COSC 417 Project. Status Report I

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March 6, 2018

Project Report: 417 Final Project - COSC 417 Team

Project Start Date: Mar 05 2018 **End Date**: Apr 09 2018

Completed Upcoming (next 7 days) Today Late

Milestones and associated tasks

Milestone	Description	Date Due	Responsible	Status	Days Late	Date Completed
Demo of Project	Project Status: You are required to present a demo of your project. This is not expected to be a completed model, just to show what you have to date.	12 Mar (2018)	Richard B., Martin W., Daniel M.	Upcoming (within 7 days)		

Milestone	Description	Date Due	Responsible	Status	Days Late	Date Completed
Final Presentation 1	This presentation entails an overview of the following: - Project Desription - Used Case Scenario - Benefit(s) that can be gained by your project - Technical documentation, and References Presentation Duration 30 min - 45 min	02 Apr (2018)	Richard B., Martin W., Daniel M.	Upcoming		

Milestone	Description	Date Due	Responsible	Status	Days Late	Date Completed
Final Presentation 2	This section allows for each group to present their developed prototype. Presentation duration 45min - 1hr	09 Apr (2018)	Richard B., Martin W., Daniel M.	Upcoming		

Tasks not associated with a milestone

General tasks (Tasklist)

Task	Description	Start Date	Date Due	Assigned To	Date Created	Priority	Progress	Status	Est.	Time	Billable
Standup / Status Report		06 Mar (2018)	06 Mar (2018)	Richard B., Martin W., Daniel M.	05 Mar (2018)		0%	Not started	None	None	None
Meeting/Discussion		12 Mar (2018)	12 Mar (2018)	Richard B., Martin W., Daniel M.	06 Mar (2018)		0%	Not started	None	None	None

Meeting/Discussion	05 Mar (2018)	05 Mar (2018)	Richard B., Martin W., Daniel M.	05 Mar (2018)	100%	Completed 06 Mar (2018)	None	3 hrs	None
							None	**3 hrs**	**None**

Decide on System Architecture (Tasklist)

Task	Description	Start Date	Date Due	Assigned To	Date Created	Priority	Progress	Status	Est.	Time	Billable
Add diagrams		05 Mar (2018)	11 Mar (2018)	Anybody	05 Mar (2018)		0%	Not started	None	None	None
Research High Availability Solutions		05 Mar (2018)	12 Mar (2018)	Anybody	05 Mar (2018)		0%	Started	None	2 hrs 30 mins	None
Research Disaster Recovery Solutions		05 Mar (2018)	12 Mar (2018)	Anybody	05 Mar (2018)		0%	Not started	None	None	None
									None	**2 hrs 30 mins**	**None**

Administration (Tasklist)

Task	Description	Start Date	Date Due	Assigned To	Date Created	Priority	Progress	Status	Est.	Time	Billable
Setup Azure		05 Mar (2018)	05 Mar (2018)	Richard B.	05 Mar (2018)		100%	Completed 05 Mar (2018)	None	50 mins	None
- Invite teammates		05 Mar (2018)	05 Mar (2018)	Richard B.	05 Mar (2018)		100%	Completed 05 Mar (2018)	None	None	None
- Confirm teammate setup		05 Mar (2018)	05 Mar (2018)	Richard B.	05 Mar (2018)		100%	Completed 05 Mar (2018)	None	None	None
Finish setting up teamwork.		05 Mar (2018)	06 Mar (2018)	Martin W.	05 Mar (2018)		100%	Completed 06 Mar (2018)	None	None	None
- Add tasks		05 Mar (2018)	05 Mar (2018)	Martin W.	05 Mar (2018)		100%	Completed 05 Mar (2018)	None	16 mins	None
- Invite teammates		05 Mar (2018)	06 Mar (2018)	Martin W.	05 Mar (2018)		100%	Completed 05 Mar (2018)	None	45 mins	None
- Add milestones		05 Mar (2018)	06 Mar (2018)	Martin W.	05 Mar (2018)		100%	Completed 05 Mar (2018)	None	15 mins	None
									None	**2 hrs 6 mins**	**None**

Build (Tasklist)

Task	Description	Start Date	Date Due	Assigned To	Date Created	Priority	Progress	Status	Est.	Time	Billable

Build Simple Web Application	05 Mar (2018)	12 Mar (2018)	Anybody	05 Mar (2018)	0%	Not started	None	None	None
Implement Disaster Recovery Solution	05 Mar (2018)	12 Mar (2018)	Anybody	05 Mar (2018)	0%	Not started	None	None	None
							None	**None**	**None**

Generated for Martin Wallace at 13:08 03/06/2018

SQL Server deployments

Many workloads use SQL Server as a foundation, and it can be integrated with apps such as SharePoint, Dynamics, and SAP, to implement data services. SQL Server can be deployed in a number of ways:

- **Standalone SQL Server**: SQL Server and all databases are hosted on a single machine (physical or a virtual). When virtualized, host clustering is used for local high availability. Guest-level high availability isn't implemented.
- **SQL Server Failover Clustering Instances (Always On FCI)**: Two or more nodes running SQL Server instanced with shared disks are configured in a Windows Failover cluster. If a node is down, the cluster can fail SQL Server over to another instance. This setup is typically used to implement high availability at a primary site. This deployment doesn't protect against failure or outage in the shared storage layer. A shared disk can be implemented using iSCSI, fiber channel or shared vhdx.
- **SQL Always On Availability Groups**: Two or more nodes are set up in a shared nothing cluster, with SQL Server databases configured in an availability group, with synchronous replication and automatic failover.

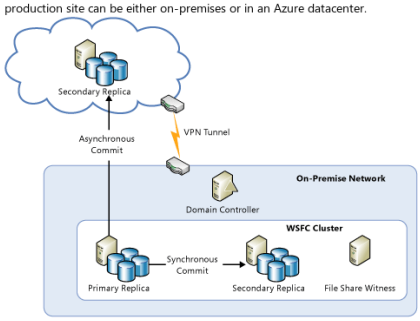
  This article leverages the following native SQL disaster recovery technologies for recovering databases to a remote site:

- SQL Always On Availability Groups, to provide for disaster recovery for SQL Server 2012 or 2014 Enterprise editions.
- SQL database mirroring in high safety mode, for SQL Server Standard edition (any version), or for SQL Server 2008 R2.

Figure 1: Possible high availability solutions

Availability Groups

Some availability replicas running in Azure VMs and other replicas running on-premises for cross-site disaster recovery. The production site can be either on-premises or in an Azure datacenter.



Because all availability replicas must be in the same failover cluster, the cluster must span both networks (a multi-subnet failover cluster). This configuration requires a VPN connection between Azure and the on-premises network.

For successful disaster recovery of your databases, you should also install a replica domain controller at the disaster recovery site.

It is possible to use the Add Replica Wizard in SSMS to add an Azure replica to an existing Always On Availability Group. For more information, see Tutorial: Extend your Always On Availability Group to Azure.

Figure 2: A diagram of one of our possible architectures