TCSS 562: SOFTWARE ENGINEERING FOR CLOUD COMPUTING

Group Presentations I

Wes J. Lloyd
School of Engineering and Technology
University of Washington – Tacoma

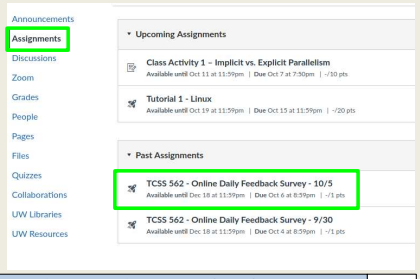
MW 5:50-7:50 PM

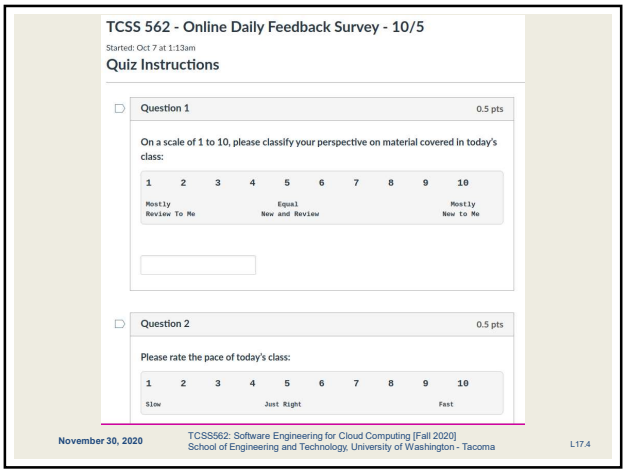
OBJECTIVES – 11/30

- **Questions from 11/25**
- Presentation Questions
- Group 8 - **Technology: Elasticsearch**
  Huicong Jiang, Yaqing Cao, Yuri Liao
- **2nd hour:**
- Group 1 – **Paper: Microservice Architecture Enables DevOps**
  Rajbir Deol,Madhuri S Sharma, Shrustishree Sumanth
- Group 7 – **Paper: Costless: Optimizing costs of Serverless Computing through Function Fusion and Placement**
  Richard Bankhead, Alina Saduova, Brian Wolk
- Office Hours / Tutorial questions
- Team planning

ONLINE DAILY FEEDBACK SURVEY

- Daily Feedback Quiz in Canvas – Take After Each Class
- Extra Credit for completing





MATERIAL / PACE

- Please classify your perspective on material covered in today's class (23 respondents):
- 1-mostly review, 5-equal new/review, 10-mostly new
- **Average – 6.00 (↓ - *previous 6.28*)**

- Please rate the pace of today's class:
- 1-slow, 5-just right, 10-fast
- **Average – 5.39 (↓ - *previous 5.72*)**

FEEDBACK FROM 11/25

- ***TYPO in Tutorial #6: "In tutorial 6, Question 7 - Section b) Was your Lambda function warm? (YES/NO)***
- There is a TYPO here. The correct interpretation is:
- **newcontainer=1** COLD environment for running the function
- **newcontainer=0** WARM (recycled) environment
- After 5-minutes, there is no guarantee as to what AWS Lambda will do with existing infrastructure that was created to run a function. It could be warm or cold
- Beginning approximately 5-minutes after the most recent function execution infrastructure may start to be selectively recycled. After approximately ~40-45 minutes usually all infrastructure is unassigned/deallocated
- Main idea with Q7 is to report the value of "newcontainer"

TUTORIAL QUESTIONS

- Tutorial 6: Extended to Monday Dec 2nd @ 11:59p
- Tutorial 7: Sunday Dec 6th @ 11:59p
- Tutorial 8: ***Extra Credit*** – Posted 11/25
- Tutorial 9: ***Extra Credit*** - To be posted ~Wednesday
- Tutorial 10 – No Credit – Posted 11/25
- Tutorial 11 – No Credit – To be posted

FEEDBACK - 2

- ***How should teams best use AWS services collaboratively for the project? Should we share a common account from our team?***
- Suggestion is to designate a single AWS account for the performance experiments
- Individual developers are encouraged to replicate deployment of the full pipeline in their accounts for development / testing
- Functions can be managed in git repositories and shared
- A single account can be shared by created IAM users where each team member has a separate log-in to the shared AWS account.
- Using IAM users everyone can share the same function endpoints, API gateways, etc. for joint / collaborative dev/testing
- I am happy to go over setting up IAM users if interested
- Ultimately, this is something to work out with your team

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GROUP PRESENTATION QUESTIONS

- Assignment created as quiz on Canvas
- Only **ONE MEMBER** of each team needs to submit the quiz
- Quiz collects questions for group presentations in one place
- Best to submit all questions at once on/after Wed Dec 11
- Please provide 2 questions for each presentation not occurring on your team's presentation day
- Monday Nov 30 – Quiz for Groups 2, 3, 4, 5, 6, 9, 12
- Wednesday Dec 2 – Quiz for Groups 1, 4, 6, 7, 8, 9, 12
- Monday Dec 7 – Quiz for Groups 1, 2, 3, 4, 5, 7, 8
- Wednesday Dec 9 – Quiz for Groups 1, 2, 3, 5, 6, 7, 8, 9, 12

GROUP PRESENTATIONS – WEEK 10

Monday Nov 30

Slot #1 - **Technology: Elasticsearch**
- *Group 8: Huicong Jiang, Yaqing Cao, Yuri Liao*

Slot #2 - **An Execution Model for Serverless Functions at the Edge** (recommended)
- *Group 1: Rajbir Deol,Madhuri S Sharma, Shrustishree Sumanth*

Slot #3 - **Costless: Optimizing costs of Serverless Computing through Function Fusion and Placement**
- *Group 7: Richard Bankhead, Alina Saduova, Brian Wolk*

Wednesday Dec 2

Slot #1 - **Serverless Applications: Why, When, and How?**
- *Group 3: Bharti Bansinge, Deepthi Warrier Edakunni*

Slot #2 - **Multitenancy for Fast and Programmable Networks in the Cloud**
- *Group 5: Xiaowan Guo, Jiayu Li, Jiawei Yao*

Slot #3 - **Serverless in the Wild: Characterizing and Optimizing the Serverless Workload at a Large Cloud Provider**
- *Group 2: Enbei Liu, Jingru Zhao*

GROUP PRESENTATIONS – WEEK 11

Monday Dec 7

Slot #1 - **Serverless Containers-Rising Viable Approach to Scientific Workflows**
- *Group 9: Siddharth Sheth, Patrick Moy, Srivatsav Gopalakrishnan*

Slot #2 - **FECBench: A Holistic Interference-aware Approach for Application Performance Modeling**
- *Group 12: Jordan Overbo, Zoe Sadeghi*

Slot #3 - **A FaaS File System for Serverless Computing**
- *Group 6: Jingyan Sun, Lu Han, Zeng Fu*

Wednesday Dec 9

Slot #1 - **BATCH: Machine Learning Inference Serving on Serverless Platforms with Adaptive Batching**
- *Group 4: David Melanson, Samuel David Adams , Richard Brun*

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WE WILL RETURN AT ~6:50PM

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QUESTIONS