

# About me

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- Back-end developer
- M1 & M2, CE & EE

**END.** 

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# ~~AMQP~~ Message Queue

Wait, what?

Let's take a step back:

- Message Queue is a paradigm
- AMQP is a protocol (Advanced Message Queuing Protocol)
- RabbitMQ is an implementation of AMQP
- Amazon SQS (Simple Queue System) is **not** an implementation of AMQP, but follows the Message Queue paradigm

```
$collection = $this->getLoadedProductCollection();  
foreach($collection as $item) {  
    $product = Mage::getModel('catalog/product')  
        ->load($item->getId());  
}
```

## Rule #0. Know what you are doing, and the implications.

You might end up digging quite deep

So, let's try to understand:

- When using a message queue can help
- How it works
- How you can properly implement it in your store

# First things first, when to use a message queue?

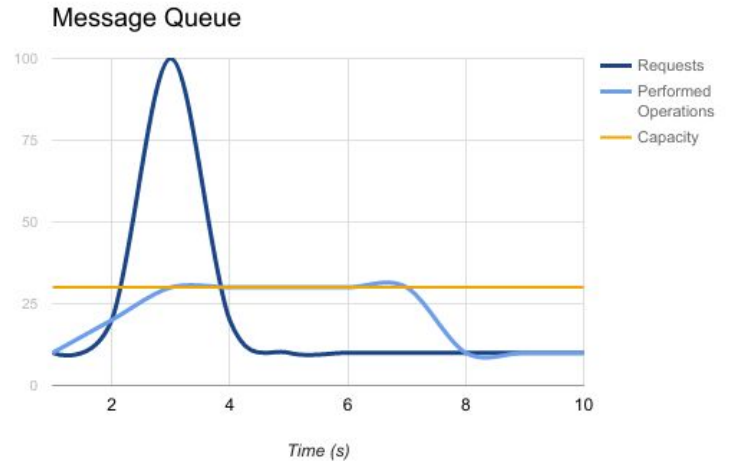
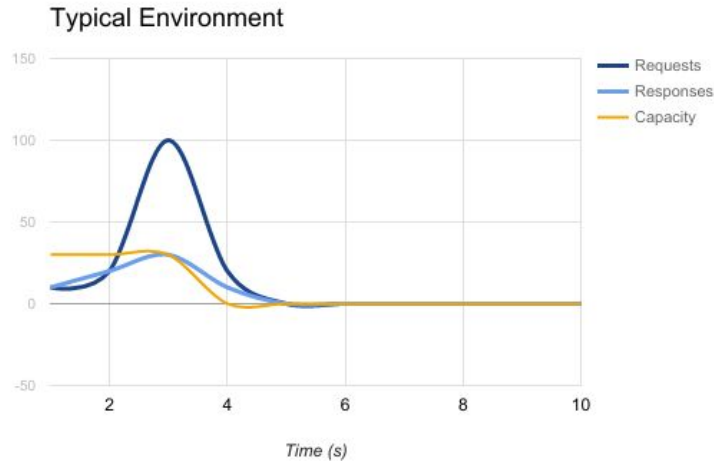
In general, for tasks that can be executed in the background, asynchronously from page loads and frontend interactions.

For instance:

- Resource intensive operations (i.e. database writes)
- Inbound or outbound integrations (i.e. ERP integration)

# Resource intensive operations

- Keep a stable response time by postponing expensive operations
- Gracefully handle spikes

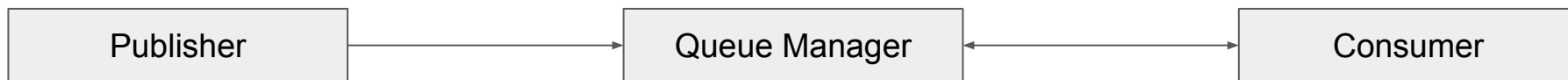


# Integrations



- **Faster.** Each system works at its own pace
- **Simpler.** Magento and the third-party just need to agree on the data structure, and communication issues handling is easier

# How it works - Abstract

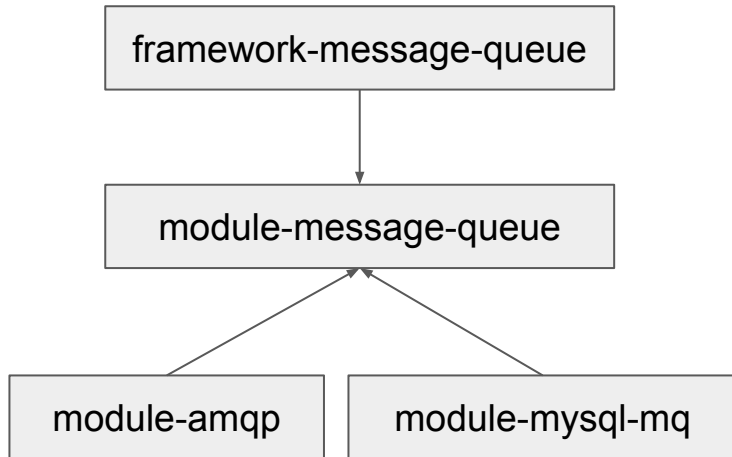


- The publisher sends messages to the queue manager
- The queue manager stores them
- The consumer periodically checks the queue for messages to process

## Notes:

- A queue manager can handle several queues
- Each queue can have more than one consumer (or publisher)

# How it works - Magento 2.1 EE



Base types and classes for message queue processing

Consumer commands and message locking

Queue backend integration implementations



# How to use it - Prerequisites

Get your development environment up and running in minutes:

- Use MySQL as backend (no additions needed)
- Use RabbitMQ as backend
  - Use Docker Compose (recommended)  
<https://github.com/renatocason/docker-magento2-rabbitmq>
  - Install RabbitMQ 3.6 locally

# How to use it - Configuration

- Configure the RabbitMQ connection in *env.php* (*amqp* backend only)
- Implement the data structures
- Define topics (request / response couples) and the handlers in *communication.xml*
- Define brokers and queues in *queue.xml* - here you can specify *amqp* or *mysql* as a backend (can be overridden from *env.php*)
- Run *bin/magento setup:upgrade* (*amqp* backend only), as queues and exchanges are configured on RabbitMQ only on recurring schema generation

Source: <http://devdocs.magento.com/guides/v2.1/config-guide/mq/config-mq.html>

# How to use it - Publisher Implementation

- Include the publisher as a dependency

```
/**  
 * @param PublisherInterface $publisher  
 */  
public function __construct(PublisherInterface $publisher)  
{  
    $this->publisher = $publisher;  
}
```

- Send messages to the queue

```
$this->publisher->publish('example.queue', $messageData);
```

# How to use it - Consumer

- Implement consumer logic

```
public function processMessage(DataInterface $messageData)
{
    ...
}
```

- Verify configuration

```
bin/magento queue:consumers:list
```

- Start consumer

```
bin/magento queue:consumers:list myConsumer
```

# How to use it - Management and Monitoring

- Embedded CLI Tool

```
rabbitmqctl list_queues
```

```
rabbitmqctl status
```

- RabbitMQAdmin web interface (optional plugin)
- SAAS Monitoring Tools (RabbitMQ is supported by all major solutions)

# What about Magento 2 CE?

- Implement a bespoke solution
- Try a community extension

<https://github.com/renatocason/magento2-module-mq>

- Lightweight implementation of message queues
- Support for multiple backends (MySQL, AMQP, SQS)

# Thanks for listening.

## Questions?

Be eco-friendly, don't throw real tomatoes.

Rate the talk on Joind - <https://joind.in/talk/7ca07>

