

# 6.1800 Spring 2025

## **Lecture #1: Complexity, modularity, abstraction**

plus an intro to client/server models

# **we care about you as people more than we care about any deadline**

if you need help, ask for it. we need to balance the needs of a large group of students and the needs of the staff, but we will work with you to help as much as we can. in particular, as long as you reach out to your TA ahead of time, we will give you a 24-hour extension on any assignment, no questions asked.

# what is a system?

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one way is to use a **client/server model**

the browser is the client in this example

**Class Browser**  
(on machine 1)

```
def main():  
    html = browser_load_url(URL)  
    ...
```

**Class Server**  
(on machine 2)

```
def server_load_url():  
    ...  
    return html
```

# why do we care?

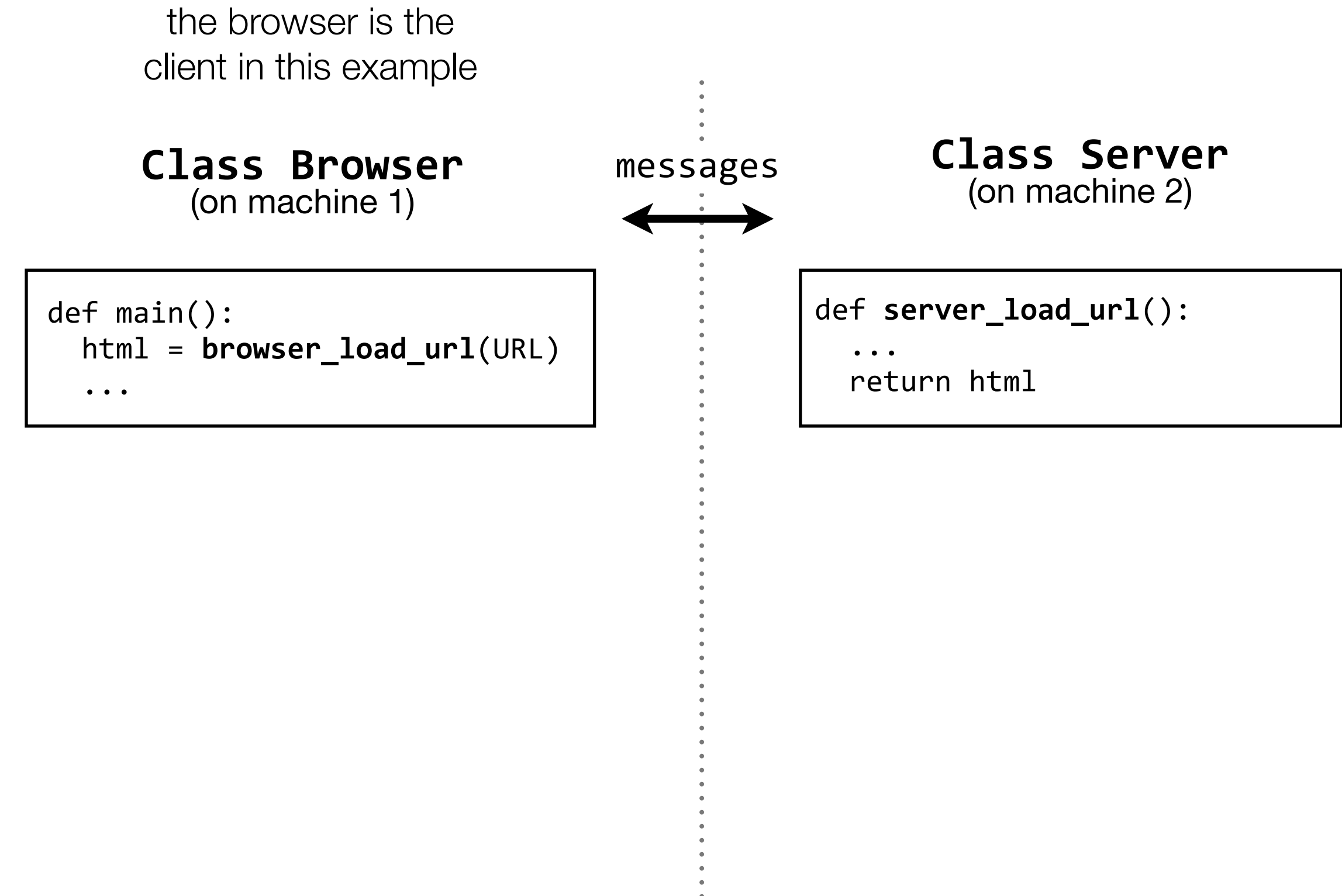
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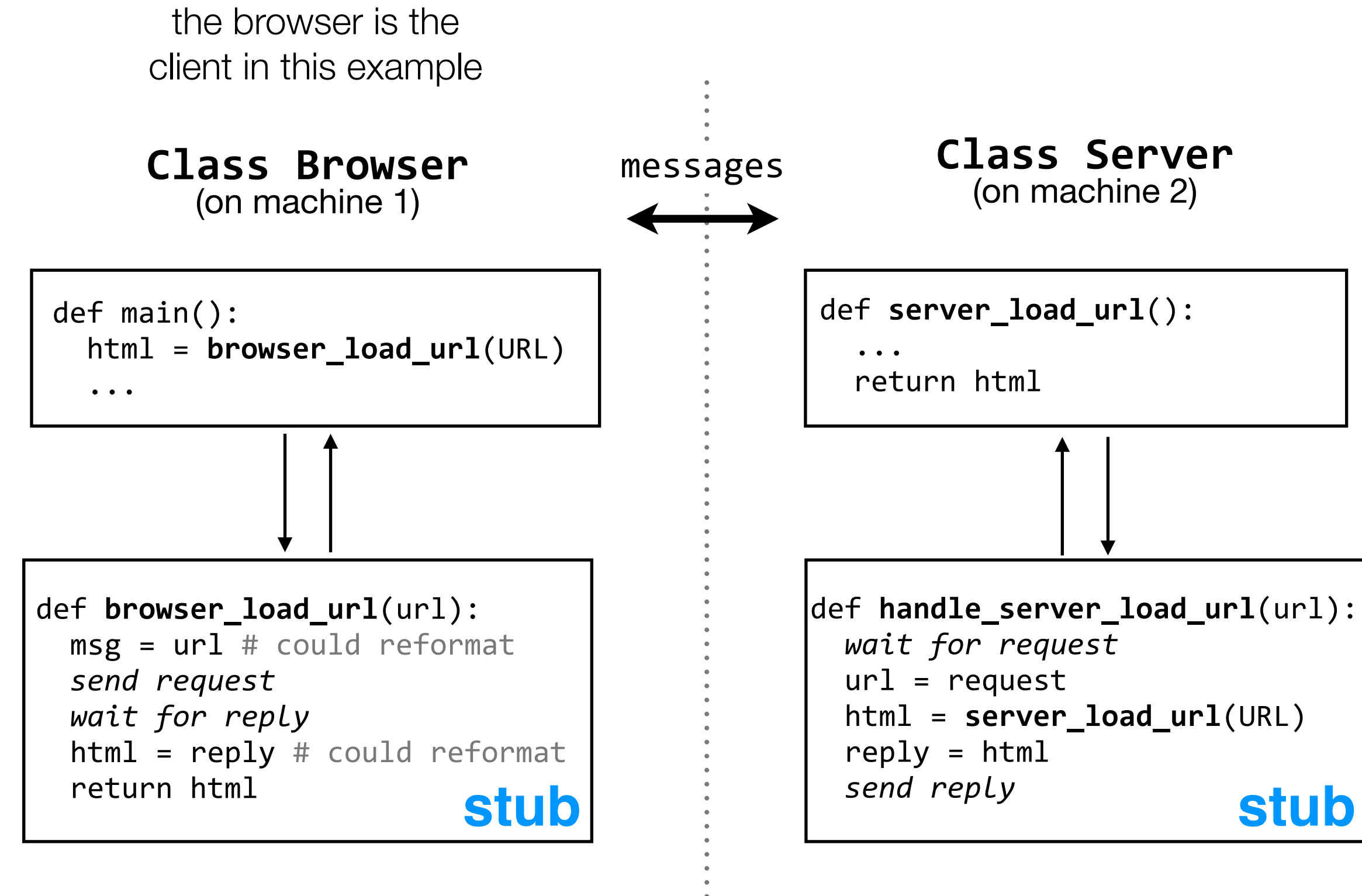
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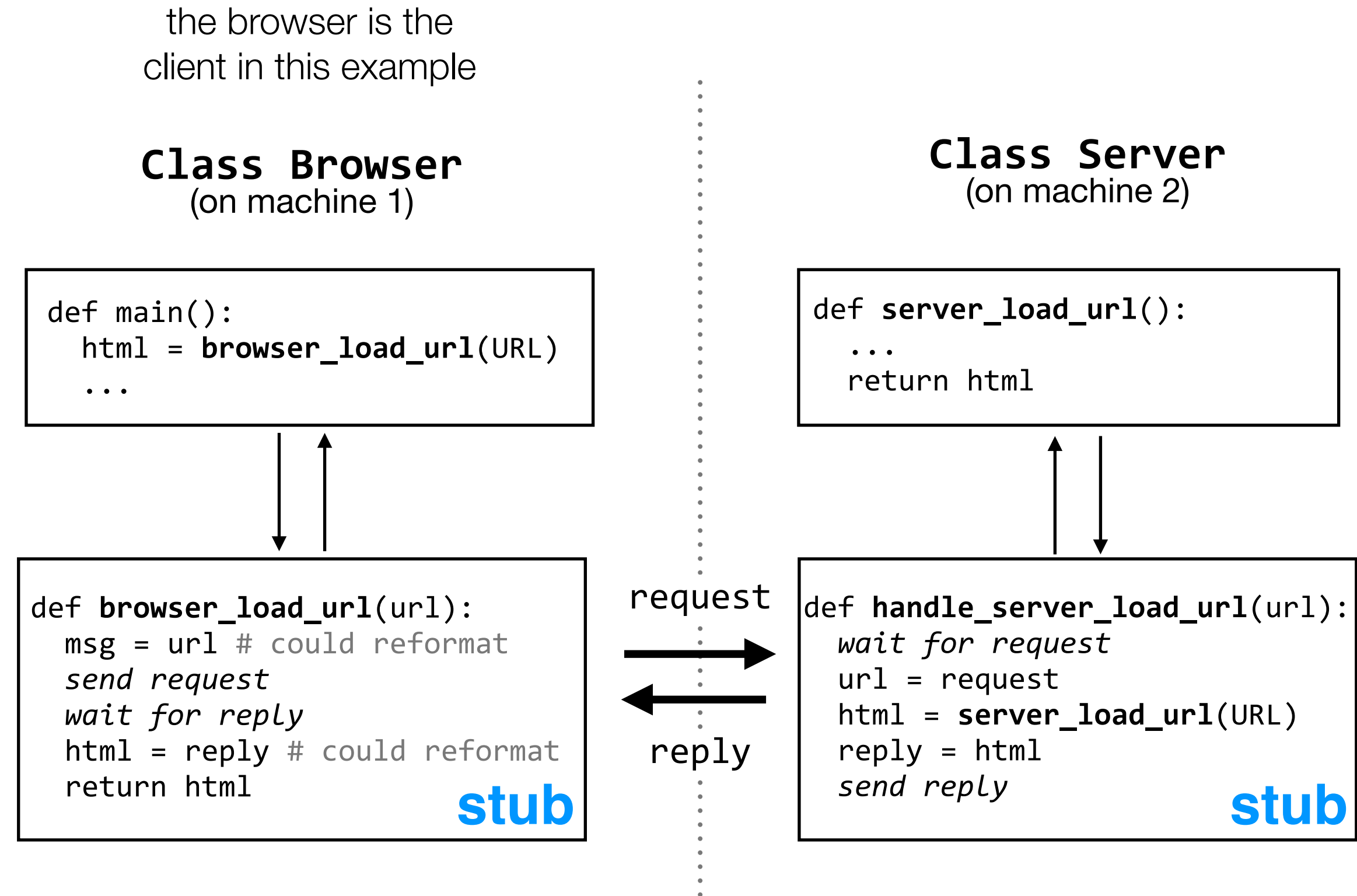
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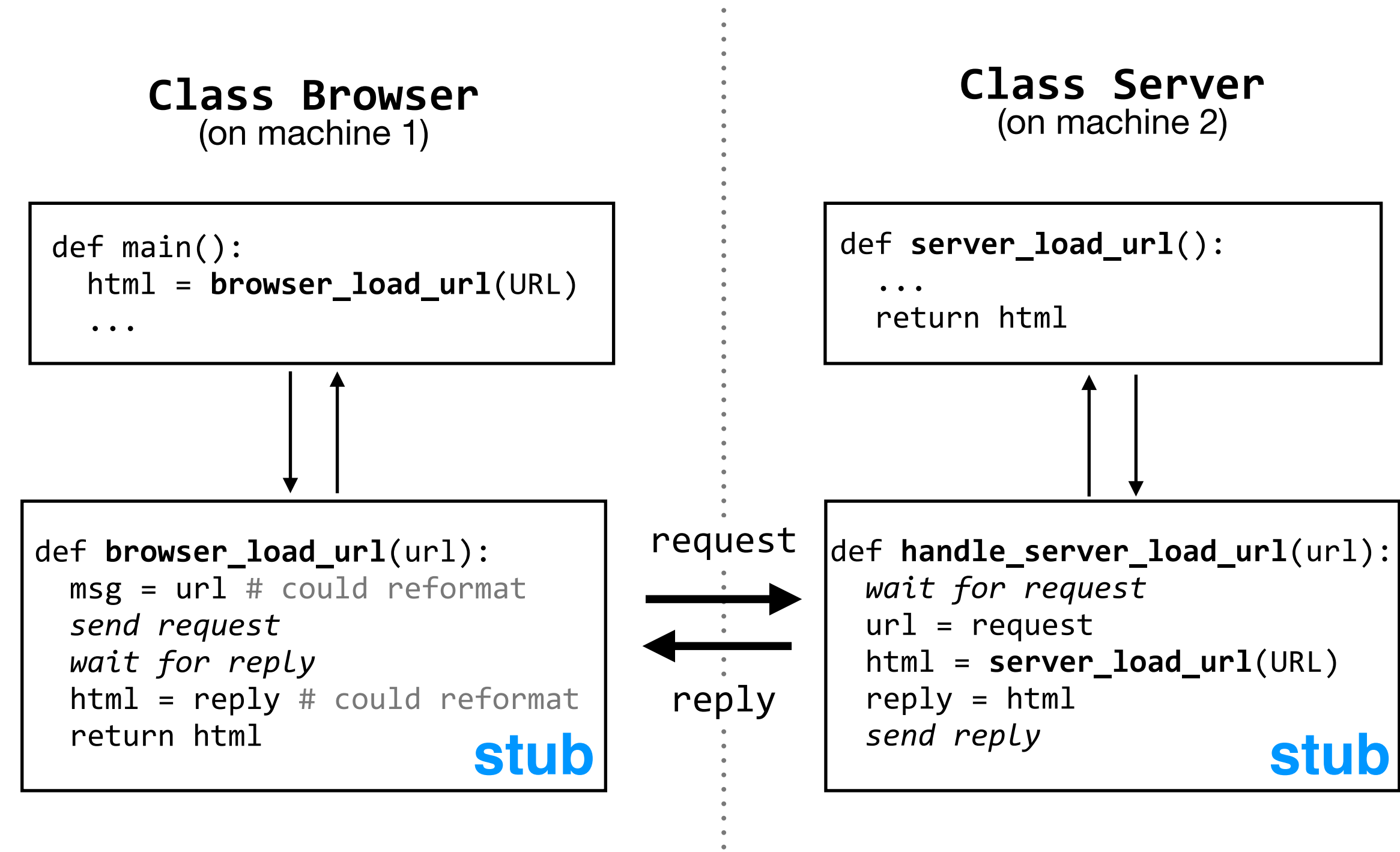
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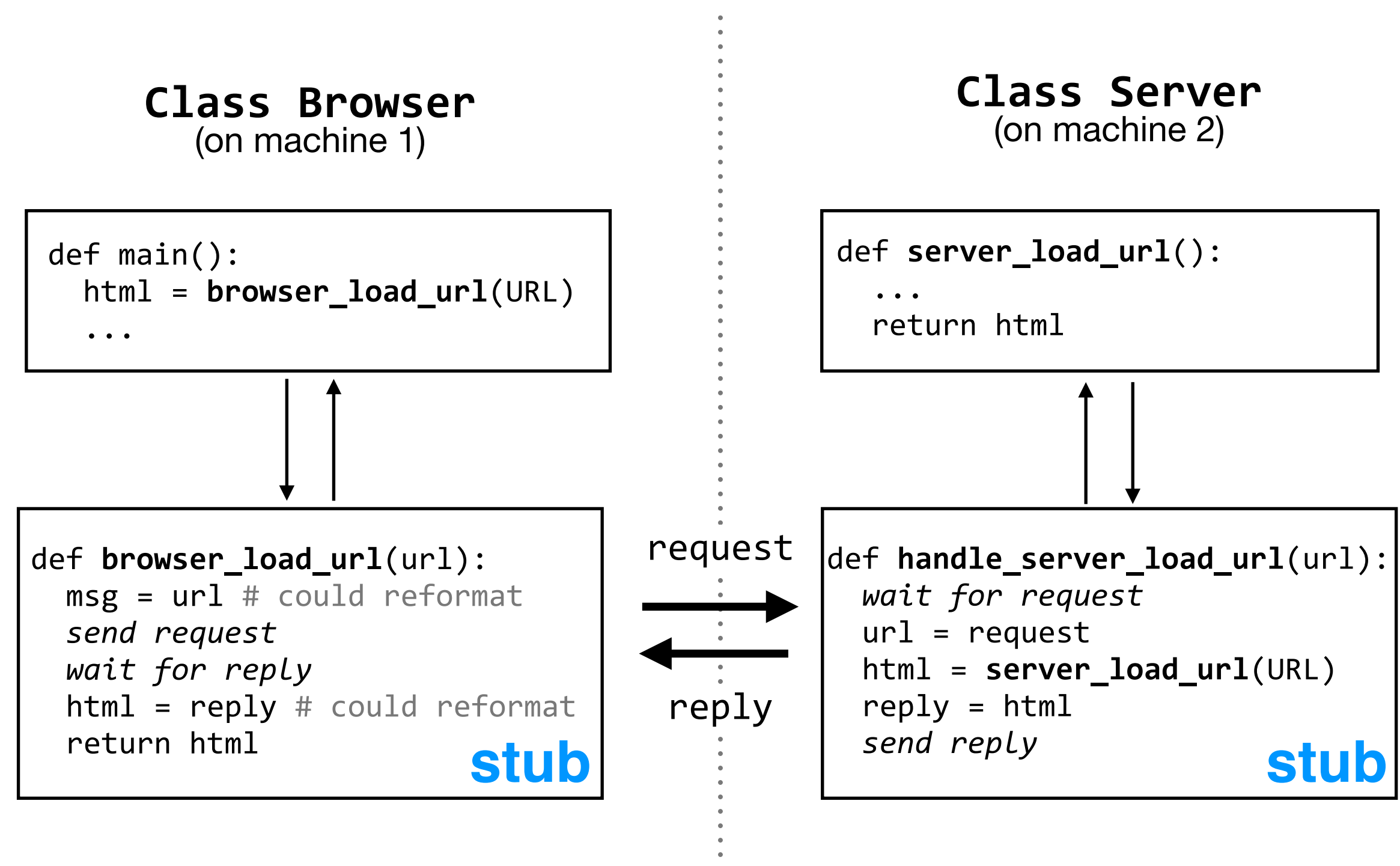
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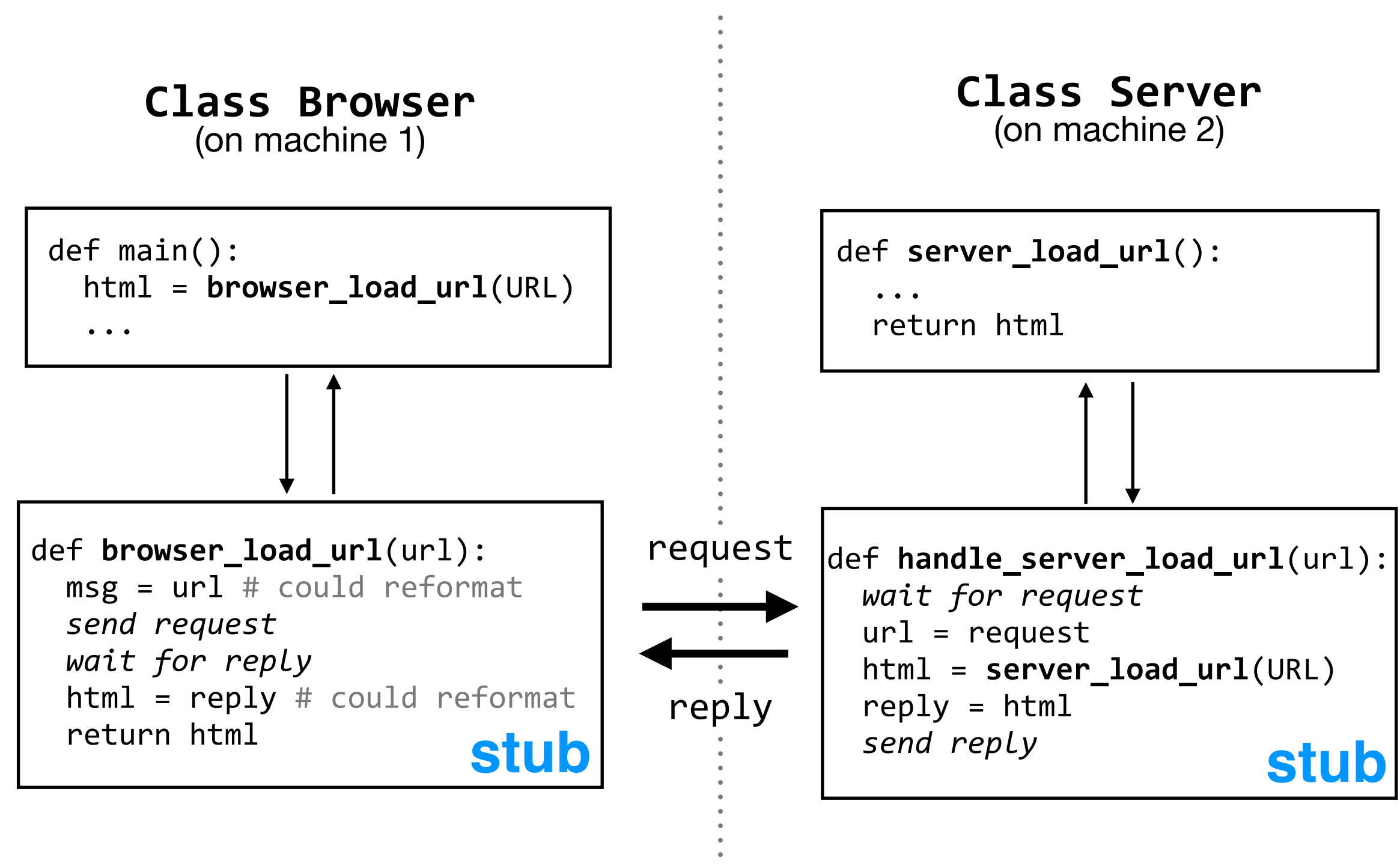
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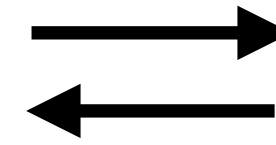
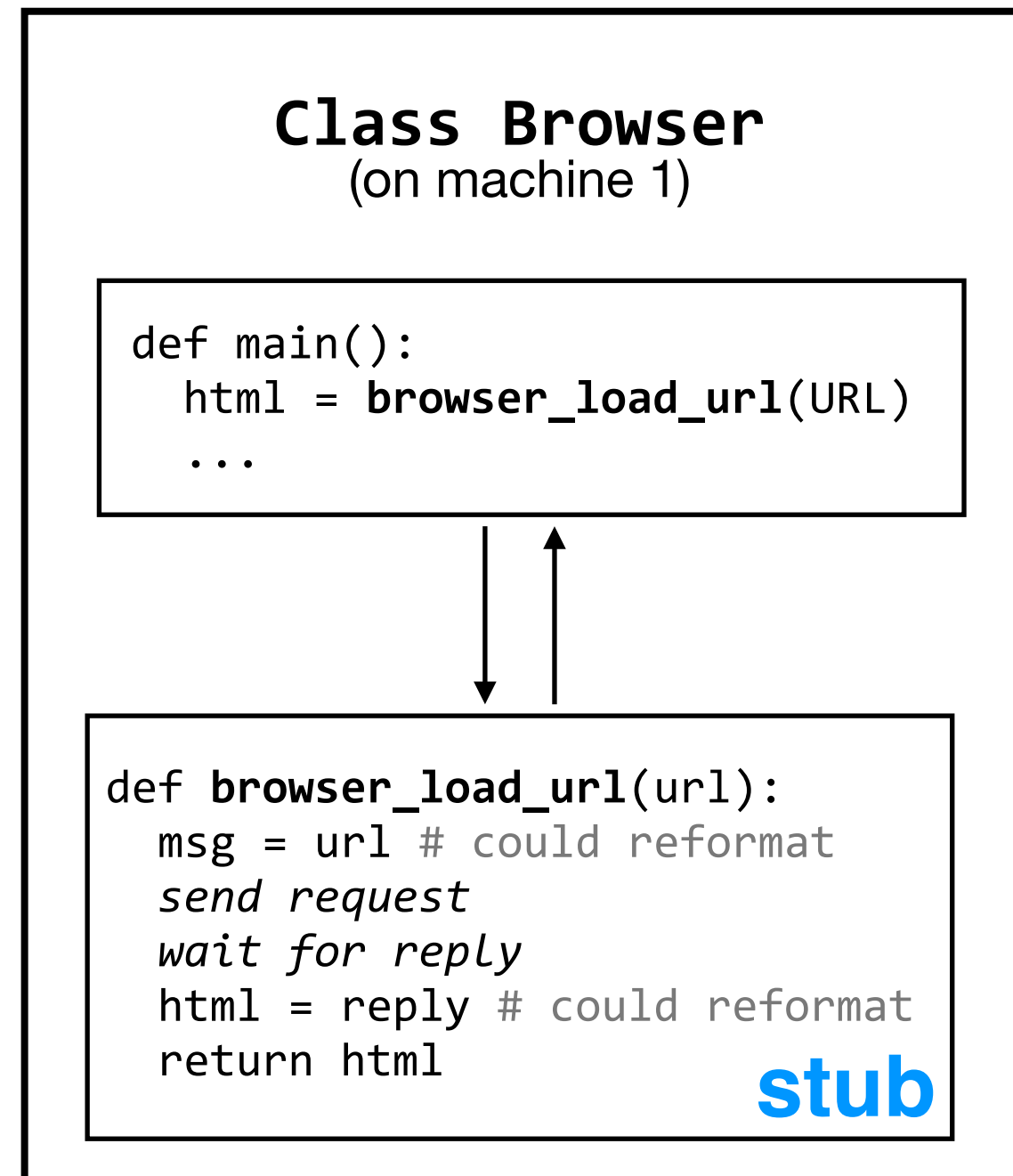




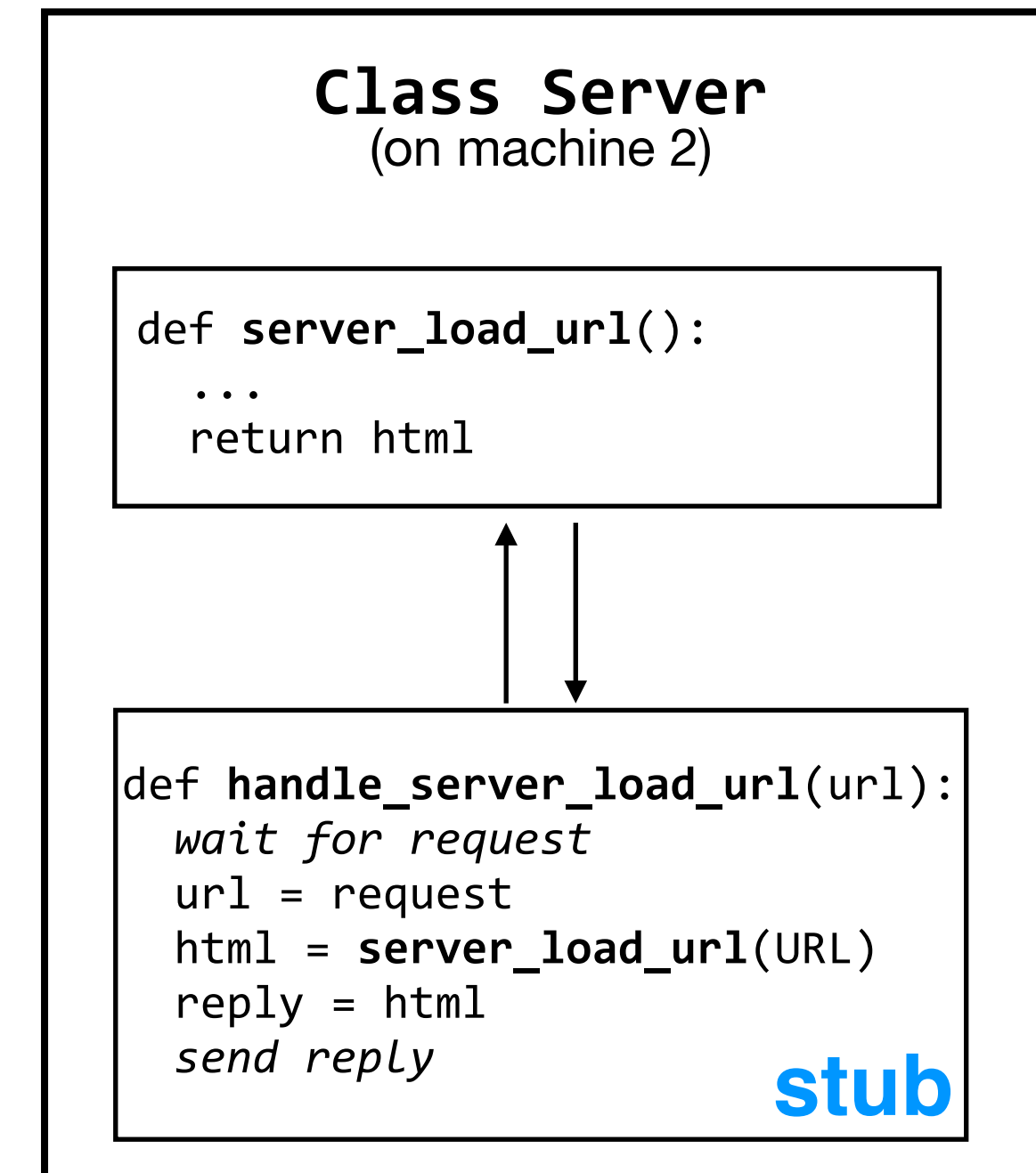




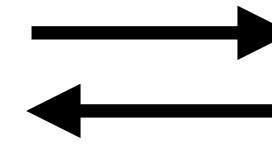
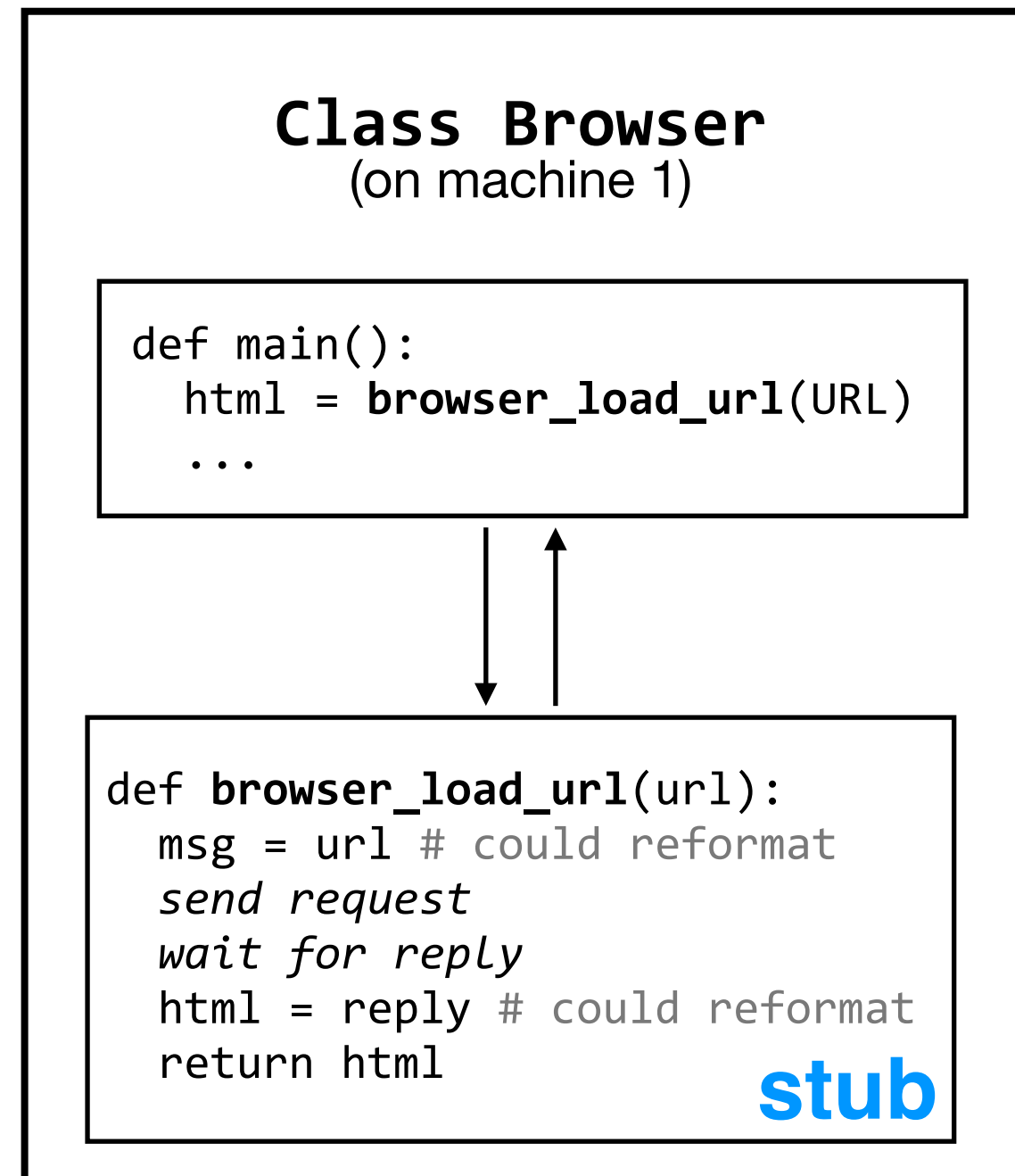
## client



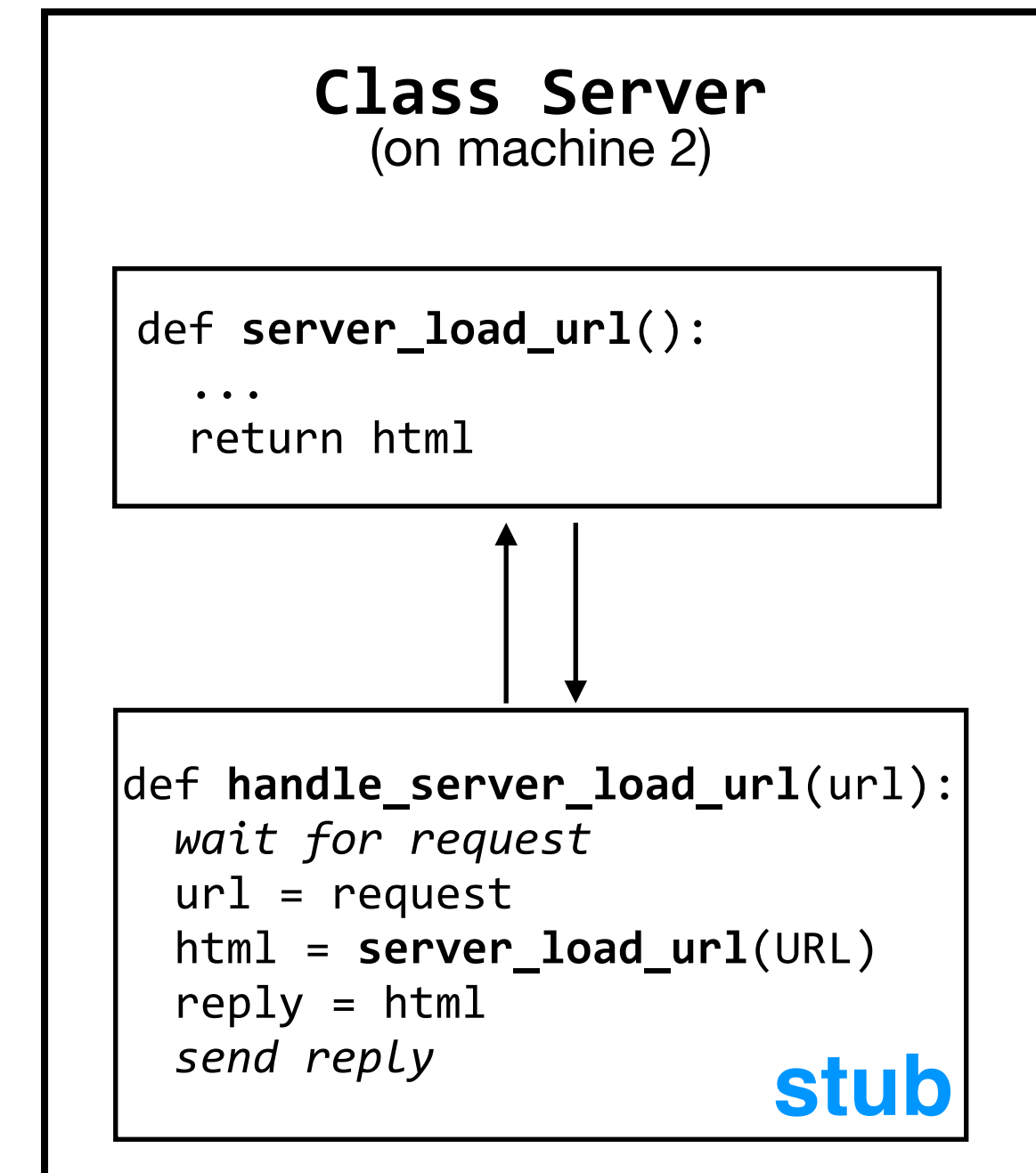
## server



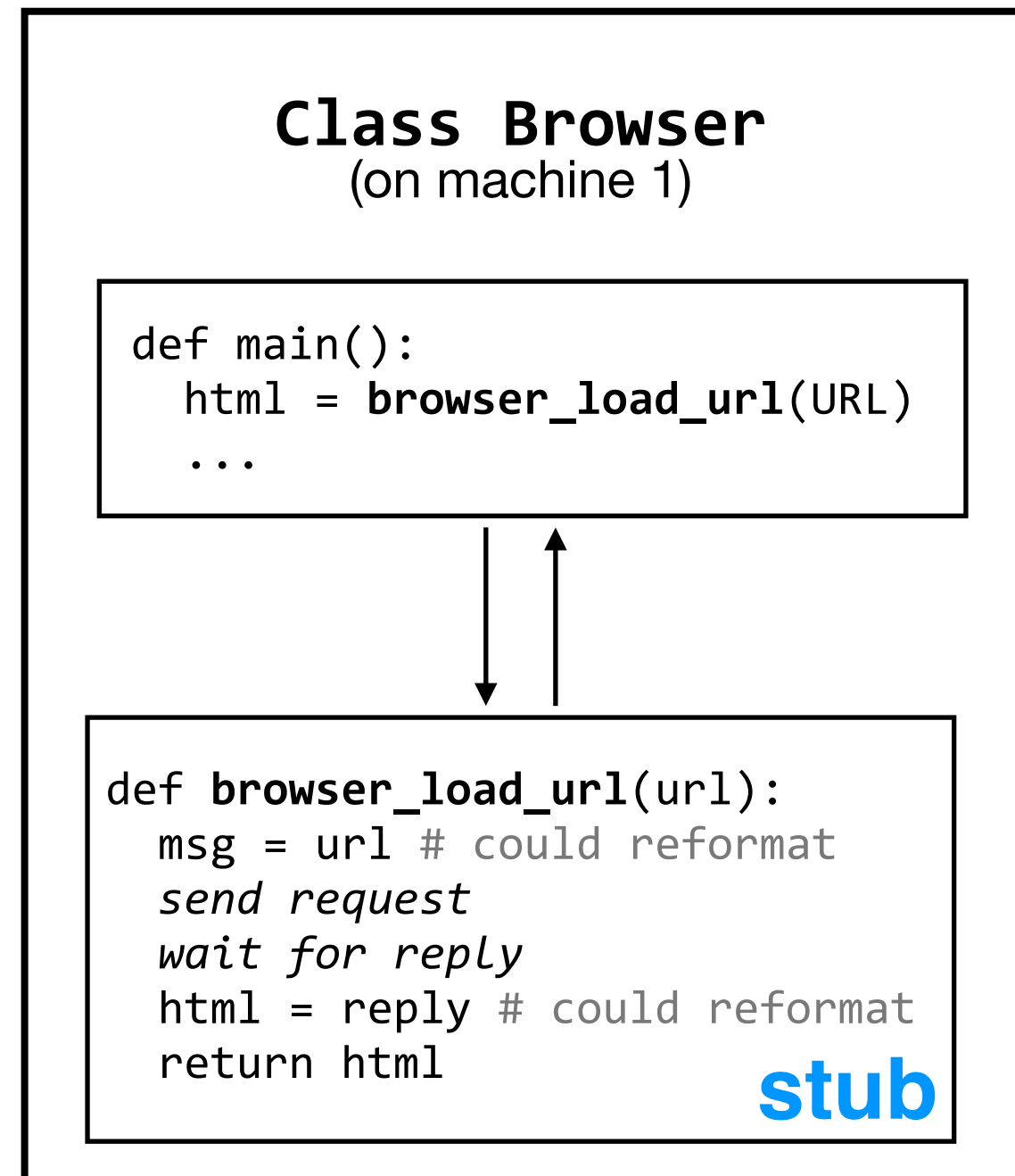
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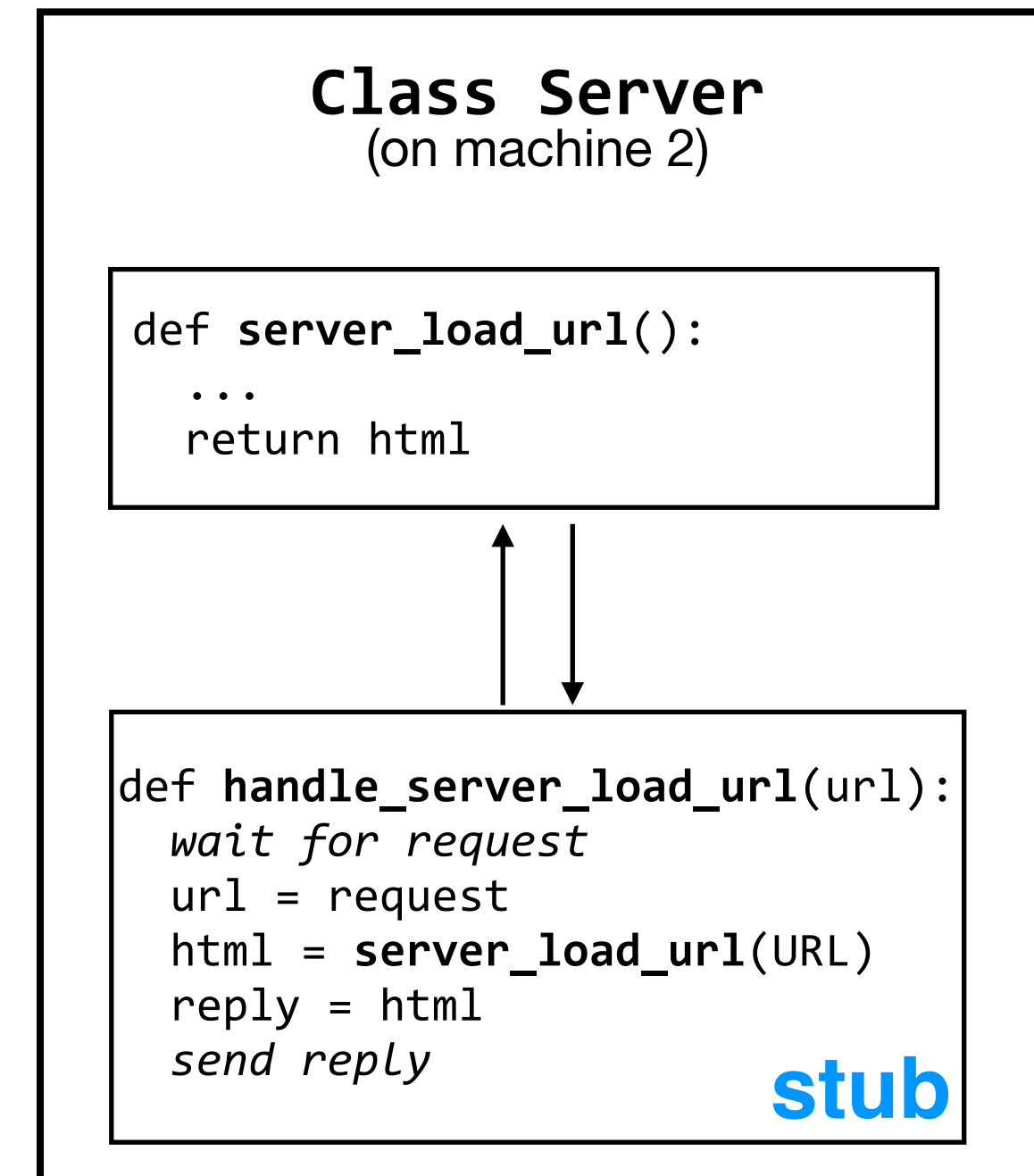
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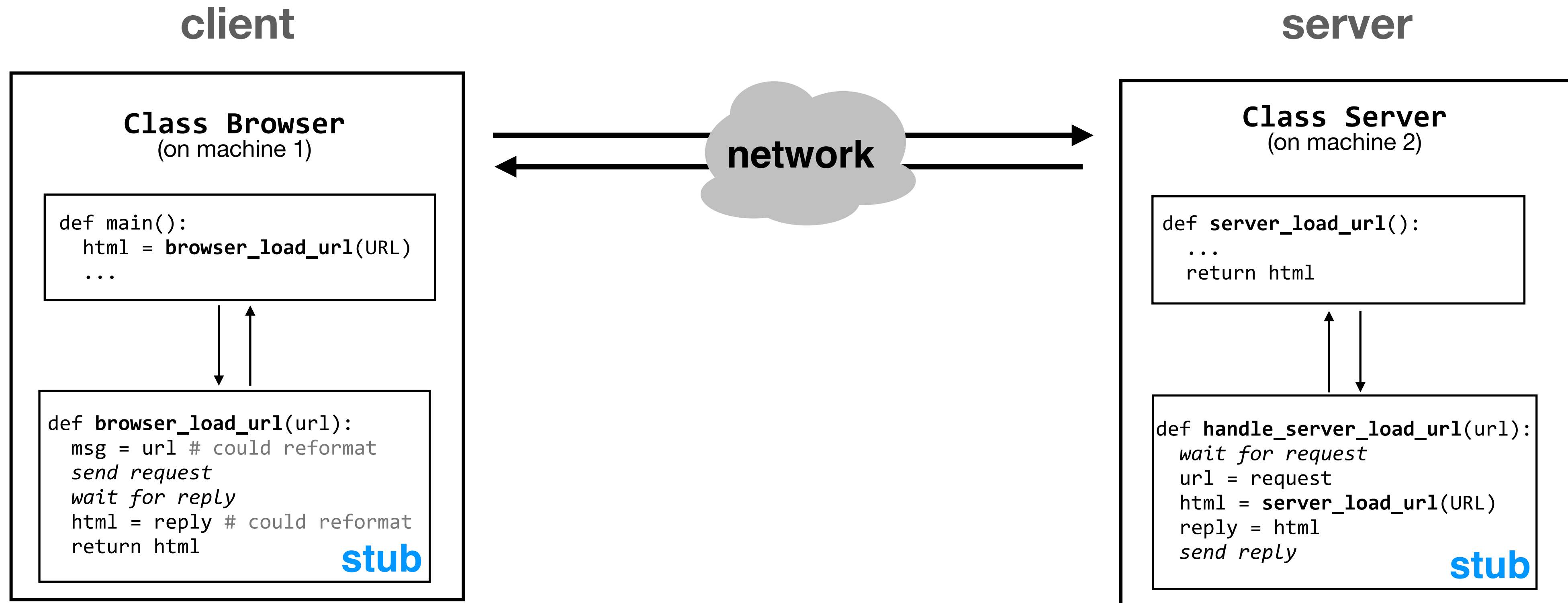


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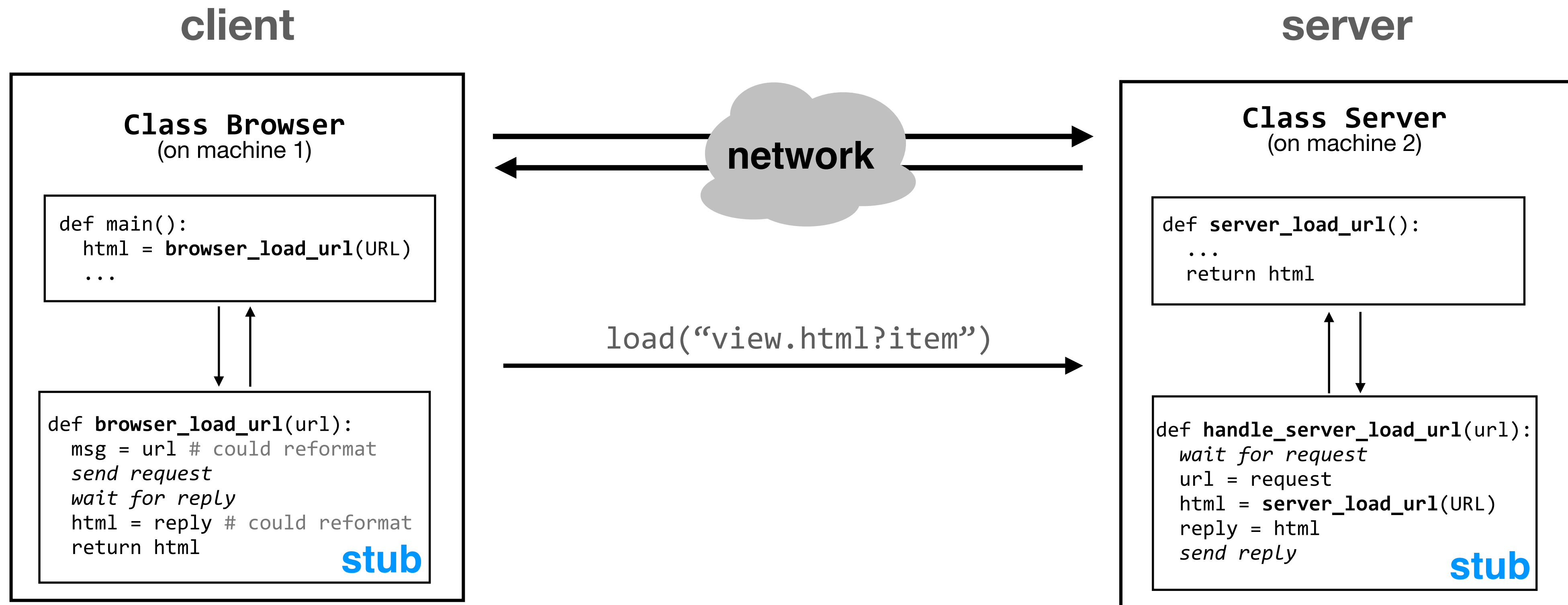


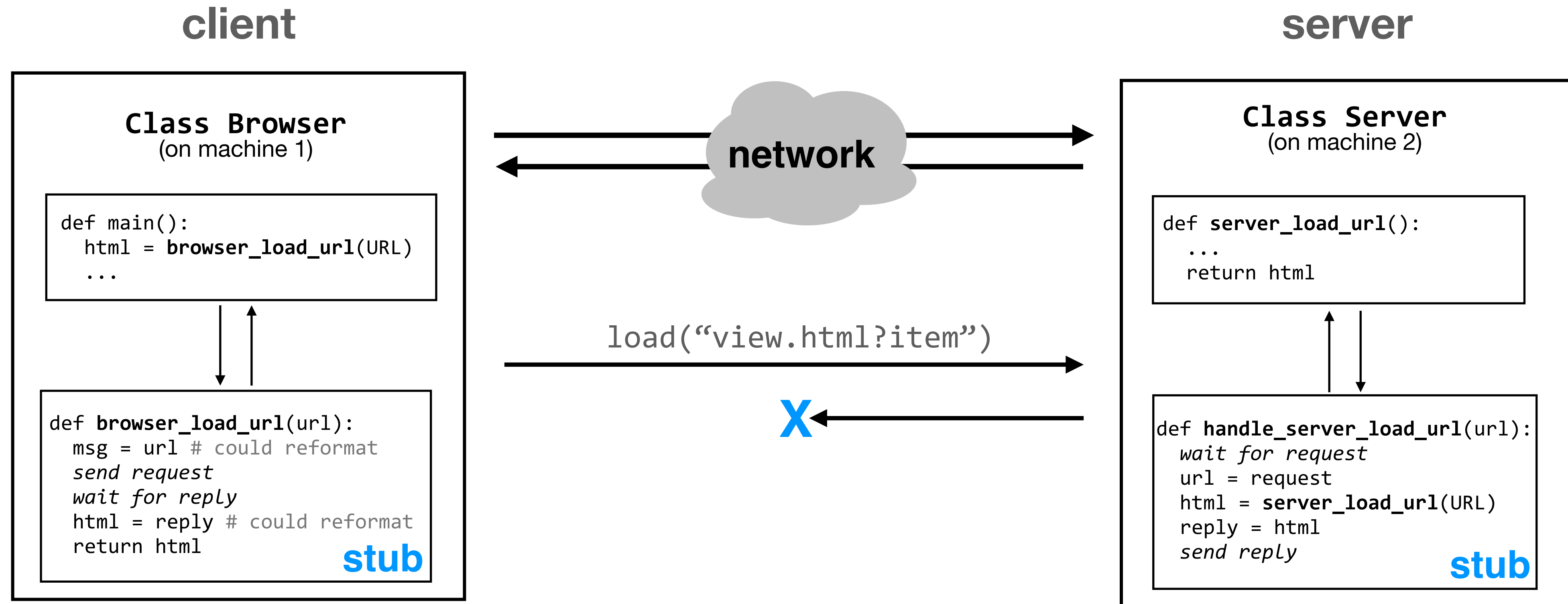
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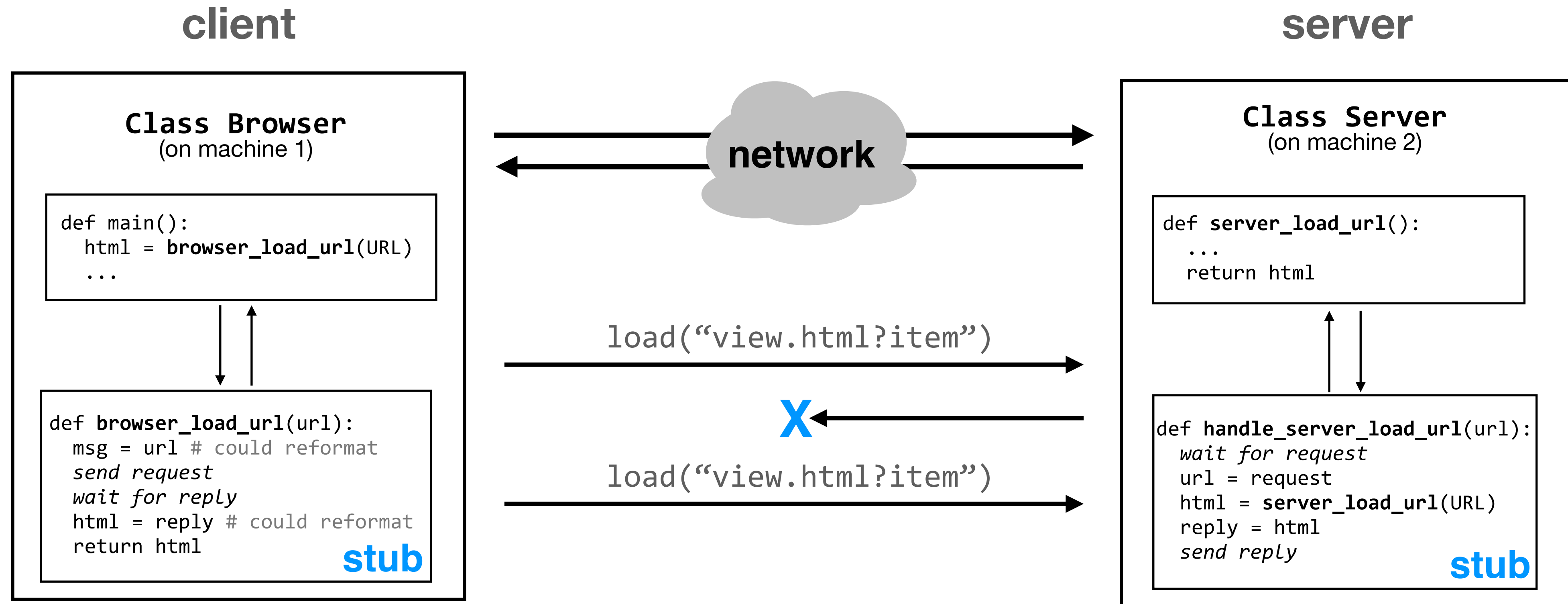


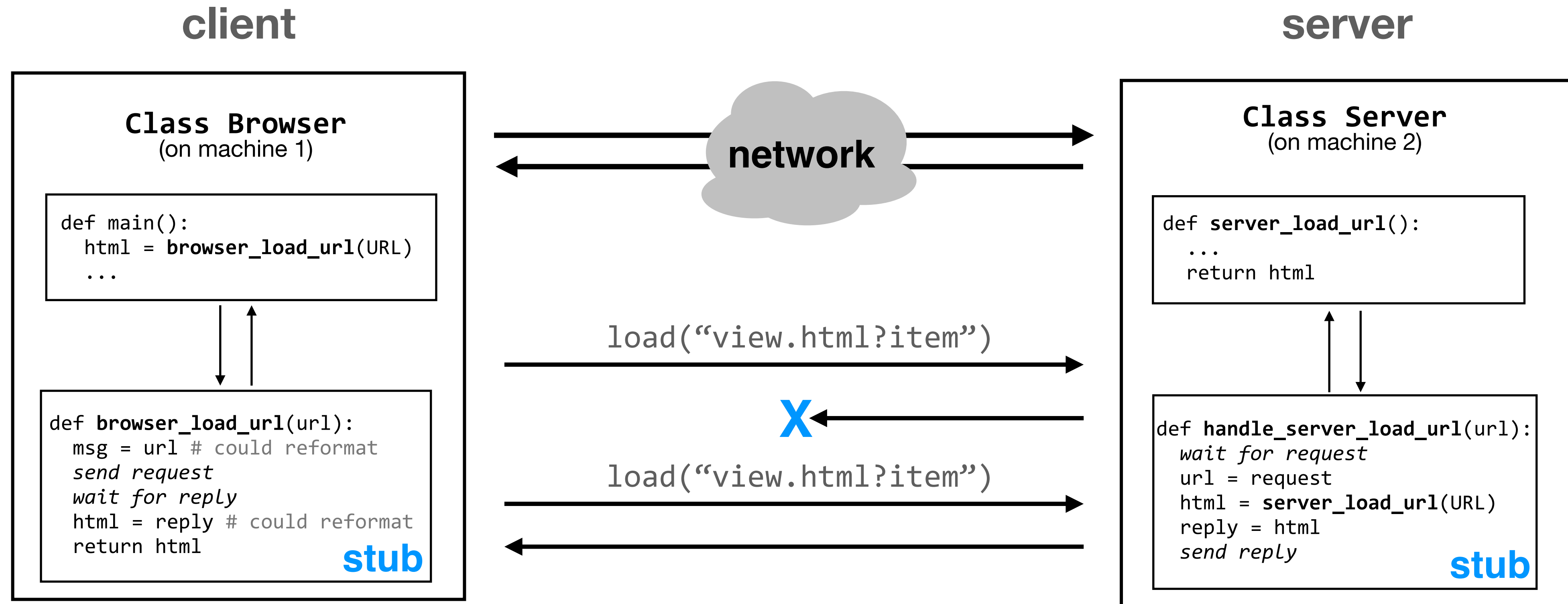


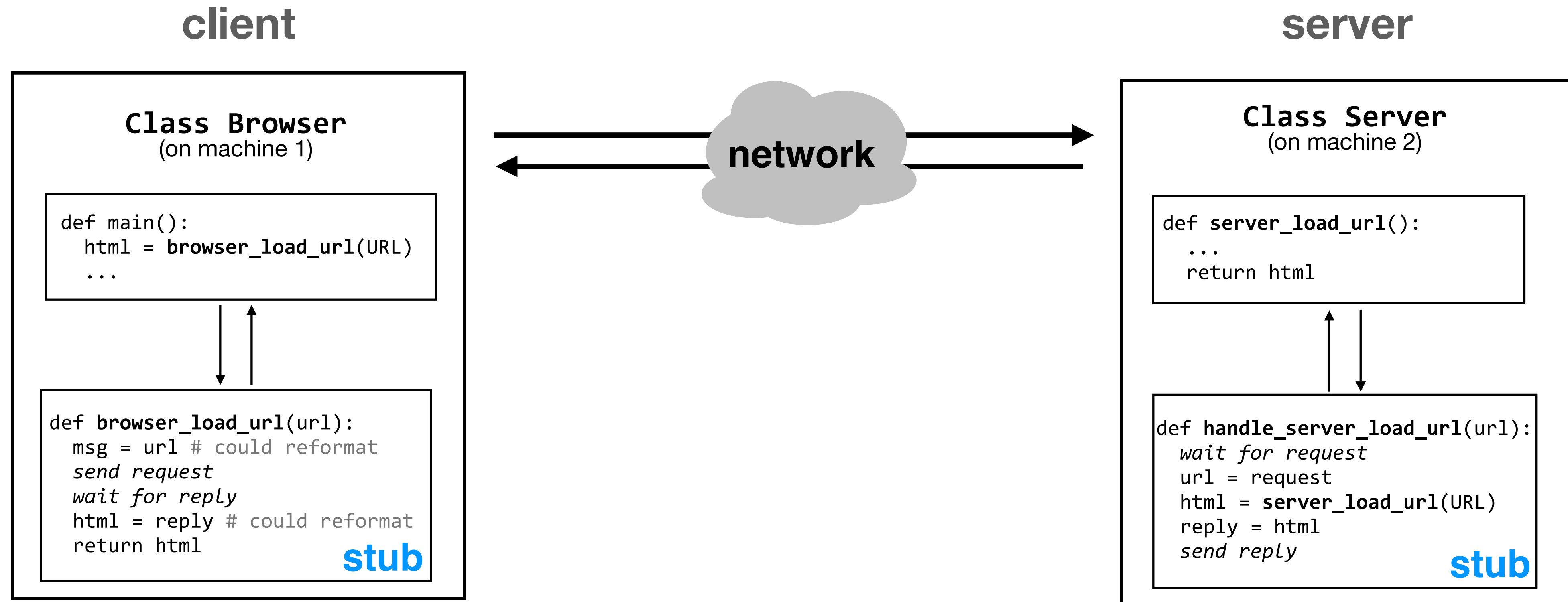


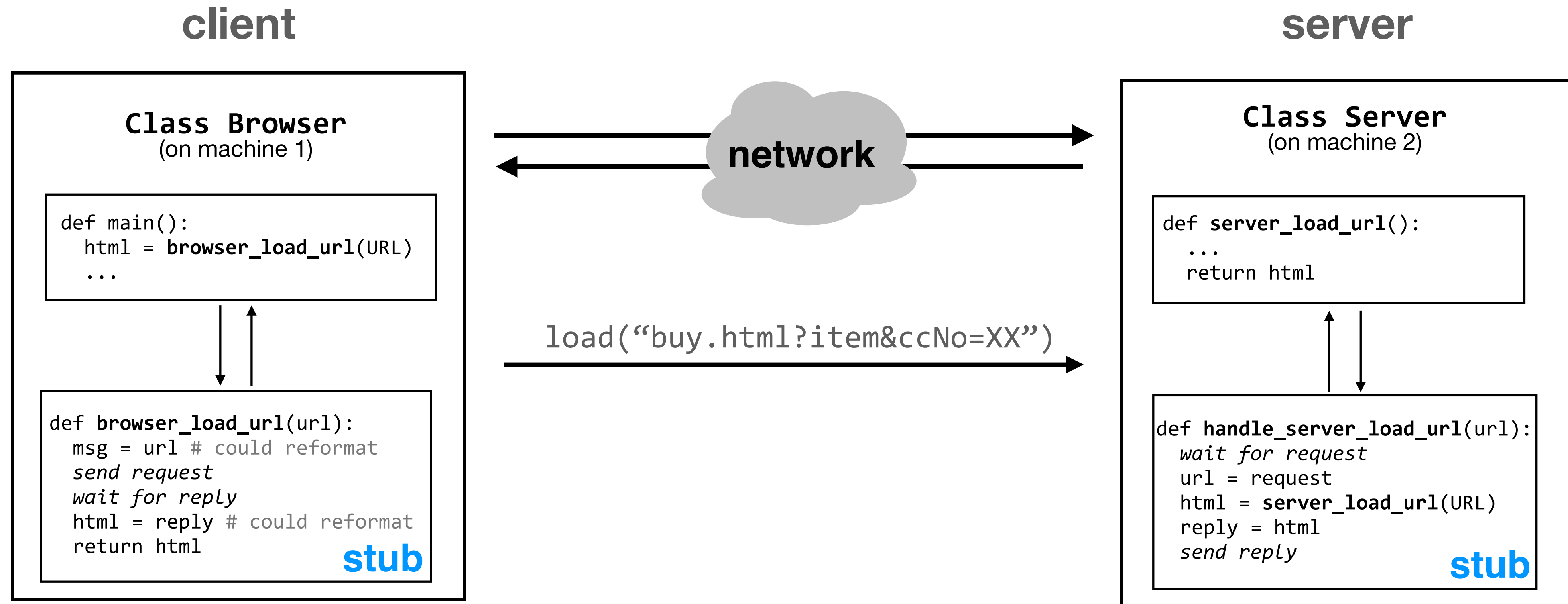


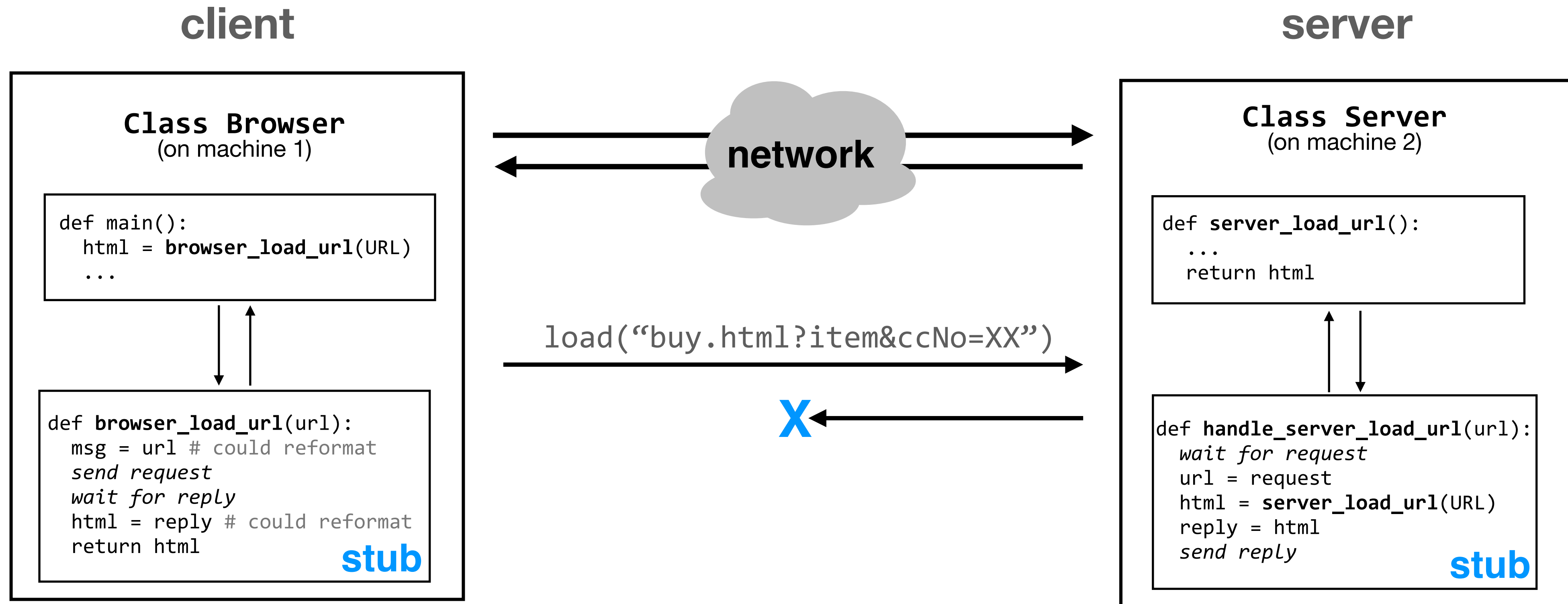


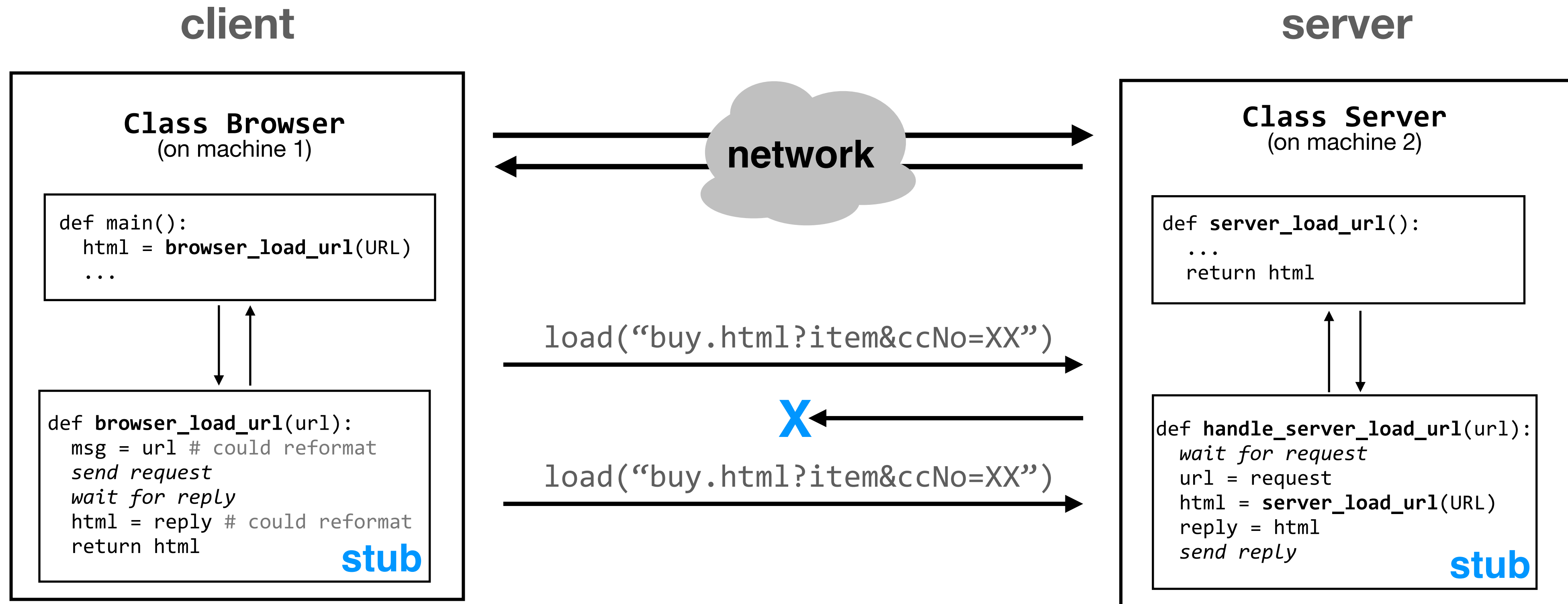




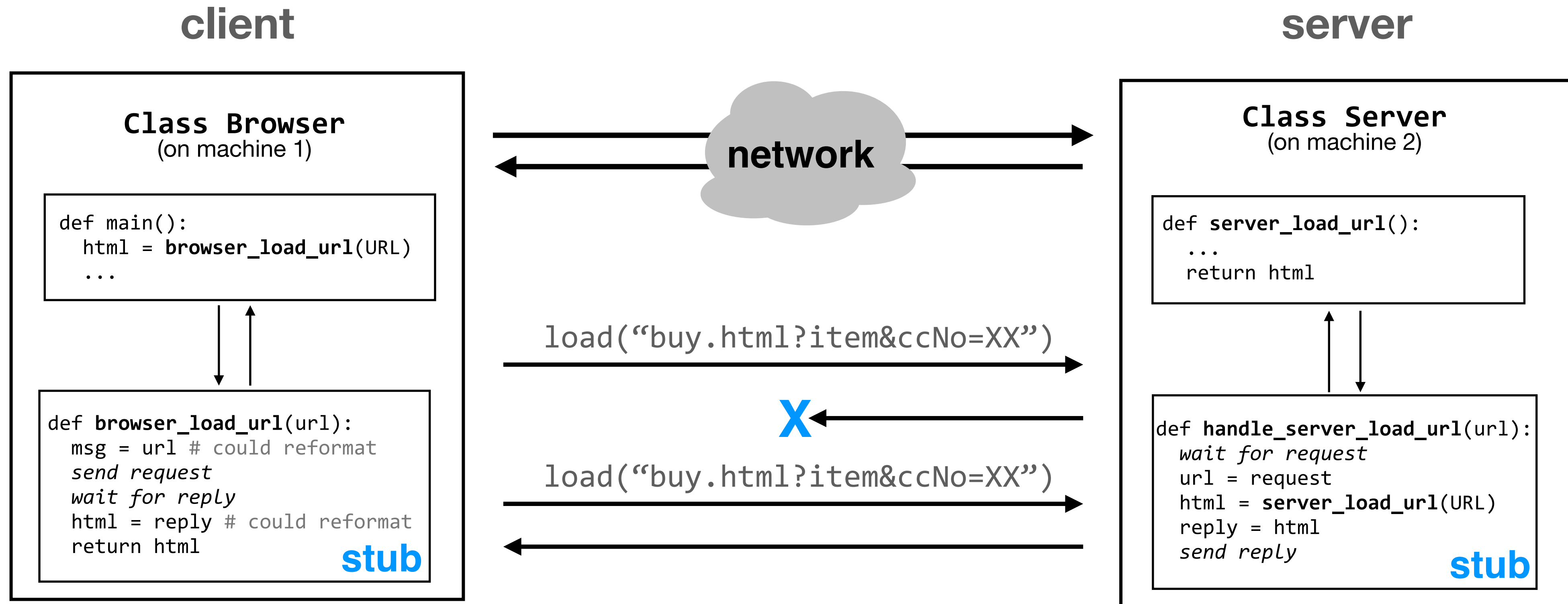


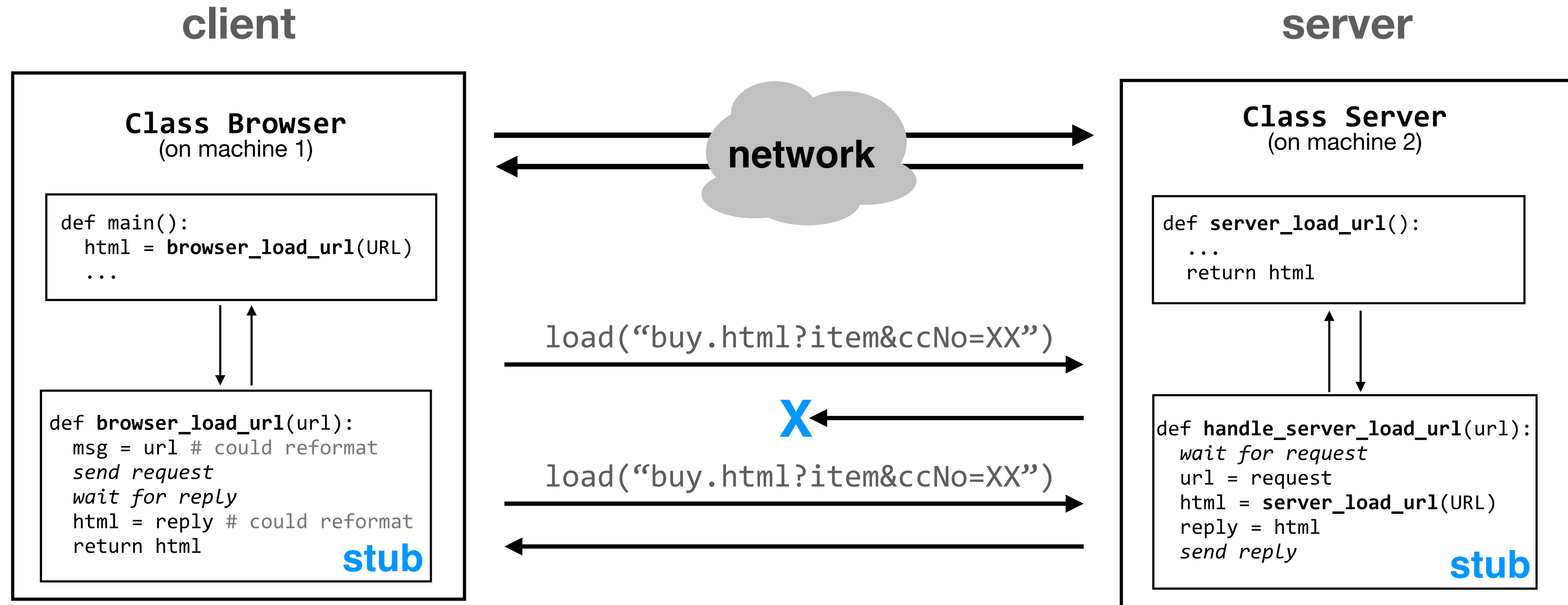




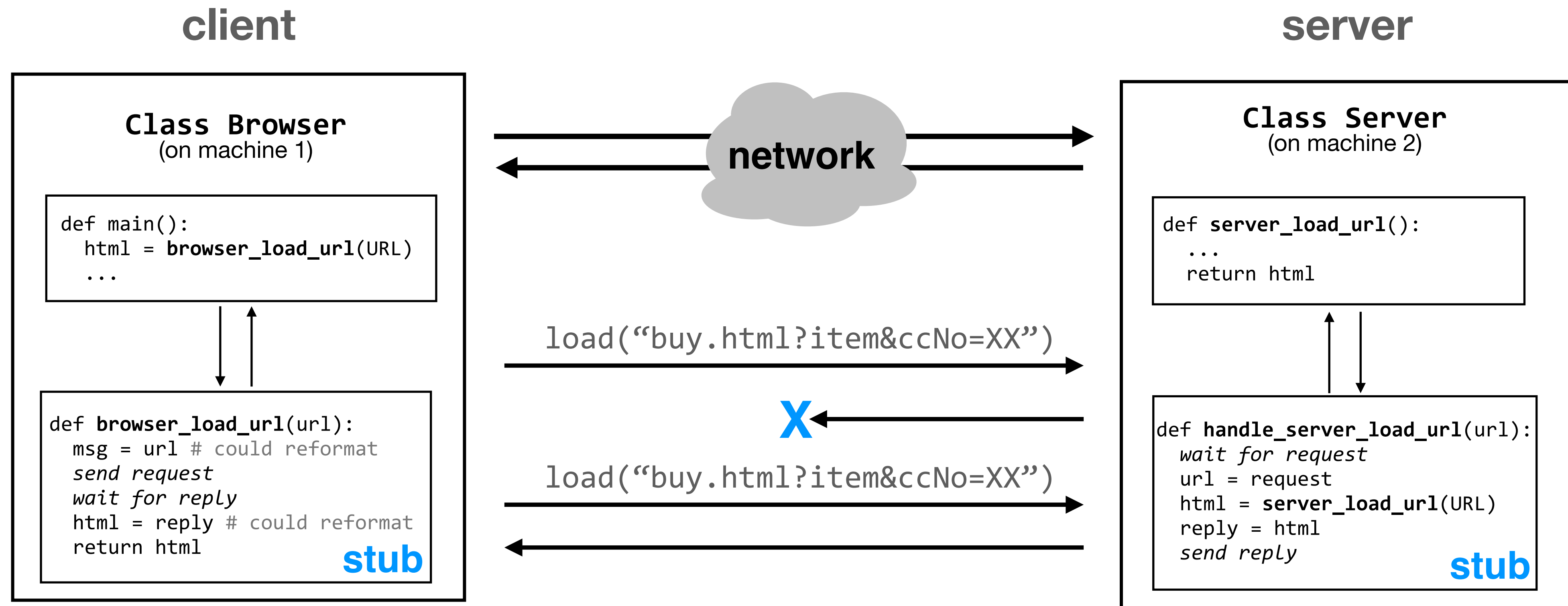






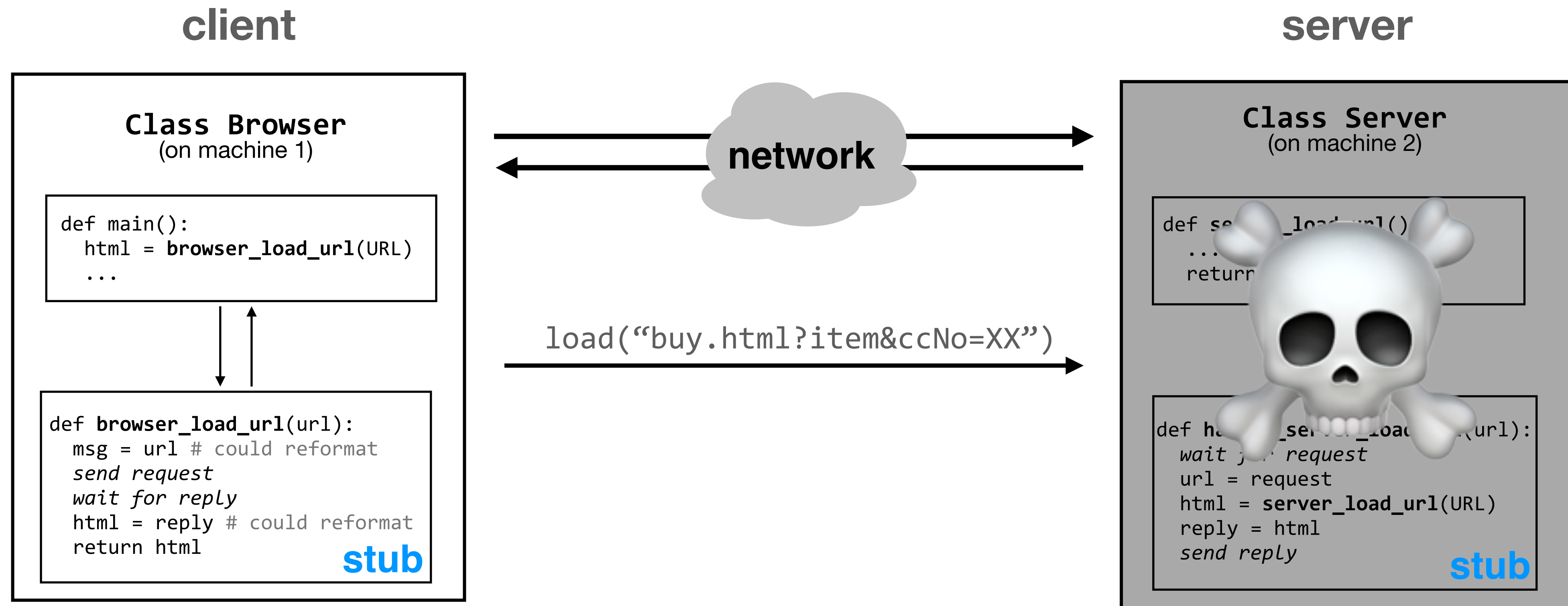


**problem:** we just bought two copies of `item`



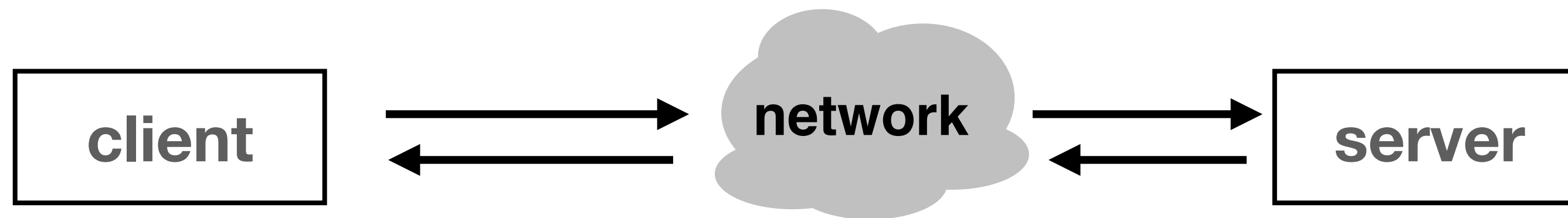
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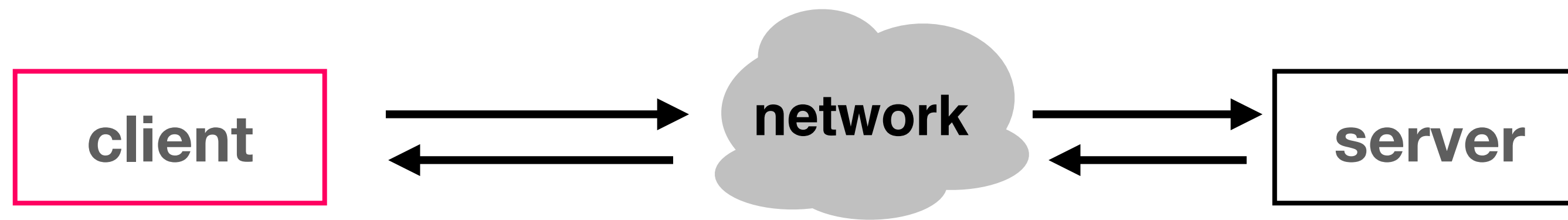
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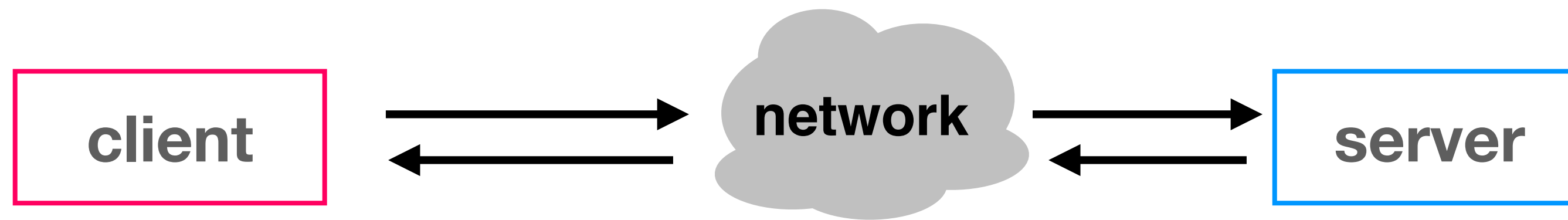


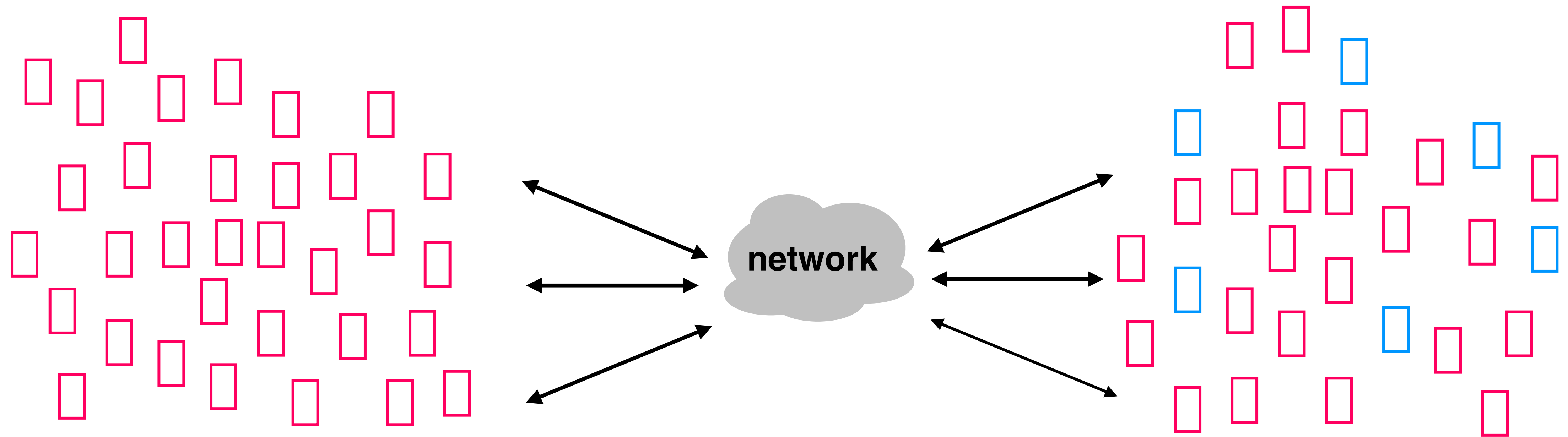
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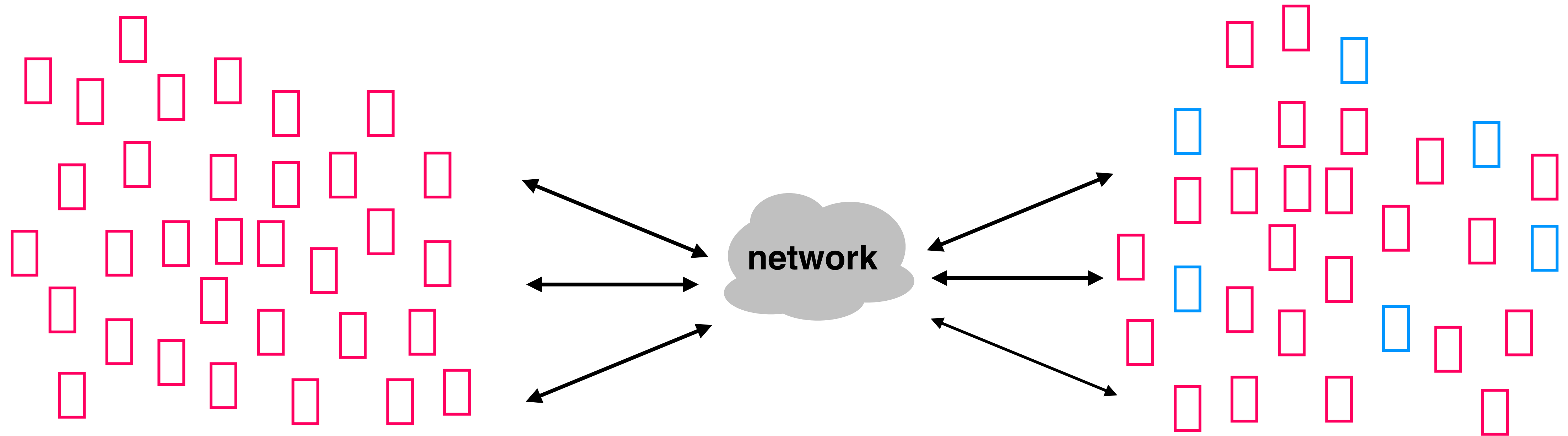




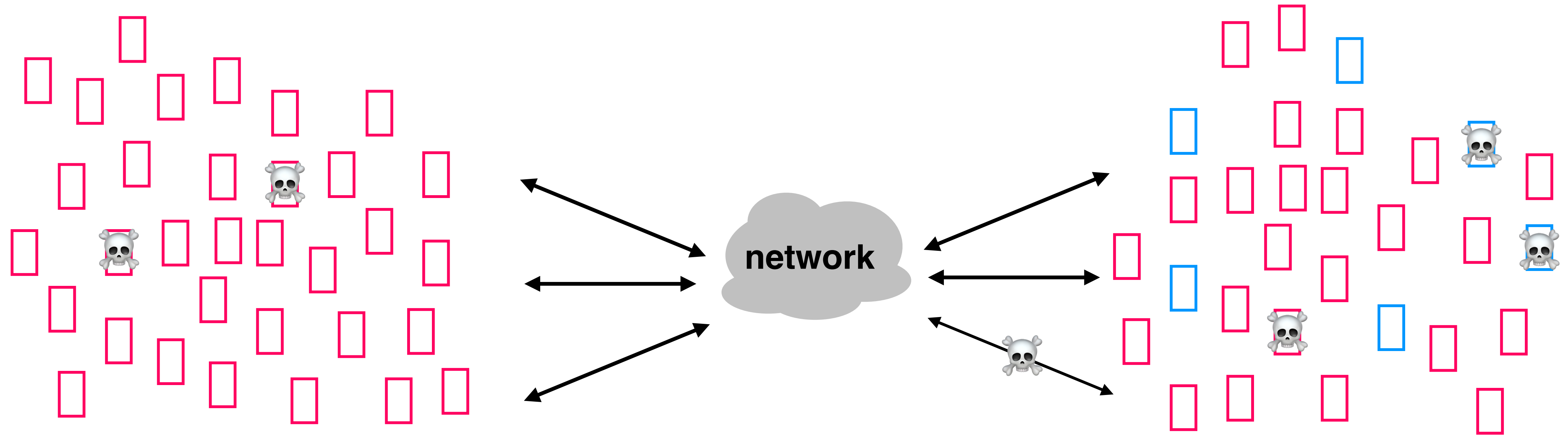




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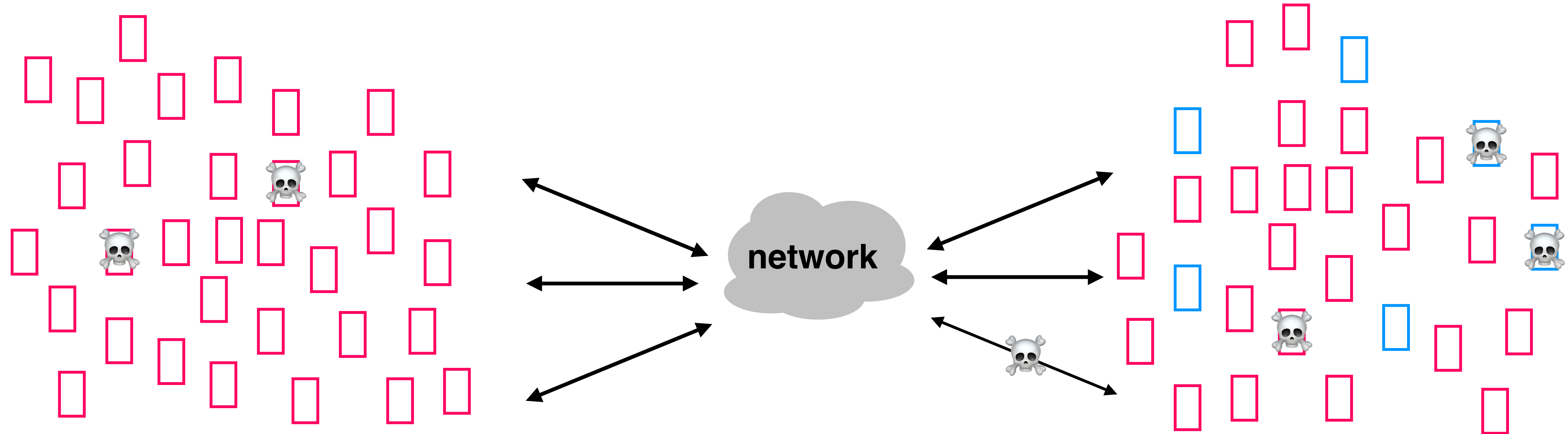


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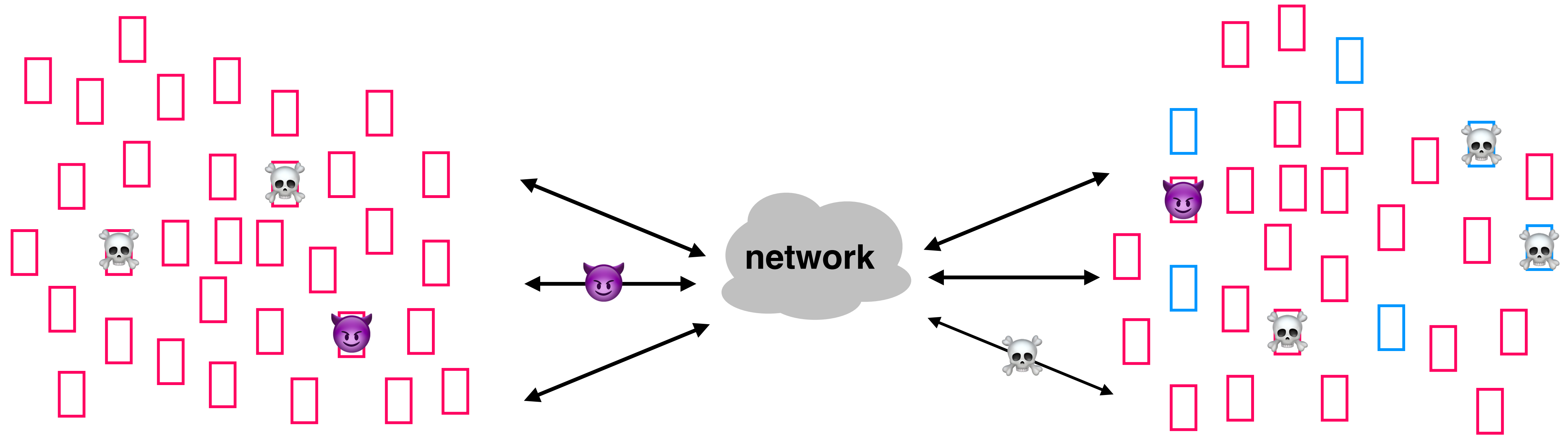
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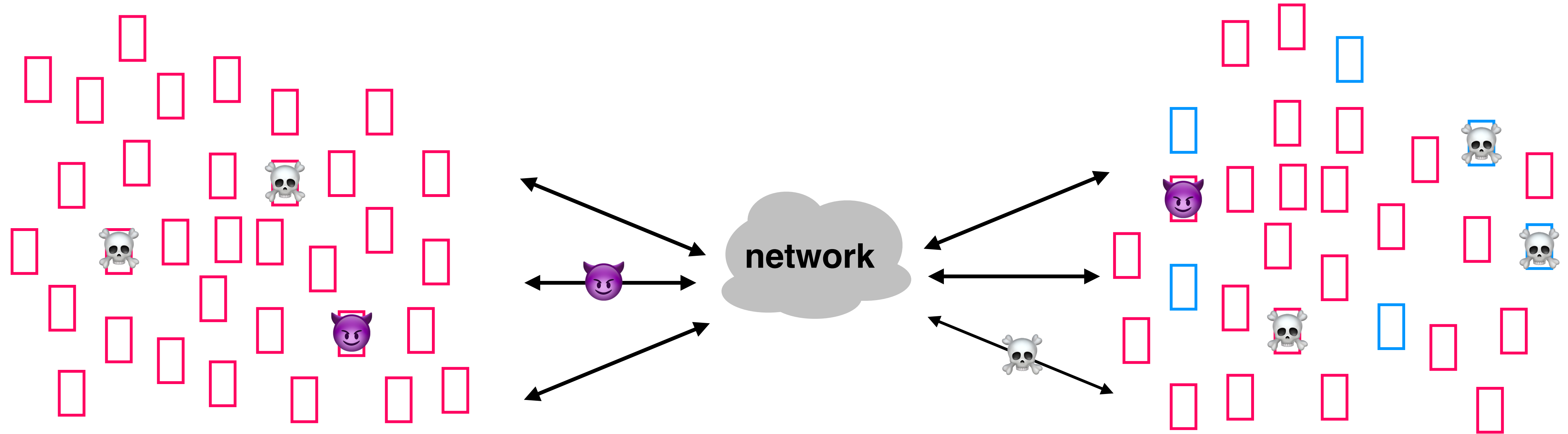
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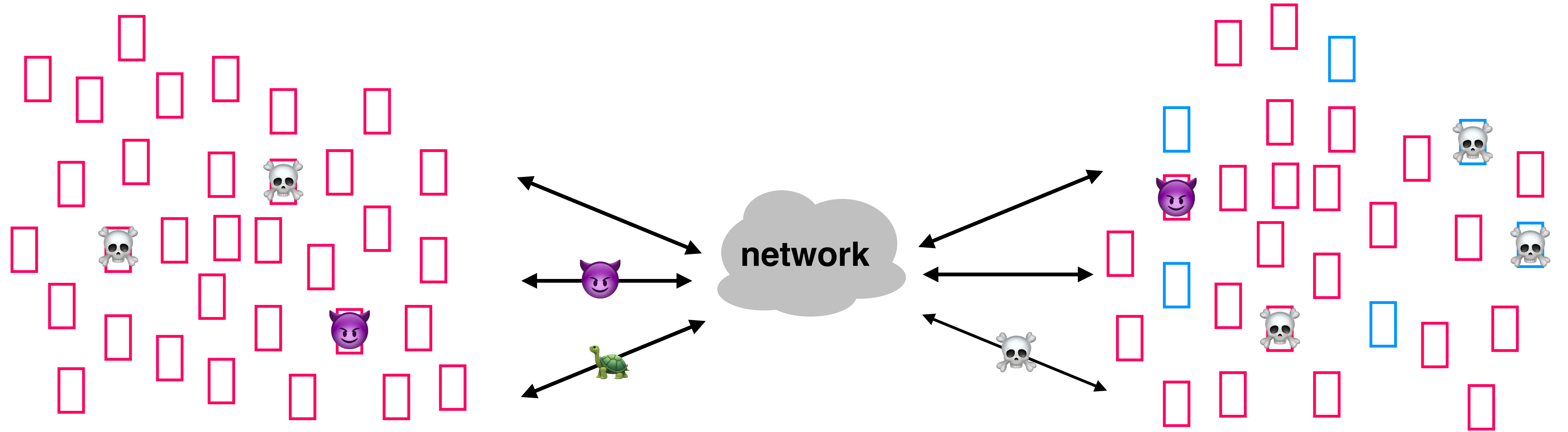
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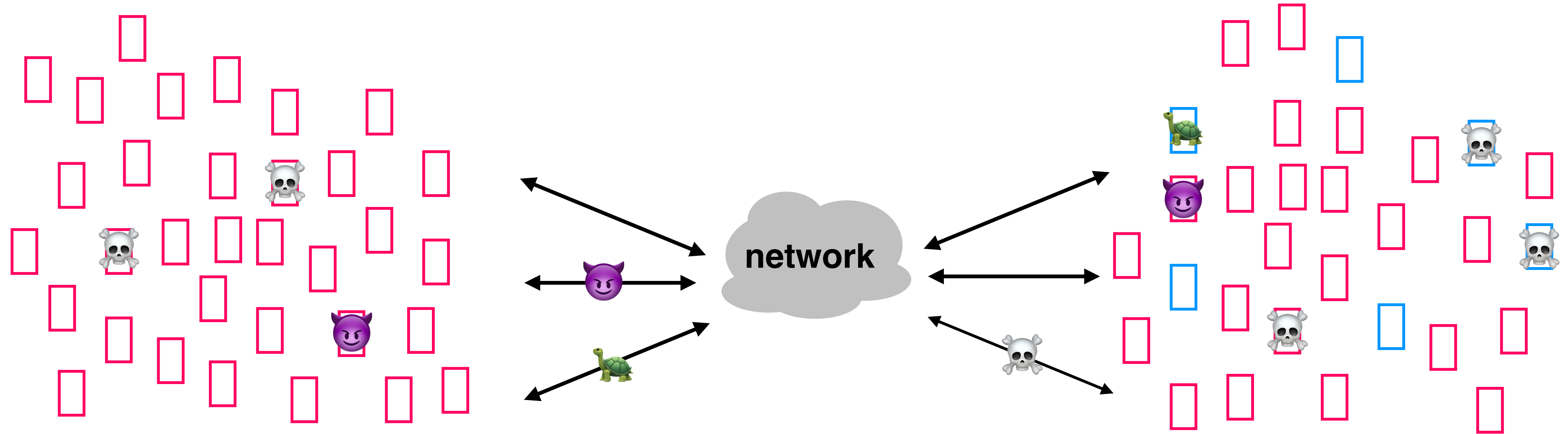
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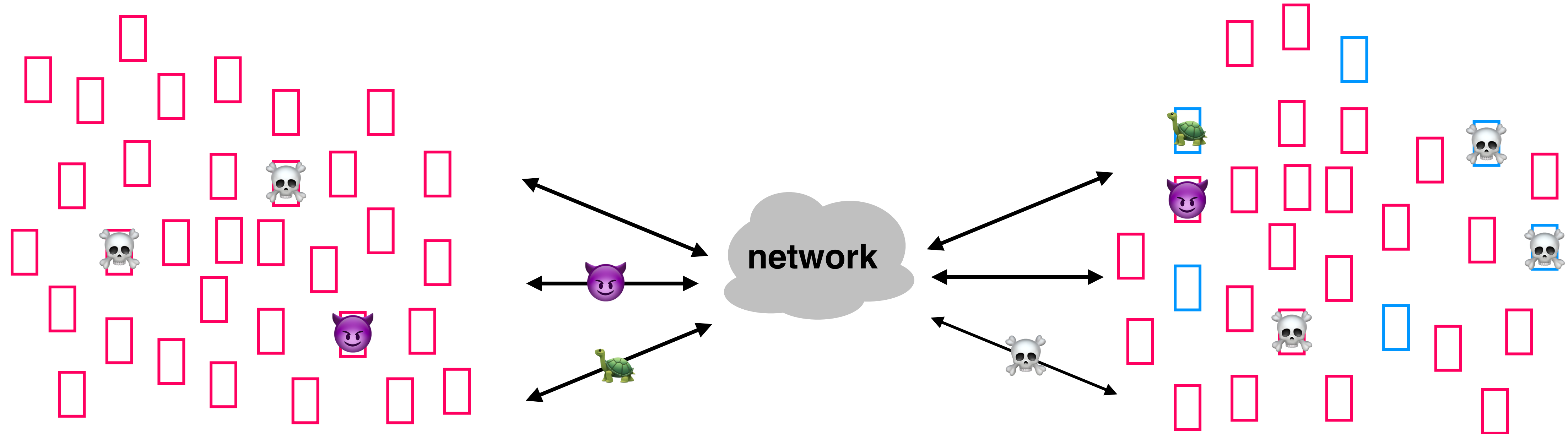
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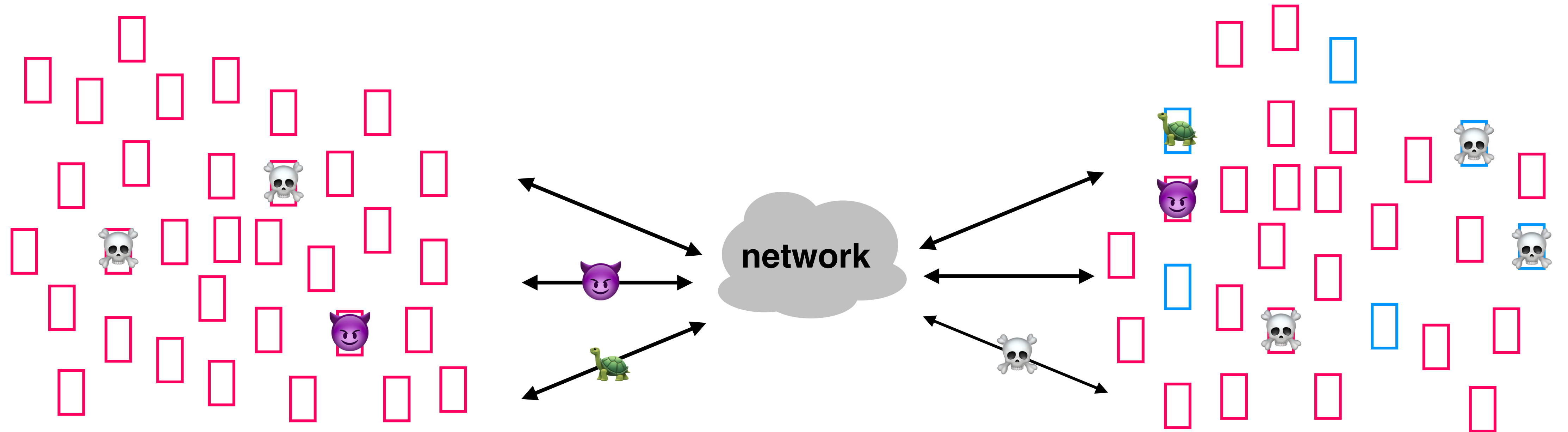
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**who is impacted by our design and implementation choices?  
who makes those choices?**

# <http://mit.edu/6.1800>

has all of the class material, due dates, deadlines, etc.

Monday	Tuesday	Wednesday	Thursday	Friday
feb 3 <b>LEC 1:</b> Modularity, Abstraction, and the Impact of Systems  <i>First day of classes</i>	feb 4 <b>REC 1:</b> We Did Nothing Wrong	feb 5 <b>LEC 2:</b> Naming	feb 6 <b>REC 2:</b> DNS  <b>Assignment Available:</b> Hands-on DNS	feb 7 <b>TUT 1:</b> Intro to 6.1800 Communication


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## **Canvas**

for submitting assignments and seeing your grades, and the occasional class-wide (or section-wide) announcement. everything on Canvas will be linked from the class website

we've already sent out one announcement about a scheduling form — please fill it out today if you haven't already!



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**next lecture:** naming, which allows modules to communicate

**after that:** operating systems, which enforce modularity on a single machine