Message Sessions & Correlation

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ACTIVE SOLUTION

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Overview

Correlation & Message Sessions

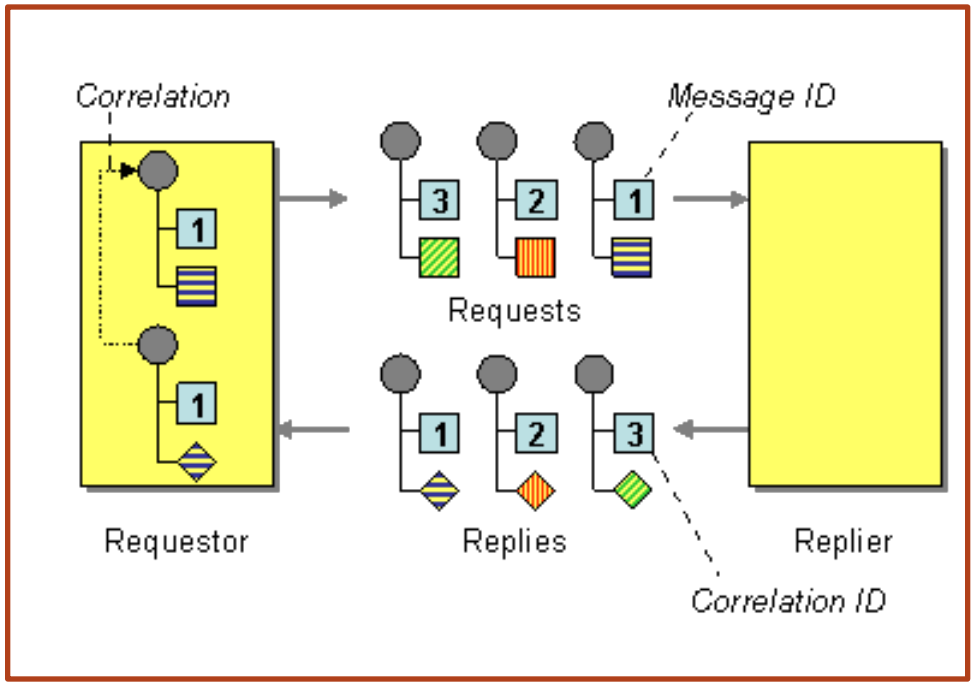
Demo: Correlation & Message Sessions

Request-response Messaging

Demo: Request-response Messaging

Correlation & Message Sessions

Message Correlation



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Messages have correlation identifier

- Often in message header

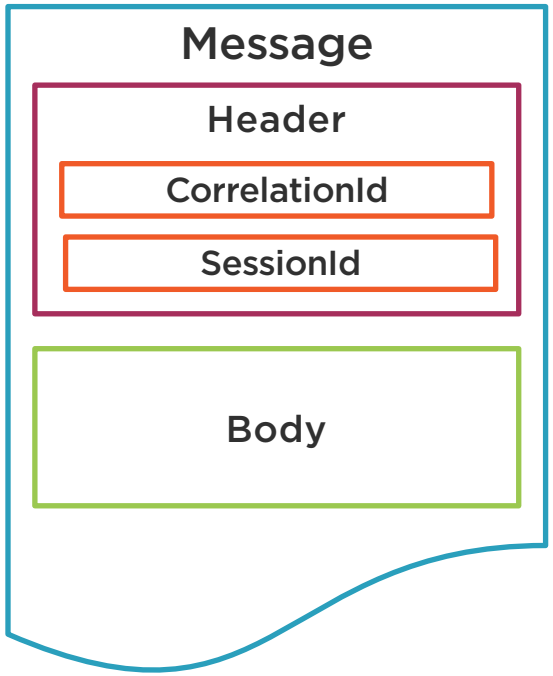
Group related messages together

- Sequence of messages

Request-reply message pattern

- Correlate reply with request

Correlation in Brokered Messaging



CorrelationId

- Used for more efficient routing between topics and subscriptions

SessionId

- Used to correlate messages in receiving applications

Enabling Correlation - Sending

Sessions are required on messaging entities

```
// Create a description for the queue.
QueueDescription rfidCheckoutQueueDescription =
    new QueueDescription(AccountDetails.QueueName)
    {
        RequiresSession = true
    };

// Create a queue based on the queue description.
await managementClient.CreateQueueAsync(rfidCheckoutQueueDescription);
```

Session ID set before sending message

```
// Create a new  message from the order item RFID tag.
var tagReadMessage = new Message(Encoding.UTF8.GetBytes(orderJson));

tagReadMessage.SessionId = sessionId;
```

Enabling Correlation - Receiving

Create a Session Client

```
// Create a session client
var sessionClient =
    new SessionClient(AccountDetails.ConnectionString, AccountDetails.QueueName);
```

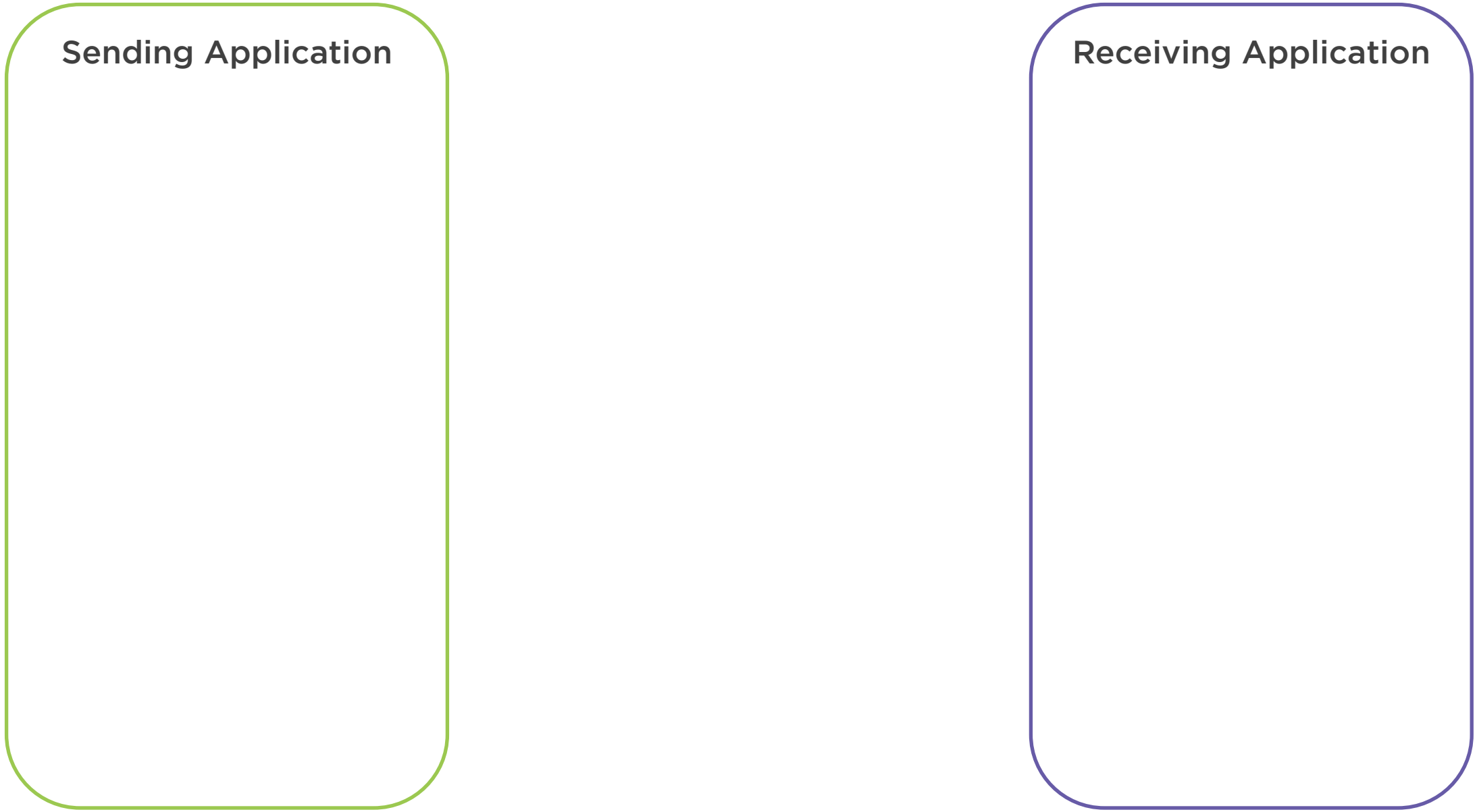
Accept a Message Session

```
// Accept a message session
var messageSession = await sessionClient.AcceptMessageSessionAsync();
```

Receive a Message from the Message Session

```
// Receive a message
var message = await messageSession.ReceiveAsync();
```

Using Message Sessions



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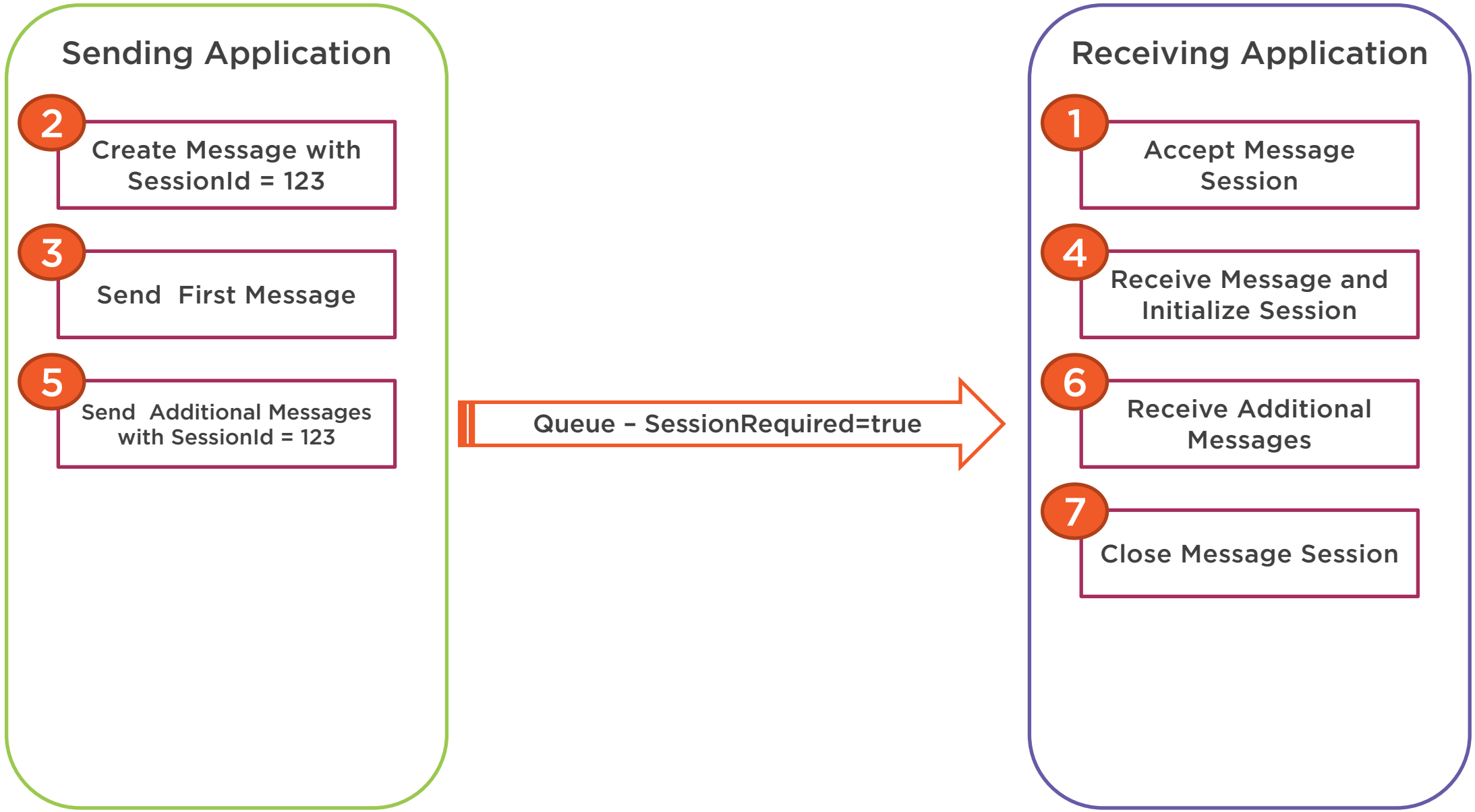

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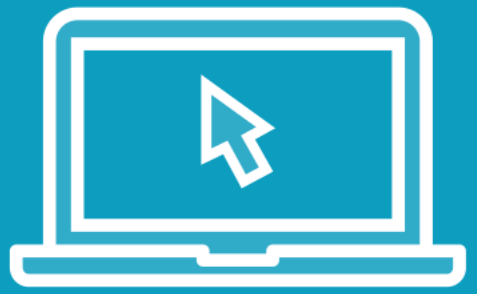
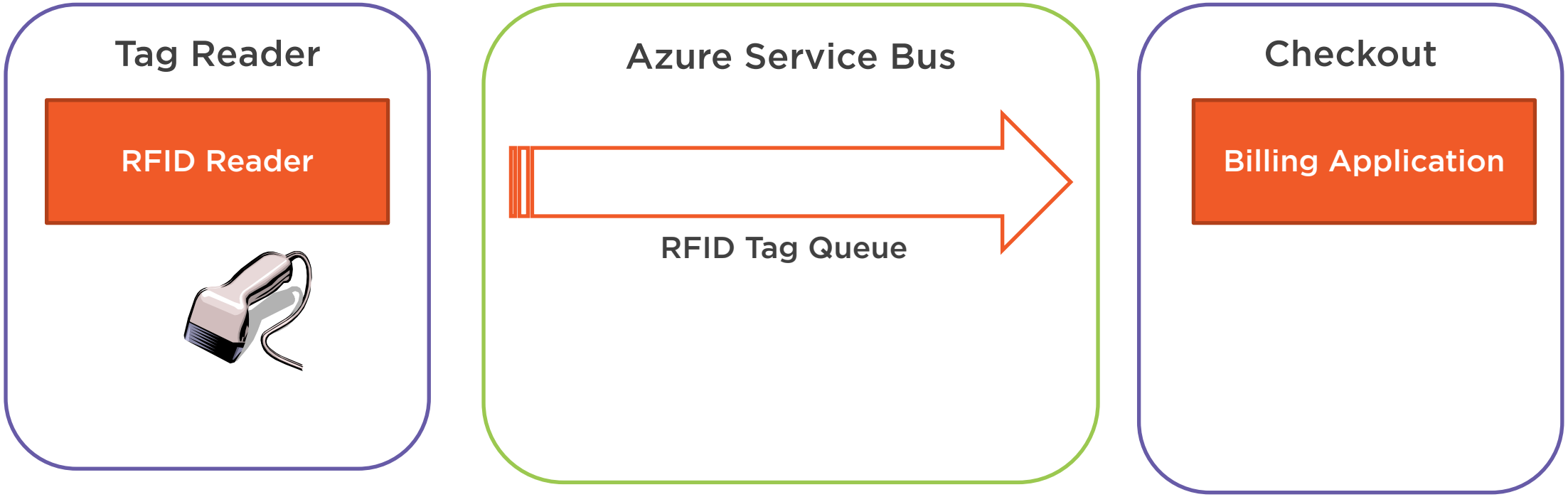


Using Message Sessions

- Creating a session enabled queue
- Sending messages in a session
- Receiving messages in a session

Using Message Sessions Demo Scenario



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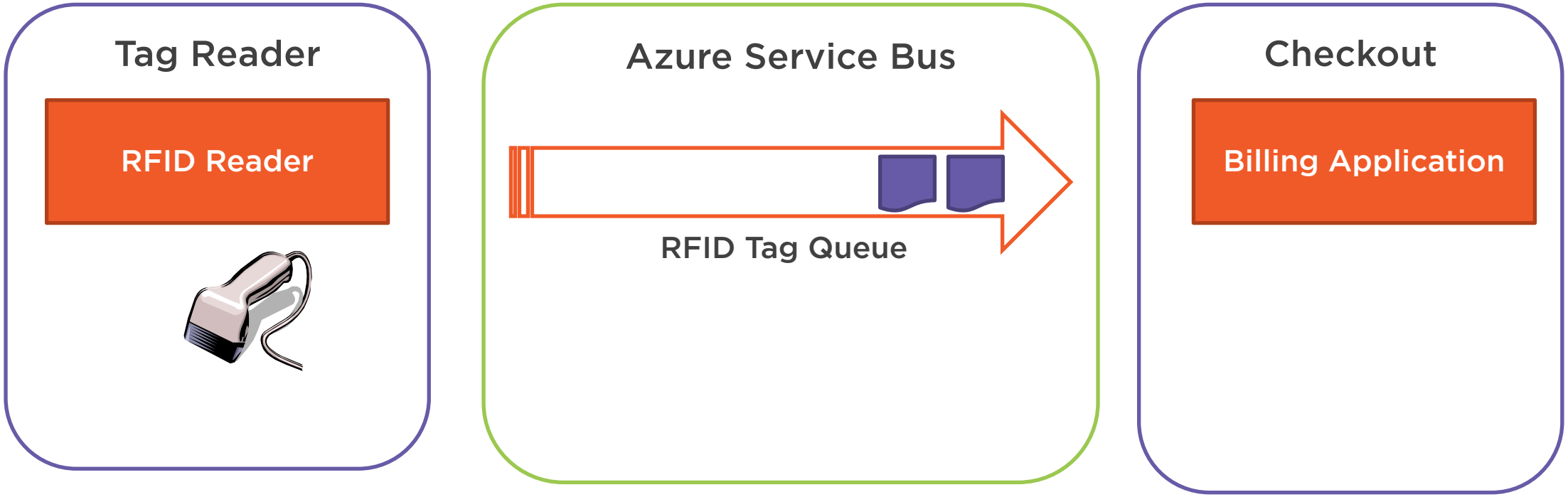

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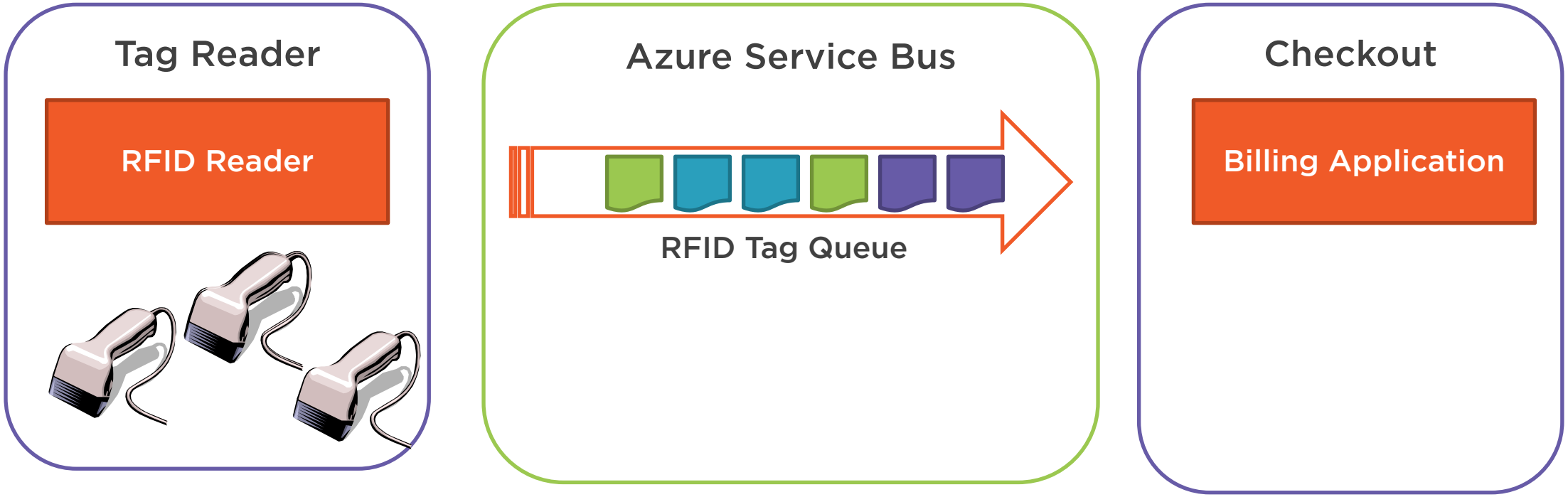

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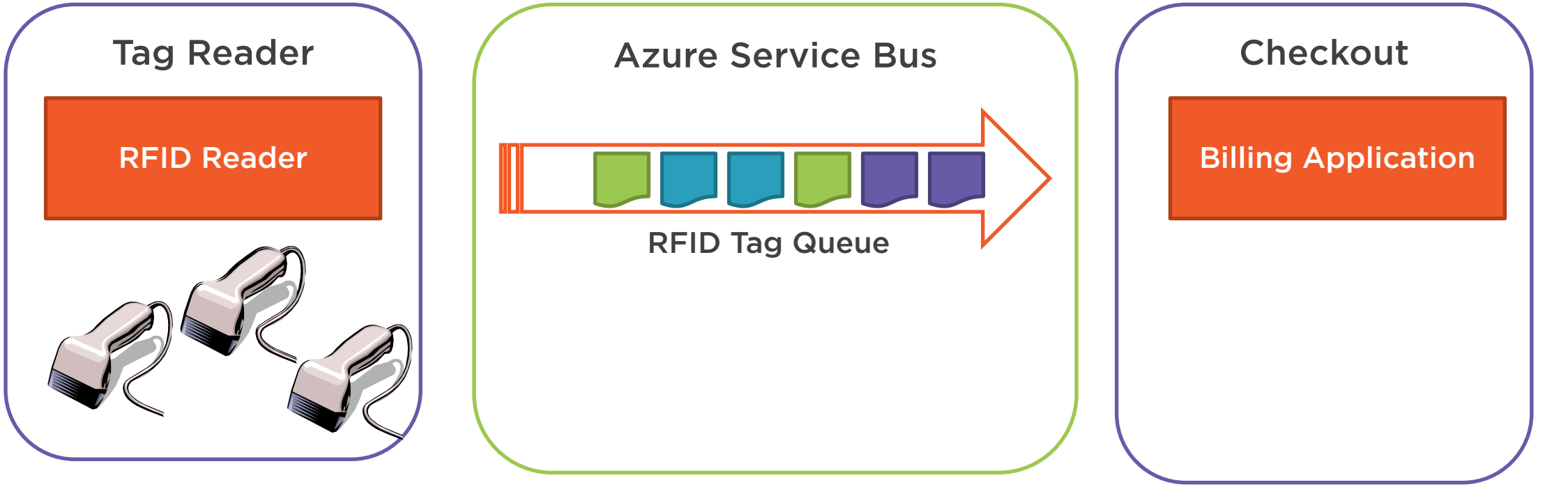

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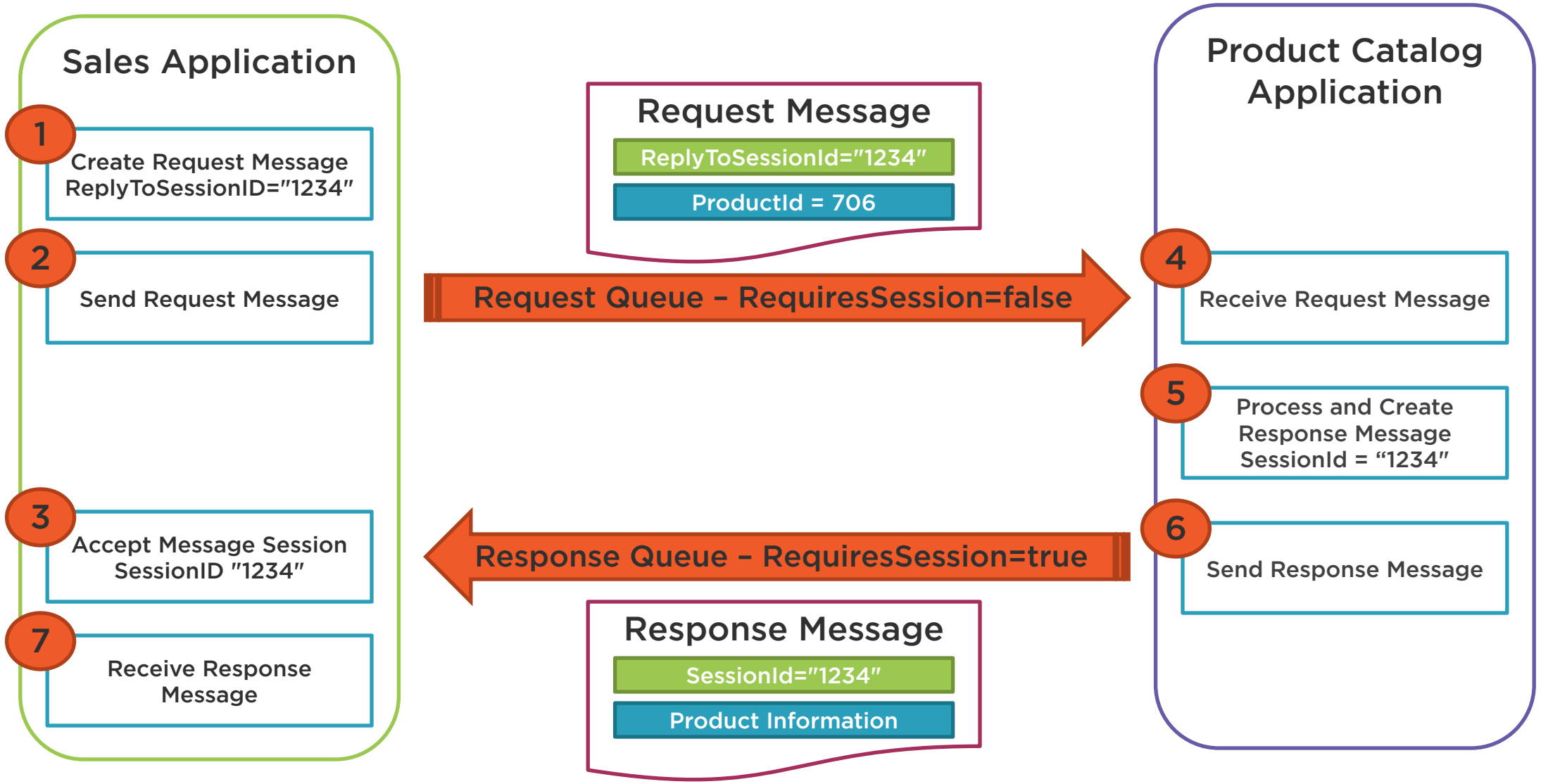


Demo

Request-response Messaging

- Asynchronous request response messaging
- Correlation using message sessions

Summary

Sessions can be used to correlate messages in a receiving application

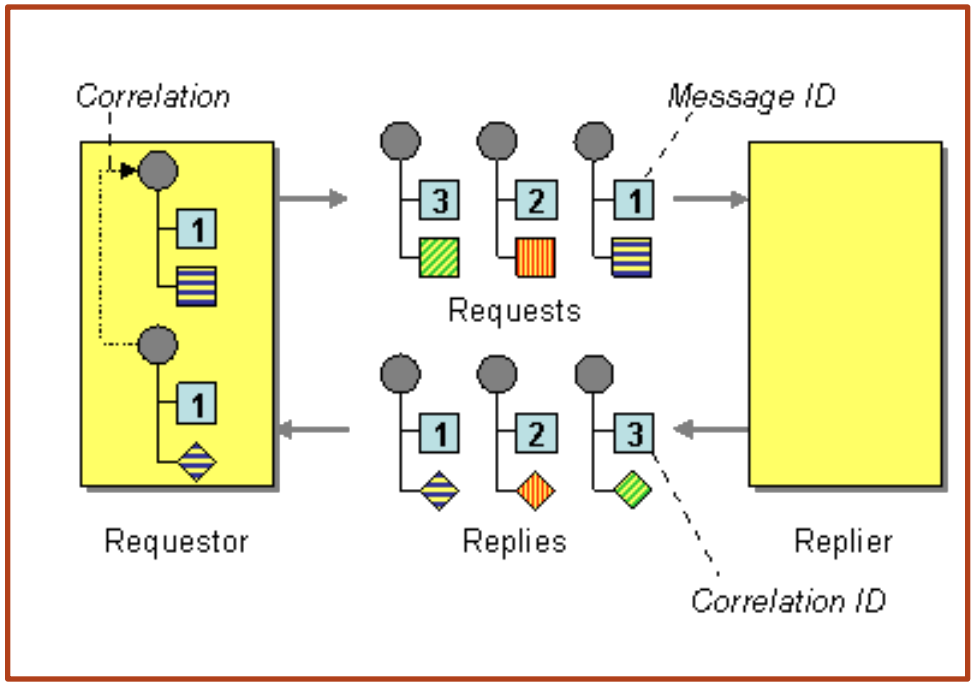
Sessions must be enabled on the queue or topic

SessionID property must be set on messages

Sessions can also be used for correlation in request-response messaging

Correlation & Message Sessions

Message Correlation



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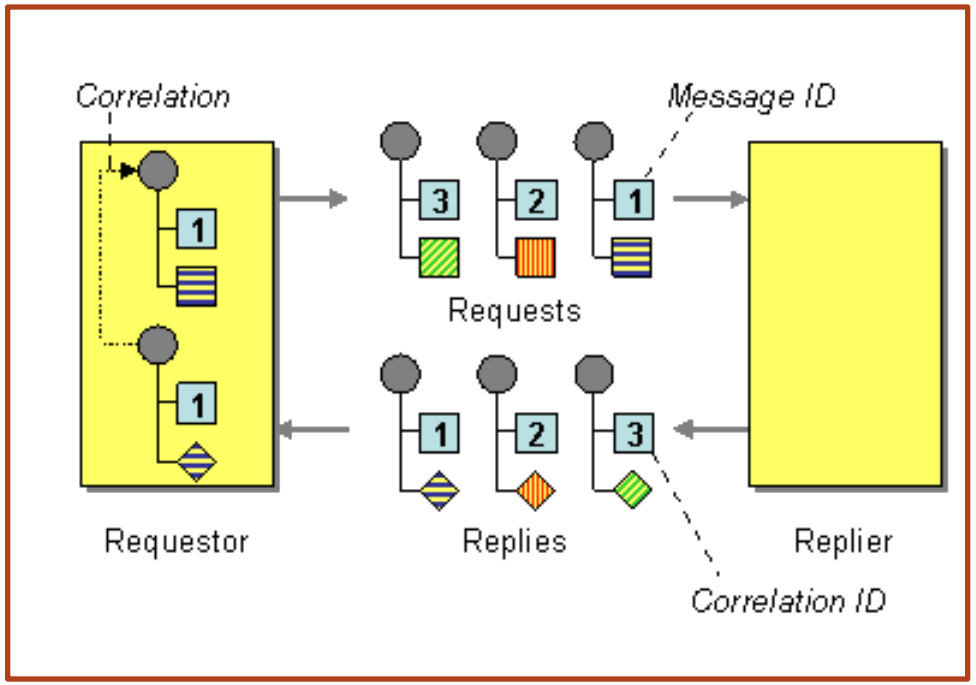

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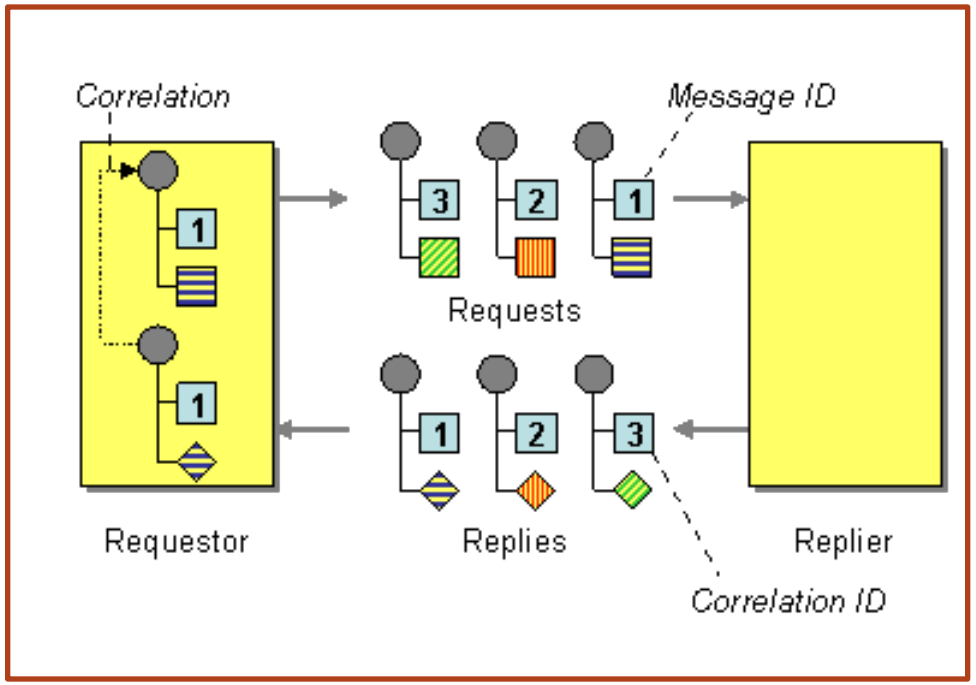

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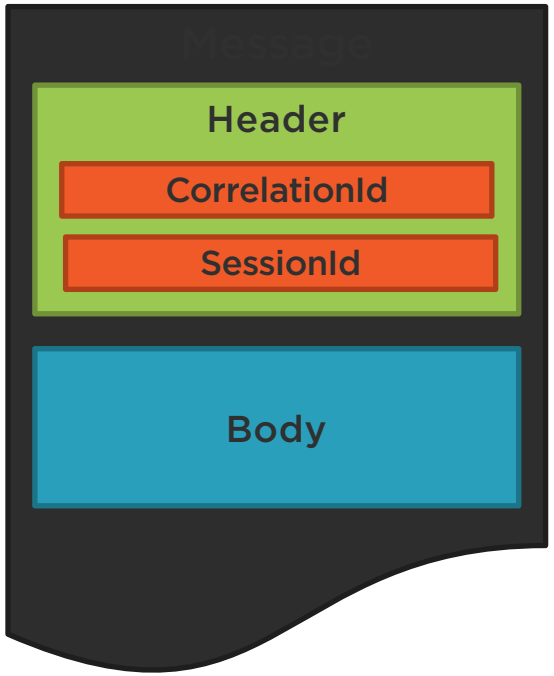

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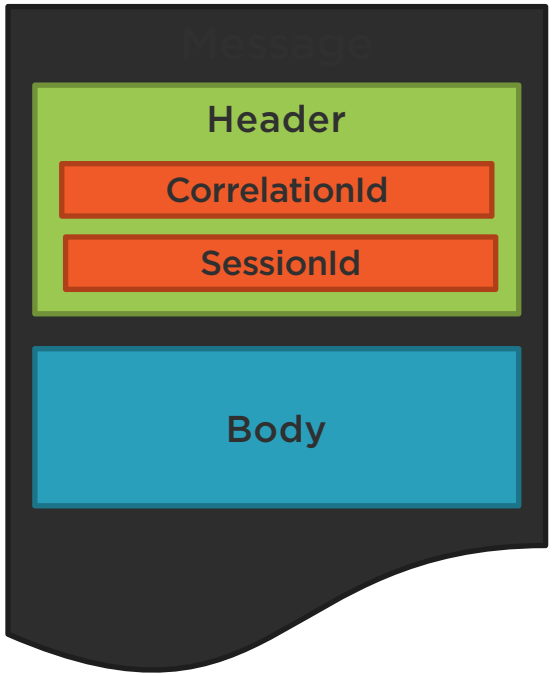

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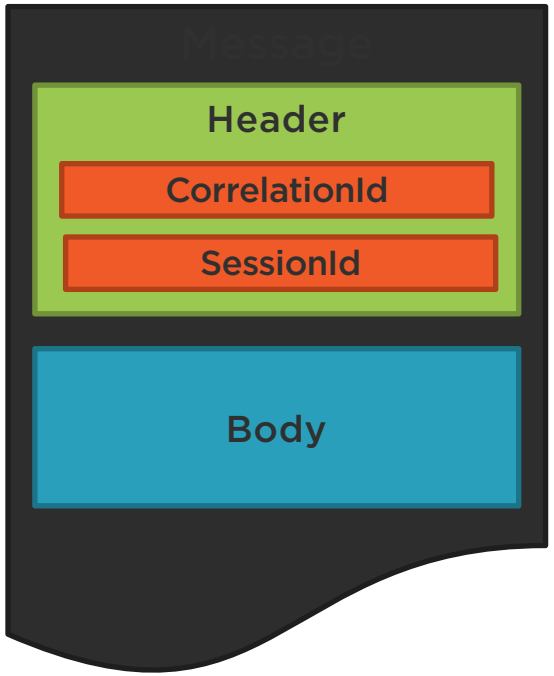

CorrelationId

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SessionId

- Used to correlate messages in receiving applications

Enabling Correlation - Sending

Sessions are required on messaging entities

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// Create a description for the queue.
QueueDescription rfidCheckoutQueueDescription =
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    {
        RequiresSession = true,
    };

// Create a queue based on the queue description.
namespaceMgr.CreateQueue(rfidCheckoutQueueDescription);
```

Enabling Correlation - Sending

Sessions are required on messaging entities

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    {
        RequiresSession = true,
    };

// Create a queue based on the queue description.
namespaceMgr.CreateQueue(rfidCheckoutQueueDescription);
```

- Session ID set before sending message

```
// Create a new brokered message from the order item RFID tag.
BrokeredMessage tagRead = new BrokeredMessage(orderItems);

// Set the SessionId of the message.
tagRead.SessionId = sessionId;
```

Enabling Correlation - Receiving

Accept a Message Session

```
// Accept a Message Session
var messageSession = queueClient.AcceptMessageSession();
```

Enabling Correlation - Receiving

Accept a Message Session

```
// Accept a Message Session
var messageSession = queueClient.AcceptMessageSession();
```

- Receive Messages from Message Session

```
// Receive a message with a 5 second timeout
var receivedTagRead = messageSession.Receive(TimeSpan.FromSeconds(5));
```

```
// Create a message pump using OnMessage
messageSession.OnMessage(message =>
{
    // Process message
});
```

Enabling Correlation - Receiving

Accept a Message Session

```
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var messageSession = queueClient.AcceptMessageSession();
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- **Receive Messages from Message Session**

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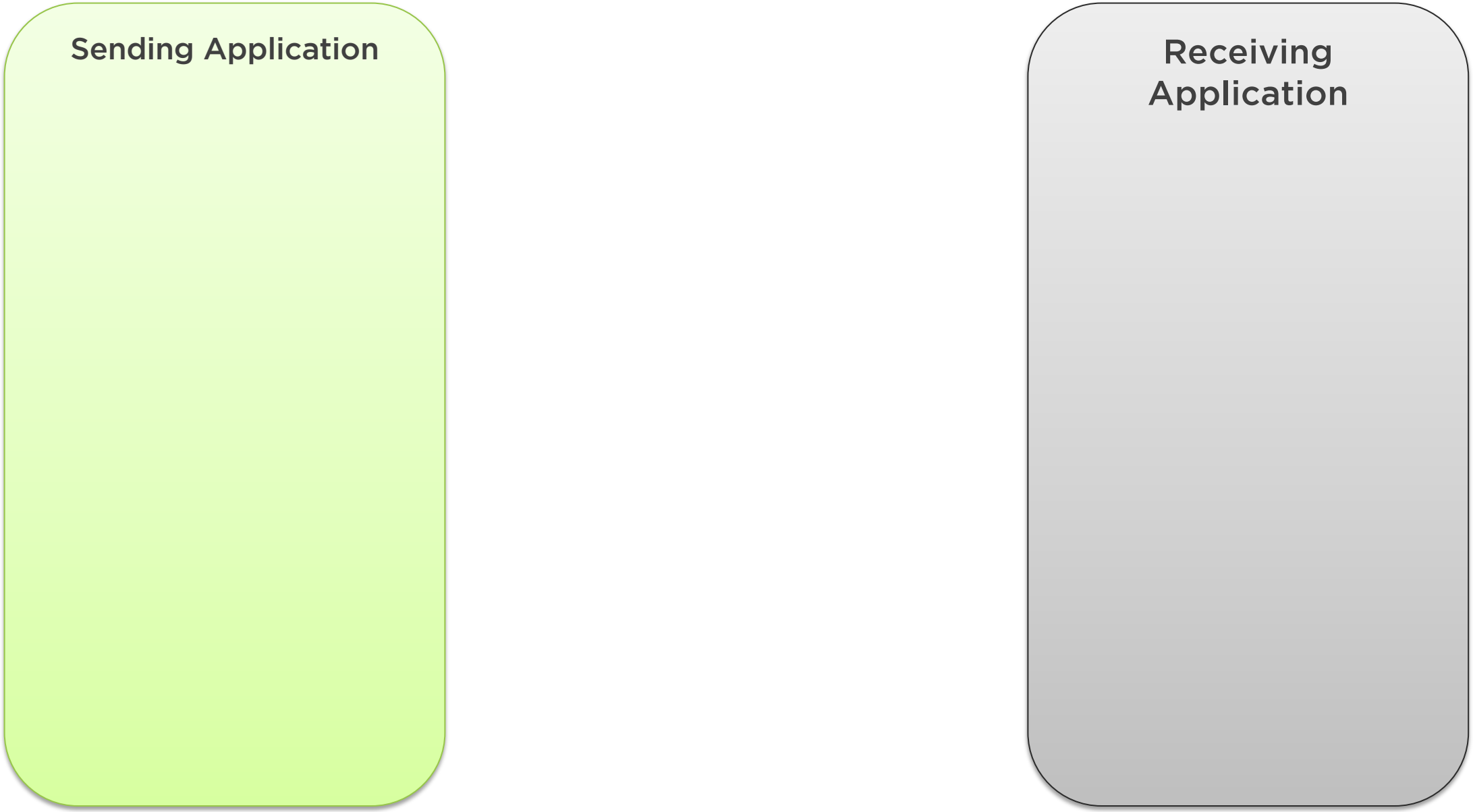
Using Message Sessions



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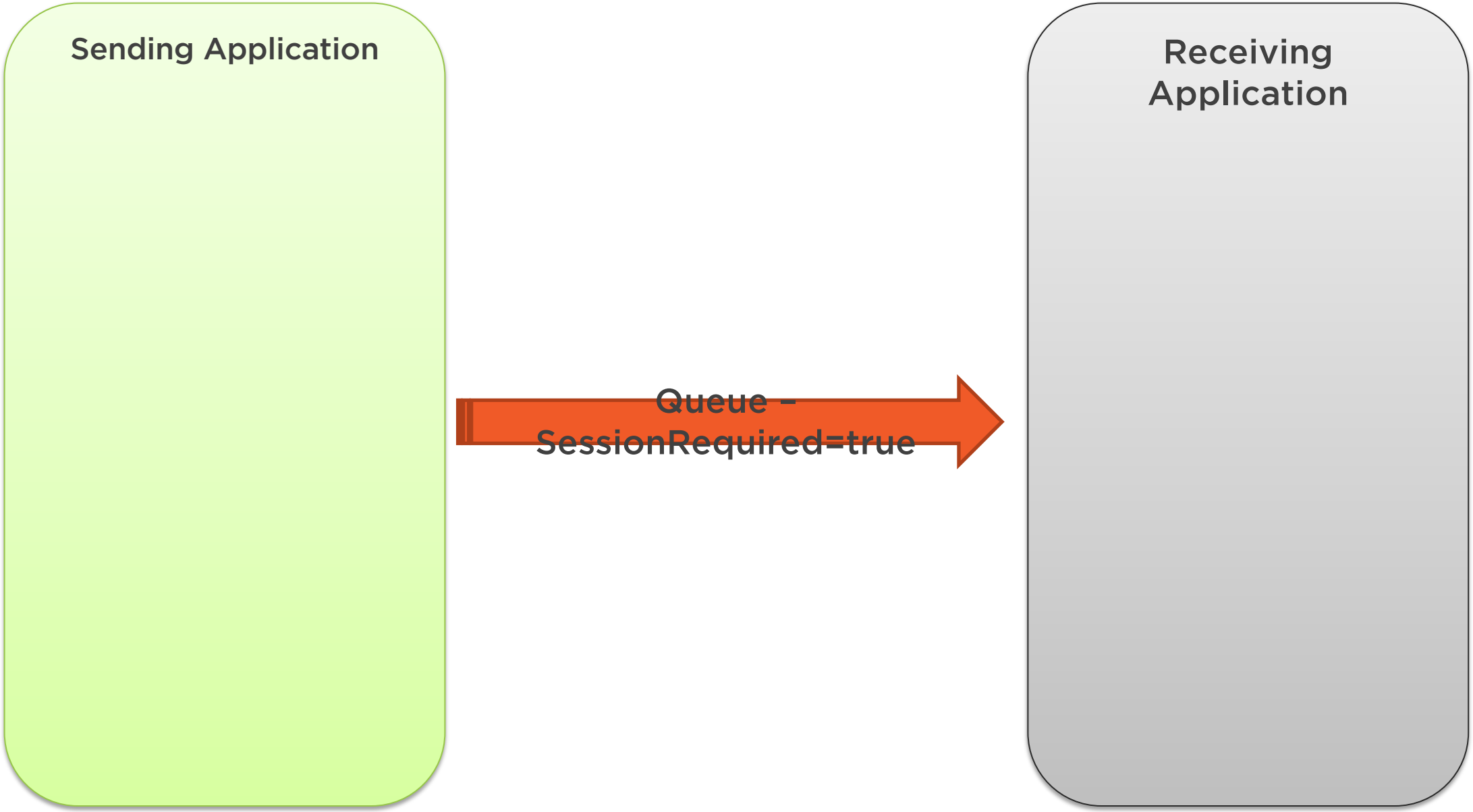

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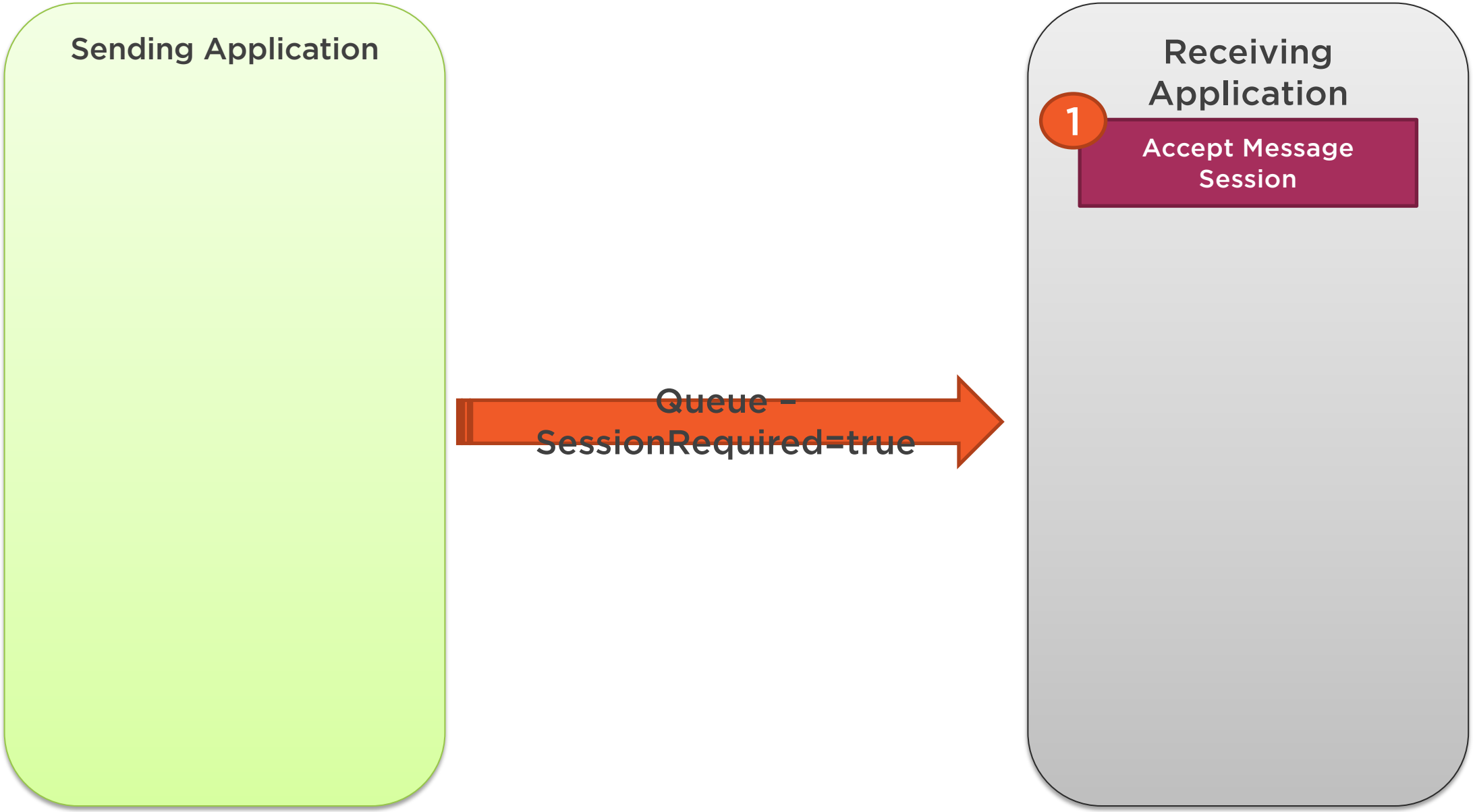

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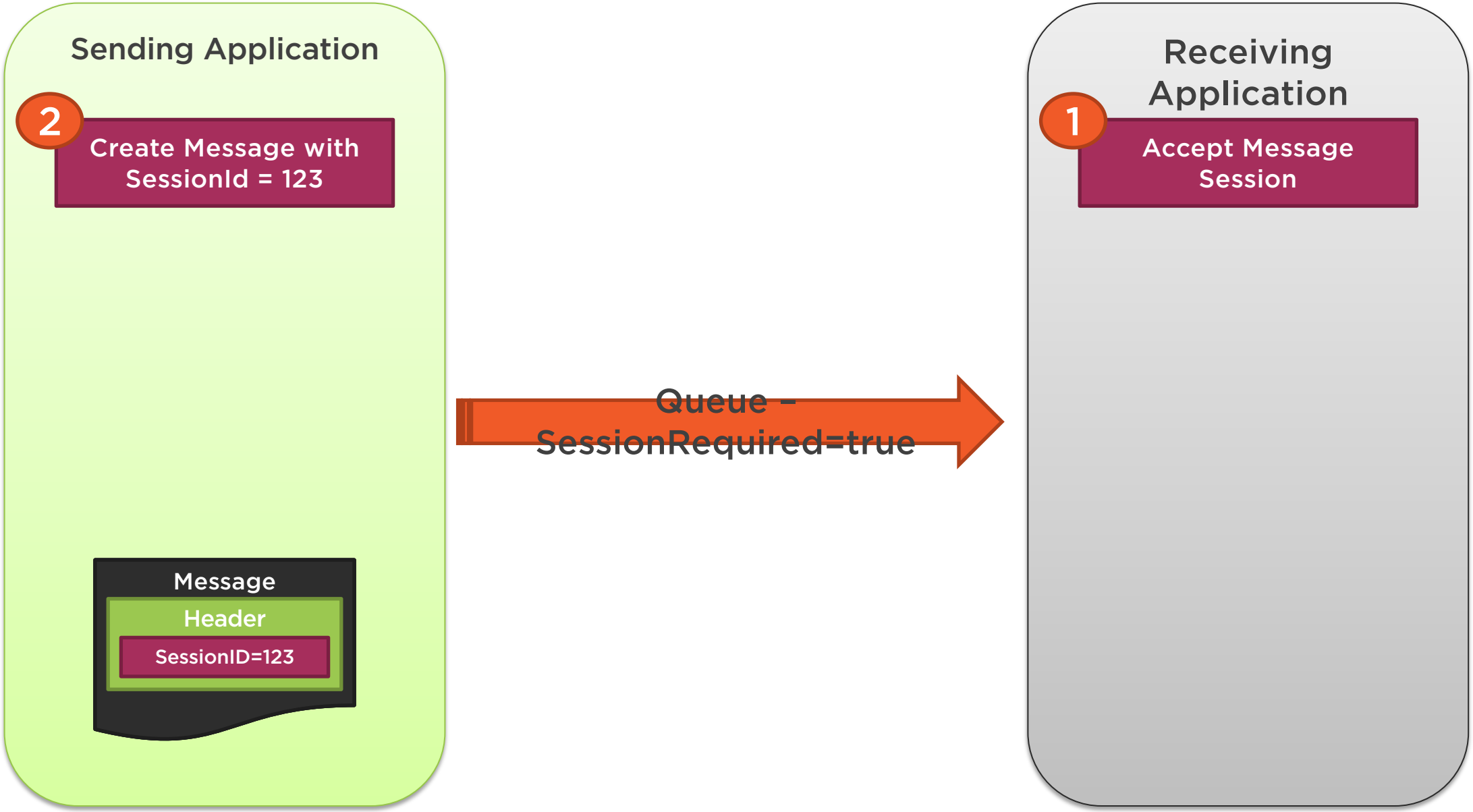

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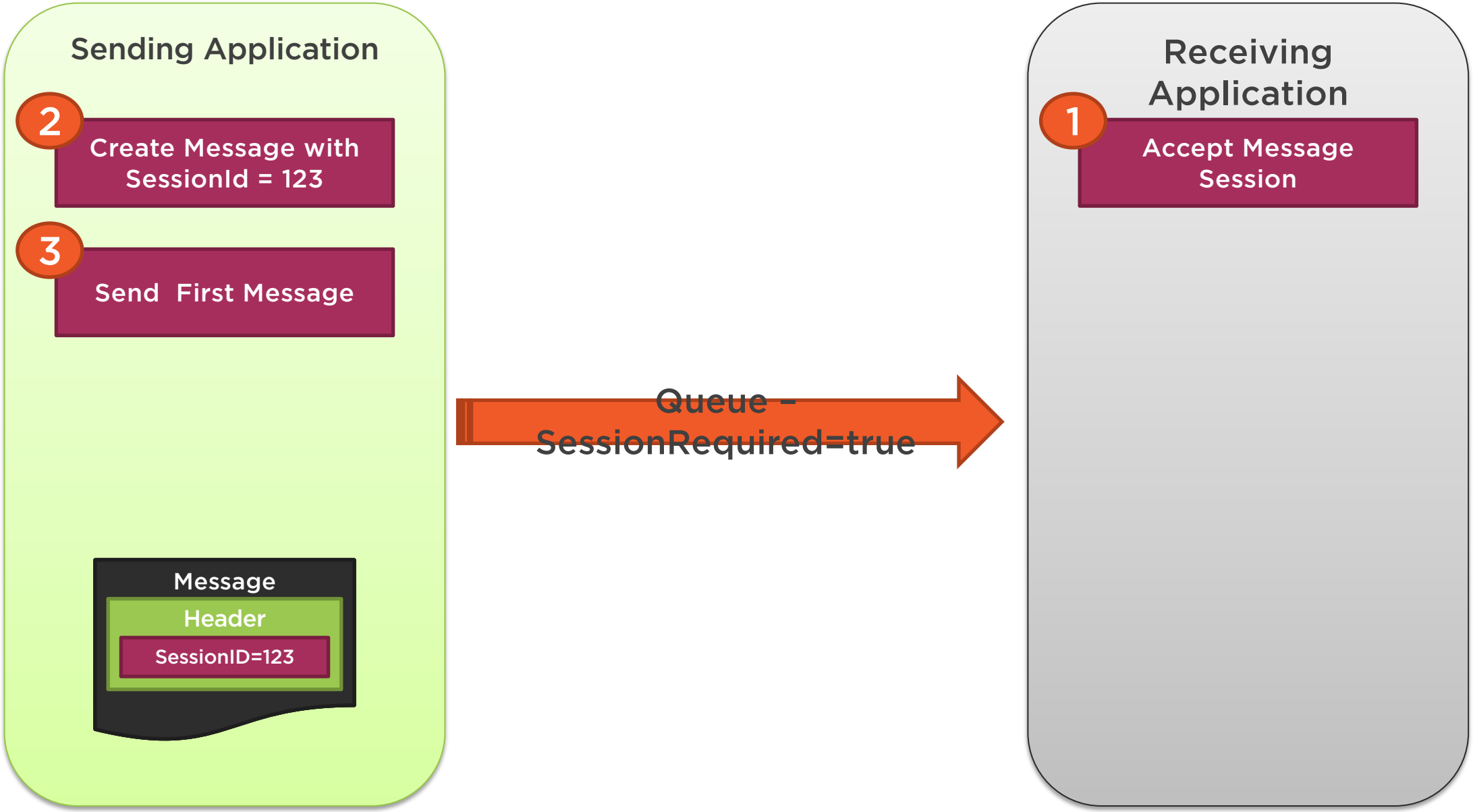

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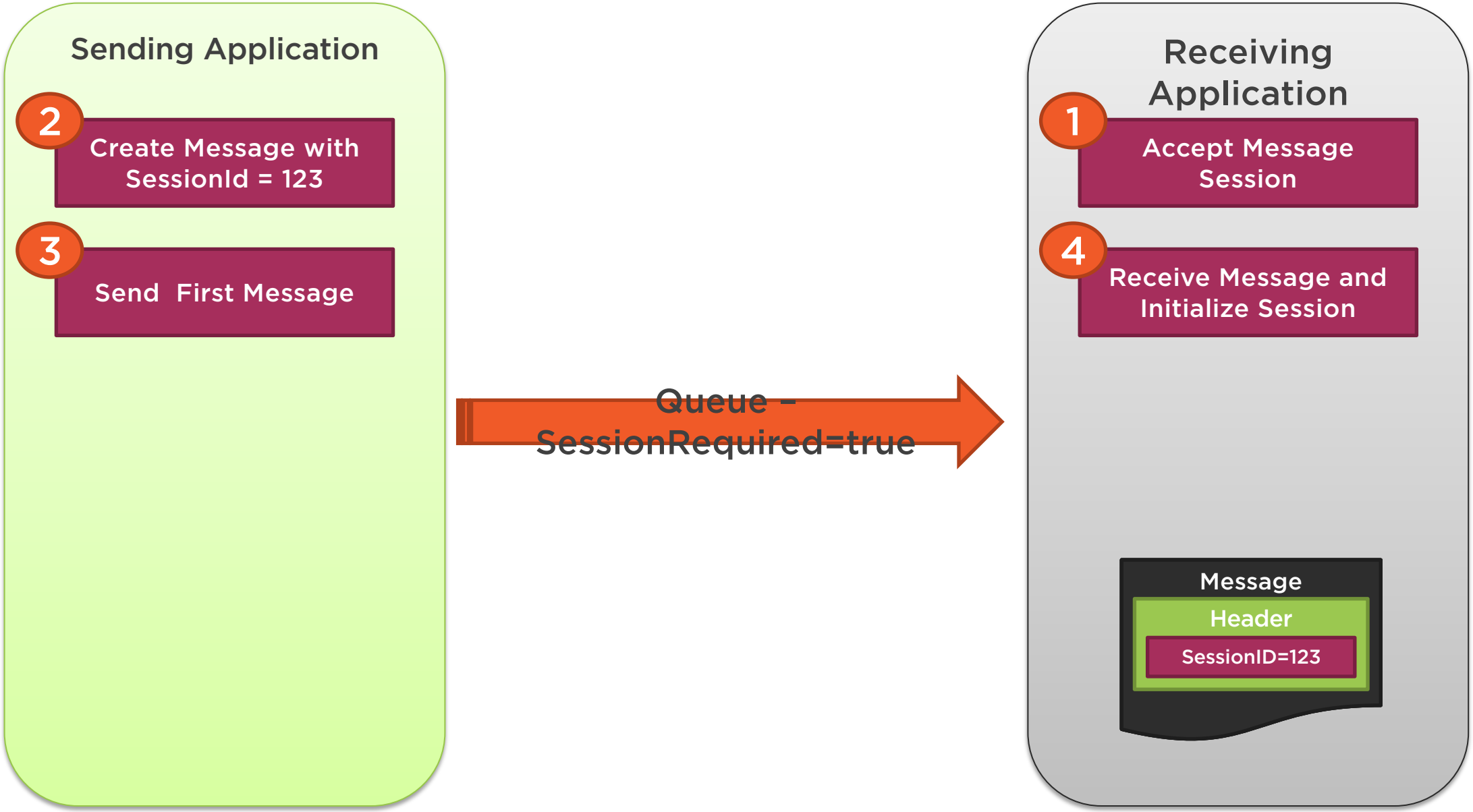

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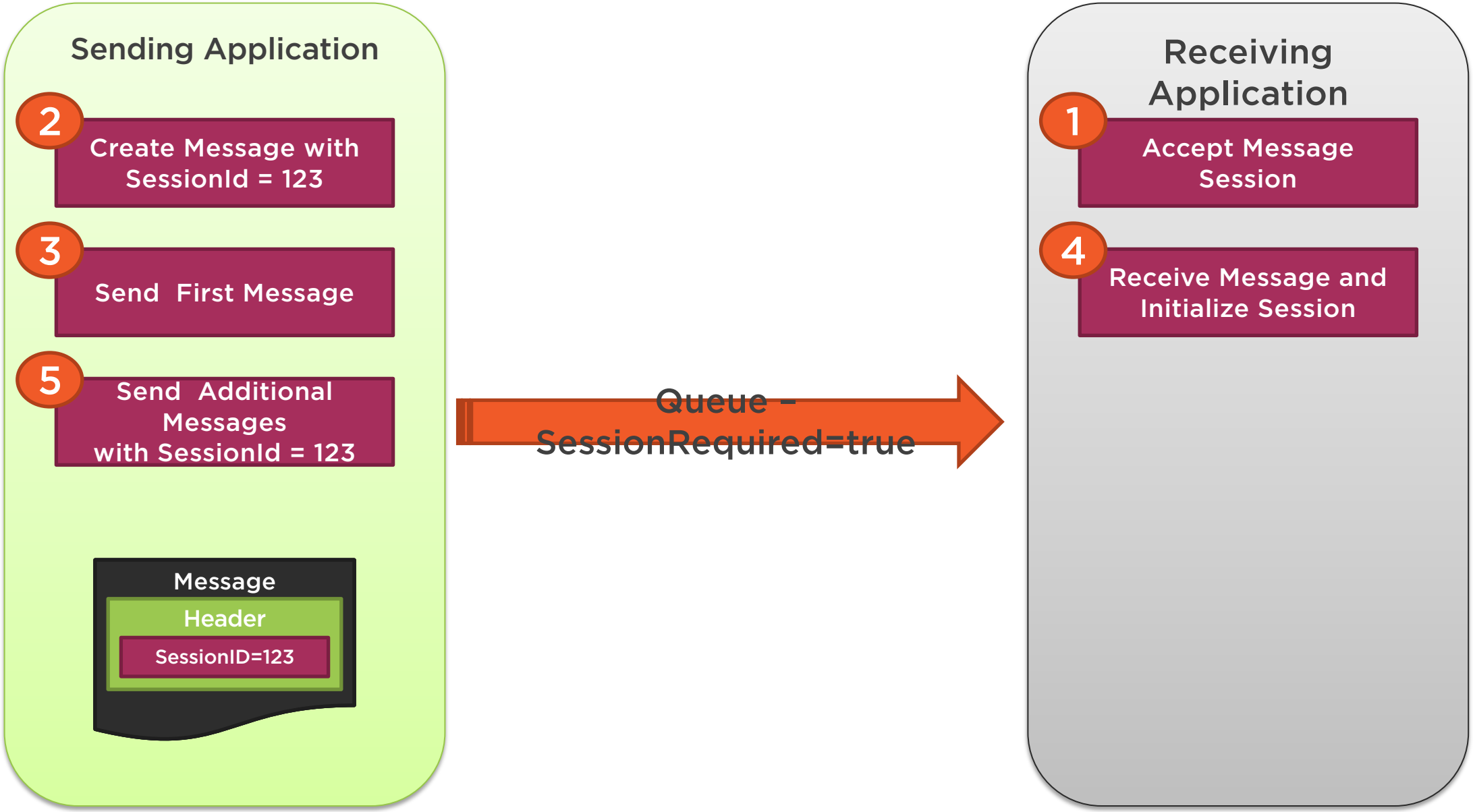

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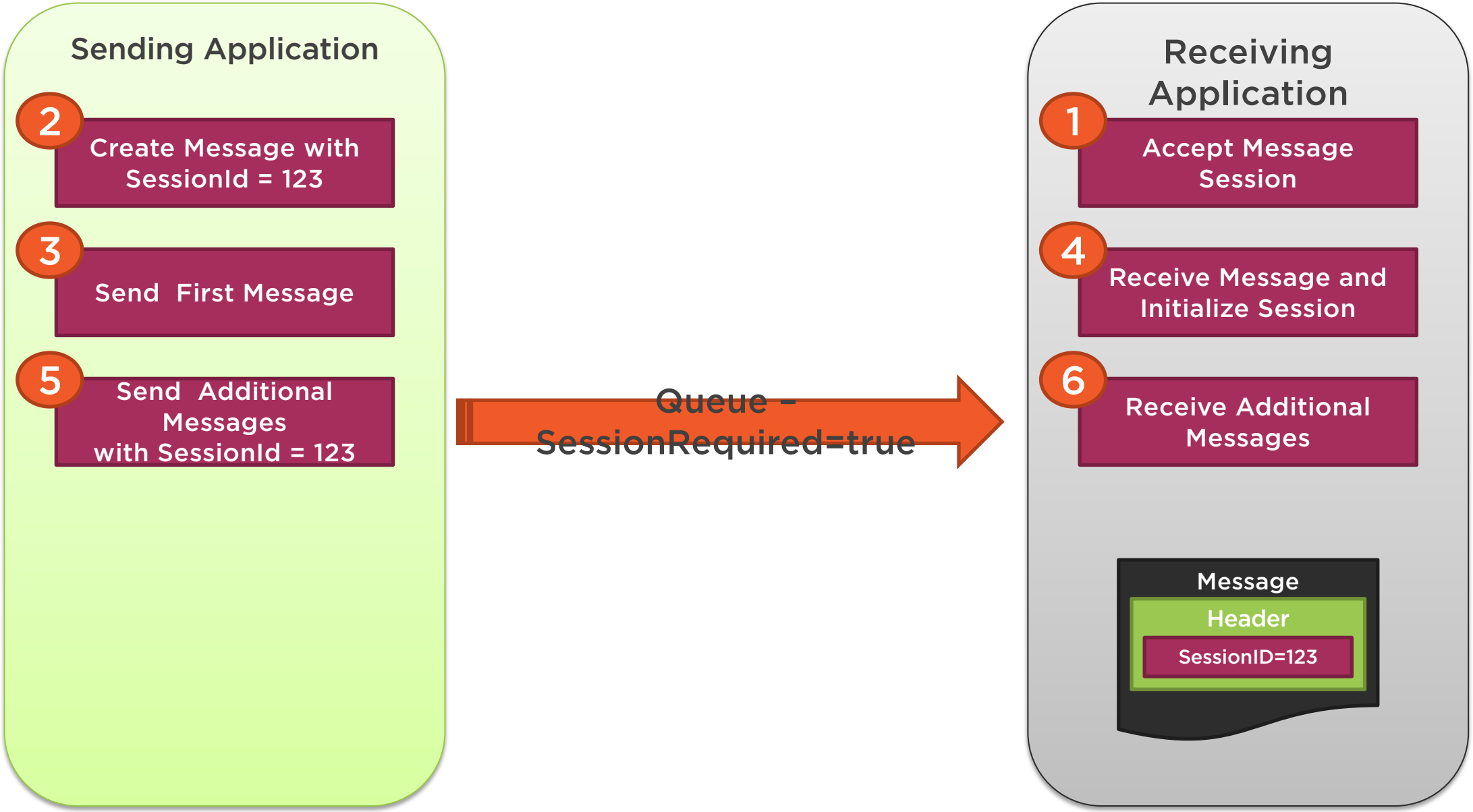

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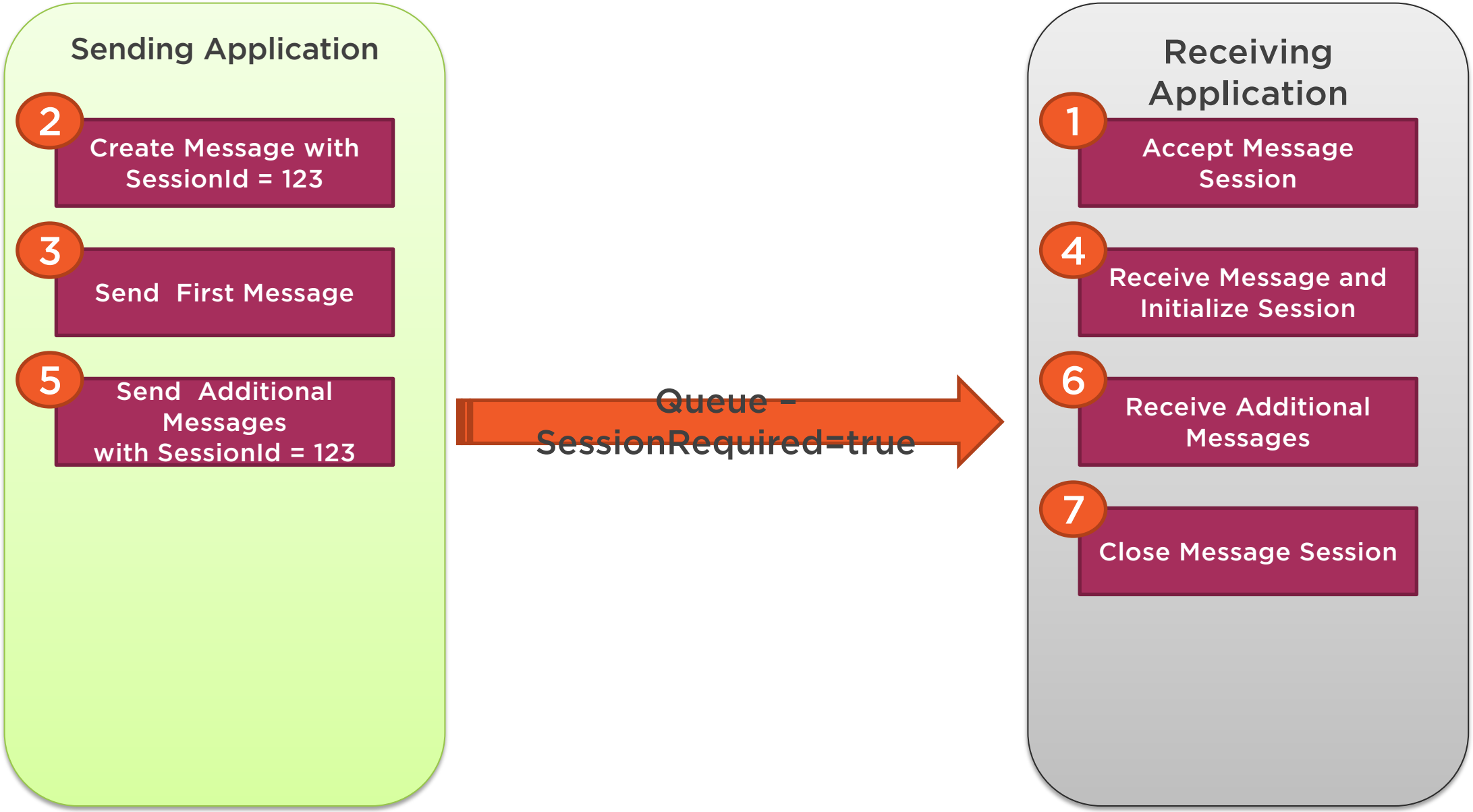


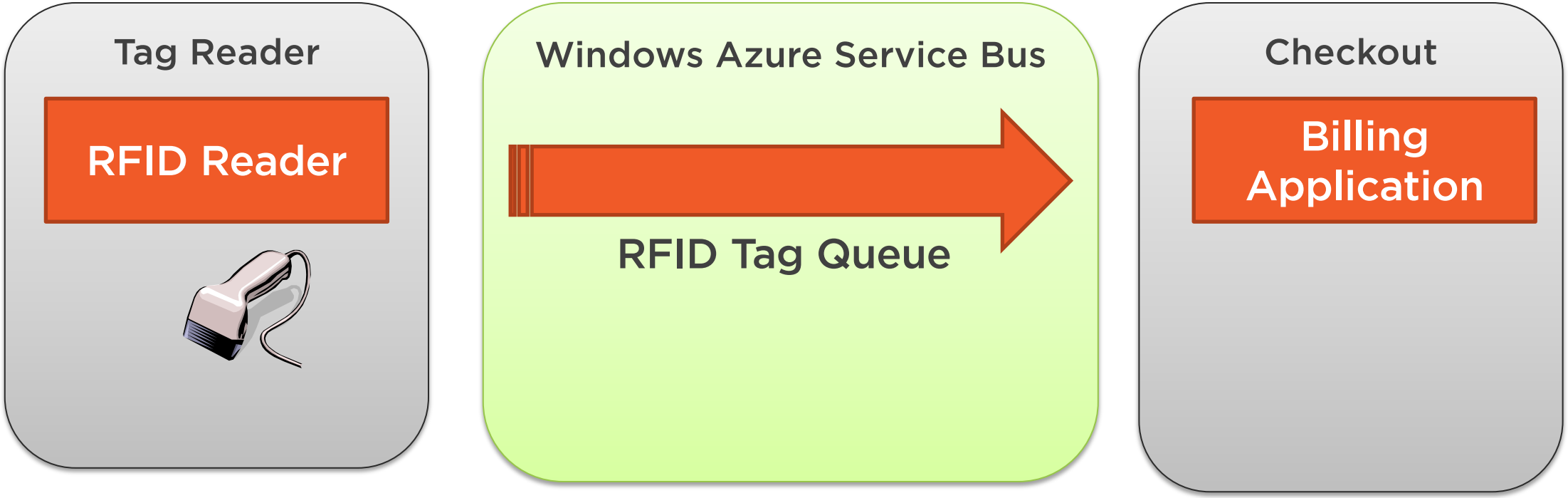
Demo: Using Message Sessions

Creating a session enabled queue

Sending messages in a session

Receiving messages in a session

Using Message Sessions Demo Scenario



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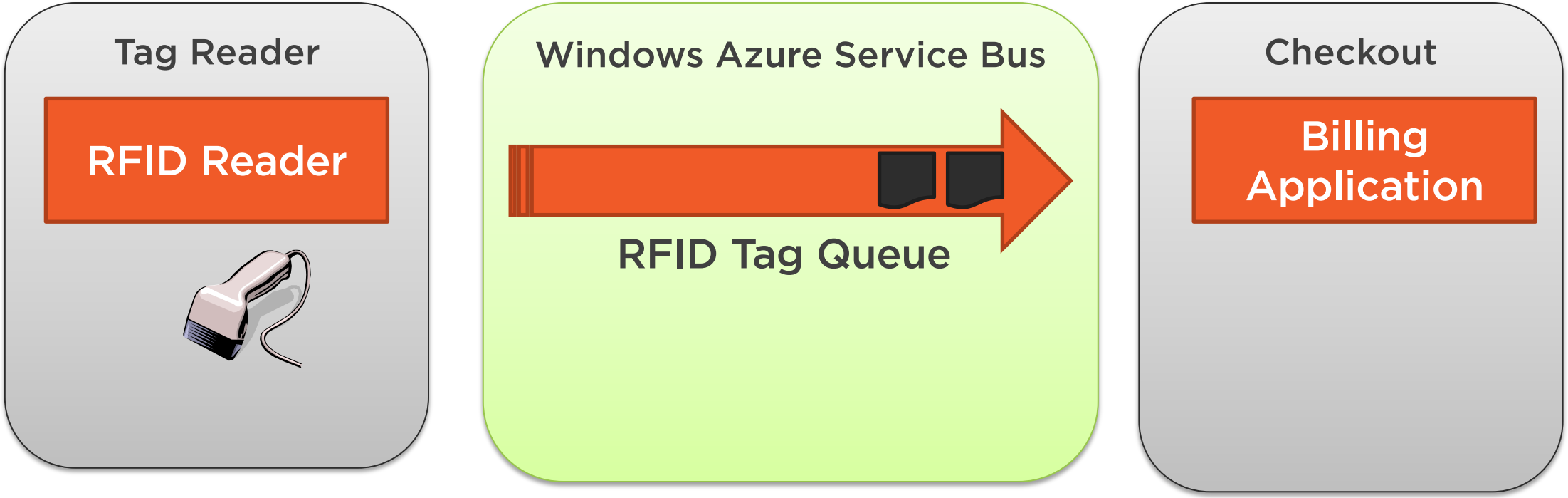

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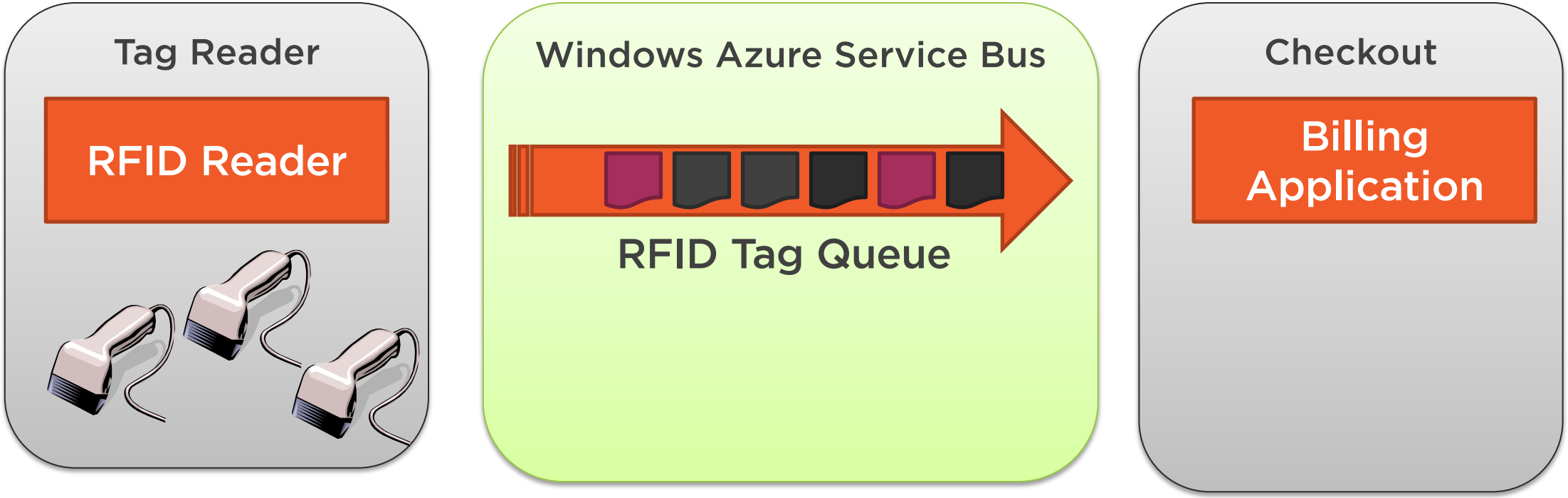

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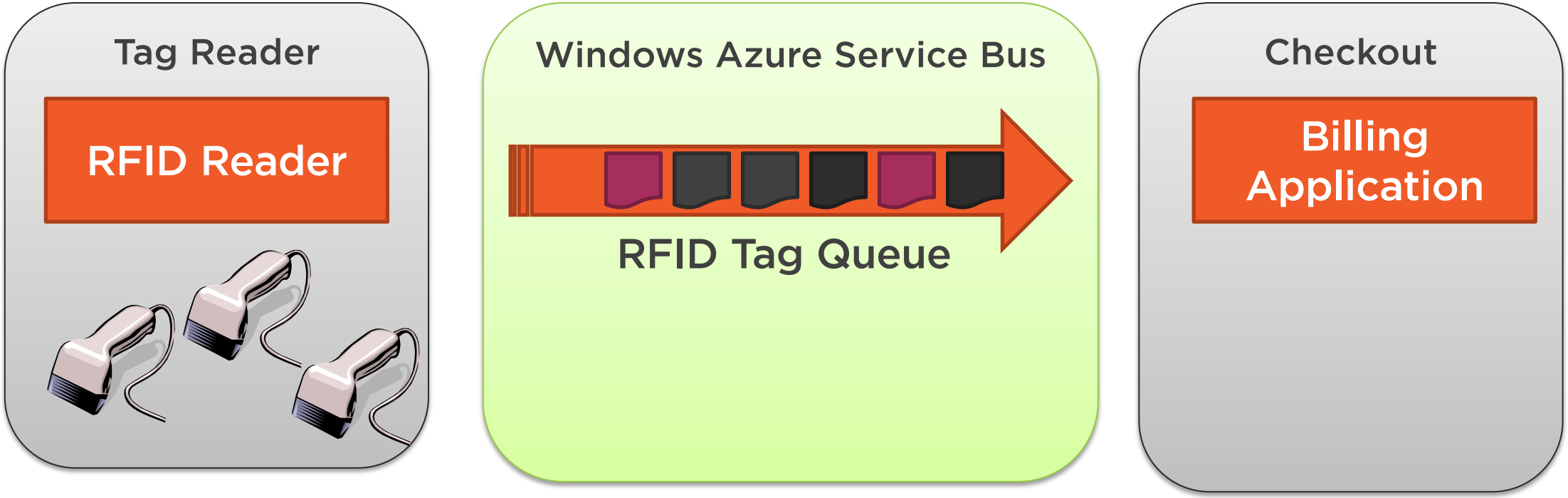

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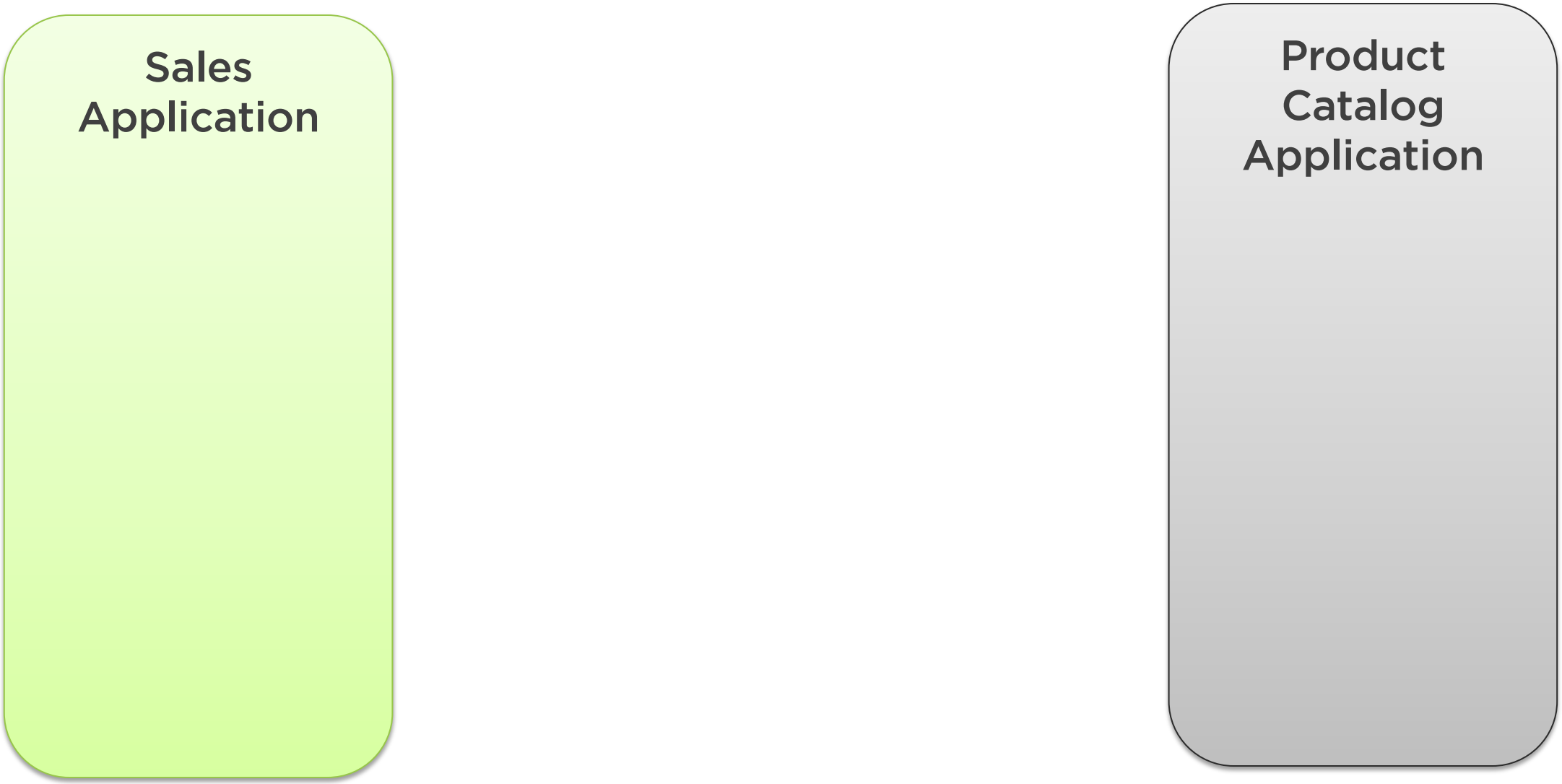

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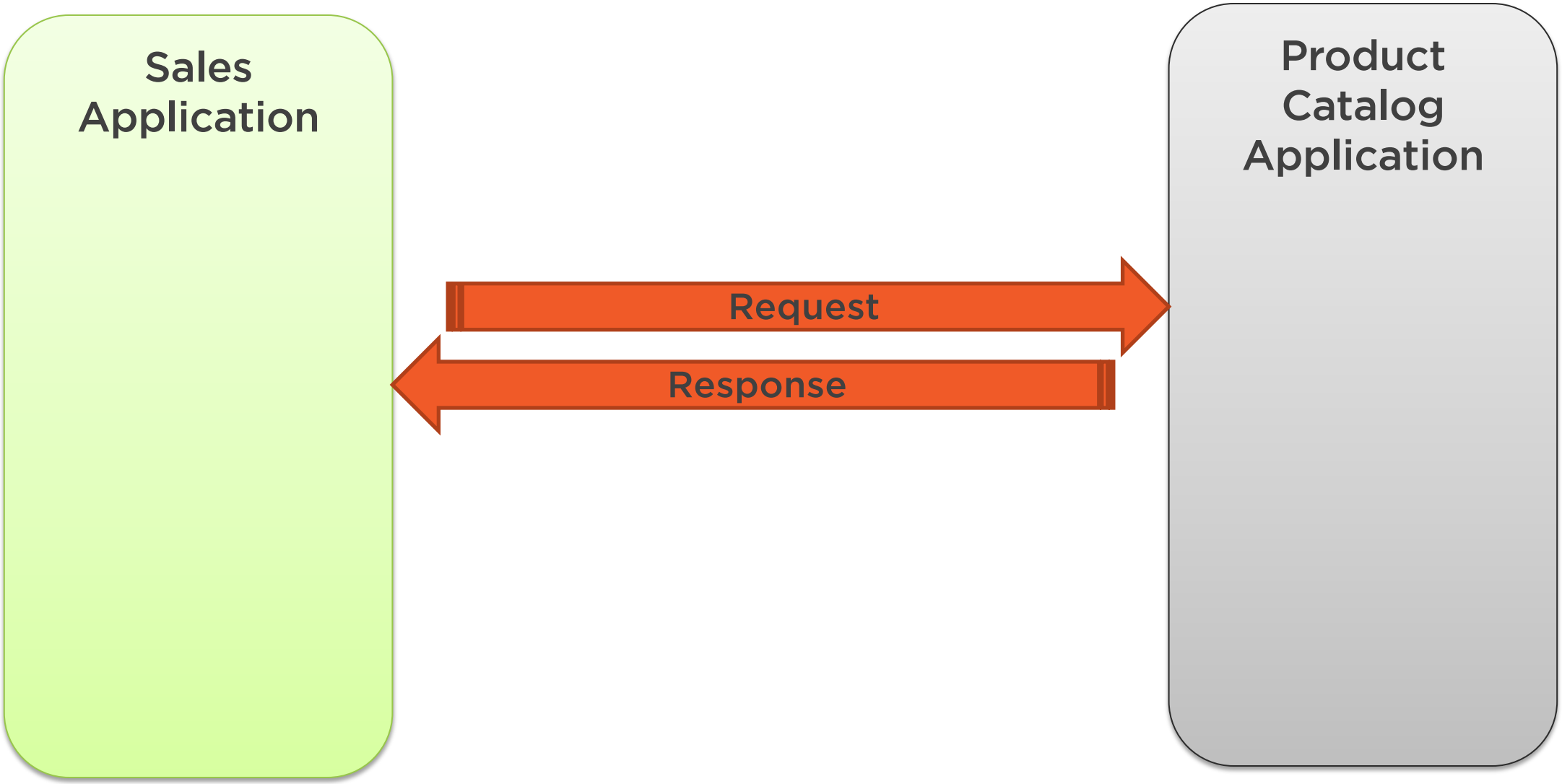

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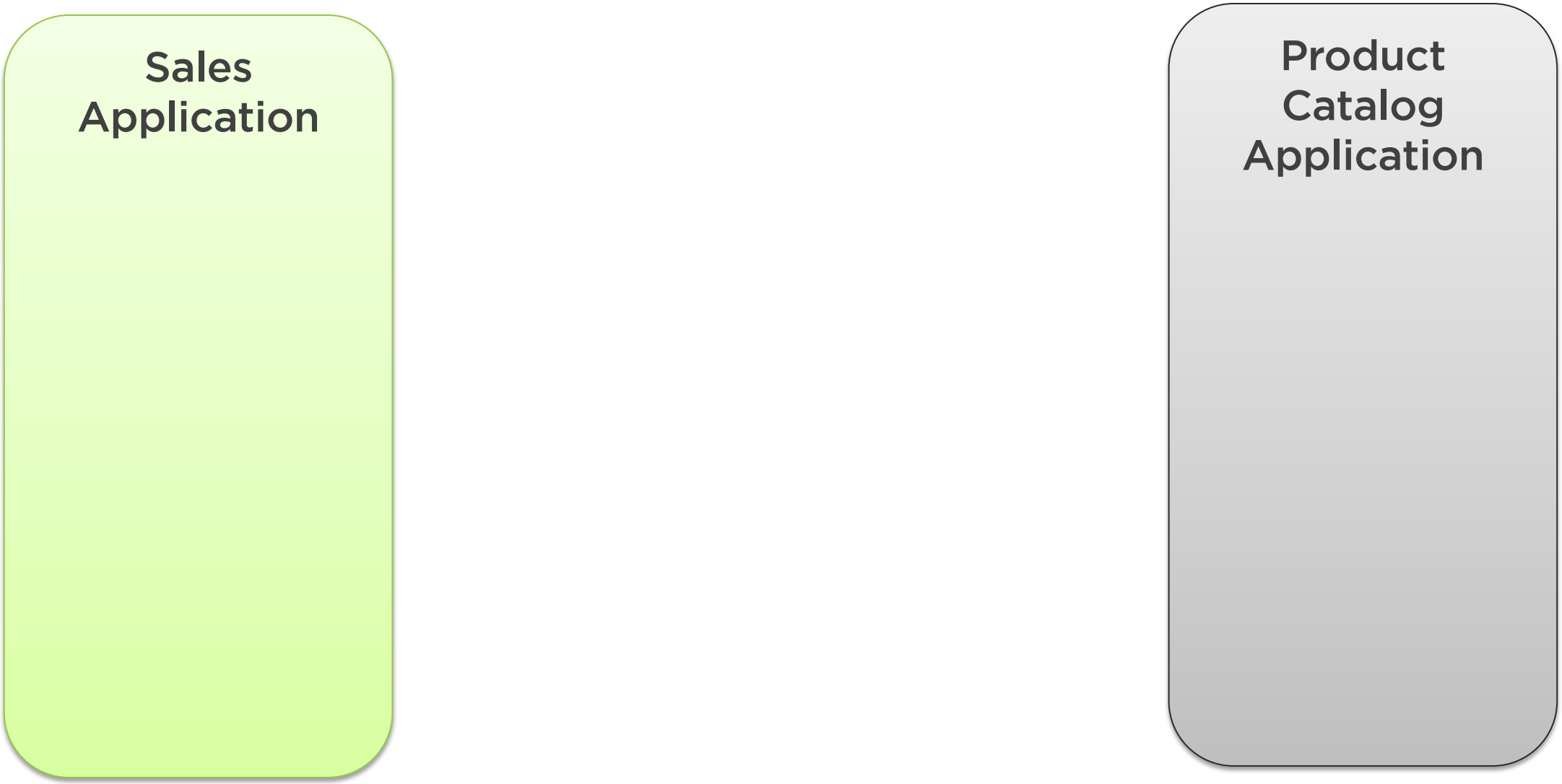

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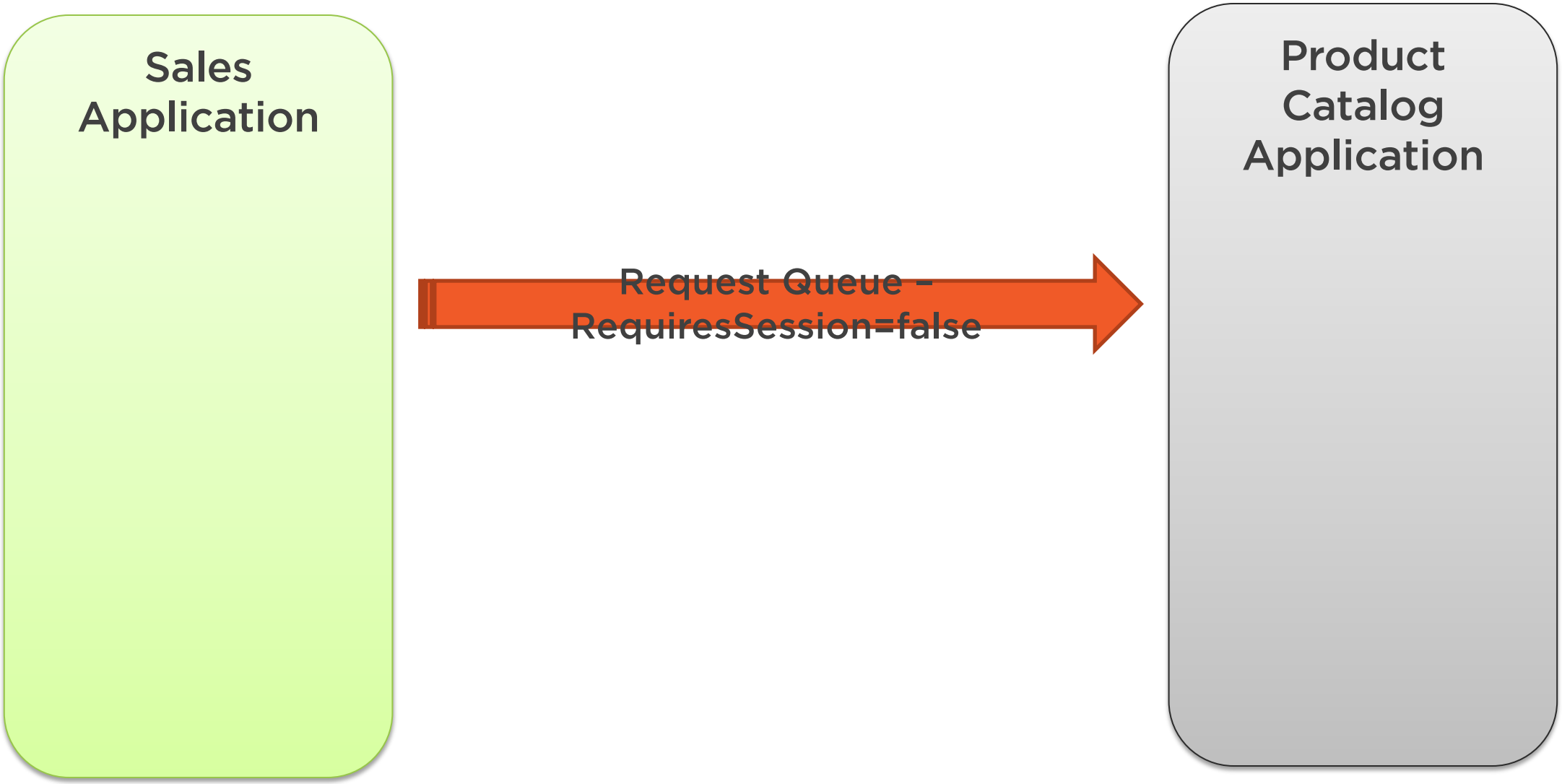

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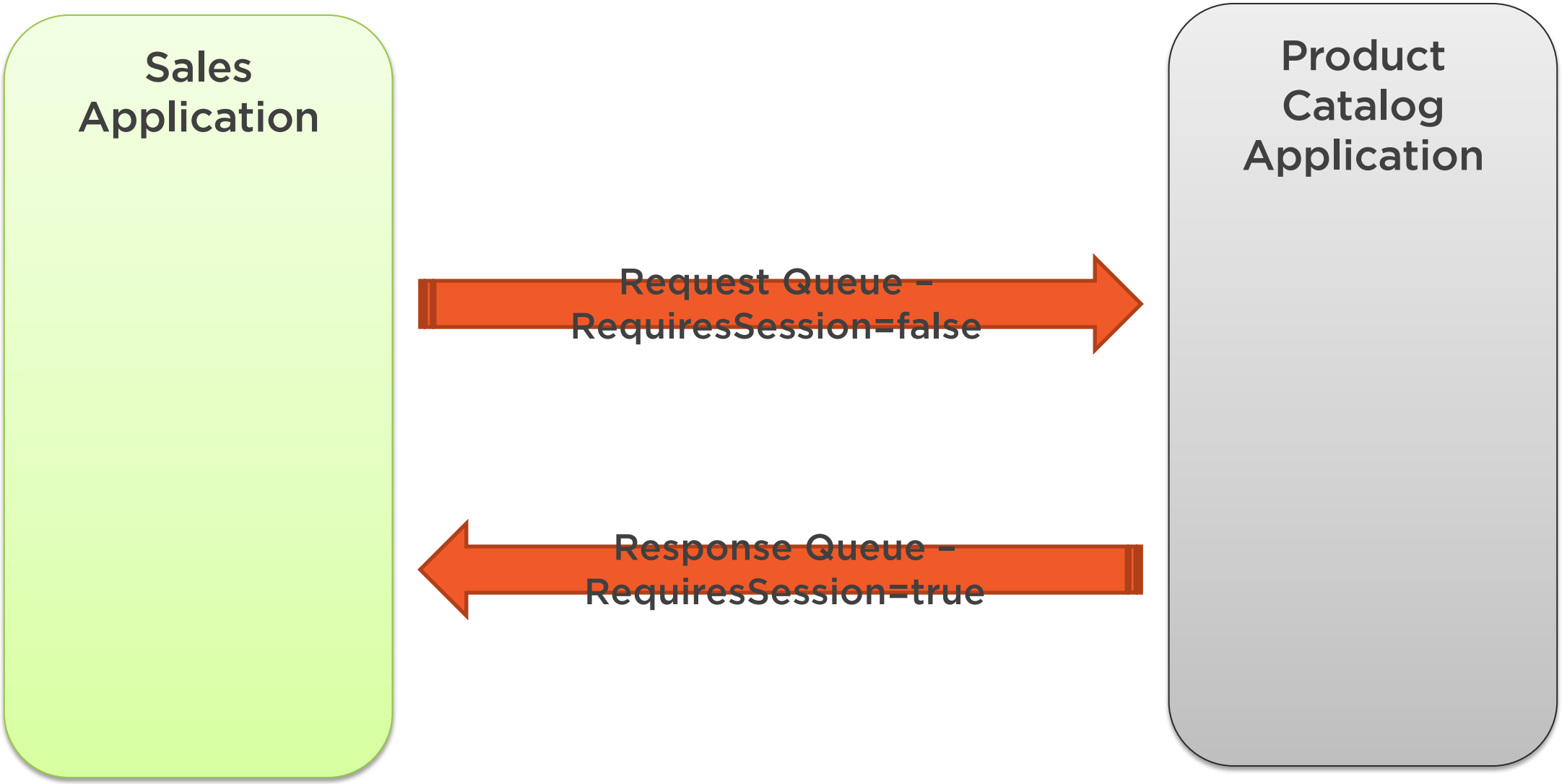

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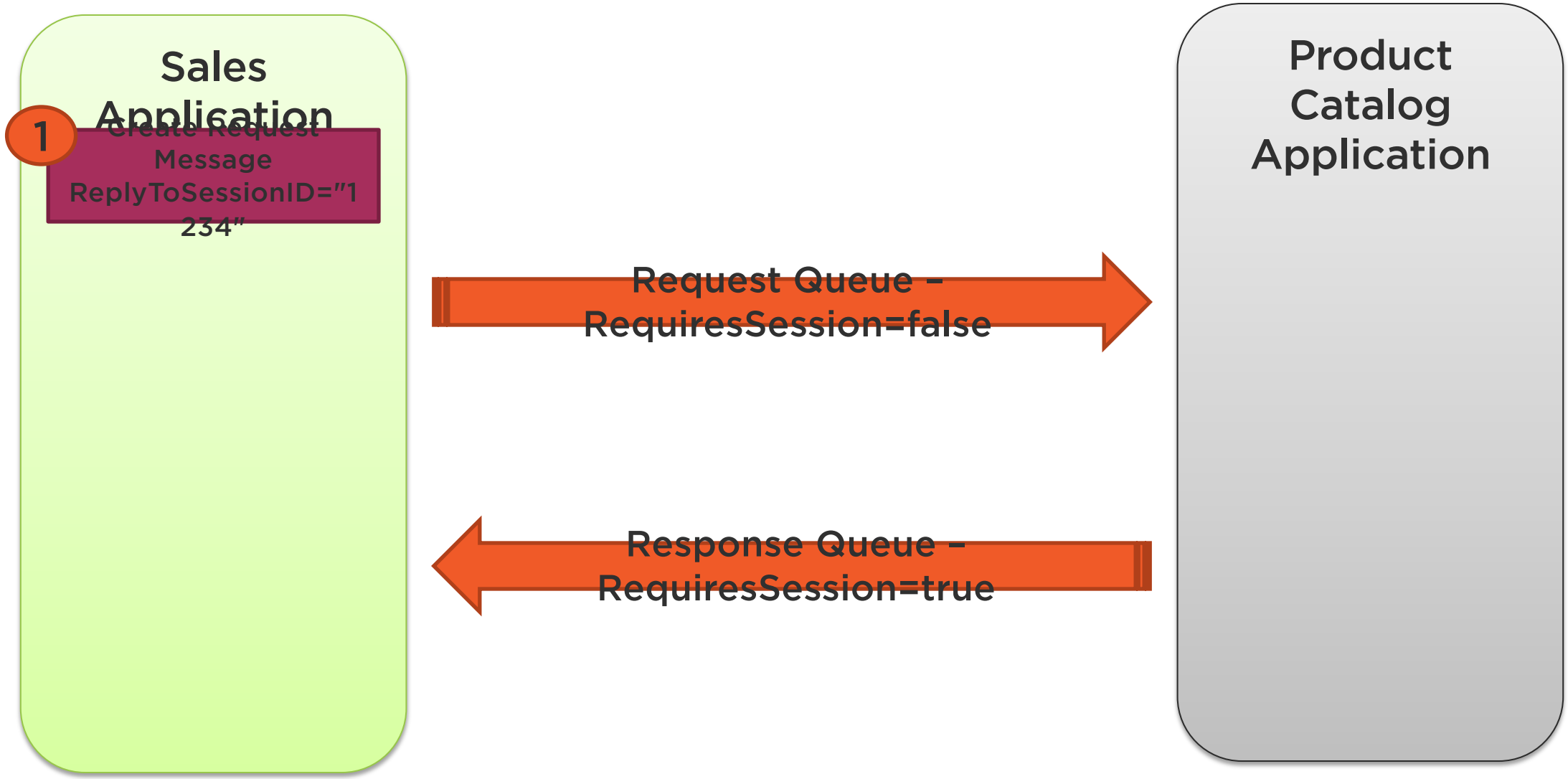

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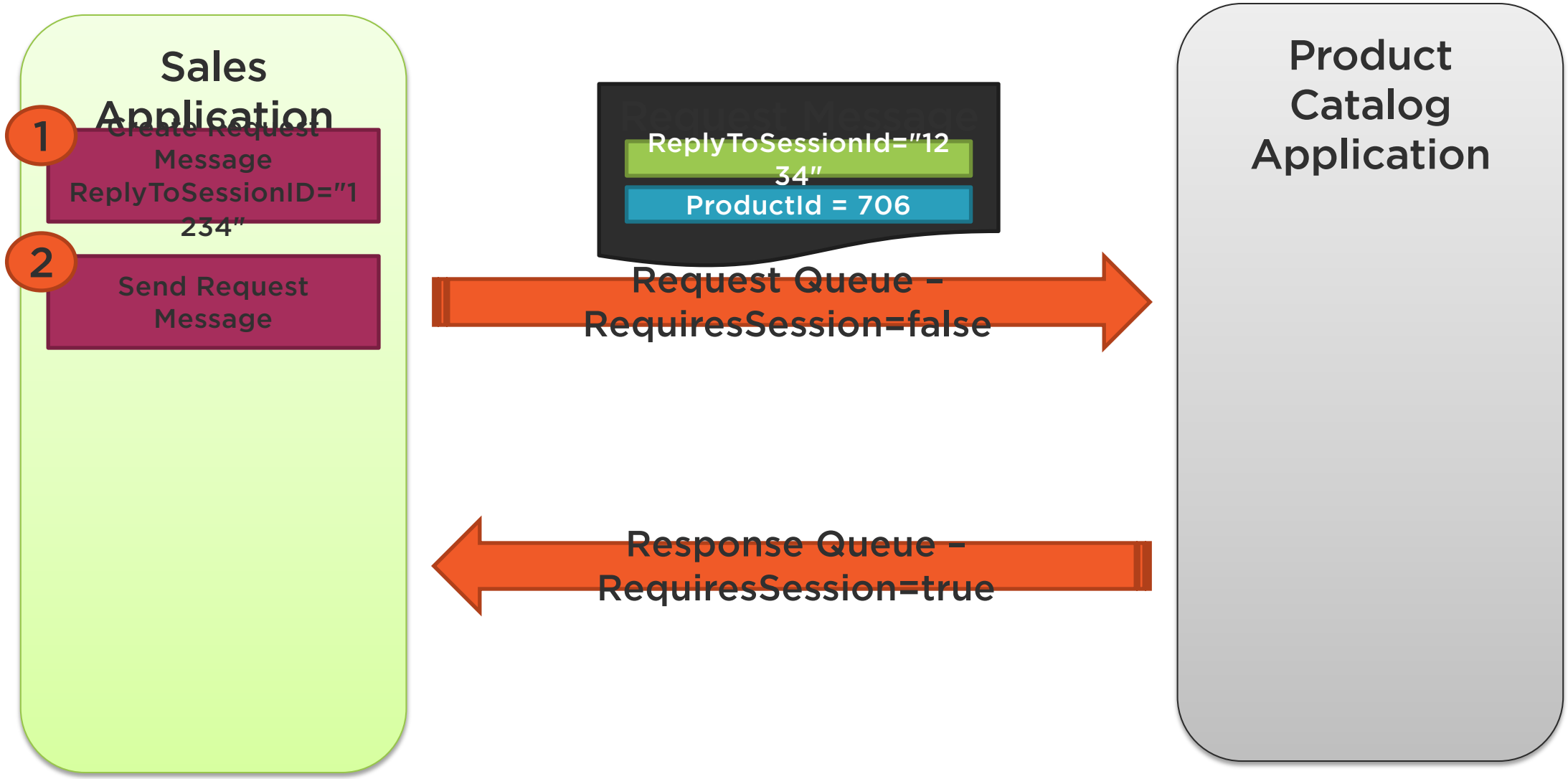

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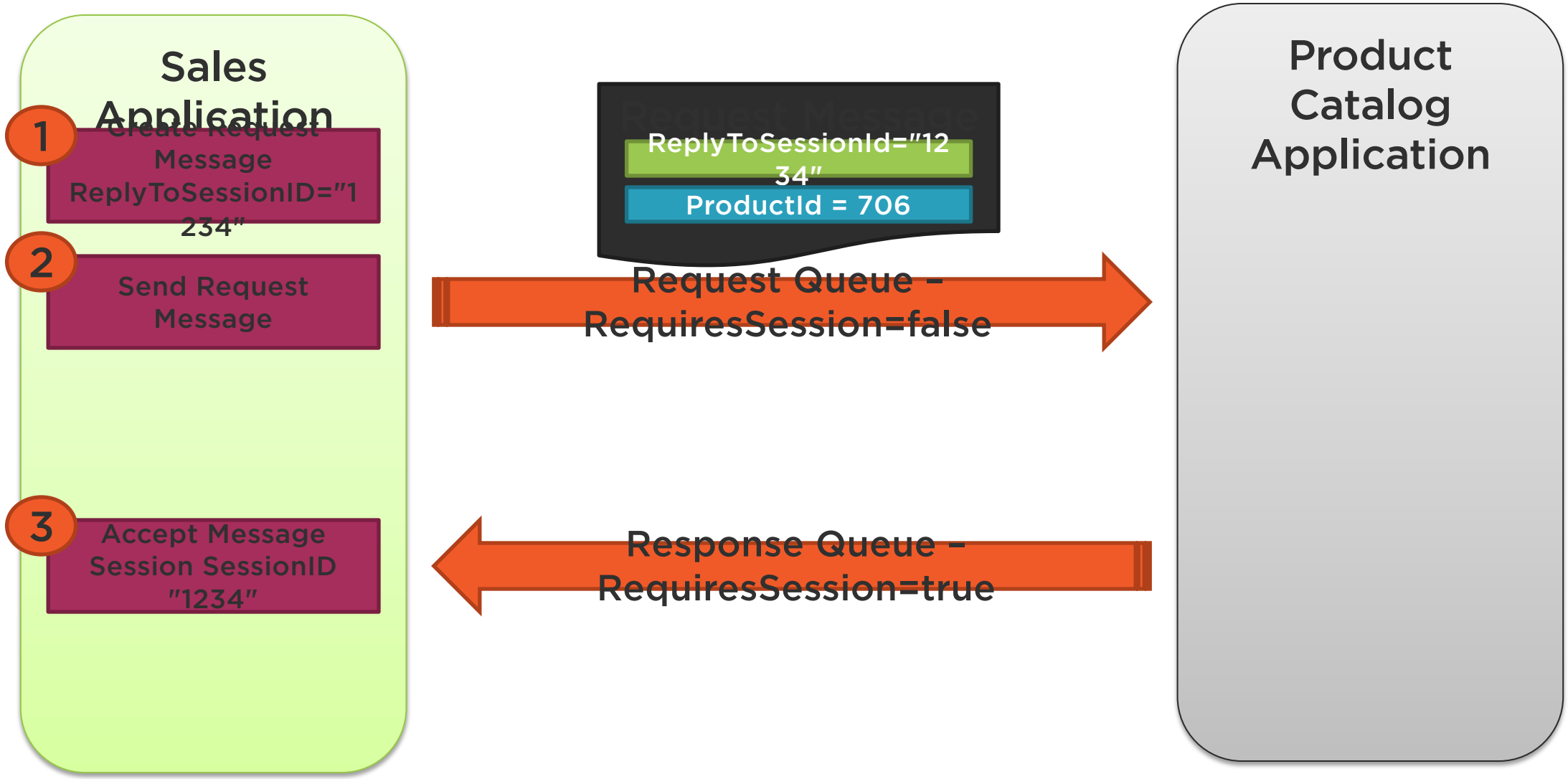

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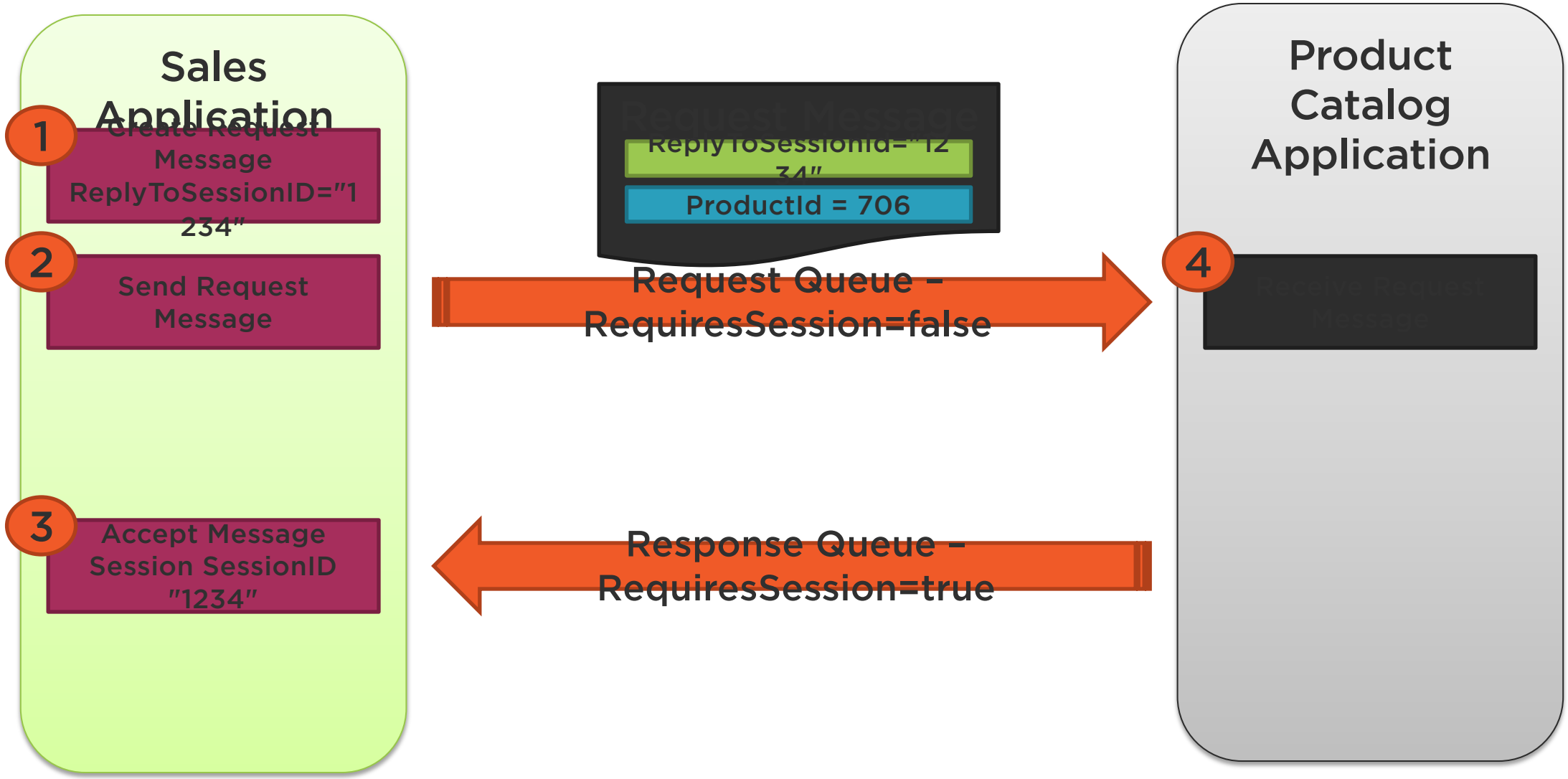

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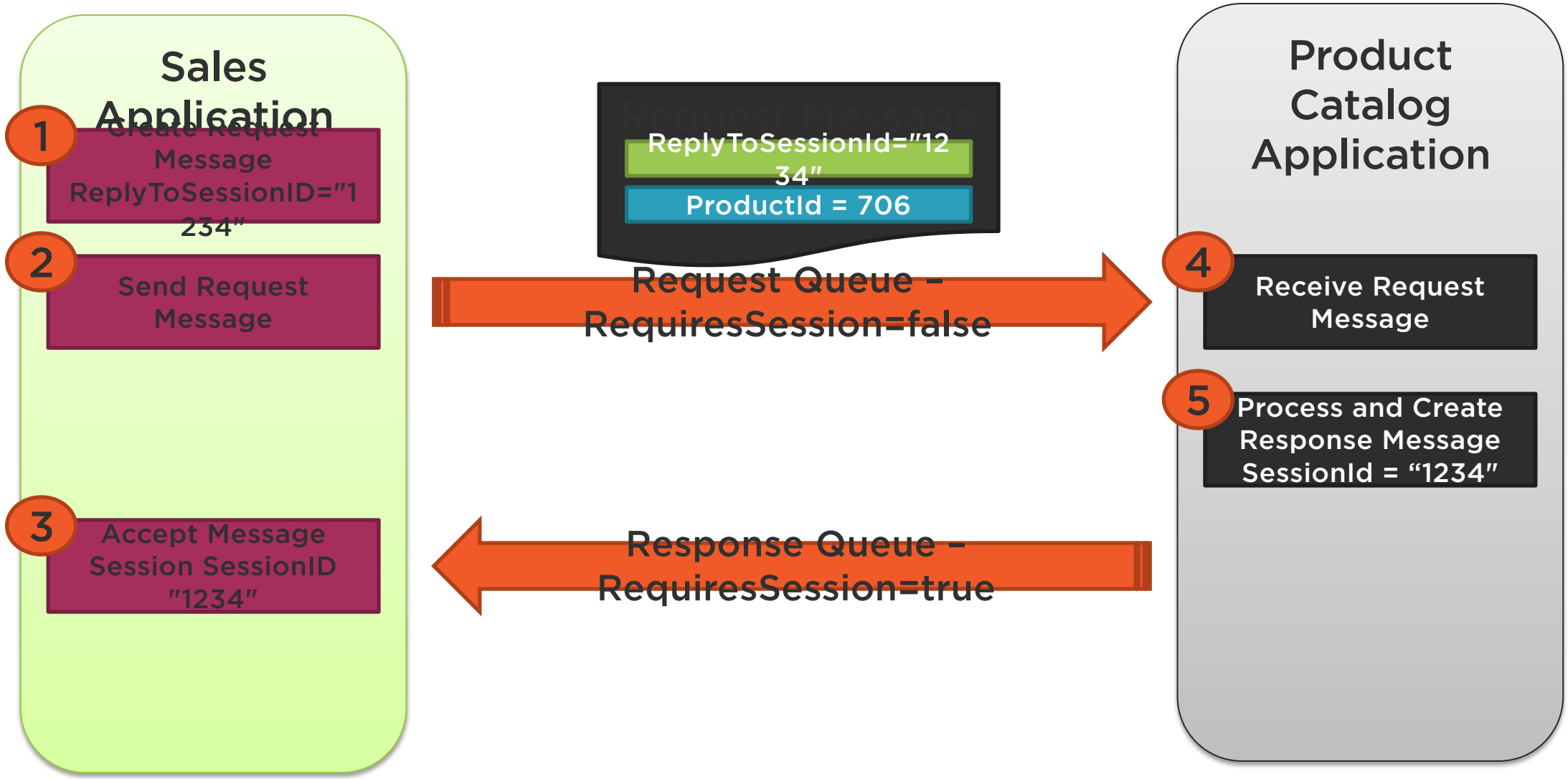

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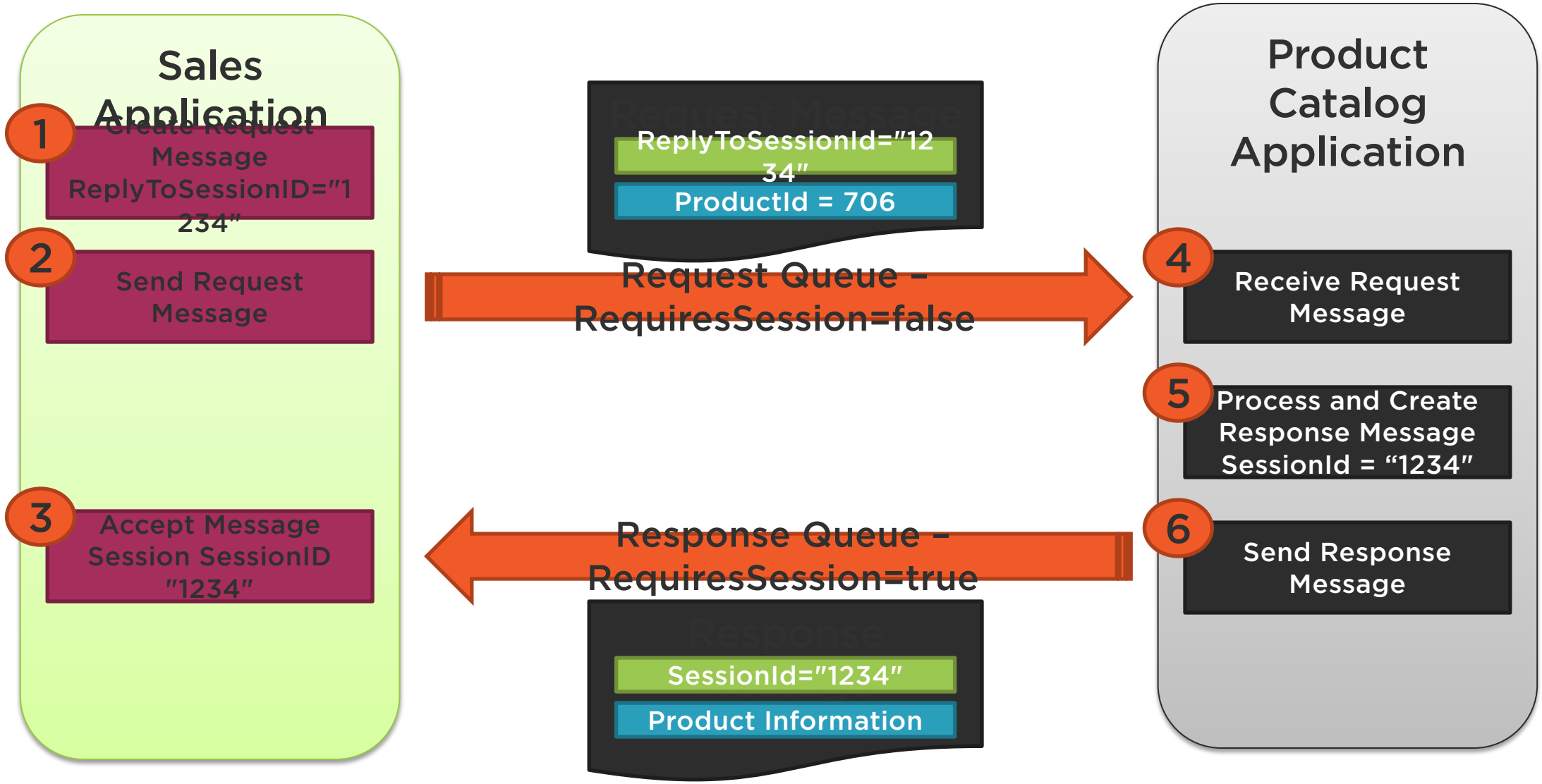

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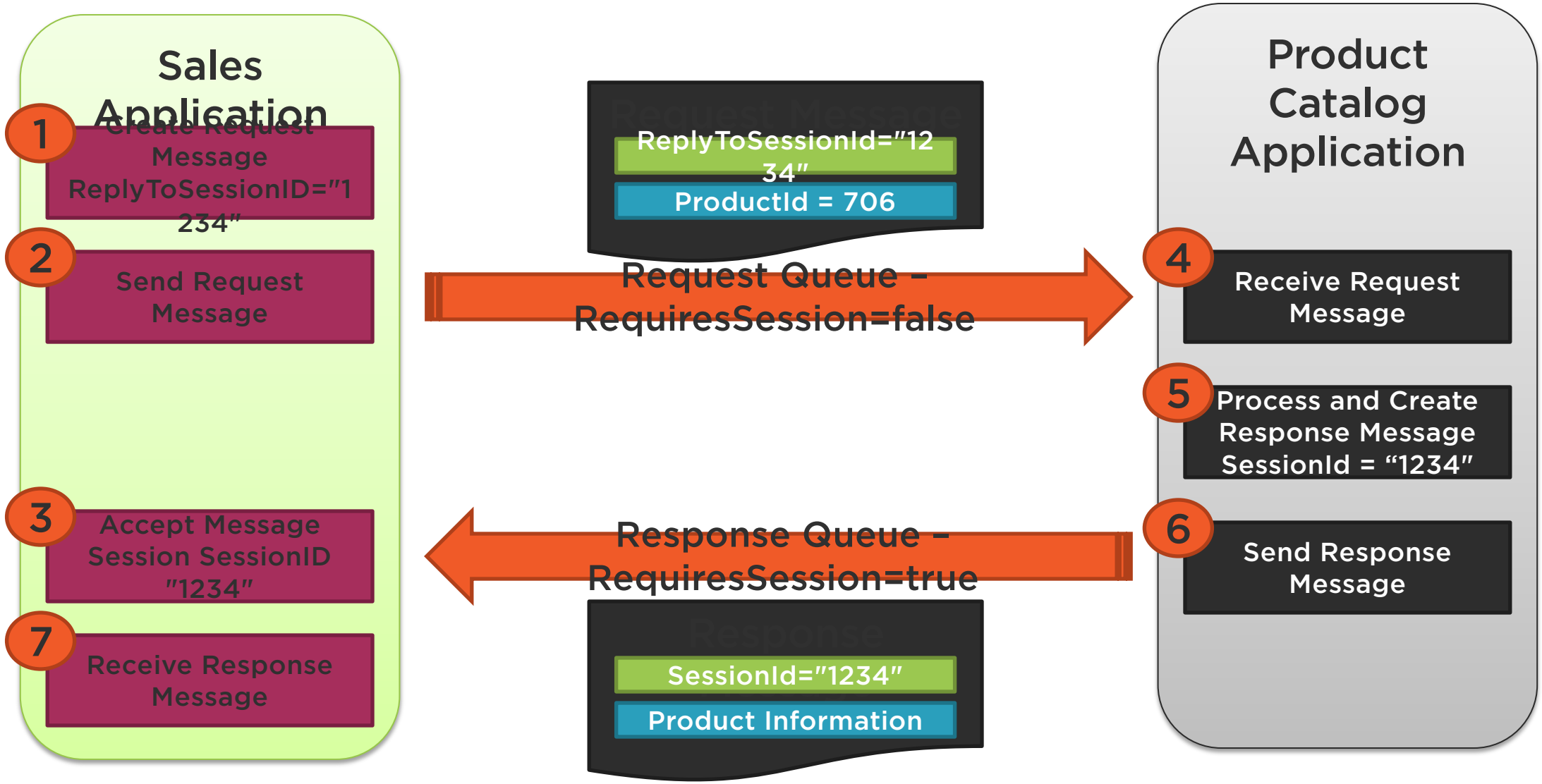

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Asynchronous request response messaging

Correlation using message sessions

Summary: Publish-Subscribe, Routing & Correlation

- **Publish-subscribe messaging offers more flexibility than point-to-point messaging**

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- **Subscriptions can use filters based on message header properties to subscribe to messages**

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- **Publish-subscribe messaging offers more flexibility than point-to-point messaging**
- **In the Azure Service Bus topics and subscriptions are used for publish-subscribe messaging**
- **Subscriptions can use filters based on message header properties to subscribe to messages**
- **Sessions can be used to correlate messages in a receiving application**

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- **Publish-subscribe messaging offers more flexibility than point-to-point messaging**
- **In the Azure Service Bus topics and subscriptions are used for publish-subscribe messaging**
- **Subscriptions can use filters based on message header properties to subscribe to messages**
- **Sessions can be used to correlate messages in a receiving application**
- **Sessions can also be used for correlation in request-response messaging**