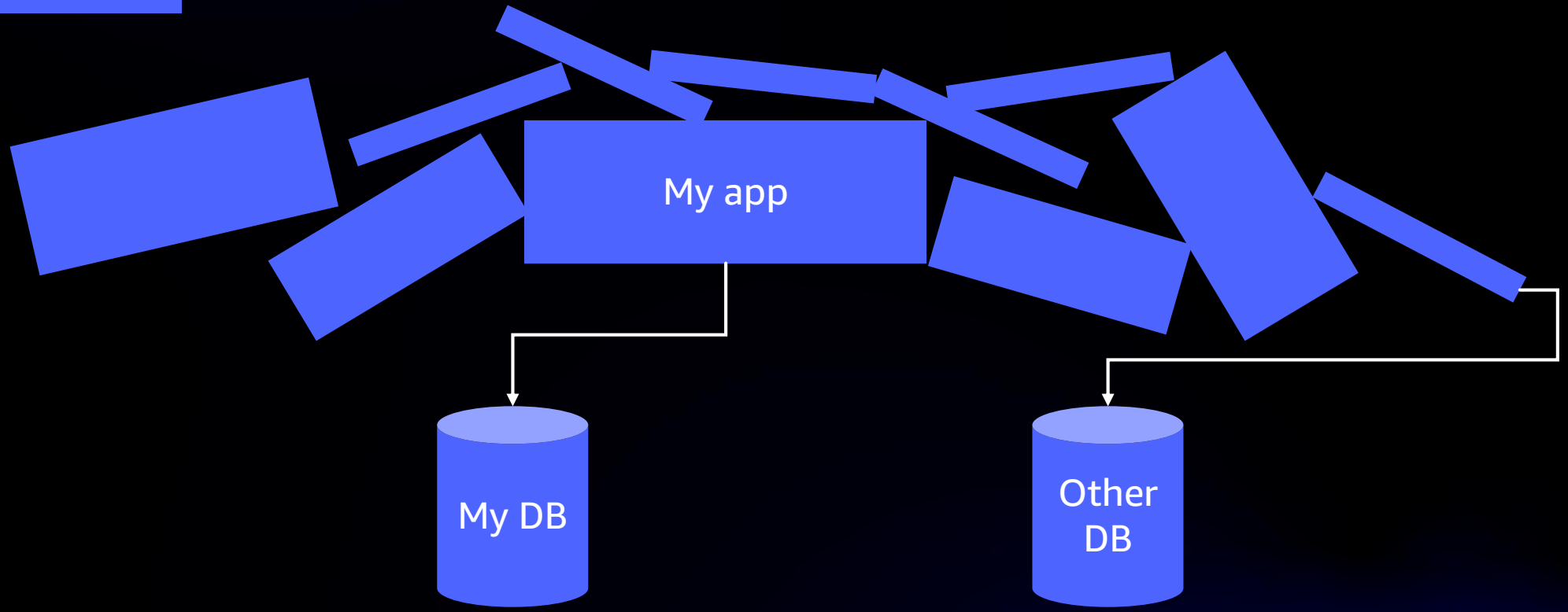
- Simplify the design
- Extract microservices
- Separate the database sprawl
- Let’s implement CI/CD for the new functionality
- We want to do things right!

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My microservice

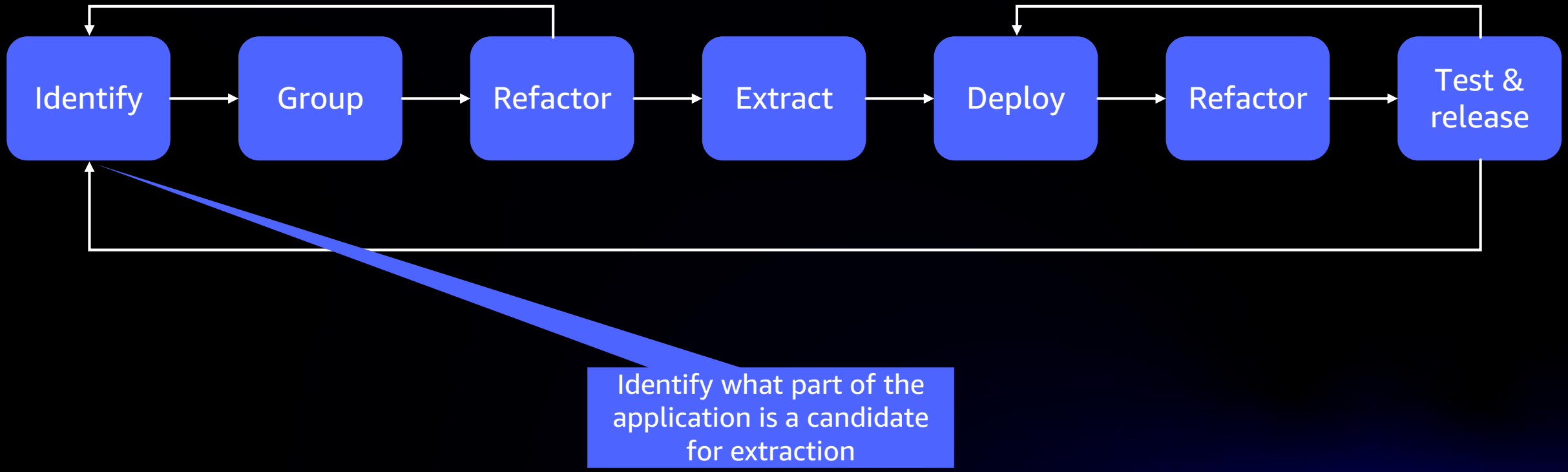


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The refactoring process

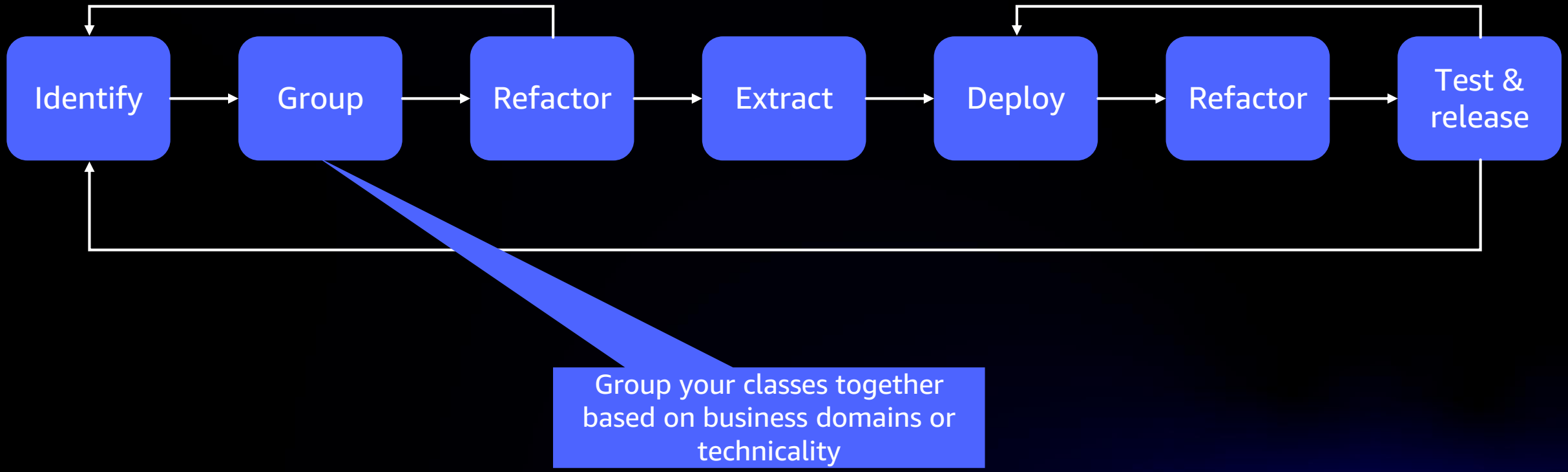
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The manual refactoring process



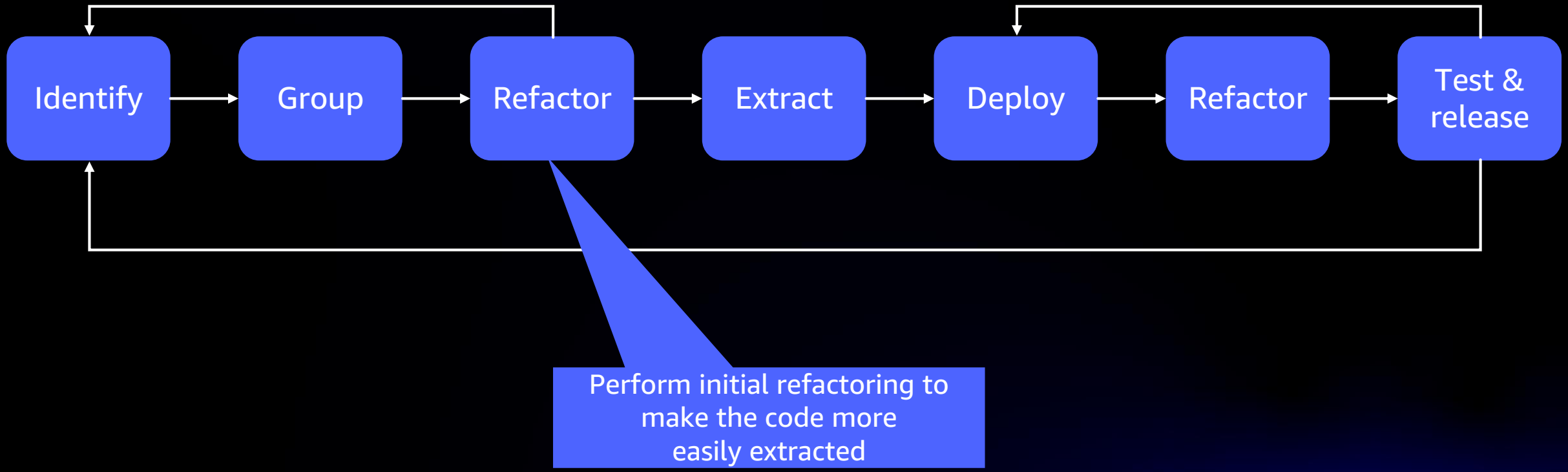
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The manual refactoring process



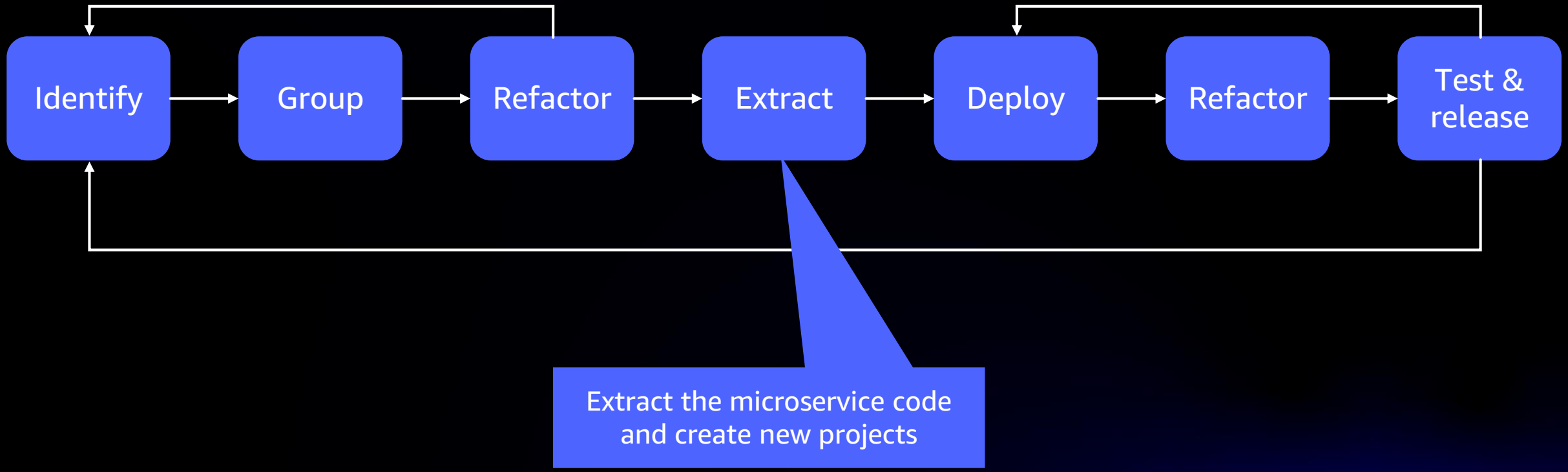
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The manual refactoring process



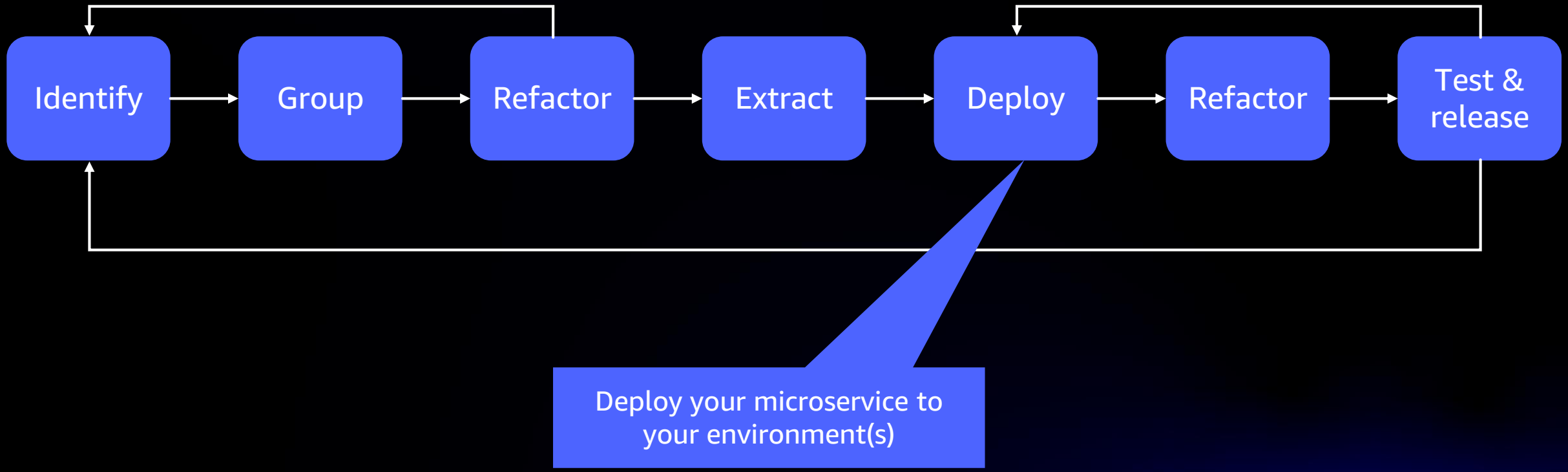
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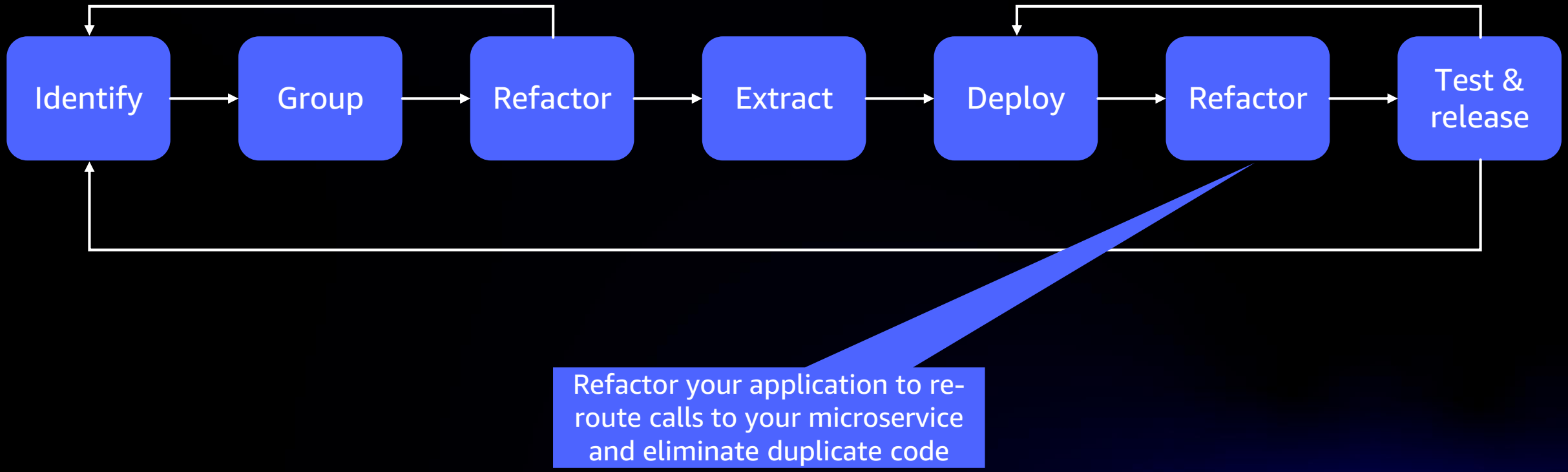
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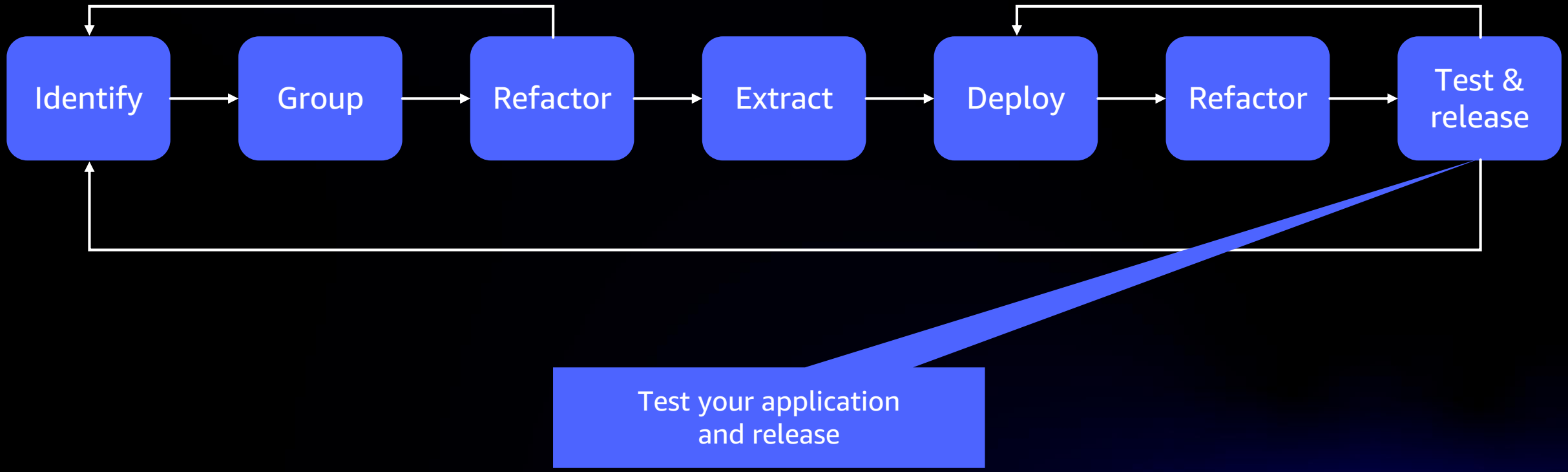
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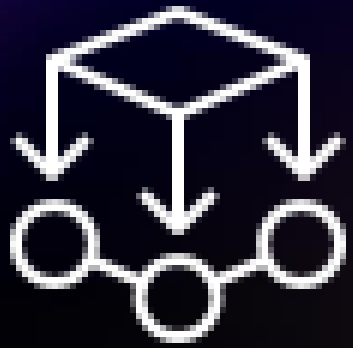
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The manual refactoring process



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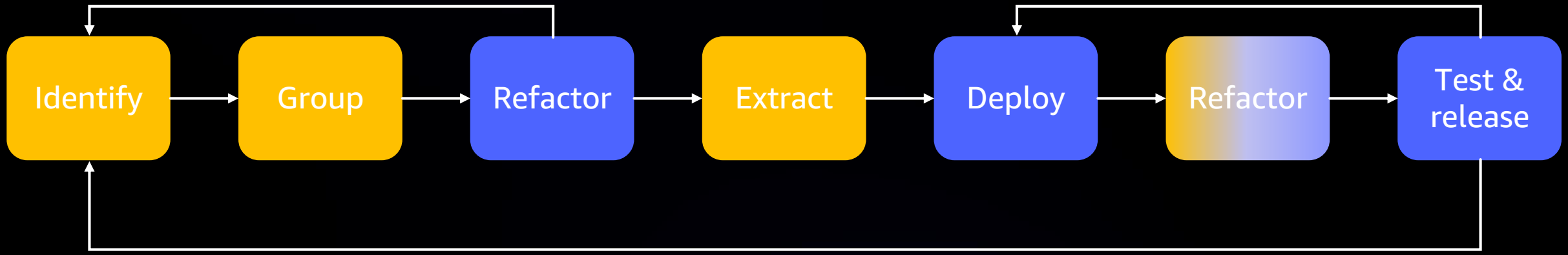
How AWS Microservice Extractor for .NET helps



aws

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AWS Microservice Extractor for .NET refactoring

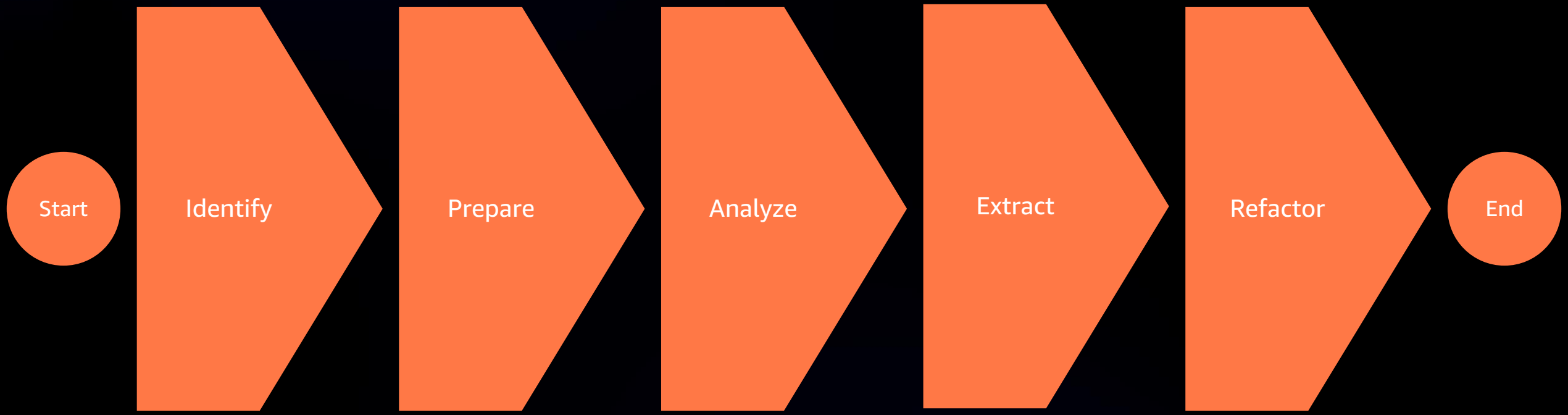


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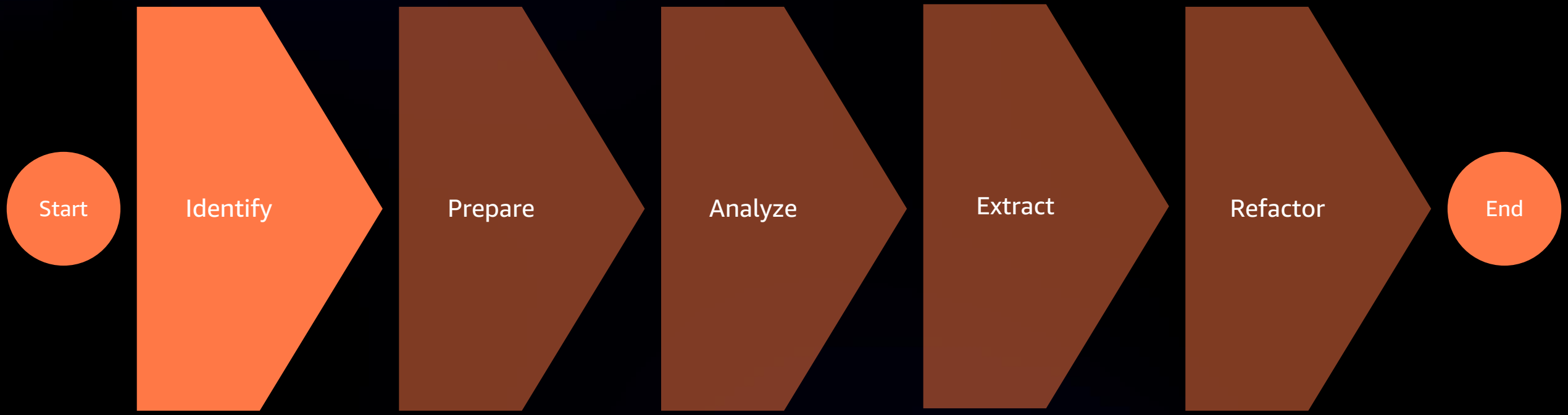
Supported environment

- .NET Framework 4.7 – 4.8
- ASP .NET web applications
- C#
- Excludes non-code files (HTML, CSHYML, XML, etc.)
- Excludes databases

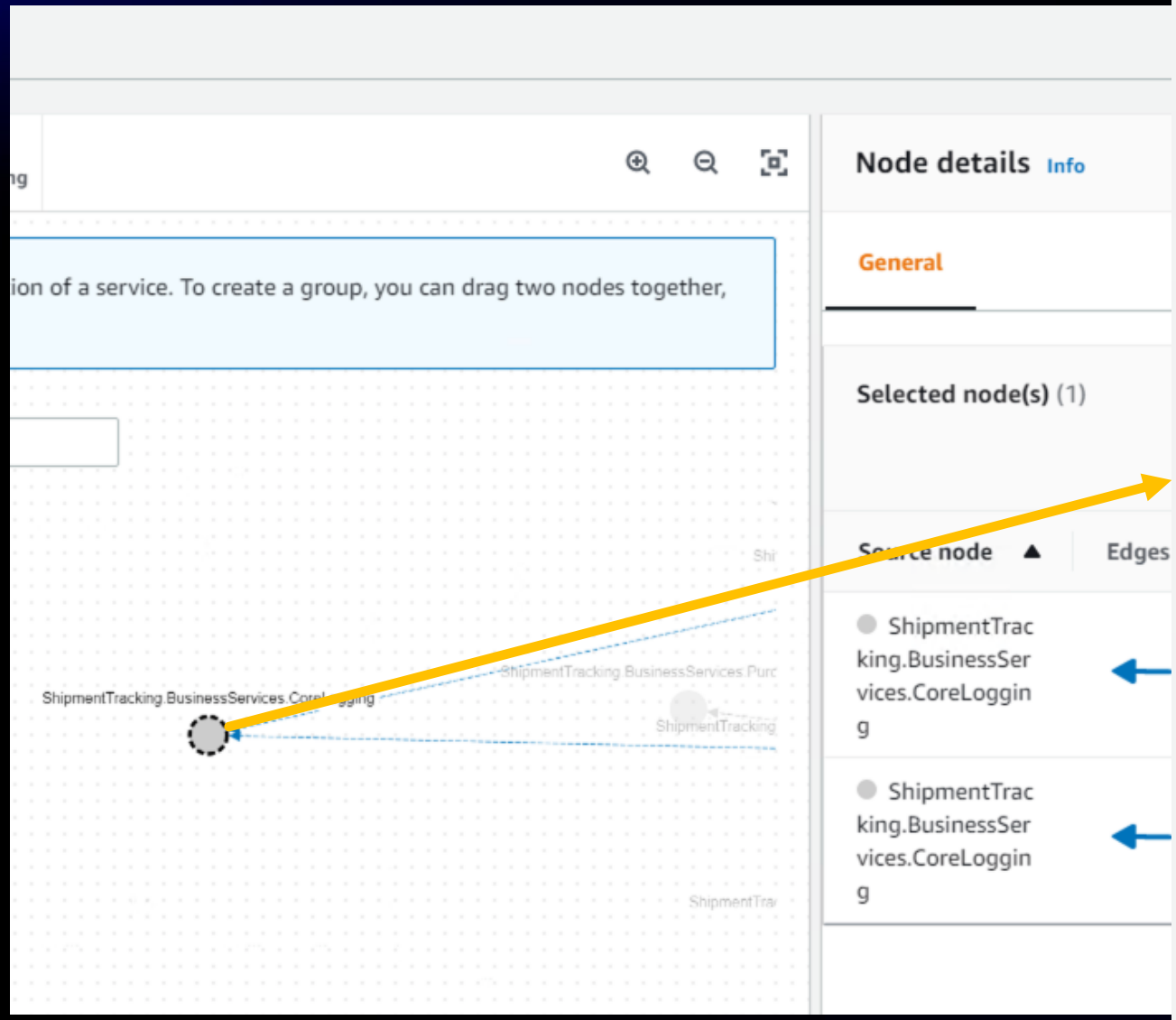
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Add node(s) to group

Selected node(s) (1)

Class ID	Associated group
ShipmentTracking.BusinessServices.CoreLogging	No group

Add to group

Group type

Select to add the node to a existing group or create a new group.

- ○ Existing
- ◉ Create new

Group name

Enter a name for the group

Logging

Maximum of 20 characters. Letters, numbers, spaces, '-', and '_' are allowed.

Group color - optional

Select a color to apply to nodes in this group.

Cancel | Confirm

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```
1 reference
public bool CreateGoodsReceipt(string jsonData)
{
    PurchaseOrderReceiptGeneratorData data = JsonConvert.DeserializeObject<PurchaseOrde
    return CreateGoodsReceipt(data);
}
1 reference
public bo
{

    var c
    strin

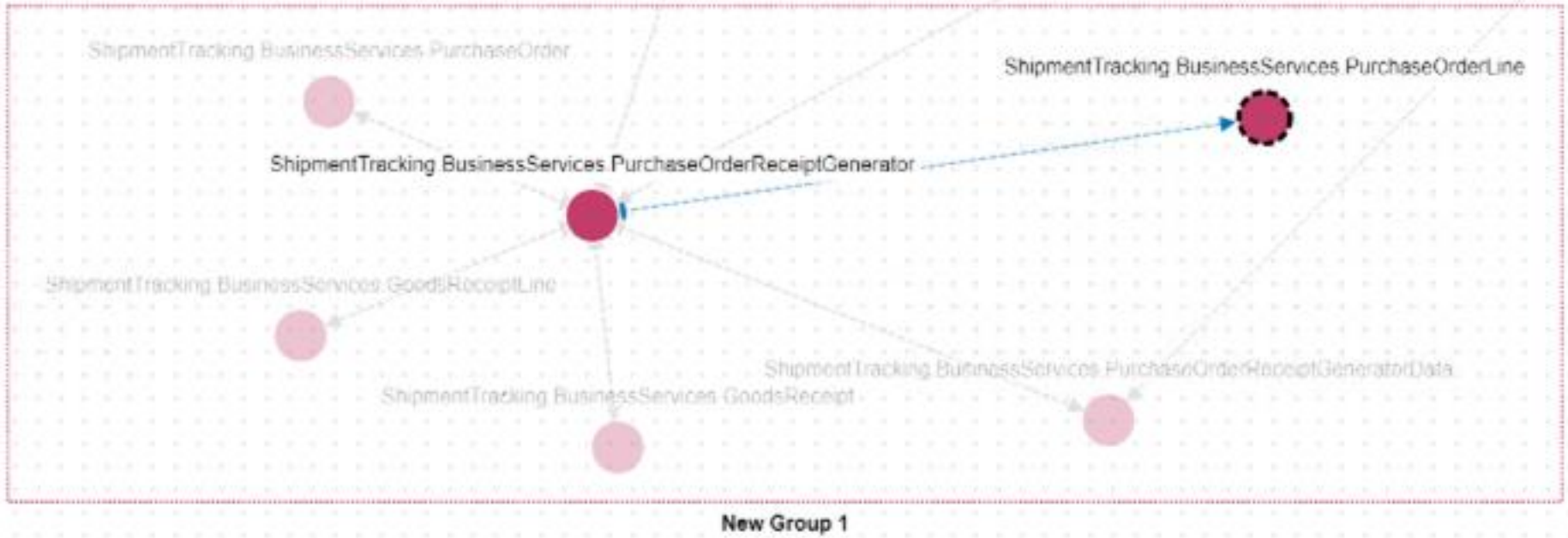
    coreL

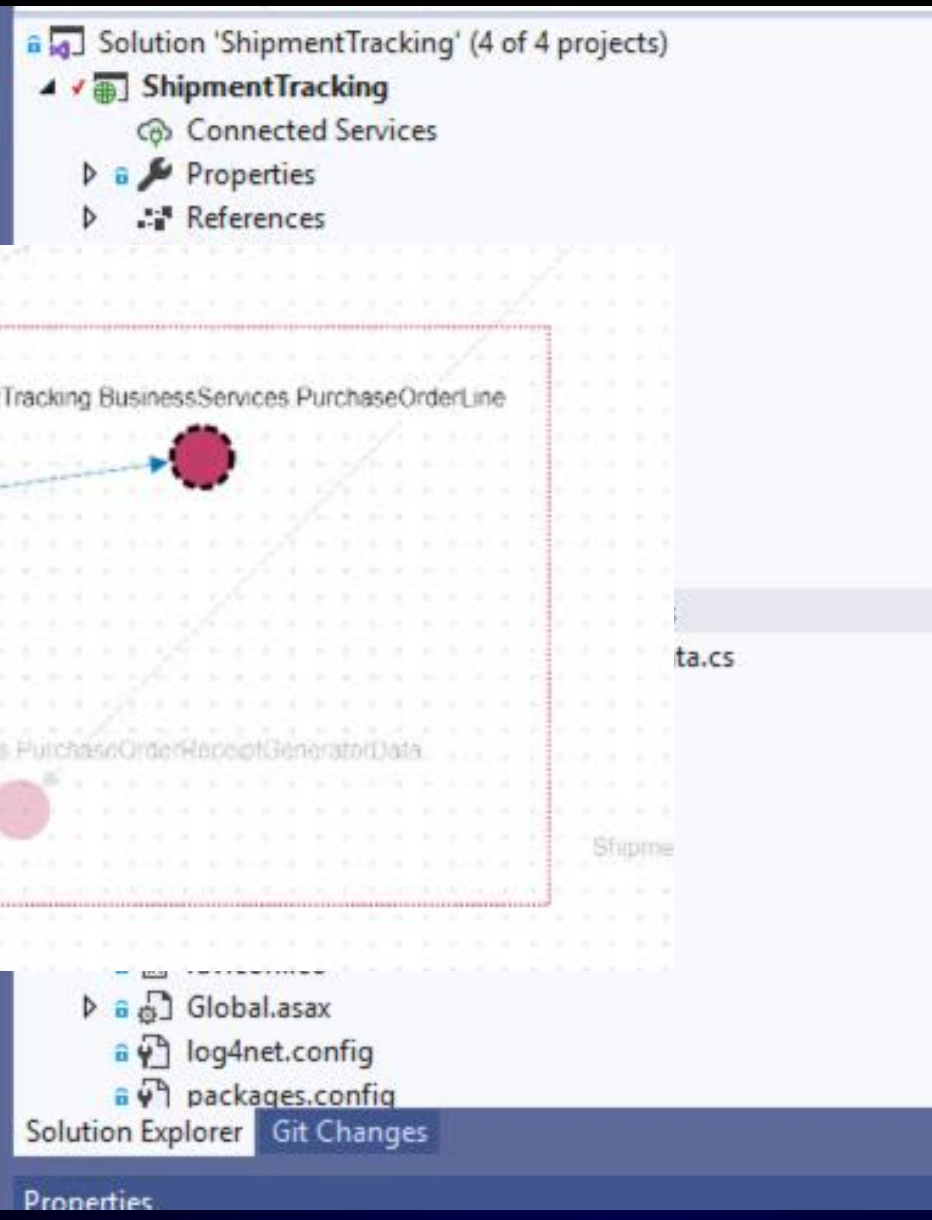
    List<
    List<
    List<
    List<

    Goods

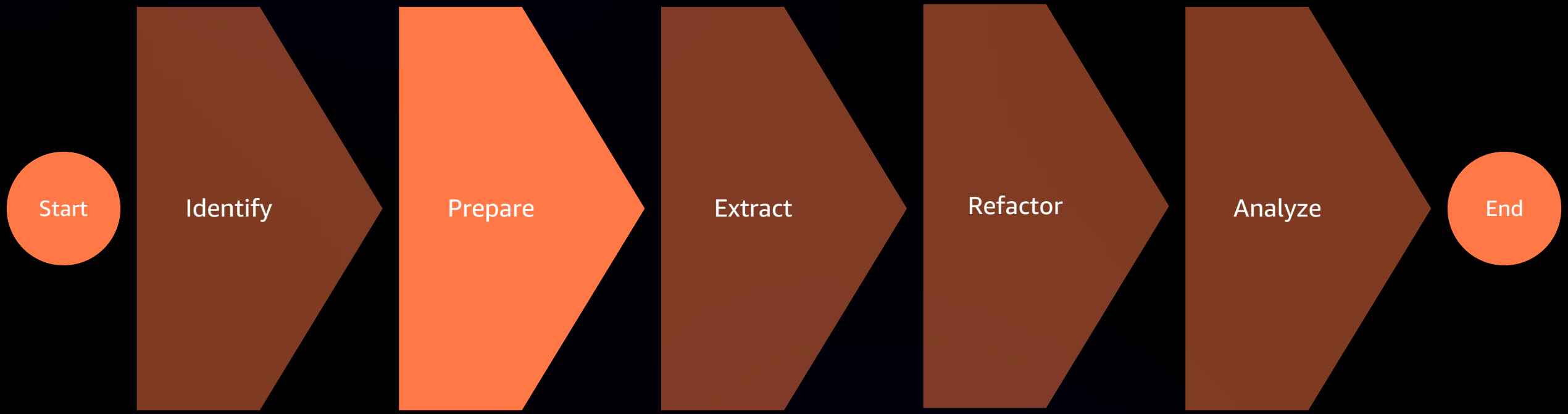

    using
    {
        client.BaseAddress = new Uri(_baseUrI);
        client.DefaultRequestHeaders.Accept.Clear();
        client.DefaultRequestHeaders.Accept.Add(
            new MediaTypeWithQualityHeaderValue("application/json"));

        Task<HttpResponseMessage> Res = client.GetAsync("api/PurchaseOrders/");
```





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Preparation tips*

- Eliminate async/await operations
- Avoid calling extracted classes in constructors
- Make sure your application builds successfully

* These tips are for the current version of the AWS Microservice Extractor for .NET, and will evolve as the product develops

aws

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Eliminate async/await operations

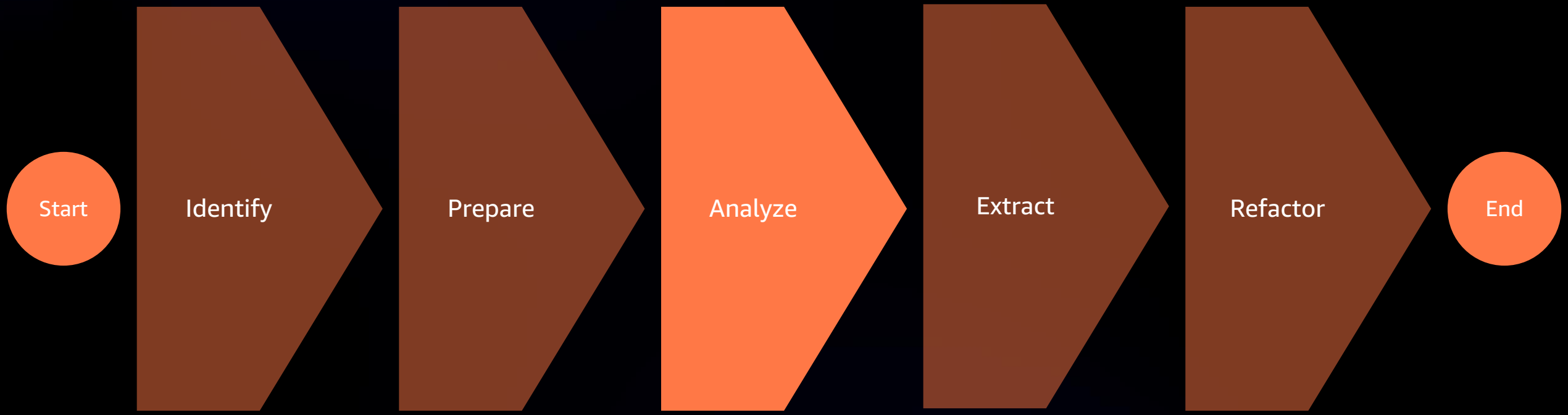
```
0 references
public async Task<bool> CreateGoodsReceipt(PurchaseOrderReceiptGeneratorData data, bool createNew)
{
    using (var client = new HttpClient())
    {
        HttpResponseMessage Res = await client.GetAsync("api/PurchaseOrders/");
    }

    return true;
}
```

```
0 references
public bool CreateGoodsReceipt(PurchaseOrderReceiptGeneratorData data, bool createNew)
{
    using (var client = new HttpClient())
    {
        Task<HttpResponseMessage> Res = client.GetAsync("api/PurchaseOrders/");
        Res.Wait();
    }

    return true;
}
```

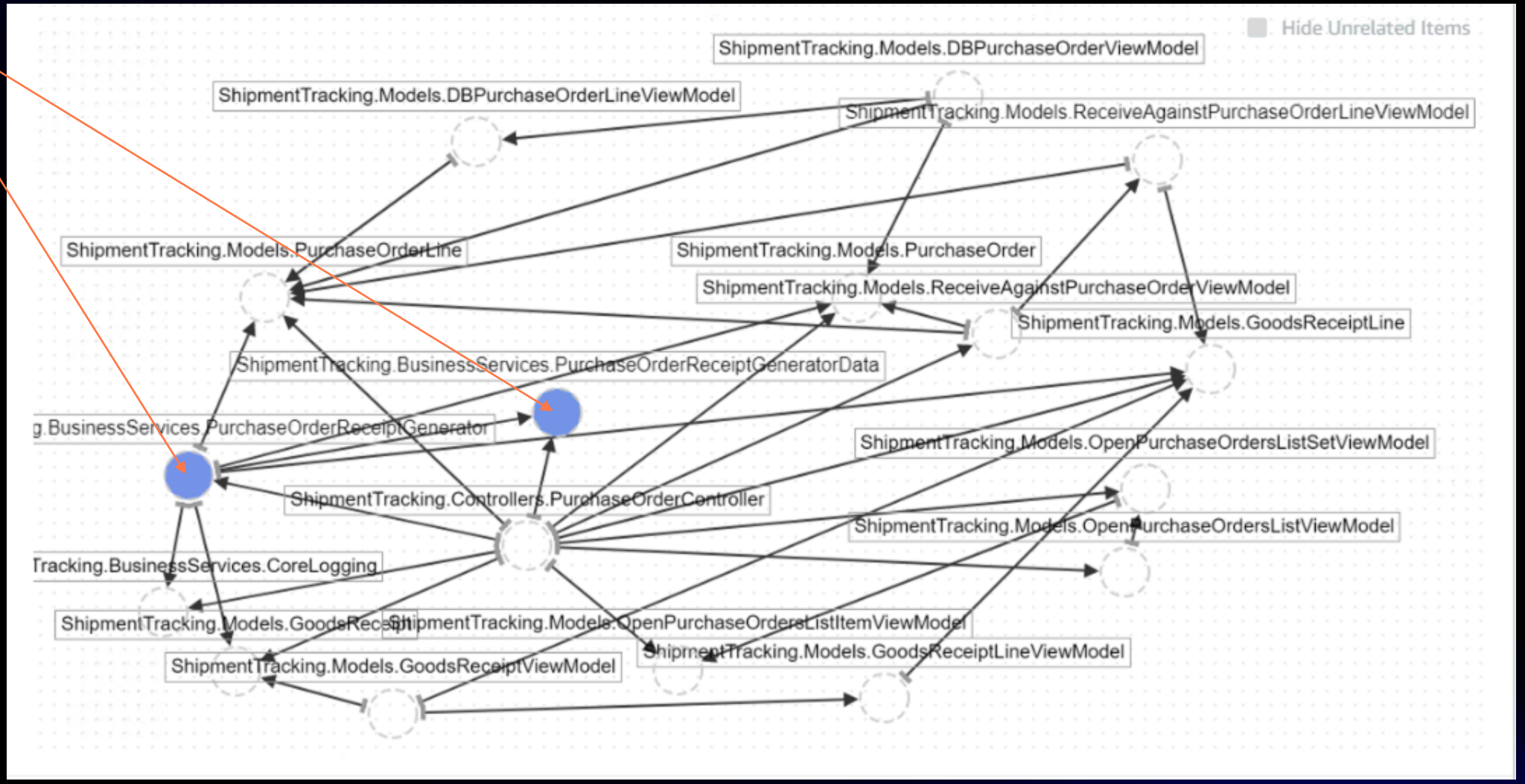
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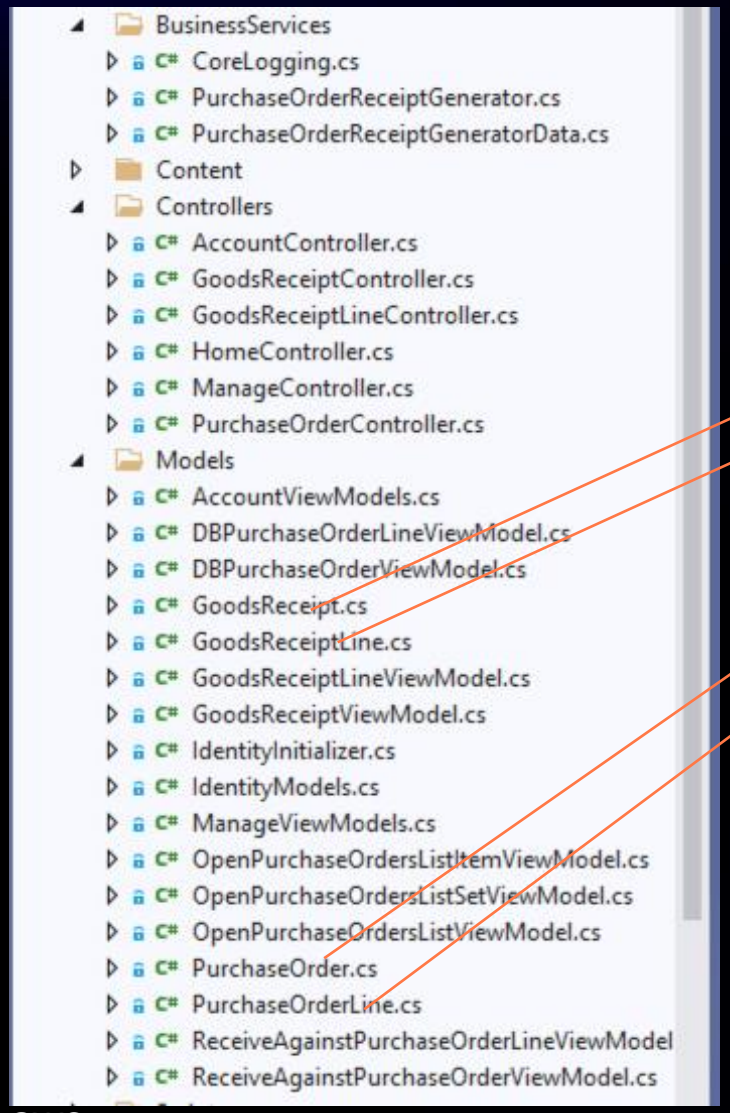
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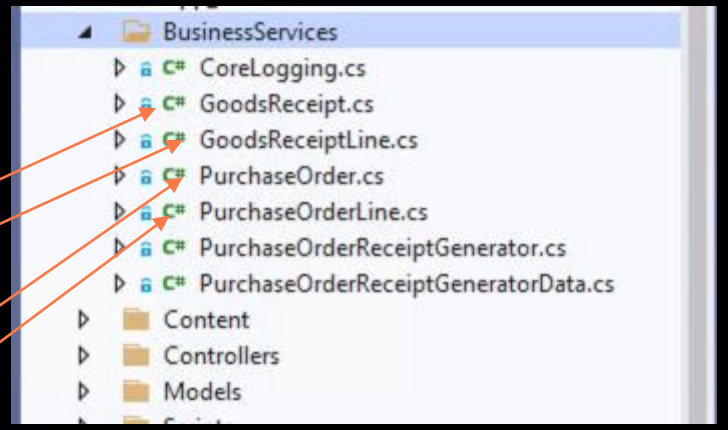
Copy model classes to reduce dependencies

MY SERVICE

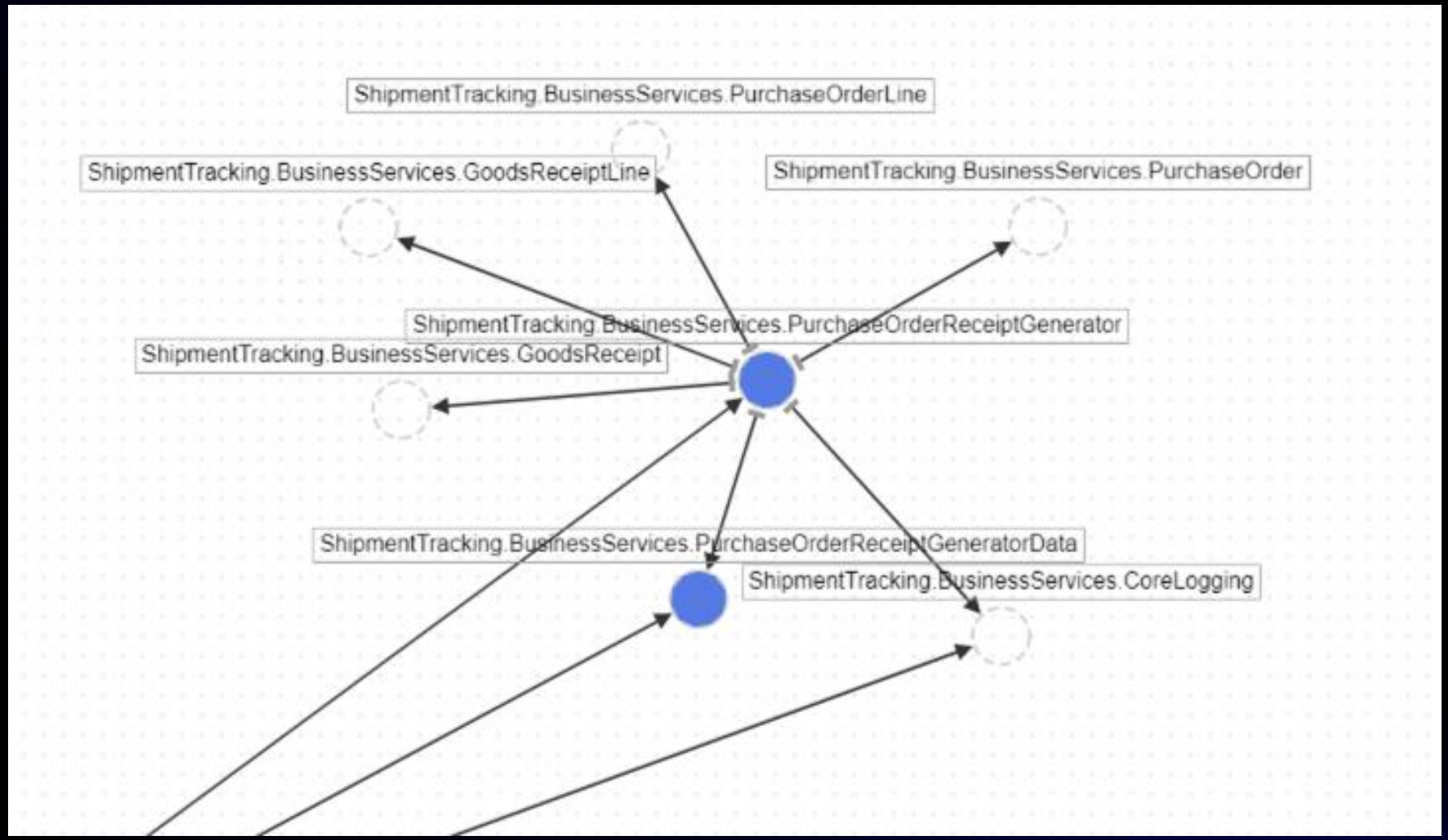


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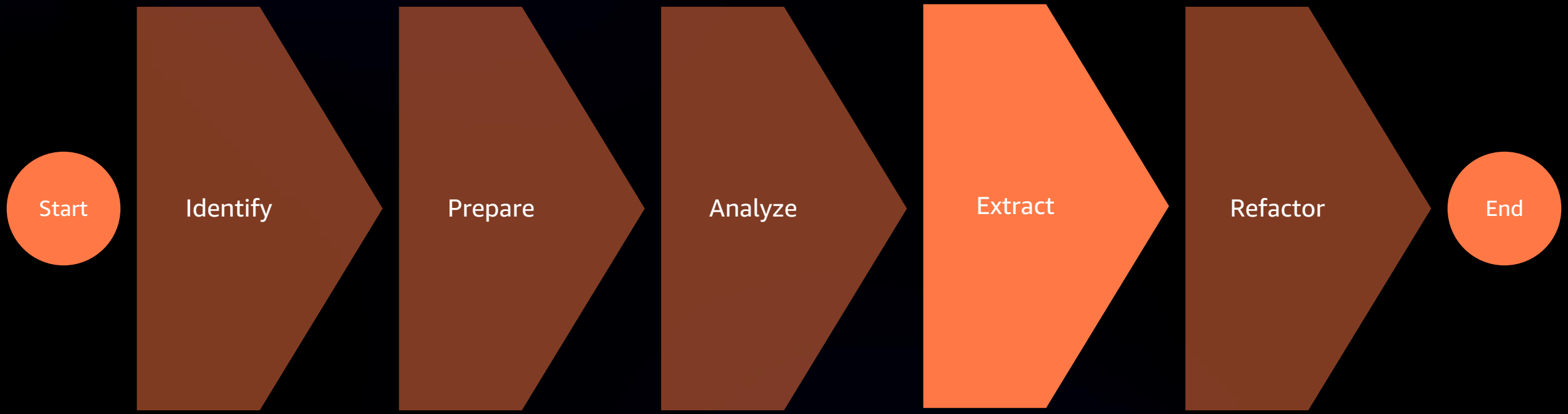




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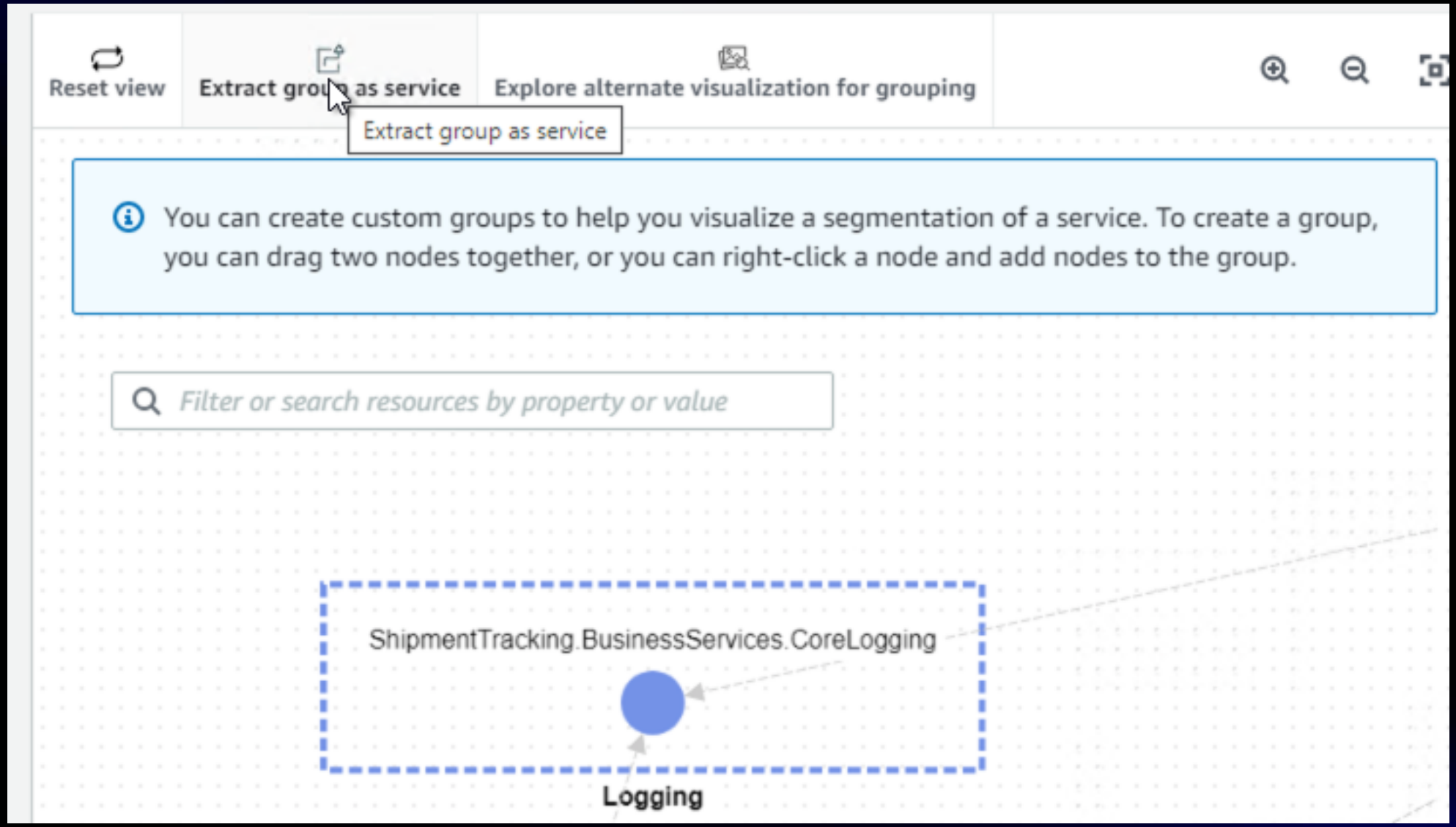


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Extracting your code



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Service details

Name

Logging

Maximum 128 characters. Letters,numbers,spaces, '-',and '_' are allowed.

Description - *optional*

Extract logging into a service

Maximum of 1024 characters.

Extraction details

Group name

1. Logging

Nodes (1)

Find class ID

Class ID	Associated group	Comments
clr:ShipmentTracking.BusinessServices.CoreLogging	Logging	-

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Logging

Extraction in progress

0%

Extraction may take a few minutes, depending on the size of the application. When the extraction is successful, you can review the generated deployment configuration and deploy to the AWS Cloud.

Extraction outputs

Modified source code
Pending

Deployment configuration
Pending

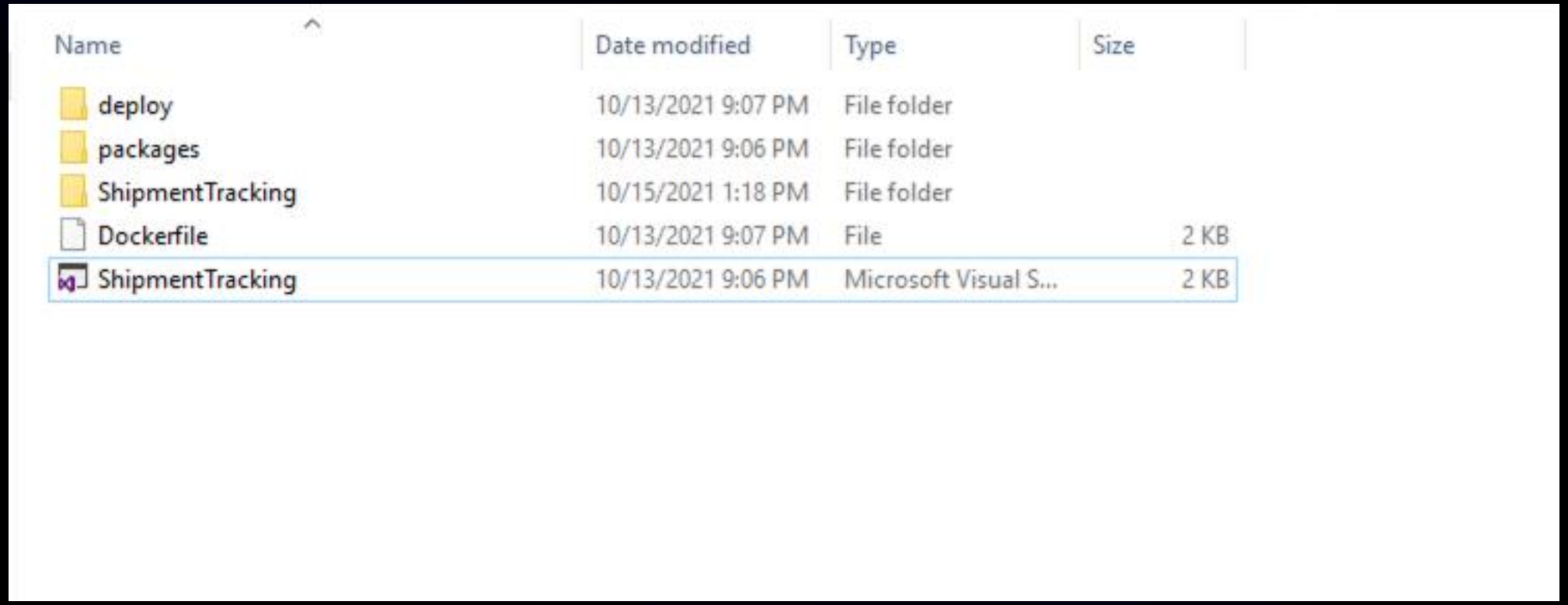
Output location (Working directory)
-

If you select Cancel or leave the extraction wizard, the deployment configuration is deleted and you must restart the extraction.

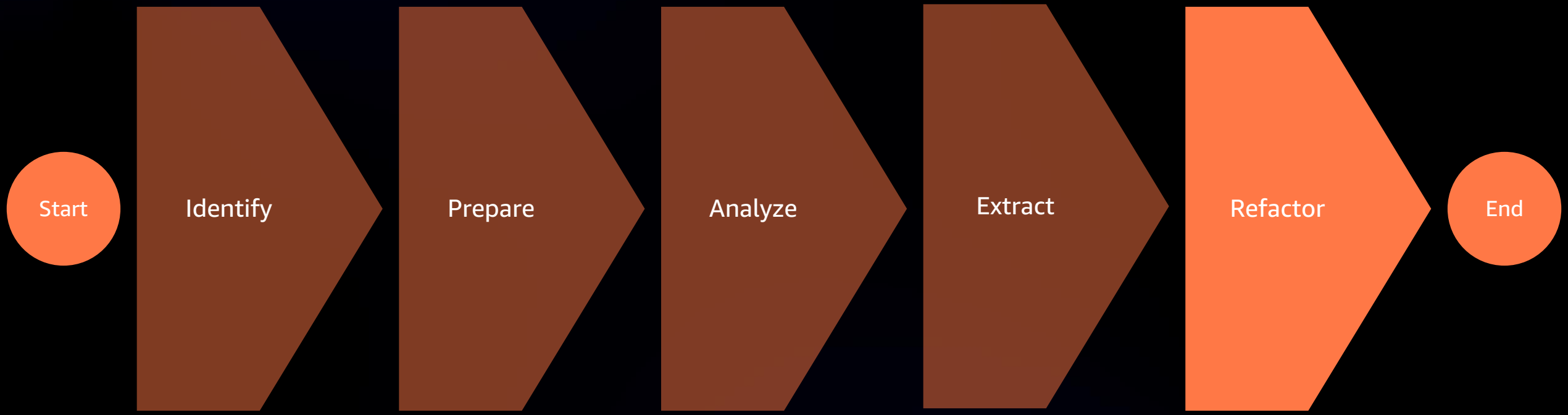
Cancel | Previous | Review configuration

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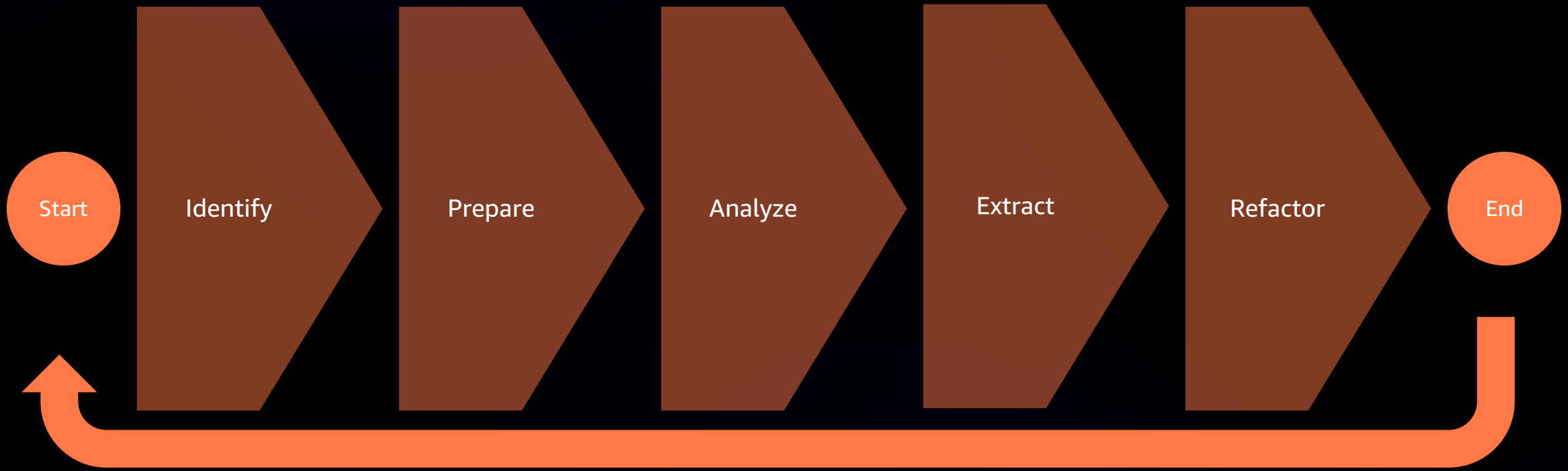
Extracted project



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Thank you!

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runeetv@amazon.com

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