

How to handle System.NullReferenceException

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Understand the error

"System.NullReferenceException: Object reference not set to an instance of an object."

From programming perspective, it means the code is trying to access an uninitialized object or an object of null value (C# has the concept of nullable datatypes for variables and we could assign a **null** value to variables).

When you see error **System.NullReferenceException**, it's important to check the **callstack** to understand the **origin** which throws the NullReferenceException.

- Example 1: NullReferenceException occurred during SHIR installation and some extract token operation.

```
DEBUG:
System.NullReferenceException: Object reference not set to an instance of an object.
   at Microsoft.DataTransfer.Authentication.ApiForAgent.ExtractKmsTokenWithoutValidate(String serviceToken)
   at Microsoft.DataProxy.MidgardCore.OneGatewayTokenUtil.ExtractGatewayInfoFromServiceToken(SecureString gatewayKey)
   at Microsoft.DataTransfer.DIAgentHost.NamedPipeControllers.NamedPipeGatewaySetupActivityController.HandleRegisterActivity(Boolean startRegister, String ses
```

- Example 2: NullReferenceException from System.Data which is the namespace used by some connectors.

```
Type=System.NullReferenceException,Message=Object reference not set to an instance of an object.,
Source=System.Data
```

Next Action

As the fix to this NullReferenceException usually is from code level, if when you received this exception **it's eligible to escalate to PG**. Please check callstack to understand the origin then involve correct PG team for corresponding component in AVA.

In parallel, you could do some investigation as follows while waiting for PG's feedback:

- check whether it's a known issue by searching for similar pattern in the past;
- check if there is any other exception happened along with NullReferenceException and use it as the breakthrough to investigate further.

Reference:

[What is a NullReferenceException, and how do I fix it?](#) 