

SER 321 C Session

SI Session

Sunday, June 30th 2024

6:00 pm - 7:00 pm MST

Agenda



Assignment 5 Progression Example

Middleware

What is it?

Why do we care?

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

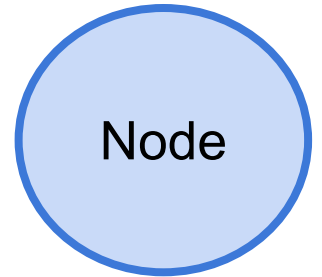
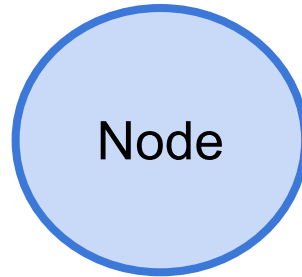
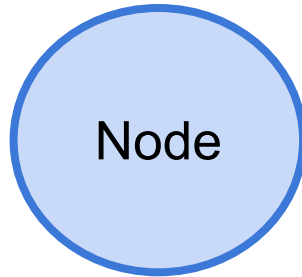
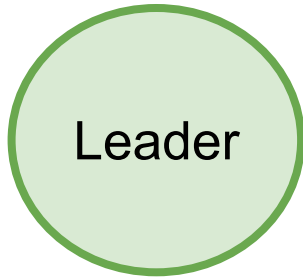
- Use the chat feature to interact with the presenter and respond to presenter's questions.
- Annotations are encouraged

Check out the recording for the discussion!

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Assignment 5 Visualization

What does a 'node' represent in our structure?

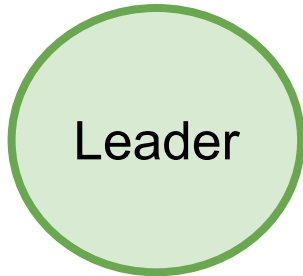


Check out the recording for the discussion!

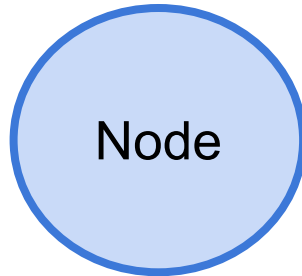
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Assignment 5 Visualization

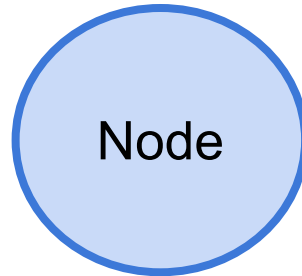
What does a 'node' represent in our structure?



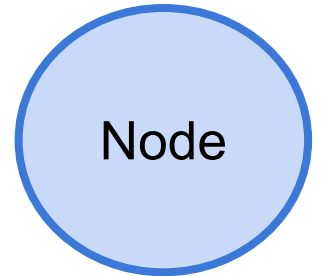
Phoenix



New York



Chicago



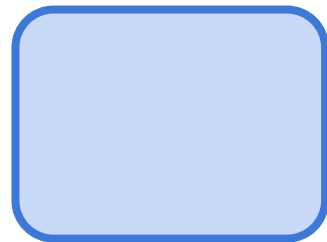
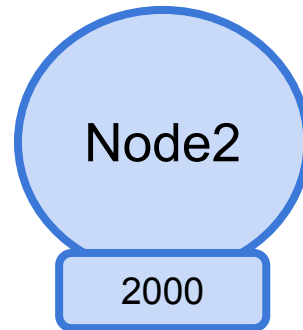
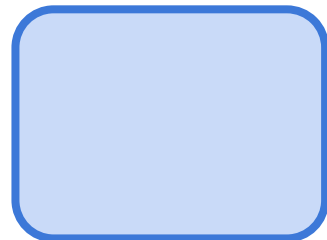
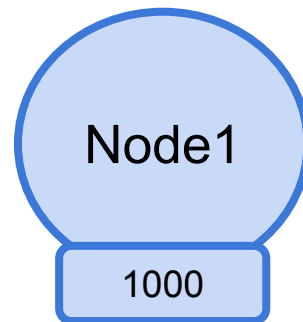
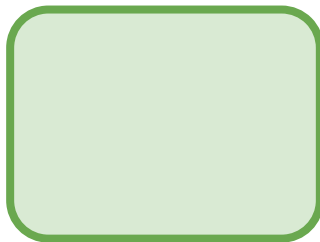
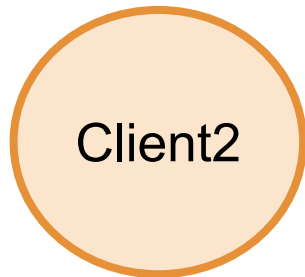
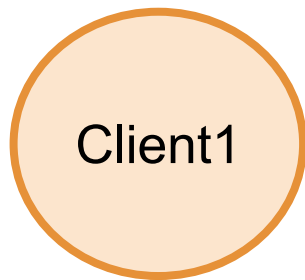
London

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Assignment 5 Visualization

Let's depict part of the
Example...

Check out the recording for the discussion!

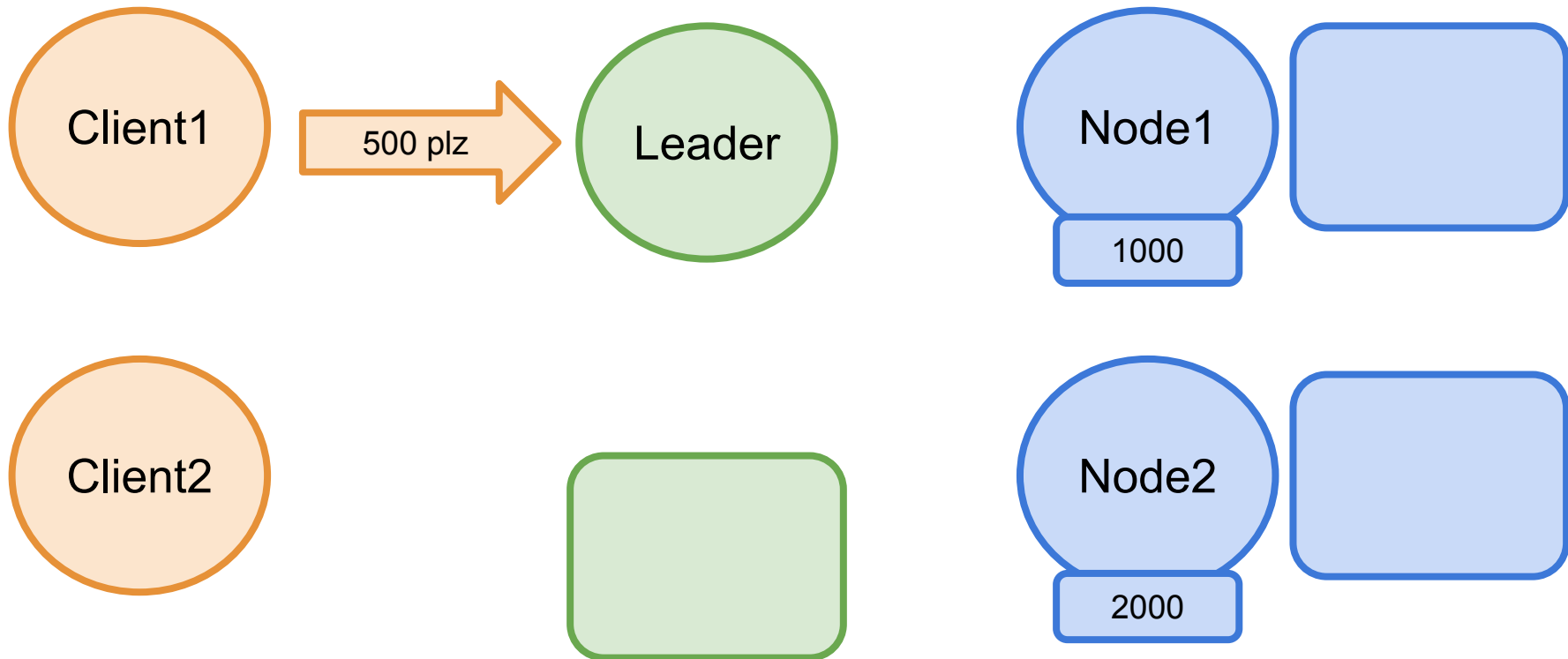


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Assignment 5 Visualization

Let's depict part of the
Example...

Check out the recording for the discussion!

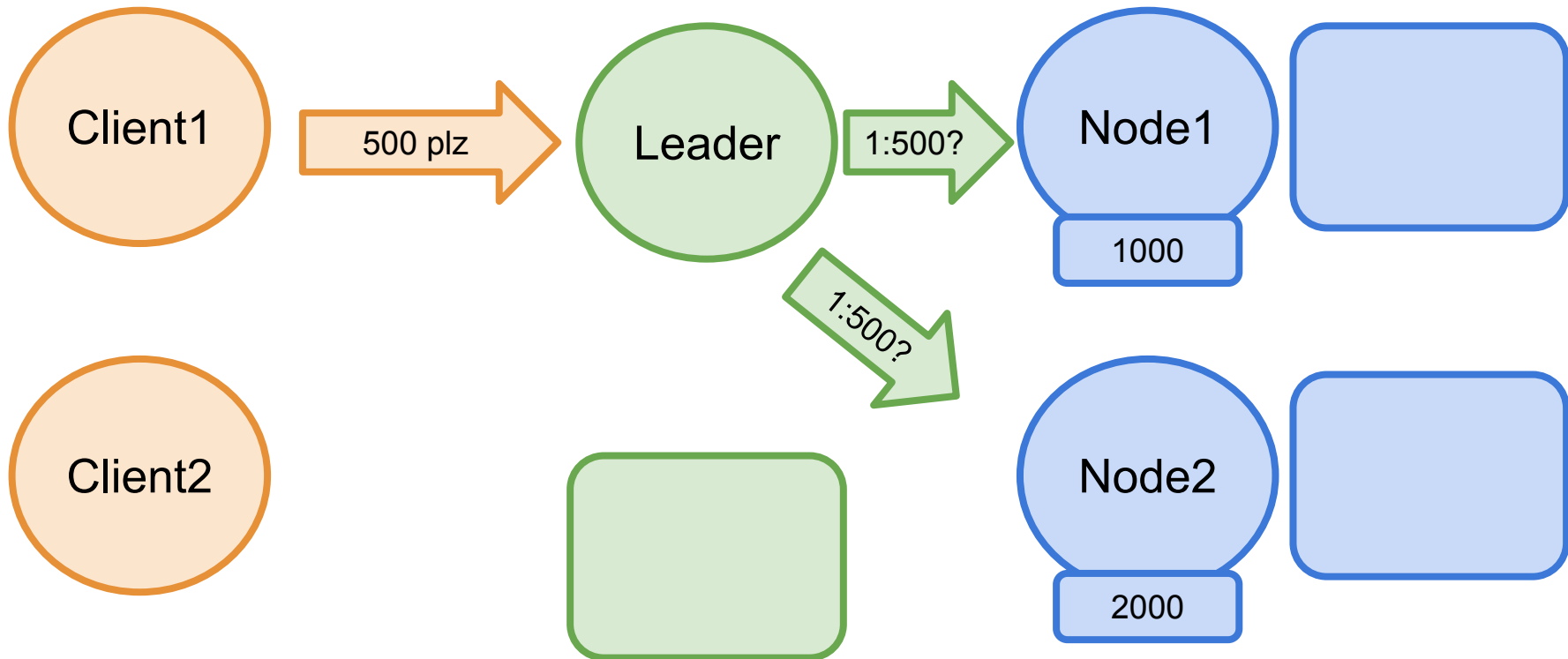


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Assignment 5 Visualization

Let's depict part of the
Example...

Check out the recording for the discussion!

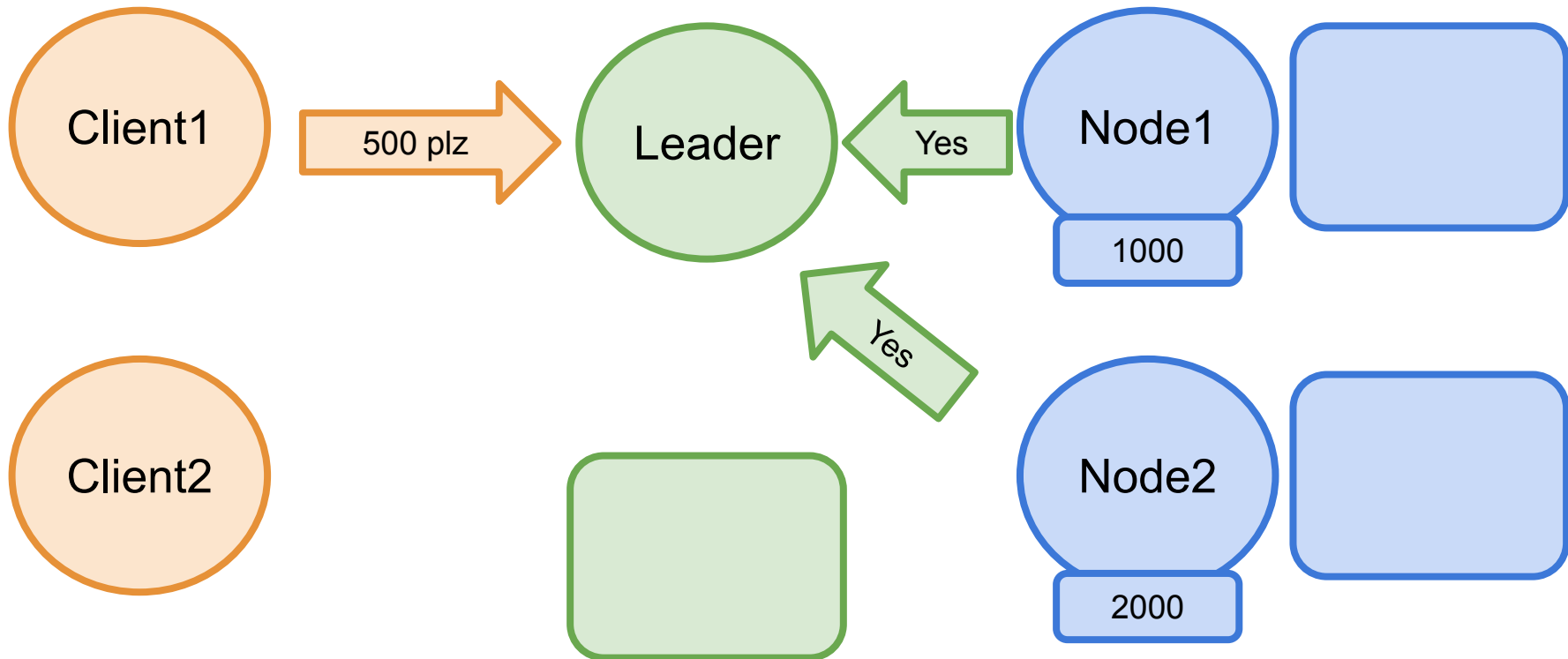


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Assignment 5 Visualization

Let's depict part of the
Example...

Check out the recording for the discussion!

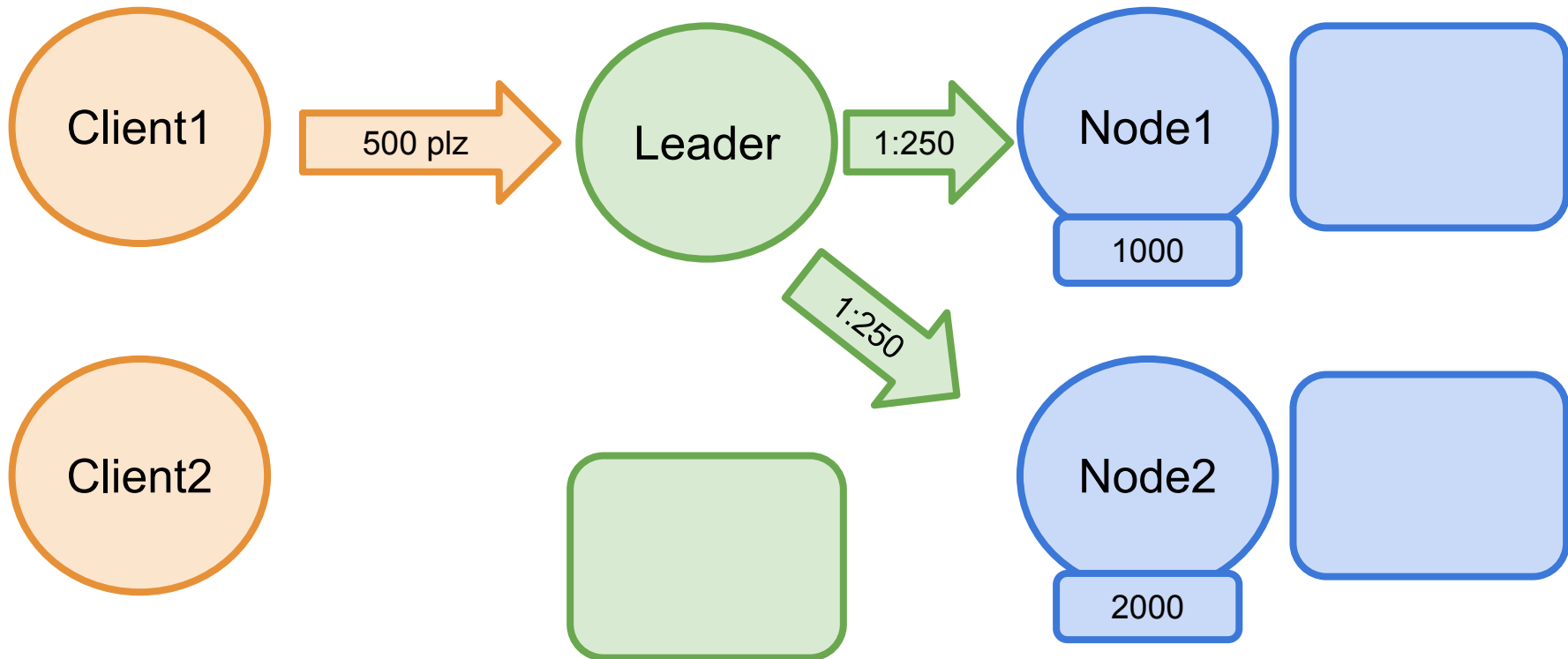


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Assignment 5 Visualization

Let's depict part of the
Example...

Check out the recording for the discussion!

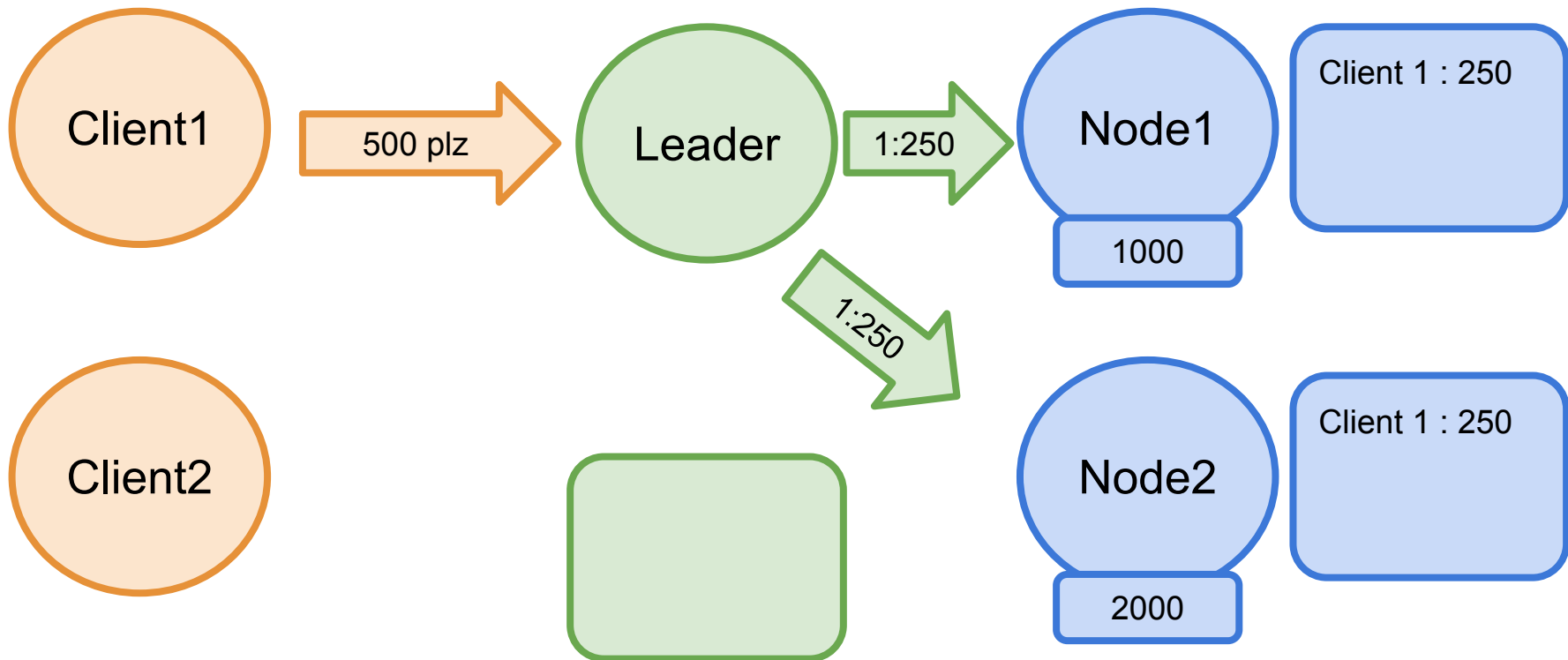


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Assignment 5 Visualization

Let's depict part of the
Example...

Check out the recording for the discussion!

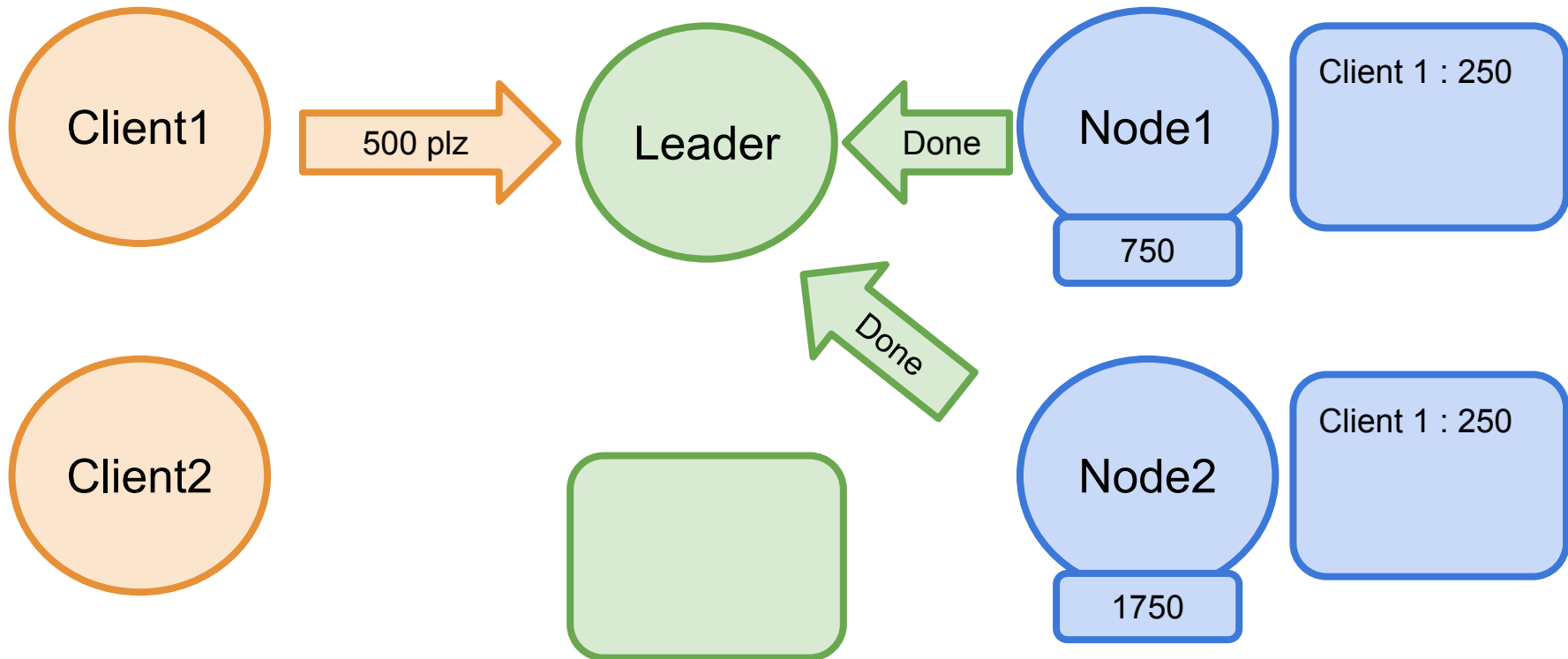


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Assignment 5 Visualization

Let's depict part of the Example...

Check out the recording for the discussion!

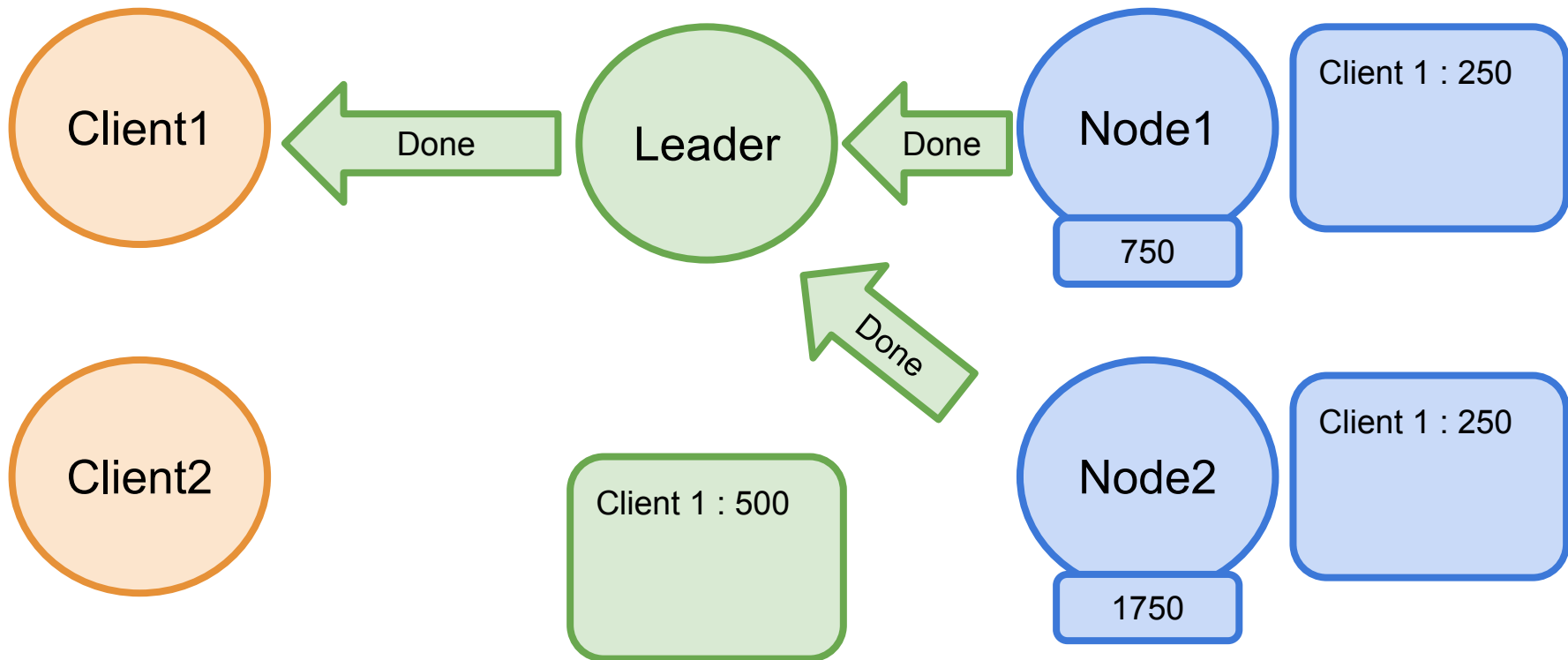


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Assignment 5 Visualization

Let's depict part of the
Example...

Check out the recording for the discussion!

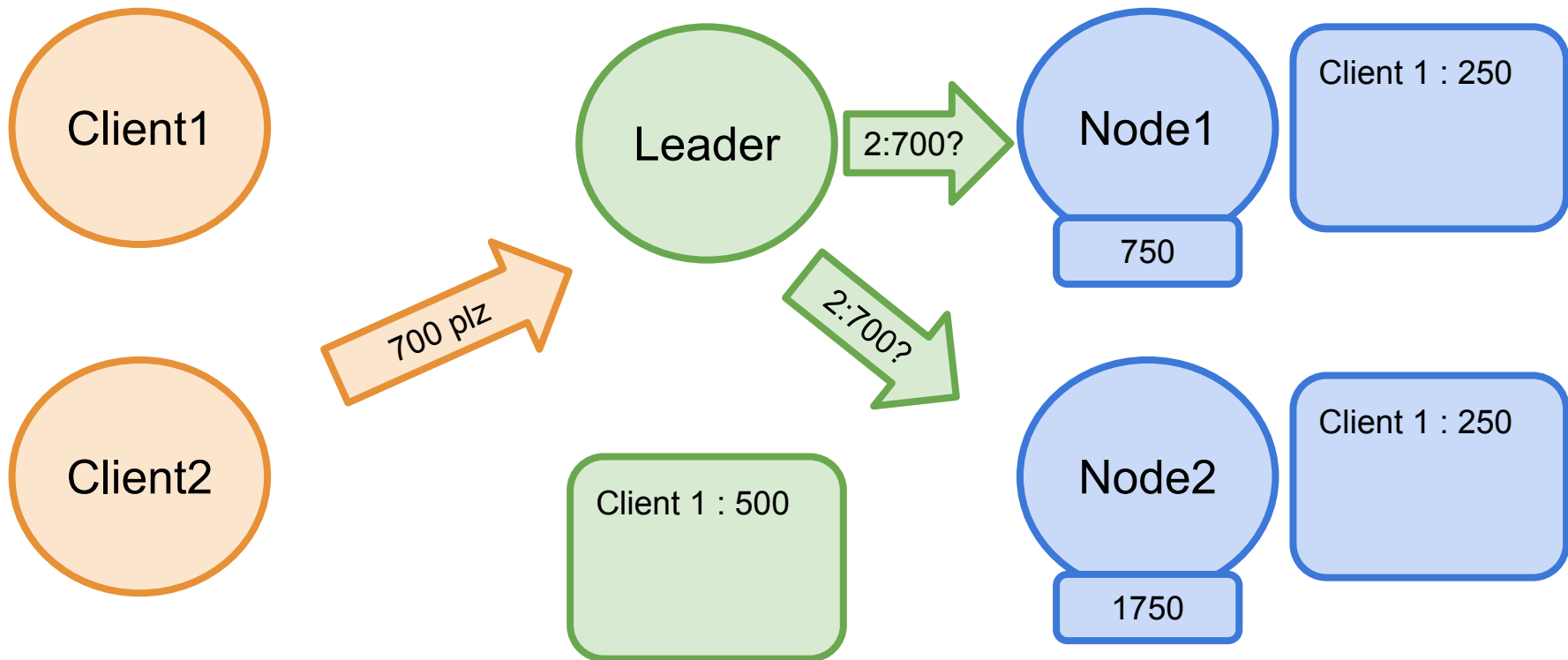


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Assignment 5 Visualization

Let's depict part of the
Example...

Check out the recording for the discussion!

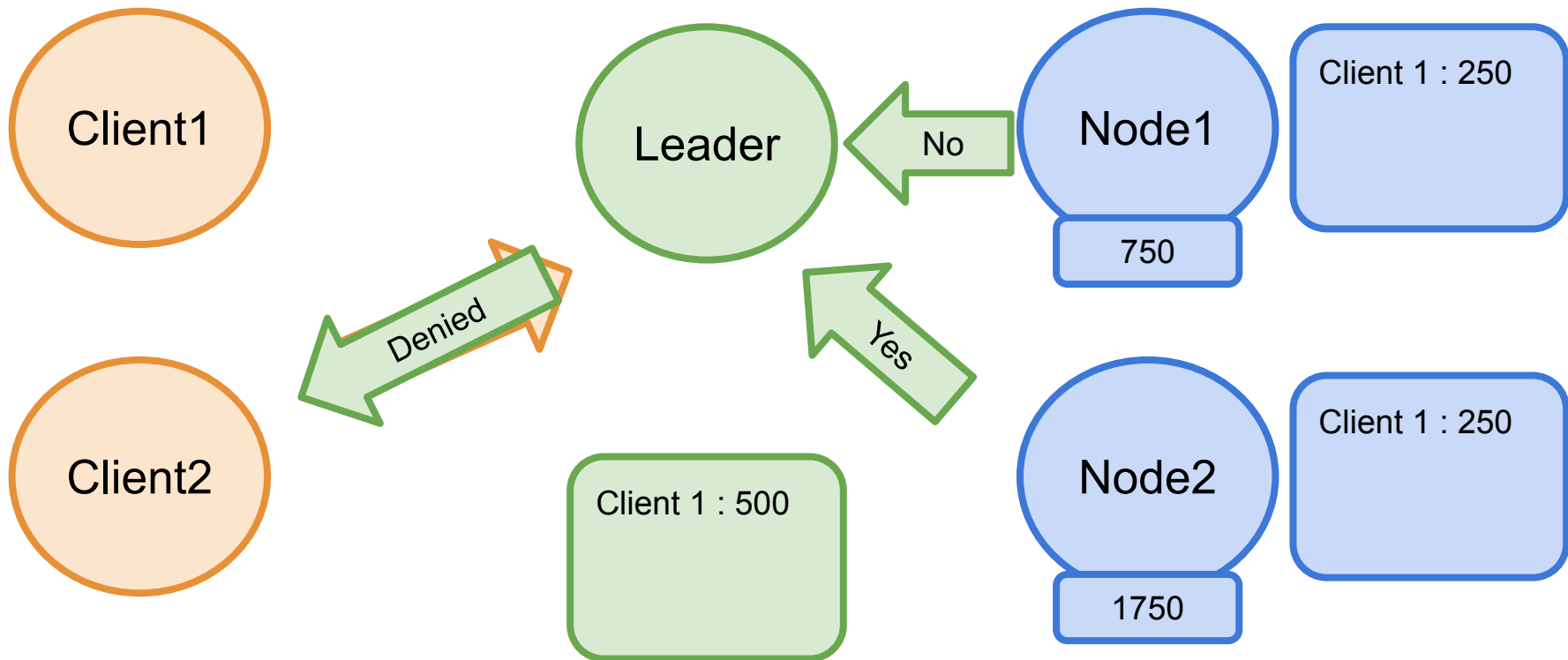


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Assignment 5 Visualization

Let's depict part of the
Example...

Check out the recording for more examples!



Check out the recording for the discussion!

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Middleware

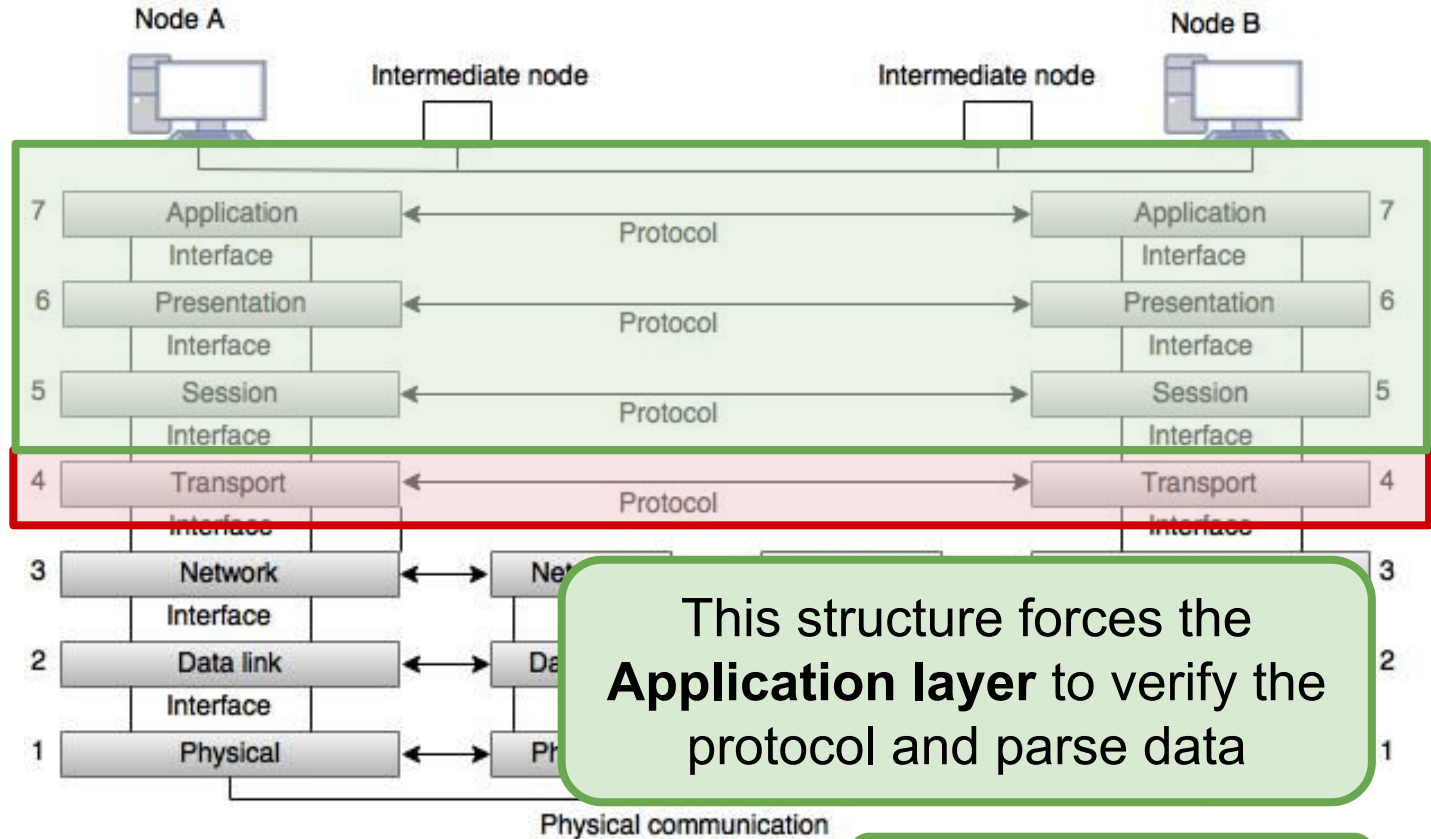
We have been:

Serializing
Messages

Sending
Messages

Parsing
Messages

Handle
Messages



Not really its job...

Check out the recording for the discussion!

SER 321 Middleware

With Middleware:

Serializing
Messages

Sending
Messages

Parsing
Messages

Handle
Messages

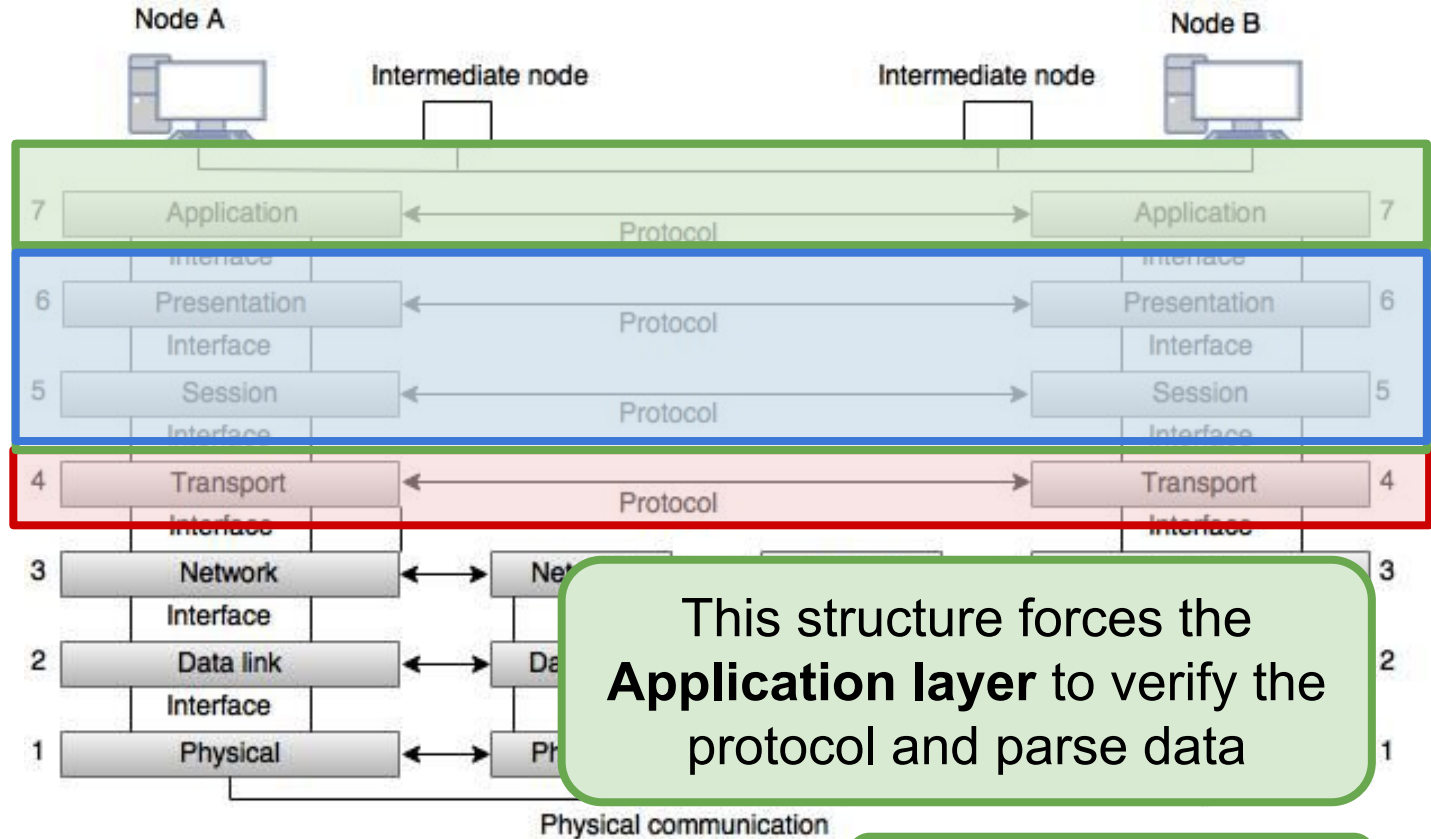


Fig: OSI Model

Not really its job...

Check out the recording for the discussion!

SER 321 Middleware

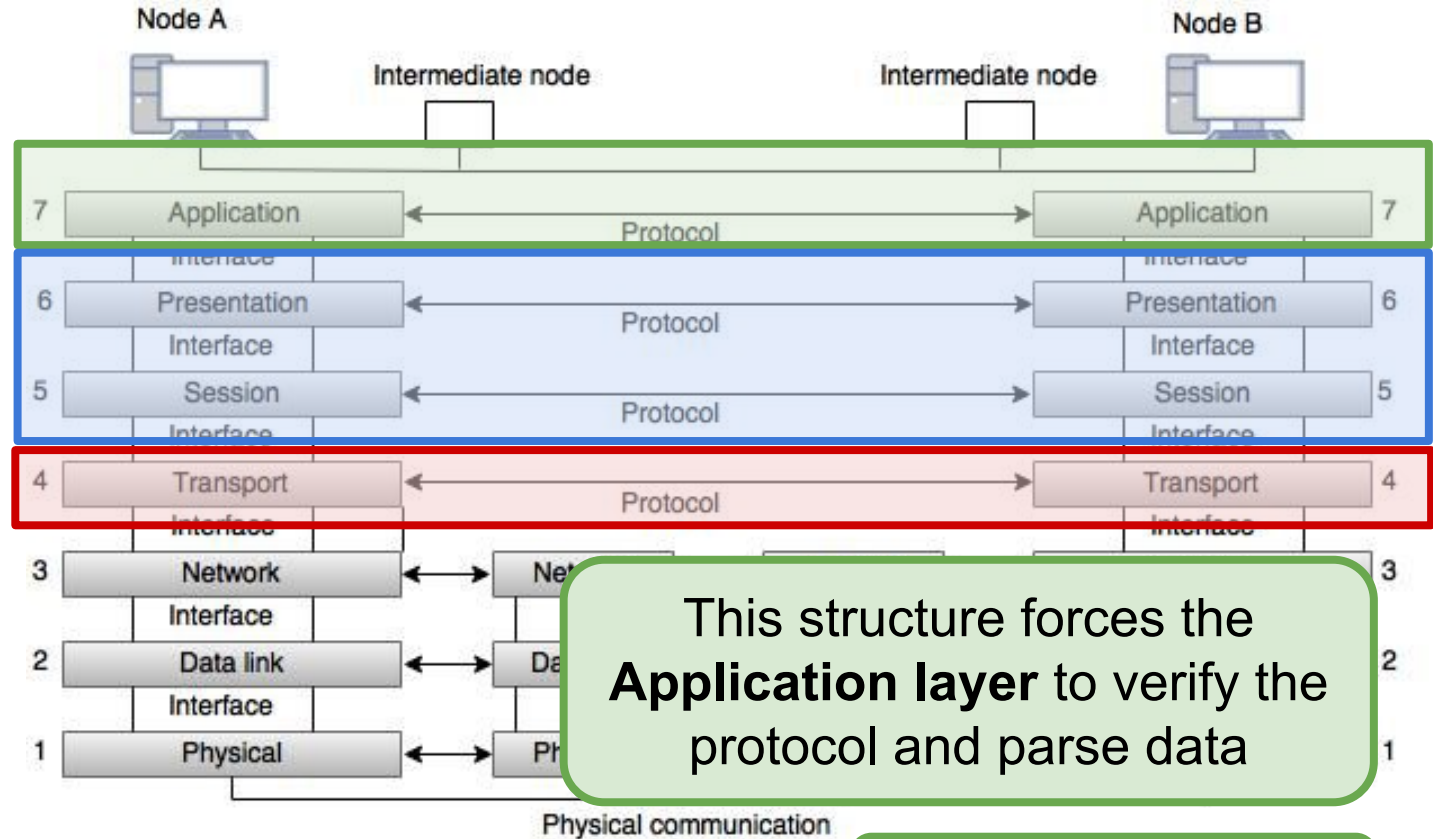
With Middleware:

Serializing
Messages

Sending
Messages

Parsing
Messages

Handle
Messages



Check out the recording for the discussion!

SER 321 Middleware

Middleware:

*Session Layer
Responsibilities:*

Authentication

Authorization

Session
Management

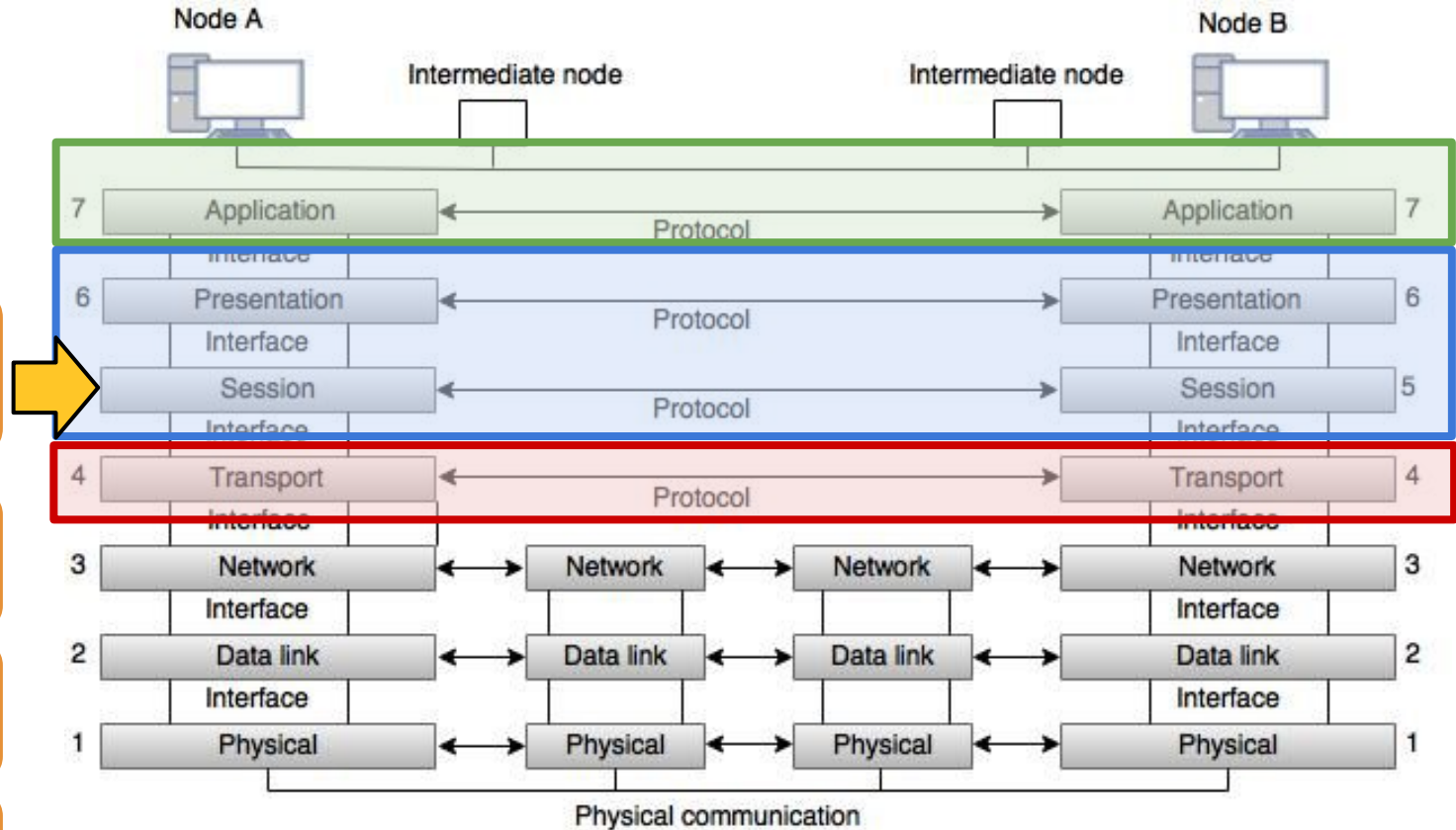


Fig: OSI Model

Check out the recording for the discussion!

SER 321 Middleware

Middleware:

*Presentation
Layer
Responsibilities:*

Translation

Compression

Encryption

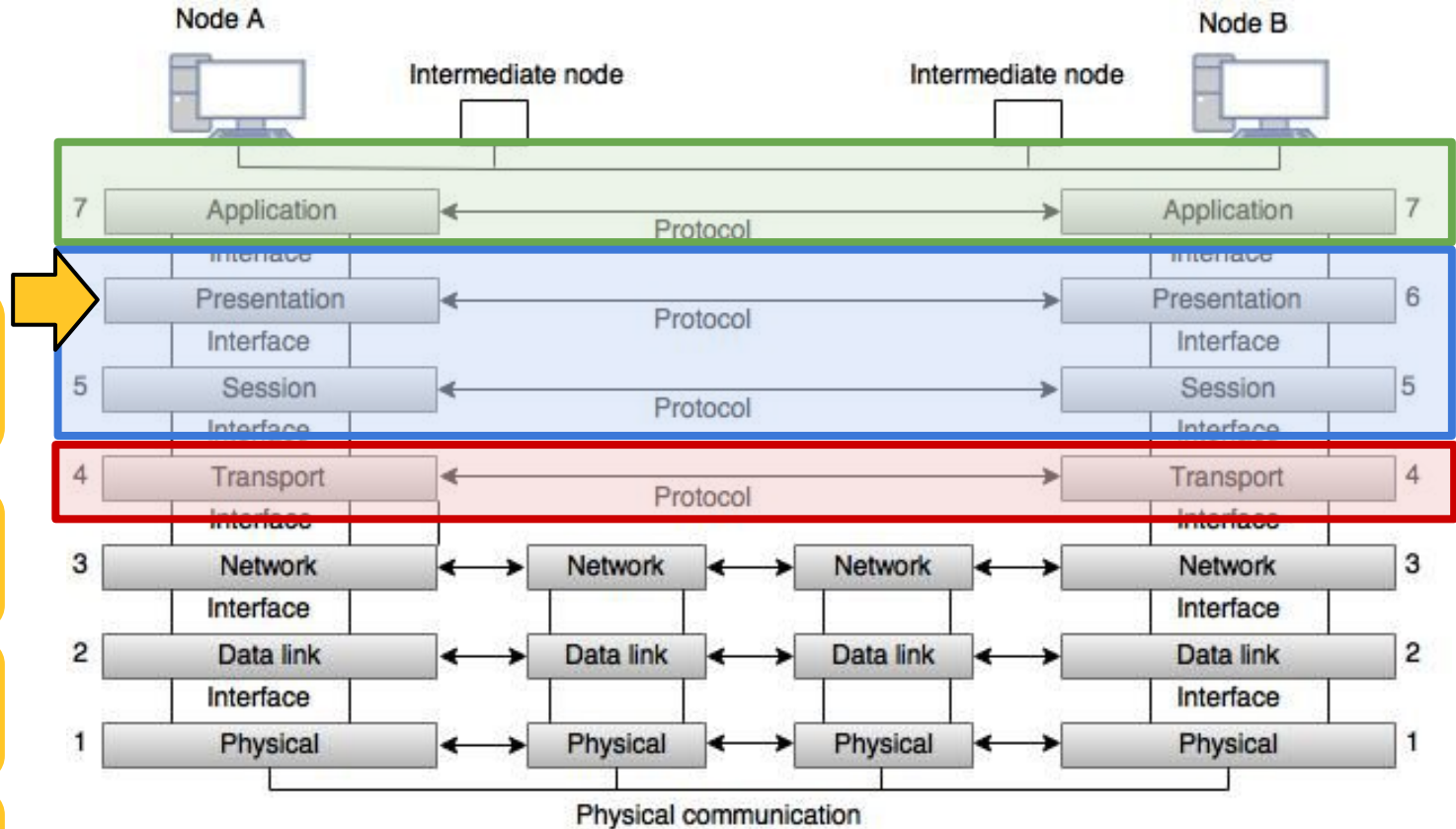
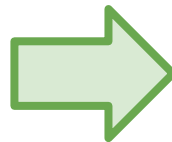
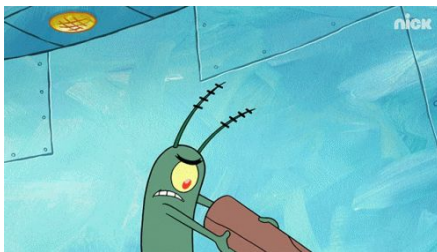


Fig: OSI Model

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Middleware



```
{  
  "type": "addUser",  
  "name": "katie",  
  "password": "password"  
}
```

Check out the recording for the discussion!

Add User



- Get data from user
- Validate data
- Determine Request Format
- Construct Valid Request
- Establish Connection
- Send Request
- Wait for Response
 - Read Response from Stream
 - Parse Response
 - Display Response to User

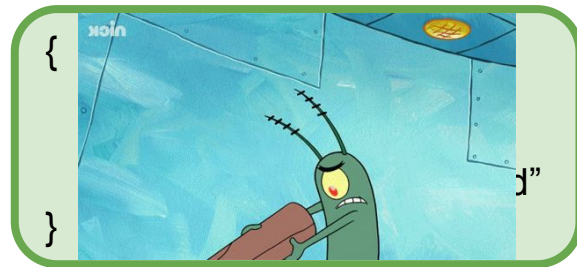
Critical Step!



SER 321

Middleware

- Get data from user
- Validate data
- Determine Request Format
- Construct Valid Request
- Establish Connection
- Send Request
- Wait for Response
 - Read Response from Stream
 - Parse Response
 - Display Response to User



How do we know?

Add User

Client

- Read data from Stream
- Parse Data
- Validate Request Format
- Determine Request Type
- *Perform Requested Action*
- Determine Response Format
- Construct Valid Response
- [Re-establish connection]
- Send Response

Done!

Wants to
Add User

Server

Check out the recording for the discussion!

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Middleware

Examples?

Check out the recording for the discussion!

Message Oriented Middleware (MOM)

Web Frameworks

Remote Procedure Calls (RPC)



App. Programming Interface (API)

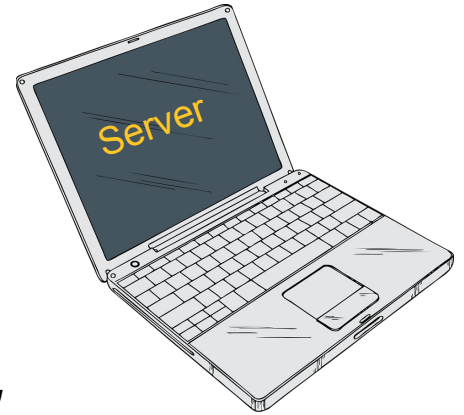
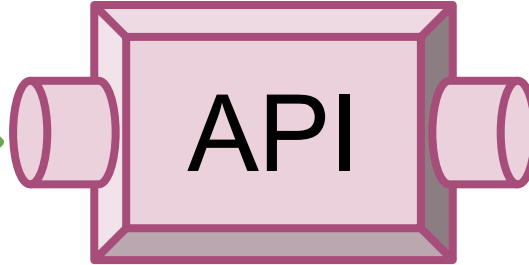
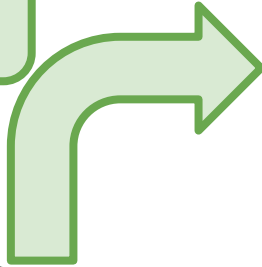


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Middleware

Add User:
Name = Katie
Password = password

With Middleware:



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Middleware

Add User:
Name = Katie
Password = password

With Middleware:

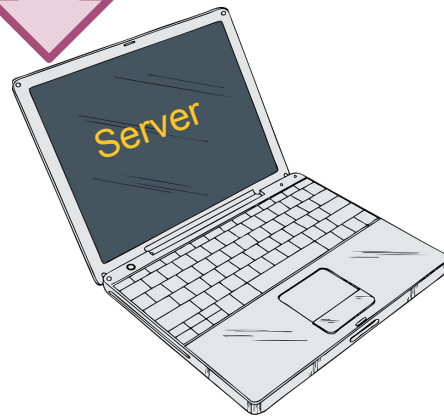
API

```
{  
  "type": "addUser",  
  "name": "katie",  
  "password": "password"  
}
```

Client

Server

Check out the recording for the discussion!



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Scratch Space

Questions?



Survey:

<http://bit.ly/ASN2324>



Upcoming Events

SI Sessions:

- Monday, July 1st at 6:00 pm MST
- Wednesday, July 3rd at 6:00 pm MST - ***2hr Review Session***
- Sunday, July 7th at 6:00 pm MST - ***Final Session***

Review Sessions:

- Review Session - **Wednesday**, July 3rd at 6:00 pm MST (2 hr Session)
- Q&A Session - Sunday, July 7th at 6:00 pm MST (Final Session)

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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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

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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.

Select a subject

- Any -

Apply



Academic Support Network



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Select a subject

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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

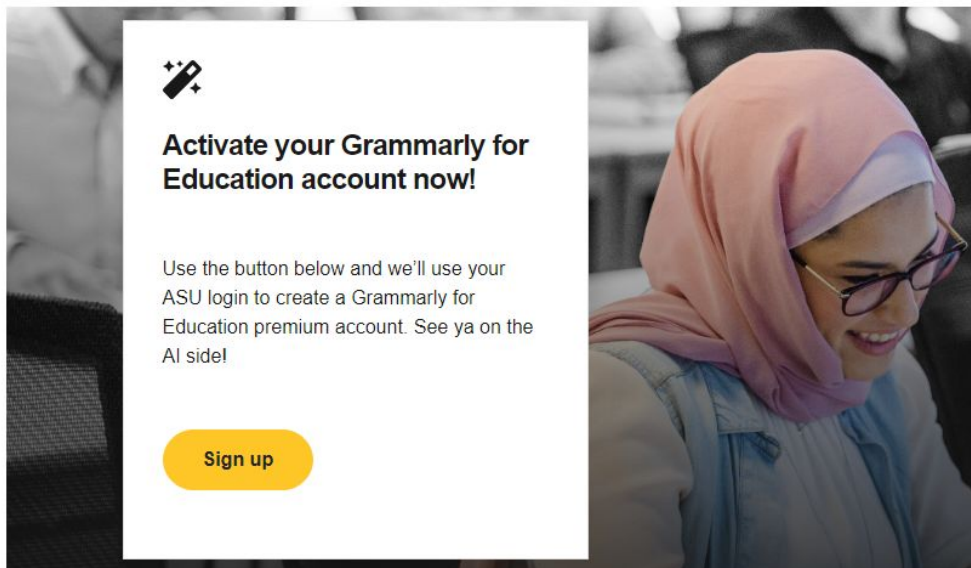
Computer Applications and Information Technology

Peer Community

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

Expanded Writing Support Available

Including Grammarly for Education, at no cost!



tutoring.asu.edu/expanded-writing-support

*Available slots for this pilot are limited

Additional Resources

- [Course Repo](#)
- [Gradle Documentation](#)
- [GitHub SSH Help](#)
- [Linux Man Pages](#)
- [OSI Interactive](#)
- [MDN HTTP Docs](#)
 - [Requests](#)
 - [Responses](#)
- [JSON Guide](#)
- [org.json Docs](#)
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