

# The Internet of Things Workshop

## Setting Up an IP-Based Surveillance System Using Virtual Networking

### Part I – Setup a Surveillance Server

- A. On the topology page, click on the **SurveilMgr-Pod#** (which is a Windows Server 2012). On the menu bar, click on **PC** then click on **Send CTL-ALT-DEL**. When asked to login you will login as **Administrator** with the password of **Password1**
  
- B. On the desktop you will see the **Synology Assistant** icon. Double-click on it.
  1. On the window, you should see a listing for the **XPeNVR-Pod#** server. Double-click on it.
  2. On the login screen, enter the following:  
User Name: **Administrator**  
Password: **Password1**
  
- C. Setup the Storage Environment
  1. In the upper left corner of the web page, you will see an icon that says **Main Menu** when you hover over it. Click on it.
  2. Click on the **Storage Manager** icon on the window
  3. On the **Storage Manager** window, look to the left and you will see a list of menu items. Click on the one that says **HDD/SSD**. Confirm that there is disk listed and the status is Initialized
  4. Click the **Volume** menu option
  5. On the right-side pane, you'll see a **Create** button ... click it
  6. You will be presented with a **Volume Creation Wizard**
    - a. Make sure the **Quick** radio button is selected, and then click **Next**
    - b. Confirm that **Disk1** is checked and click **Next**
    - c. When presented with the Warning window, click **OK**
    - d. On the **Perform Disk Check** window, select the **No** radio button then click **Next**
    - e. The last window in the wizard is the **Confirm Settings**. Click **Apply**
    - f. The volume will be created (it should only take a couple of minutes)
    - g. Click the **"X"** in the upper right corner of the **Storage Manager** window
  7. On the Desktop, find the **Packages** icon and click on it
  8. You will see a window popup for the **Package Center** that asks you to agree to the Terms of Service. Click the box next to "I have read ..." and then click **OK**
  9. If there are no packages shown on the page, you will need to modify some network settings:
    - a. Close the **Package Manager** window by clicking the **"X"** in the upper right corner
    - b. Click on the **Control Panel** icon
    - c. Click on the **Network** icon (2nd row, right side)
    - d. Make sure the **Manually Configure DNS Server** is checked
    - e. In the **Preferred DNS Server** box, type in **8.8.8.8** (this is Google's DNS server, easy to remember)
    - f. Go to the bottom of the window and click **Apply**
    - g. Close the **Control Panel** window by clicking the **"X"** in the upper right corner

- h. Now, click on the **Packages** icon to open **Package Manager**, and you should see a list of packages
10. On the left side menu, look for **Security** and click the icon
11. You should see **Surveillance Station** listed
12. Click the **Install** button
13. This will download and install the software.
14. You might get a popup window stating "The NTP service has been automatically enabled ...", if so, then click the **OK** button
15. Click the **"X"** in the upper right corner of the **Package Center** window
16. In the upper left corner of the web page, you will see an icon that says **Main Menu** when you hover over it. Click on it.
17. On the bottom row, there will be a new icon that says **Surveillance System**. Click on it.
18. The first thing that needs to be done is to setup the IP Camera:
  - a. Find the **IP Camera** icon on the window and click on it
  - b. An information box will pop up asking you to add the first camera (there is also an **Add** button on the top-left of the window. Click the **ADD** link in the information box.
  - c. The **Add Camera Wizard** will now pop up with two options, **Quick Setup** and **Complete Setup**. Make sure the **Quick Setup** radio button is selected and then click **Next**
  - d. The next page is the **Information** page. Enter the following:
    - e. For the **Name**, put in your **<First name>-Camera#** (where the # is your Pod number)
    - f. For the **IP Address** enter **172.16.17.x** (where x is the host address of your camera, which will be given to you)
    - g. Leave the **Port** at **80**
    - h. For the **Brand**, type in **D-Link**
    - i. For the **Camera Model** type in **DCS-2210**
    - j. At the bottom of the window, there should be a **Test Connection** button. Click it.
    - k. If you see a green checkmark you're connected and you should see a small image to the right.
    - l. Click **Finish**
    - m. Close the IP Camera window by clicking the **"X"** in the upper right corner
19. Now to watch the video feed, just click on the **Live View** icon.
20. When you're done, close the Live View windows by clicking the **"X"** in the upper right hand corner.
21. Close the browser and the Synology Assistant windows

## Part II – Setup A Software-Based Surveillance System

- A. The **iSpy** software has already been installed, but has not been configured for any cameras.
  
- B. Configure **iSpy** Surveillance
  1. Double-click the **iSpy (64-bit)** icon on the desktop
  2. On the menu ribbon, look for the **Add** button (left side of the ribbon) and click it
  3. On the pull-down menu, click on **IP Camera With Wizard**
  4. When the **Connect to IP Cameras** window opens, do the following:
    - a. Make sure the **Listed** radio button is selected and for the **Make**, type **D-Link: DCS-2210**. As you type, the list will be shortened. Once you see the camera listed, click on it to select it
    - b. Click **Next**
    - c. On the next screen, enter **admin** for the **Username** and leave the password blank
    - d. Click **Next**
    - e. On the next screen, you'll select the camera by its IP address. Click **Scan Local Network**
    - f. After a couple of minutes, you'll see a list of devices by IP Address. Select the camera's IP that was given to you (**172.16.17.x**) by clicking on it.
    - g. Click **Next**
    - h. A small window will open asking:  
**Confirm (Do you want to check which of these URLs are valid?).**  
Click on the **No** button.
    - i. Look at the list and find:  
**D-Link DCS-2210: JPEG http://admin@172.16.17.x:80/image/jpeg.cgi**  
And click the radio button next to it
    - j. Click **Next**
  5. Another window will open called **Edit Camera**
  6. This is the screen that can be used to make all kinds of neat adjustments to the camera, such as set for motion detection, recording options, pan/tilt/zoom (if supported), etc. We won't do that in this lab, so just click on the **FINISH** button at the bottom of the window.
  7. If you get a window popup saying "**Directory Exists. Delete Existing Contents**", click on **YES**
  8. Close the **iSpy** application window
  9. Shut down the Surveillance Server