

Submission Worksheet

Submission Data

Course: IT490-450-M2025

Assignment: IT490 MQ Test Individual

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Status: Submitted | **Worksheet Progress:** 100%

Potential Grade: 10.00/10.00 (100.00%)

Received Grade: 0.00/10.00 (0.00%)

Started: 6/9/2025 9:35:09 PM

Updated: 6/17/2025 10:56:50 PM

Grading Link: <https://learn.ethereallab.app/assignment/v3/IT490-450-M2025/it490-mq-test-individual/grading/iea>

View Link: <https://learn.ethereallab.app/assignment/v3/IT490-450-M2025/it490-mq-test-individual/view/iea>

Instructions

- Walkthrough: <https://youtu.be/tgT0ZAxccbQ>
- 1. Read all instructions and requirements first
- 2. Use any VM creation tool that gives you root access and persistent storage
 - VirtualBox, Multipass, cloud (Amazon, Google, Azure, etc) (Docker won't be an option here)
 - Create a hostname relevant to the assignment (i.e., test-individual)
 - Create a user of your ucid with a password, ensure relevant permissions
 - Hardware: 1GB Memory, 10GB Hard Drive
 - Install a server version of linux (i.e., Ubuntu Server 24.04)
 - Hint: You may want to get a base install working and use that as a cloning point for quicker destroy/create cycles
- 3. Use the example code from the master branch of <https://github.com/MattToegel/IT490>
- 4. Connect to the VM with two separate ssh connections
 - Run the RabbitMQServerSample.php file successfully in one instance
 - Run the RabbitMQClientSample.php file successfully in another instance
 - Proper data should be sent/received
- 5. Create a setup.sh script that automates the installation/setup logic
- 6. Fill in the below requirements
- 7. Submit and Export once done
- 8. Upload the PDF to your personal GitHub repo for the class
- 9. Upload the PDF to Canvas

Section #1: (7 pts.) Example Solution

Progress: 100%

≡ Task #1 (3.50 pts.) - Working Example

Progress: 100%

📄 Part 1:

Progress: 100%

Details:

- Demonstrate a successful send/receive of the example message
- Hostname should be test-individual or similar
- Username should be your ucid

```
iea@testindividual:~/IT490$ php RabbitMQServerSample.php
```

```
Rabbit MQ Server Start
processing request
Consuming queue
processing message
Received Request
array(2) {
  ["message"]=>
  string(12) "test message"
  ["type"]=>
  string(4) "echo"
}
<pre></pre>Replying to testQueue.response
```

Running RabbitMQServerSample.php

```
iea@testindividual:~/IT490$ php RabbitMQClientSample.php
PHP Warning: Undefined variable $json_message in /home/iea/IT490/rabbitMQlib.inc on line 189
NULL
sending message
object(stdClass)#25 (2) {
  ["return_code"]=>
  string(1) "0"
  ["message"]=>
  string(18) "Echo: test message"
}
client received response:
stdClass Object
(
    [return_code] => 0
    [message] => Echo: test message
)

RabbitMQClientSample.php_END
```

Running RabbitMQClientSample.php



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⇒ Part 2:

Progress: 100%

Details:

- Detail the initial setup experience and note things you had to address in order for the example to work

Your Response:

I set up an Ubuntu Server VM in VirtualBox and used the full install to avoid missing packages. I configured NAT networking with port forwarding (host port 2222 to guest port 22) to enable SSH access.

After installing PHP, Composer, and the necessary dependencies, I fixed a composer.json error and installed the required php-amqplib/php-amqplib library. I also had to install the bcmath extension.

Due to issues with tmux shortcuts, I used two separate terminal windows to run the RabbitMQ server and client. The test message was successfully sent and echoed back, confirming everything worked.

Task #2 (3.50 pts.) - Setup Script

Progress: 100%

Part 1:

Progress: 100%

Details:

- Show a snippet of the `setup.sh` script you created to automate the installation and configuration steps that lead up to a working example.

```
#!/bin/bash
echo "Starting server setup..."
sudo apt update && sudo apt upgrade -y
echo "Installing dependencies..."
sudo apt install -y php-cli php-curl php-mbstring php-xml rabbitmq-server git curl unzip
sudo systemctl enable rabbitmq-server
sudo systemctl start rabbitmq-server
echo "Cloning assignment repo..."
git clone https://github.com/MattToegel/IT490.git
echo "Setup complete"
php -v
rabbitmqctl status

```

Snippet of setup.sh

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Part 2:

Progress: 100%

Details:

- Include the direct link to the file from your personal class repository

URL #1

<https://github.com/isauguste/IT490>


URL

<https://github.com/isauguste/IT490>

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Part 3:

Progress: 100%

Details:

- Briefly explain each step of the process in the script

Your Response:

The setup.sh script automates the installation and setup of the PHP environment. It first updates package lists and installs PHP and required extensions. Then, it installs Composer and uses it to install the php-amqplib/php-amqplib library. Finally, it verifies the installation and displays a confirmation message.



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Section #2: (3 pts.) Reflection

Progress: 100%

⇒ Task #1 (1 pt.) - What was the easiest part of this assignment

Progress: 100%

Details:

- At least a few solid sentences

Your Response:

The easiest part of the assignment was running the sample PHP scripts once everything was set up correctly. After installing the required dependencies and starting the server, executing the client and server scripts felt straightforward.



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⇒ Task #2 (1 pt.) - What was the hardest part of this assignment

Progress: 100%

Details:

- At least a few solid sentences

Your Response:

The hardest part was managing terminal sessions and getting the RabbitMQ server and client scripts to run at the same time. Using tmux was tricky because the keyboard shortcuts weren't working properly, which made it difficult to switch between tabs. I eventually overcame this issue by running separate terminal instances. Setting up SSH and configuring port forwarding in VirtualBox also took some troubleshooting.



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⇒ Task #3 (1 pt.) - What did you learn during this assignment

Progress: 100%

Details:

- At least a few solid sentences

Your Response:

During this assignment, I learned how to set up and run a message queue using RabbitMQ in a Linux environment. I also gained experience with using composer to manage PHP dependencies and understood the importance of proper port forwarding and SSH setup in VirtualBox. Additionally, I learned how to troubleshoot configuration issues when services don't behave as expected, such as with tmux.



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