

SER 321 B Session

SI Session

Sunday November 19th 2023

7:00 - 8:00 pm MST

Agenda



Review Threaded Pitfalls

Common Issues for Distribution

Review OSI Model

Middleware

Review Consensus (RAFT)

SI Session Expectations

Thanks for coming to the **SER 321** SI session. We have a packed agenda and we are going to try to get through as many of our planned example problems as possible. This session will be recorded and shared with others.

- If after this you want to see additional examples, please visit the drop-in tutoring center.
- We will post the link in the chat now and at the end of the session.
 - tutoring.asu.edu
- Please keep in mind we are recording this session and it will be made available for you to review 24-48 hours after this session concludes.
- Finally, please be respectful to each other during the session.

Interact with us:

Zoom Features



Zoom Chat

- Use the chat feature to interact with the presenter and respond to presenter's questions.
- Annotations are encouraged

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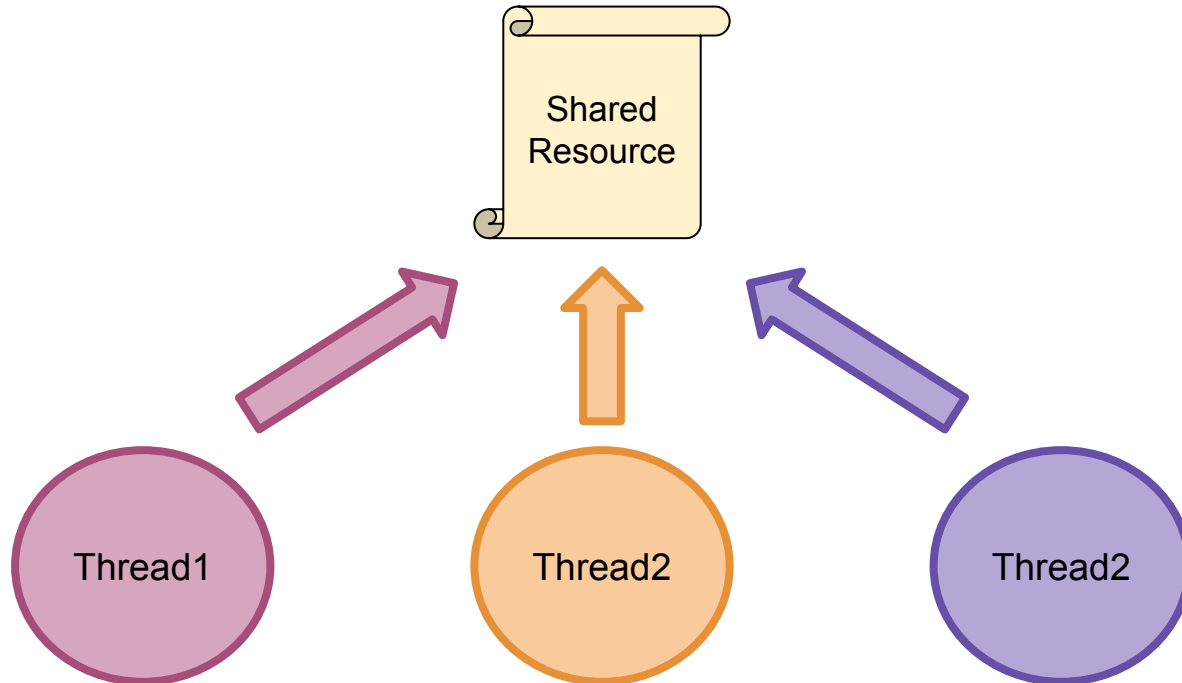
Threaded Pitfalls

Which threading pitfall is depicted below?

- Race Condition

- Starvation

- Deadlock



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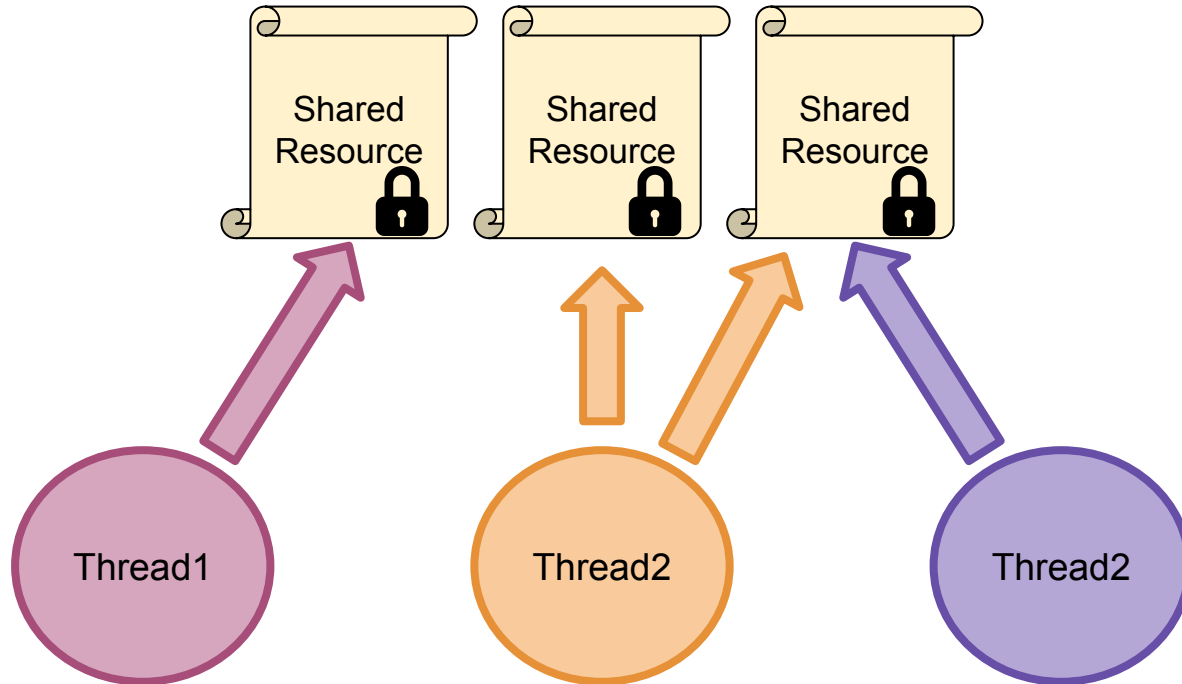
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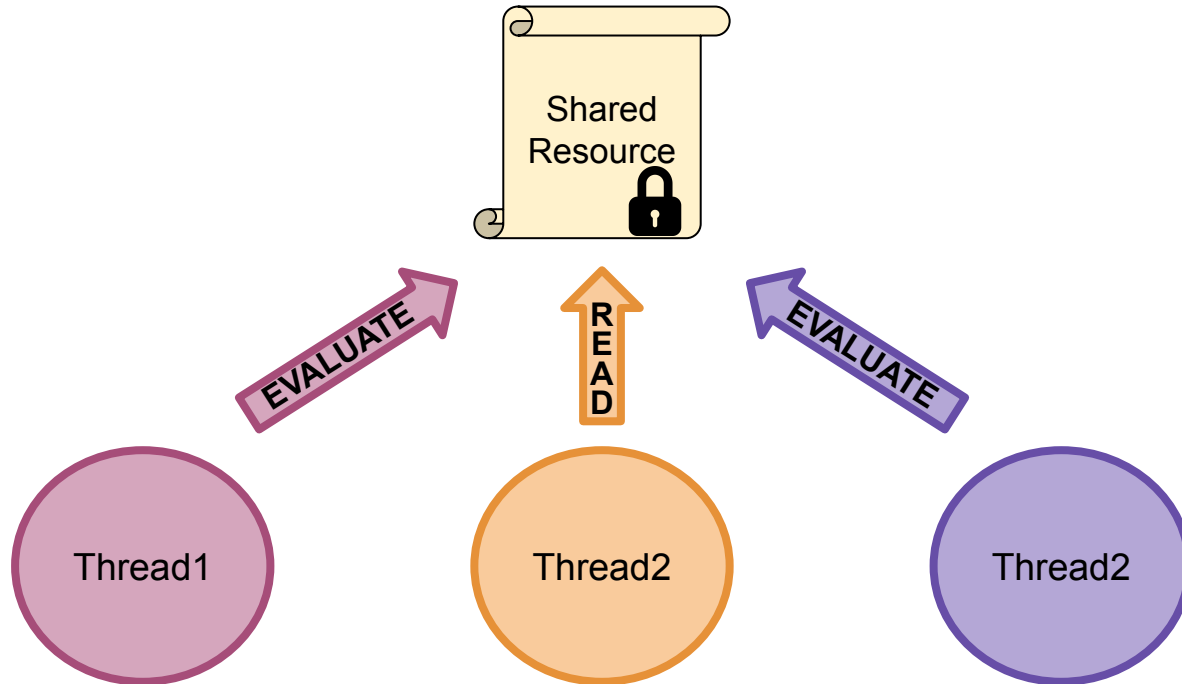
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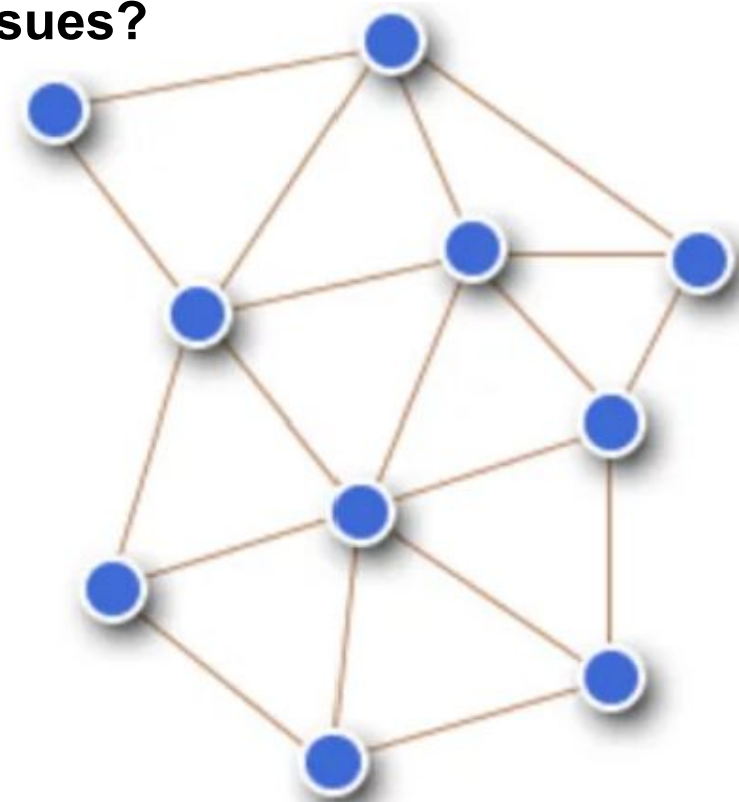


Do we remember the common Distribution issues?

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Distribution Issues

-
-
-
-
-
-
-



Check out the recording for the discussion!

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Big Picture Review

Check out the recording for the discussion!

| Layer | Data Unit | What we mean |
|-------|-----------|--------------|
| | Data | |
| | Data | |
| | Data | |
| | Segments | |
| | Packets | |
| | Frames | |
| | Bits | |

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Big Picture Review

Check out the recording for the discussion!

| Layer | Data Unit | What we mean |
|--------------|-----------|--------------|
| Application | Data | |
| Presentation | Data | |
| Session | Data | |
| Transport | Segments | |
| Network | Packets | |
| Data Link | Frames | |
| Physical | Bits | |

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Middleware

Intro to Middleware [video](#)

We have been:

Constructing messages manually

Converting to bytes

Sending over stream

Handling the message

Application was responsible for
verifying protocol and parsing data

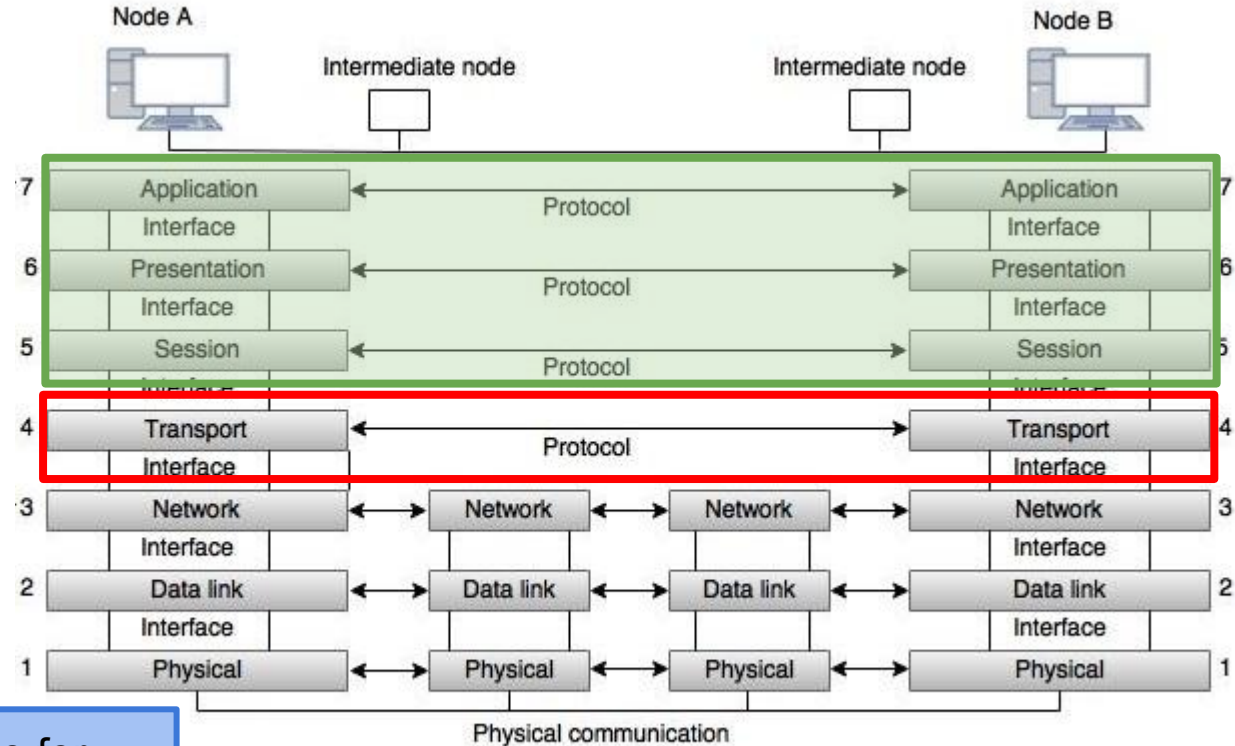


Fig: OSI Model

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Middleware

Intro to Middleware [video](#)

Middleware

Middleware will handle the communication for us!

“Glue between low-level OS communications and programming language”

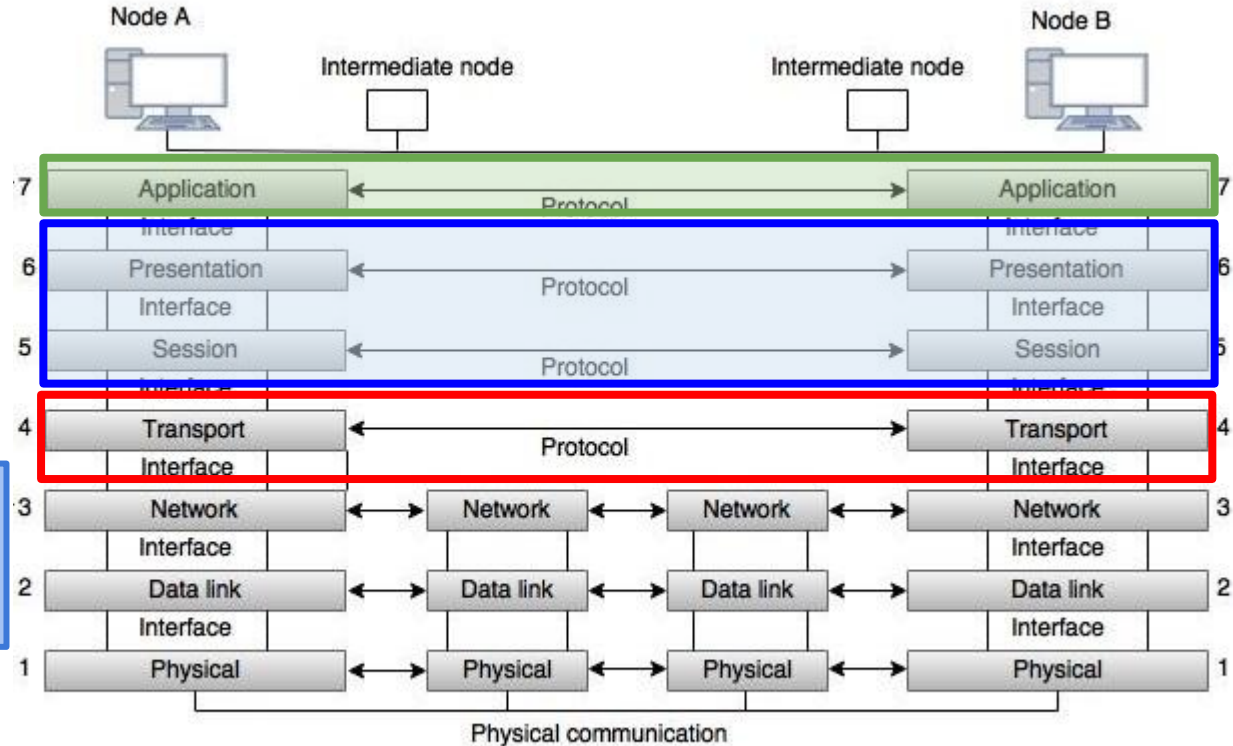


Fig: OSI Model

What is it?

- **Web Frameworks**

Django, Express.js, Angular
ASP.NET, jQuery, etc.

- **Remote Procedure Calls (RPC)**

gRPC from the Assignment!

- **APIs**



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Middleware

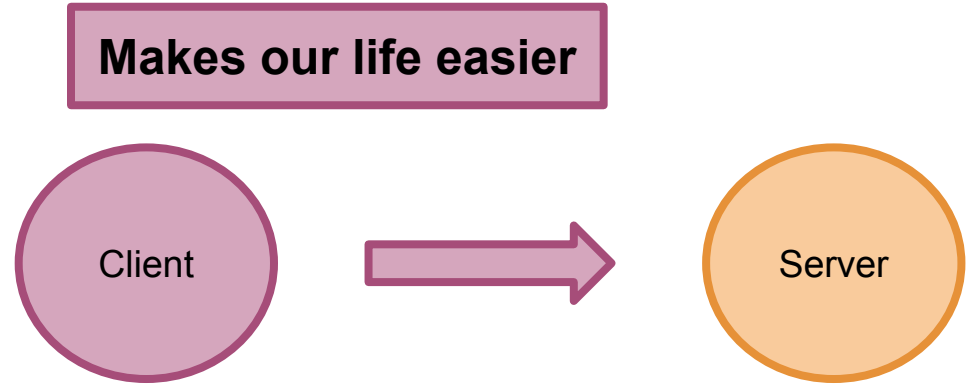
Why do we care?

Agility

Portability

Efficiency

Cost Effectiveness



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Middleware

Intro to Middleware [video](#)

Why do we care?

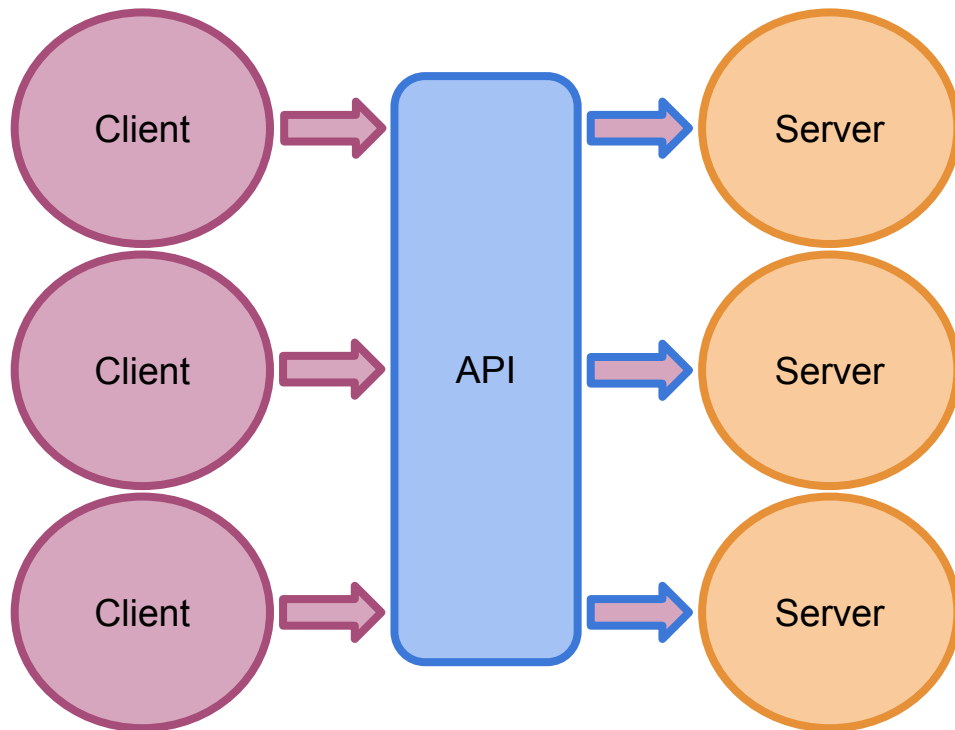
Agility

Portability

Efficiency

Cost Effective

Makes our life easier



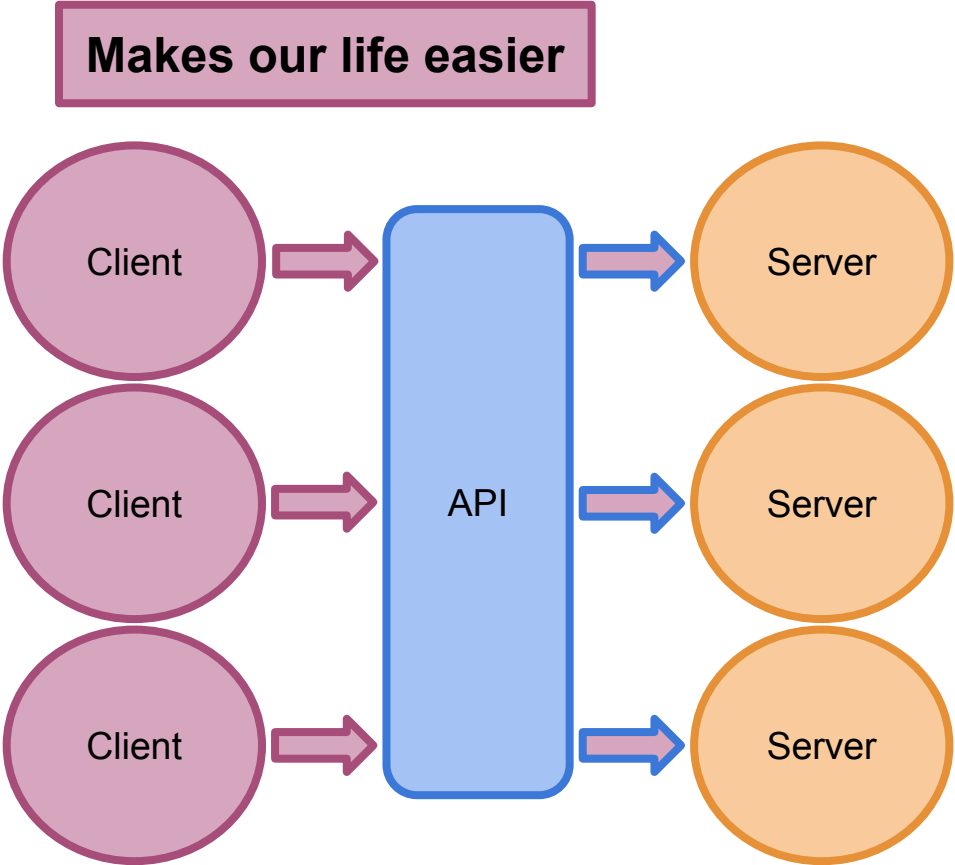
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Middleware

Why do we care?

If you follow **this format**

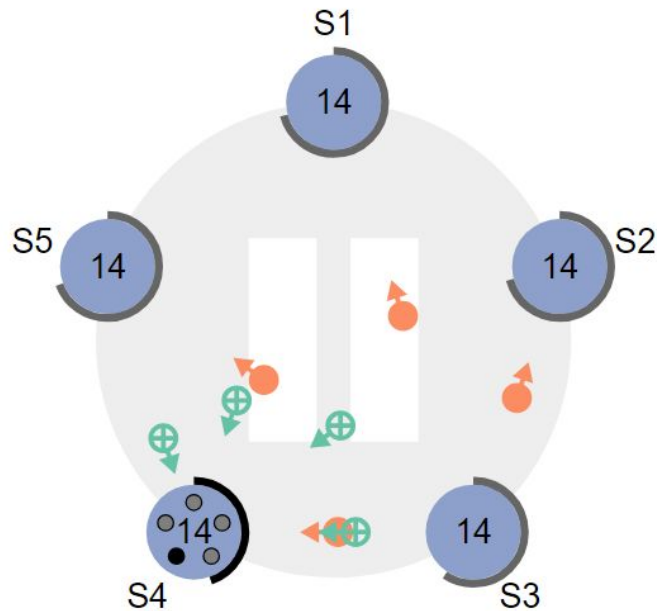
I'll give a response



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RAFT

RAFT



| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|----|---|---|---|---|---|---|---|---|---|----|
| S1 | | | | | | | | | | |
| S2 | | | | | | | | | | |
| S3 | | | | | | | | | | |
| S4 | | | | | | | | | | |
| S5 | | | | | | | | | | |



1/59x

3.160s

Questions?

Survey:

https://bit.ly/asn_survey



Upcoming Events

SI Sessions:

- Monday, November 20th 2023 at 4:00 pm MST
- Sunday, November 26th 2023 at 7:00 pm MST

Review Sessions:

- **Monday, November 27th 2023**
- **5:00 - 7:00 pm MST**

More Questions?

Check out our other resources!

tutoring.asu.edu



Academic Support

Academic Support Network (ASN) provides a variety of free services in-person and online to help currently enrolled ASU students succeed academically.

Services



Subject Area Tutoring

Need in-person or online help with math, science, business, or engineering courses? Just hop into our Zoom room or drop into a center for small group tutoring. We'll take it from there.

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[View the tutoring schedule](#)

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Go to Zoom



Writing Tutoring

Need help with undergraduate or graduate writing assignments? Schedule an in-person or online appointment, access your appointment link, or wait in our drop-in queue.

[Access your appointment link](#)

[Access the drop-in queue](#)

Schedule Appointment



Online Study Hub

Join our online peer communities to connect with your fellow Sun Devils. Engage with our tools to search our bank of resources, videos, and previously asked questions. Or, ask our Tutorbot questions.

Now supporting courses in Math, Science, Business, Engineering, and Writing.

Online Study Hub

1-

Go to Zoom

2-

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1. Click on 'Go to Zoom' to log onto our Online Tutoring Center.
2. Click on 'View the tutoring schedule' to see when tutors are available for specific courses.

More Questions?

Check out our other resources!

tutoring.asu.edu/online-study-hub

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[University College](#)

Online Study Hub

Online peer communities for students and tutors, YouTube channels, and Tutorbots.



What are online peer communities?

Individual courses have an online peer community that allows you to connect with your peers to post and answer questions and to develop study groups.



How can tutoring center videos help?

Videos can help supplement the learning you're doing in and outside of class and include step-by-step methods for how to understand concepts.



How does the Tutorbot work?

You can ask the Tutorbot questions about course concepts and the Tutorbot will recommend additional resources and examples to help address your questions.

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Business

ACC 231

Uses of Accounting Info I

 [Peer Community](#)

ACC 241

Uses of Accounting Info II

 [Peer Community](#)

CIS 105

Computer Applications and Information Technology

 [Peer Community](#)

Don't forget to check out the Online Study Hub for additional resources!

Additional Resources

[CourRepo](#)

[Dining Philosophers Interactive](#)

[Raft Interactive](#)