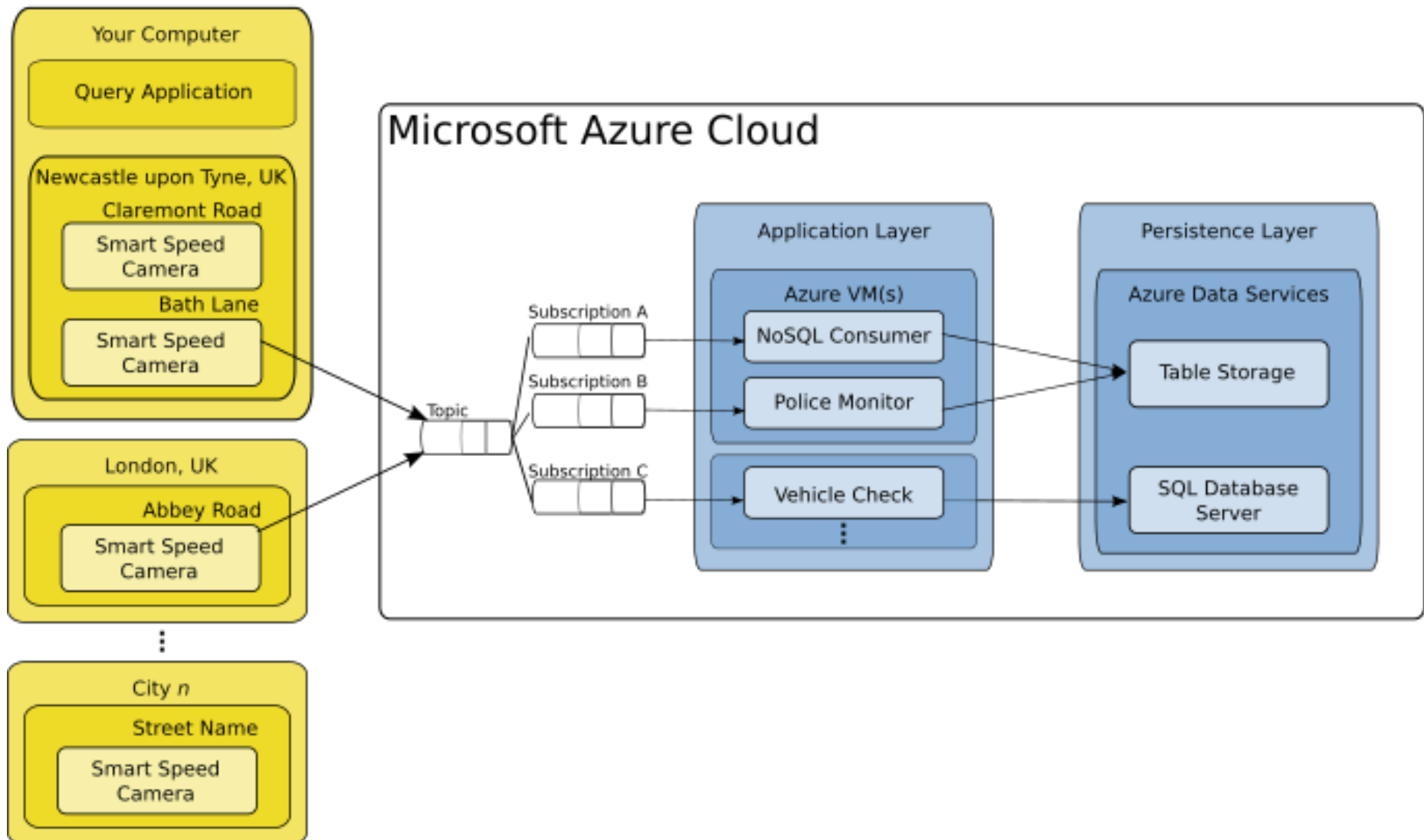


CSC8110 Cloud Computing

Dr Matt Forshaw
(matthew.forshaw@ncl.ac.uk)

Coursework Outline





- Aims
 - To make appropriate use of a **variety of technologies** to build a traffic management application in the Microsoft **Azure** cloud.
 - To gain familiarity, and reflect on, the use of Cloud technologies to tackle a **real-world problem**.
- Objectives
 - **Programming, problem solving and system-design skills.**
 - To gain experience using Microsoft Azure and the Azure SDK.
 - To gain **practical experience** using a message brokering system in the Cloud.
 - To gain experience using Azure Table Store data stores in the Cloud.



https://azure.microsoft.com/en-gb/free/

The screenshot shows the Azure website's 'Free' page. The browser address bar displays 'https://azure.microsoft.com/en-gb/free/'. The page header includes the Microsoft Azure logo, a sales contact number (0800 098 8435), and links for 'MY ACCOUNT', 'PORTAL', and a search bar. A navigation menu lists 'Why Azure?', 'Solutions', 'Products', 'Documentation', 'Pricing', 'Partners', 'Blog', 'Resources', and 'Support'. The main content area features a large blue background with the text 'Create your free Azure account today' and 'Get started with £125 in credit, and keep going with free options'. A prominent green button says 'Start for free >'. Below it are links for 'Or buy now >' and 'Frequently asked questions >'. A phone icon is followed by the text 'Call sales 0800 098 8435'. On the right, a smaller window displays the 'Web + Mobile' section of the Azure Marketplace, showing options for 'Web App', 'Mobile App', 'API App', and 'Logic App (preview)'. The 'Web App' option is selected, showing details like 'App Service Name', 'Subscription', 'Resource Group', and 'App Service plan/Location'.

Use your £125 credit and...

- ✓ Provision up to 14 virtual machines, 40 SQL databases or 8 TB of storage for a month
- ✓ Build web, mobile and API apps that use Redis Cache, Search or Content Delivery Network
- ✓ Harness big data with Machine Learning, Streaming Analytics and Hadoop
- ✓ Create real-time Internet of Things (IoT) apps with monitoring and anomaly detection



Programming languages and tools

- We encourage you to make your own decision over the choice of programming languages and tools.
 - Is there an Azure SDK available for the programming language?
 - Java, Python, .NET, Node.js, PHP, Ruby, etc...
 - Which technologies are you most familiar and comfortable with using?
 - Will the demonstrators have the experience using these technologies to be able to help you?
 - Have these technologies been used on Azure before?
 - Blogs, Microsoft website, Stack Overflow?
- **If in doubt, check with a demonstrator!**



Practical Exercises

The screenshot shows a web browser window displaying the Microsoft Azure documentation page for 'How to use Service Bus topics and subscriptions'. The browser's address bar shows the URL: <https://azure.microsoft.com/en-gb/documentation/articles/service-bus-java-how-to-use-topics-subscriptions/>. The page features the Microsoft Azure logo and navigation links such as 'Why Azure?', 'Products', 'Documentation', 'Pricing', 'Partners', 'Blog', 'Resources', and 'Support'. A 'FREE TRIAL' button is also visible. The main content area is titled 'How to use Service Bus topics and subscriptions' and includes tags for 'SERVICE BUS' and 'JAVA'. The author is Seth Manheim, updated on 07/10/2015. A list of contributors is shown below the author's name. The page also includes a sidebar with a 'Service Bus' section containing links to 'Overview', 'Getting started', 'When do I use Service Bus?', 'Develop', 'Running the samples', 'Manage', and 'Reference'. The 'Overview' section is currently selected, showing a list of links: 'Service Bus learning path', 'Service Bus Premium messaging', 'Service Bus fundamentals', 'Core brokered messaging capabilities', 'Service Bus architecture', 'Learn about Service Bus messaging', and 'Learn about Service Bus relays'. The 'Getting started' section is expanded, showing a list of links: 'What are Service Bus Topics and Subscriptions?', 'Create a service namespace', 'Obtain the default management credentials for the namespace', 'Configure your application to use Service Bus', 'Create a topic', 'Create subscriptions', and 'Send messages to a topic'.

Microsoft Azure

SALES 0-800-098-8435 MY ACCOUNT PORTAL Search

FREE TRIAL >

Why Azure? Products Documentation Pricing Partners Blog Resources Support

Service Bus

DOCUMENTATION > SERVICE BUS

How to use Service Bus topics and subscriptions

TAGS: SERVICE BUS , JAVA

By Seth Manheim
Updated: 07/10/2015

Contributors Edit on GitHub

NET Java Node.js PHP Python Ruby

In this article:

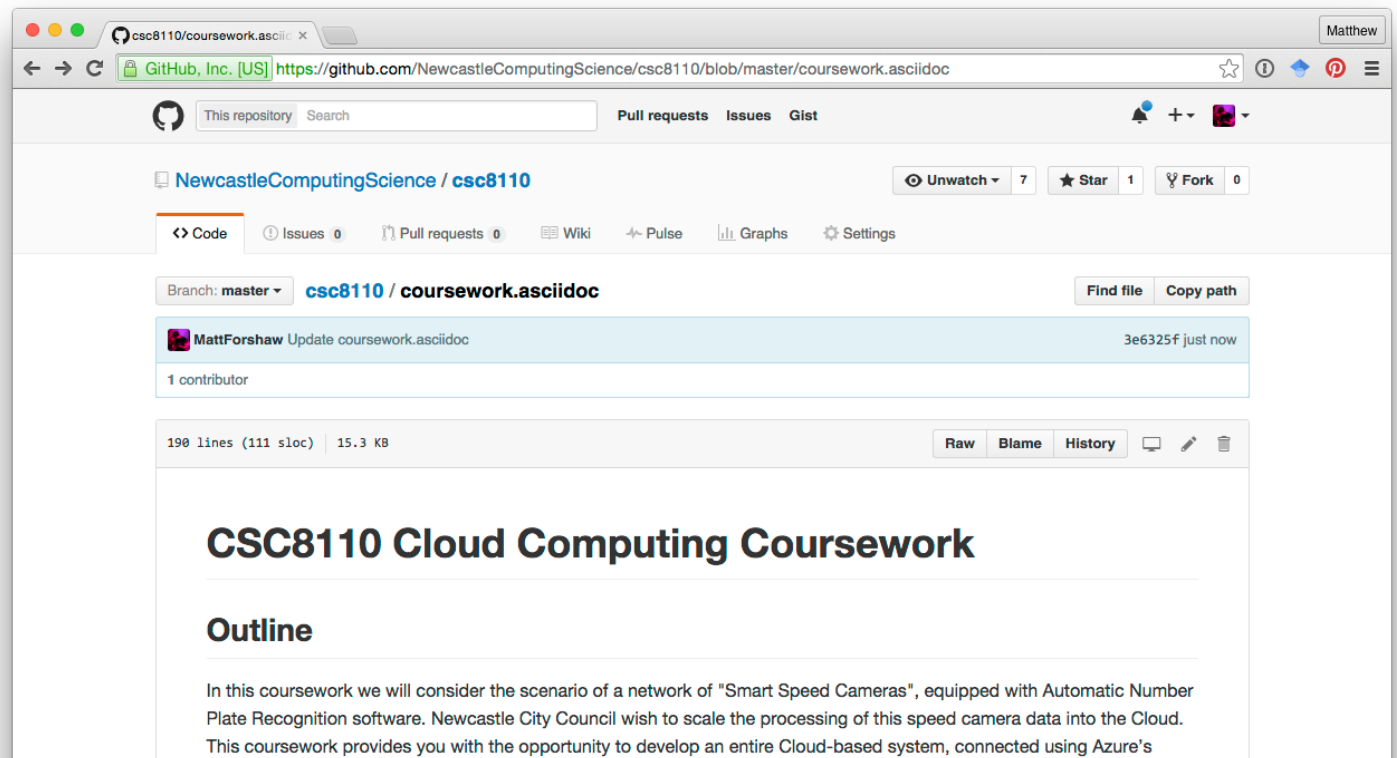
- [What are Service Bus Topics and Subscriptions?](#)
- [Create a service namespace](#)
- [Obtain the default management credentials for the namespace](#)
- [Configure your application to use Service Bus](#)
- [Create a topic](#)
- [Create subscriptions](#)
- [Send messages to a topic](#)

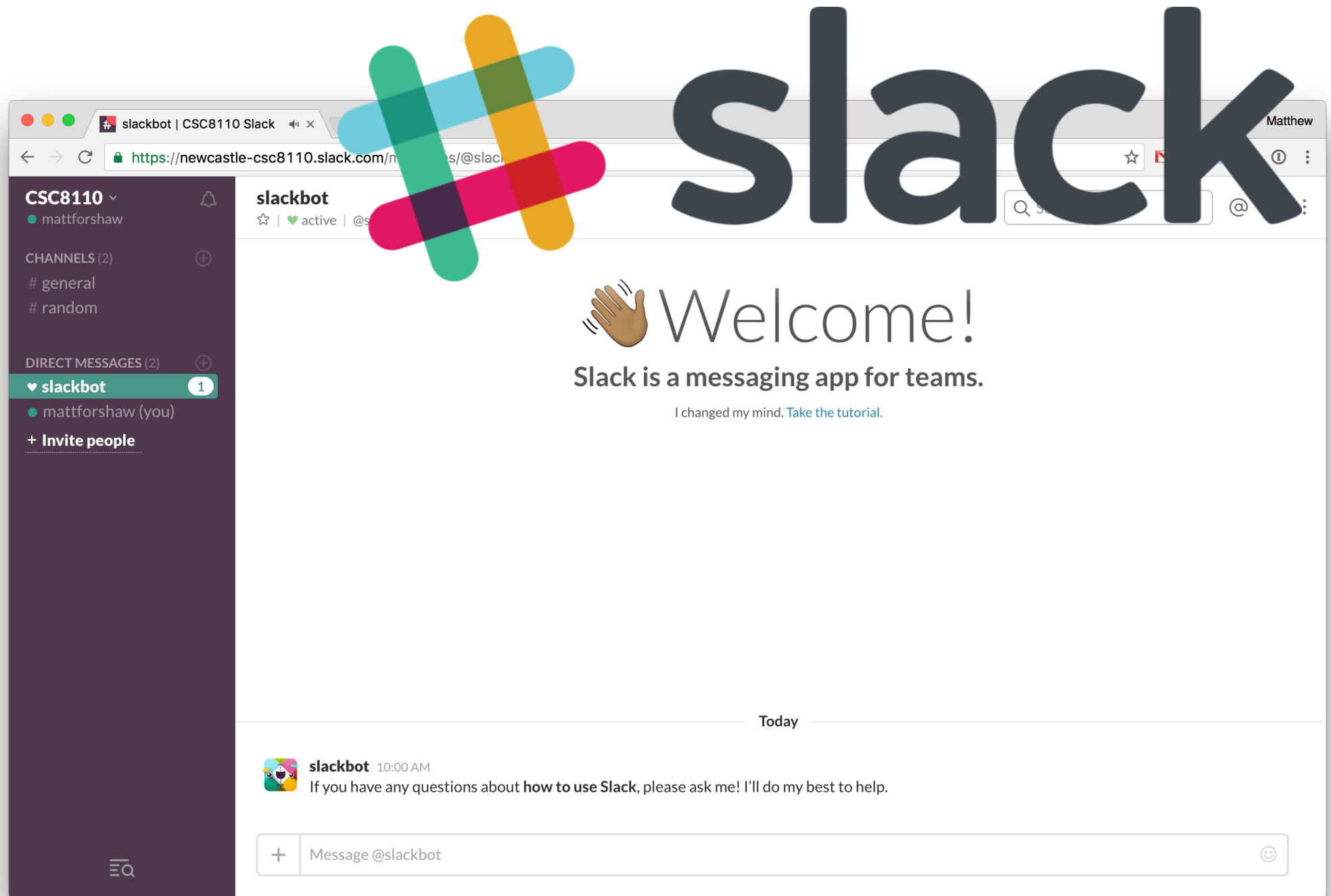
Service Bus

- Overview
 - Service Bus learning path
 - Service Bus Premium messaging
 - Service Bus fundamentals
 - Core brokered messaging capabilities
 - Service Bus architecture
 - Learn about Service Bus messaging
 - Learn about Service Bus relays
- Getting started
- When do I use Service Bus?
- Develop
- Running the samples
- Manage
- Reference

Coursework Materials

- All course materials are stored in a Github repository
 - <http://github.com/NewcastleComputingScience/csc8110>
- Check back regularly for additional content.
 - Frequently Asked Questions (FAQs)
 - Additional Resources





<https://newcastle-csc8110.slack.com/>

Practical Timetable

- Thursday 1st December, 4-5pm: Introduce coursework assignment / Practical
- Monday 5th December, 9-10am: Practical (Lecture 10-11am)
- Tuesday 6th December, 9-11am: Practical
- Tuesday 13th December, 9-11am: Practical * *(We may repurpose this slot as a lecture, but we will give you advanced notice if this is the case)*
- Wednesday 14th December, 9-11am: Practical
- Thursday 15th December, 9-11am: Practical
- Thursday 15th December, 4-6pm: Student Code Demonstrations/Chat
- Demonstrators: Matt Forshaw, Peter Michalák, Saleh Mohamed, Hugo Firth, Sami Alajrami, Yinhao (Frank) Li

Rooms?



Deadlines

- Completed assignments including all source code and your written report must be submitted electronically through NESS.
 - Thursday 15th December 2016 at 4:00pm
- Demonstrate your solution (compulsory)...
 - Thursday 15th December 2016 4:00pm-6:00pm
- This assignment is worth **30%** of your final mark for this module.

Any questions?
matthew.forshaw@ncl.ac.uk