

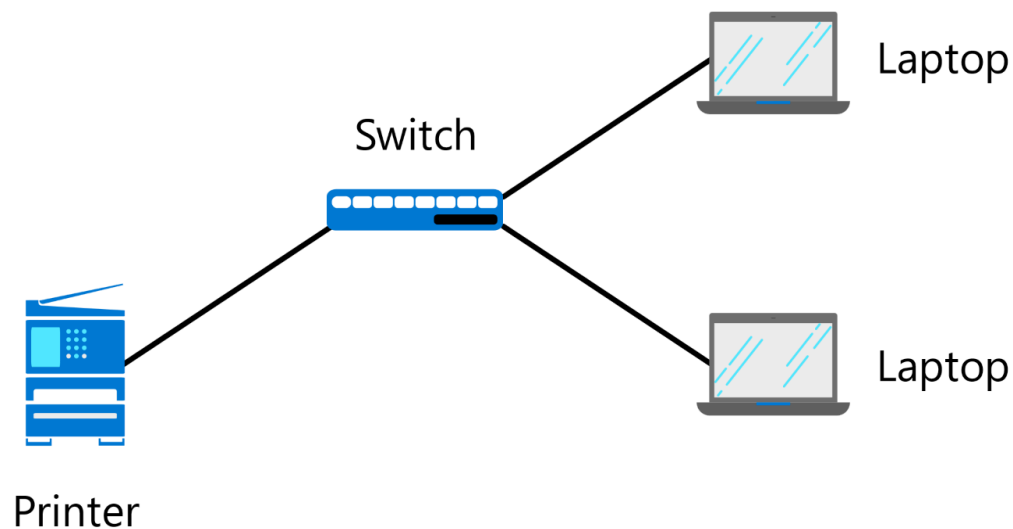
Final course project: Digital transformation

Introduction

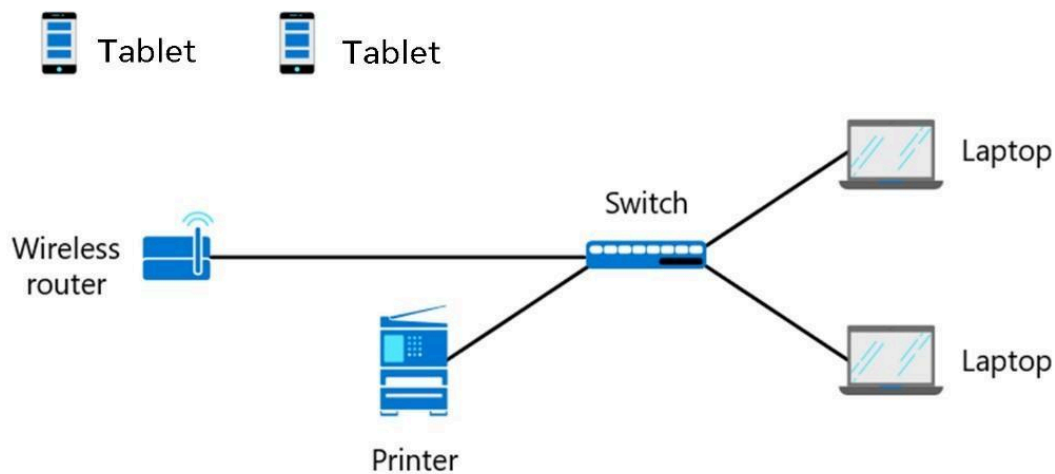
As you progressed on your learning journey in networking and cloud computing, you learned about various network technologies. You also learned that many of these technologies are available as cloud services these days, enabling businesses to expand faster. This is because they don't need to build and purchase their own data centers, not to mention the maintenance and security responsibilities that come with it.

You are now required to create a digital transformation expansion plan for Sam's Scoops using the knowledge you have gained on networks and cloud computing throughout this course. Let's take a moment and think back to where your interactions with Sam's Scoops started.

During this course, you joined Sam in exploring network architectures, devices, and security considerations for her business. In week one, you helped them set up their first network, connecting two computers and a printer via a switch, as depicted in the physical topology diagram below.



And in the second week, you helped them expand this network by adding a Wi-Fi router and two tablets. The physical topology diagram below demonstrates how these tablets can wirelessly connect to the rest of the network.



You then gained some practical experience with setting up a virtual network in week three. This exercise challenged you to plan a more extensive network with more components than Sam's Scoop's network, which allowed three in-house departments and a remote team to connect securely to a network.

Later, in week four, you completed an exercise exploring how cloud transformation can help Sam's Scoops overcome its IT infrastructure limitations and expand its reach by selling ice cream online. Throughout the course, you considered various network technologies that might help Sam's Scoops improve and extend its network. You discovered the threats and opportunities of connecting the network with the internet. And you examined the options of on-premise and public cloud providers. Recall that for Sam's Scoops, a combination network solution including some local on-premise resources as well as the public cloud will likely serve them best. Sam learned that SaaS has lots to offer a fast-growing business and realized that adopting these services is far easier than trying to build their own.

All of these considerations and scenarios prepared you to complete this final course project.

Case study

So far, Sam's Scoop's local area network has a WI-FI router with two connected company tablets that can connect to the network. Although you did not do this in an exercise, their network is now also connected to the internet. This enables staff to do online training. However, many aspects of the business are still manual, which makes it challenging to keep up with demand.

Sam needs to modernize the business and asks you to create an expansion plan to digitize different aspects of the business by taking advantage of cloud technology.

Take note: While digitizing the business, the security of the network and minimizing the risk of a cybersecurity attack should be your primary focus.

The business functions that need to be digitized using SaaS are:

- **Electronic point of sale** – At the moment, taking cash and using notepads or tablets to write orders down is a slow process. Accepting card payments and digitizing the ordering process is a must.
- **Accounting** – Sam still uses spreadsheets on the computer and needs to automate the whole process.
- **Supplier communication** – They would like to meet with the shop suppliers through an interface that supports video and chat capabilities.
- **Website** - Sam needs to promote the business through a website and maybe with e-commerce functionalities in the future.

Sam is also open to any other recommendations and ideas that you might have that could help the business.

After making your recommendations, you will complete a network diagram. Your new updated network diagram for Sam's Scoops should show how all existing and new suggested additions interconnect. Remember that this is still a small business with only a few employees, so any solutions should be easy to set up and use.

Instructions

Step 1: Search and find SaaS solutions that will help digitize the business

Based on what you learned in the reading [SaaS in action](#), consider the business functions that Sam has identified and search the internet for solutions that could help digitize the processes involved in those functions. List your suggestions in the table below. The first business function has been completed as an example.

Business function	Solution name and link	Additional equipment needed?	List 3 features	How is the solution accessed?
Electronic point of sale	Square: https://squareup.com/gb/en/point-of-sale	Wi-Fi card reader	Card payments Payment protection Checkout	Website and app

Step 2: Explore and advise Sam on an Azure solution(s)

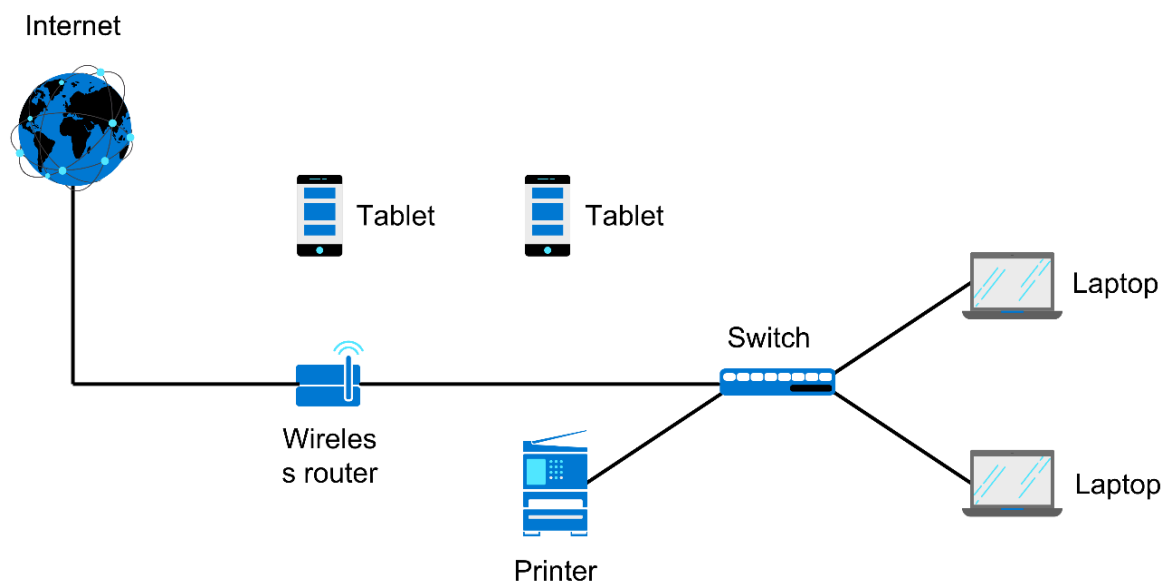
Think about how Microsoft Azure's cloud technology can help this small ice cream business. Revisiting the first lesson in week 4 will help you perform this task. Suggest which Azure service(s) can help the business and explain why by listing its key benefits.

Step 3: Suggest a security device(s)

With the suggestion of digitizing more of Sam's business processes, more business and customer data will flow across the network. What additional device or devices would you add to their network to protect it and why?

Step 4: Produce a network diagram to present to Sam

Since you created a network diagram for Sam's Scoops in week 2, they have also acquired an internet connection, as indicated in the diagram below. Use this diagram as your starting point.



Now it's time to add all your suggestions to the network diagram, extending it to incorporate the additional cloud services and any extra devices you have suggested in steps 1 to 3. Refer back to previous exercises – particularly the Virtual network simulation exercise for a reminder of how to build a more extensive network.

Tip: A cloud icon such as the one below is a great way to represent any cloud services in your diagram.



Conclusion

Completing this final course project allows you to apply concepts you've learned over the weeks of taking this Networking and Cloud Computing course. By suggesting solutions that would help a small business digitize its processes, you will demonstrate your understanding of how cloud technology can help a small business expand. And by adding these solutions to the physical network diagram, you will demonstrate your knowledge of digital transformation.