***Installation manual***

***Vacation Park Fonteyn***

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**Setting up the Infrastructure**

# **Creating virtual machines:**

1. Launch Hyper-V Manager.
2. Go to the Action menu and select "New," then choose "Virtual Machine."
3. In the New Virtual Machine Wizard, click "Next."
4. Customize your virtual machine settings according to your requirements on each page. For specific configuration details, refer to the virtual machine table.
5. After reviewing your choices on the Summary page, click "Finish."
6. In Hyper-V Manager, right-click on the virtual machine and choose "Connect."
7. Within the Virtual Machine Connection window, select "Action" and then click "Start" to establish a connection to the virtual machine.

# **Creating virtual switches**

1. Launch Hyper-V Manager.
2. Click on the "Actions" tab, and then select "Virtual Switch Manager."
3. Choose the type of virtual switch you need, and click "Create Virtual Switch."
   1. Provide a name for the virtual switch, and follow one of the following steps:
   2. Select "External" and name it "WAN" (Note that you can create only one external switch in this case), then click "OK."
   3. You'll receive a warning that this change may disrupt your network connectivity; choose "Yes" if you are comfortable proceeding.
   4. Select "Internal" and name it "LAN," then click "OK."
4. Right-click on the specific virtual machine and access its settings.
5. Click on the network adapter settings.
6. For all server-based virtual machines, select the "LAN" virtual switch. For the pfsense virtual machine, choose both "WAN" and "LAN" switches. More details can be found in the pfsense installation guide.

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# **Installing Roles for vm**

1. After creating the desired virtual machine, connect to the specific virtual machine you wish to work with.
2. Open Server Manager.
3. From the Manager menu, select "Add Roles and Features."
4. On the "Select installation type" page, choose "Role-based or feature-based installation" to install all necessary components for the role or feature on a single server. Click "Next."
5. On the "Select destination server" page, select a server from the server pool.
6. Choose the appropriate roles and role services if required, then click "Next" to select features.
7. On the "Confirm installation selections" page, review your selections for roles, features, and server. If you are ready to proceed, click "Install."
8. After clicking "Install," the "Installation Progress" page will show the installation progress, results, and any messages, including warnings, failures, or post-installation configuration steps needed for the roles or features you installed.
9. To access more details about installations or other tasks, click on the Notifications flag icon in Server Manager.

# **Installing the Operating System for Virtual Machines (Windows):**

1. Download the desired Windows Server version from the Microsoft Evaluation Center.
2. Download the 64-bit edition in your preferred language.
3. In Hyper-V Manager, right-click on your PC or server name in the left pane, and select "Quick Create" from the menu.
4. In the "Create a Virtual Machine" dialog, choose "Local installation source" to install Windows Server 2019 using your own media.
5. Click "Change installation source" on the right, locate your .iso file, ensure it's selected in the Open dialog, and then click "Open."
6. Click "More options" in the bottom right of the "Create Virtual Machine" dialog. In the Name box on the left, provide a name for your new virtual machine.

# **Installing a Domain Controller (AD and DNS Server):**

1. Follow the previous instructions for installing roles, selecting "Active Directory Domain Services."
2. After completing the installation, click on the orange triangle in Windows Server Manager and complete the configuration.
3. If you are setting up a new forest, choose "Add a new forest" and then enter the name of the root domain, for example, "corp.coorposo.com."

# **Installing PfSense and configuring**

For detailed instructions on installing pfSense in Hyper-V and its configuration, please refer to this online manual: [pfSense Installation Guide](https://www.informaticar.net/how-to-install-and-configure-pfsense-on-hyper-v/).

# **Installing DHCP and Configuring IP Address Scopes:**

# Follow the tutorial for installing roles and select "Dynamic Host Configuration Protocol (DHCP)."

# Customize your DHCP configuration using the scope and VLAN instructions to create multiple IP ranges for your customers.

# To create a new scope, follow these steps:

# Click "Start," go to "Programs," access "Administrative Tools," and click on "DHCP."

# In the console tree, right-click the DHCP server where you want to create the new DHCP scope and select "New Scope."

# In the New Scope Wizard, click "Next," and provide a name and description for the scope. This name should be descriptive enough to identify its purpose.

# Define the range of IP addresses to be leased in the scope.

# Specify any IP addresses to be excluded from the range.

# Set the lease duration.

# Configure the default gateway IP address.

# If you are using DNS or WINS servers, provide their details.

# Activate the scope.

# Authorize the scope in the DHCP server settings by clicking "Authorize" on the Action menu under the server name in the console tree.

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To install DHCP follow the above tutorial on how to install roles and choose Dynamic Host Configuration Protocol (note using the scope and Vlan instruction you can make more ip ranges for your customers.)

How to create a new scope

1. Click Start, point to Programs, point to Administrative Tools, and then click DHCP.
2. In the console tree, right-click the DHCP server on which you want to create the new DHCP scope, and then click New Scope.
3. In the New Scope Wizard, click Next, and then type a name and description for the scope. The name can be anyone that you want, but it should be descriptive enough so that you can identify the purpose of the scope on your network (for example, you can use a name such as "Administration Building Client Addresses"). Click Next.
4. Type the range of addresses that can be leased as part of this scope. For example, use a range of IP addresses from a starting IP address of 192.168.100.1 to an ending address of 192.168.100.100. Because these addresses are given to clients, they must all be valid addresses for your network and not currently in use. If you want to use a different subnet mask, type the new subnet mask. Click Next.
5. Type any IP addresses that you want to exclude from the range that you entered. These addresses include any one in the range described in step 4 that may have already been statically assigned to various computers in your organization. Typically, domain controllers, Web servers, DHCP servers, Domain Name System (DNS) servers, and other servers, have statically assigned IP addresses. Click Next.
6. Type the number of days, hours, and minutes before an IP address lease from this scope expires. It determines how long a client can hold a leased address without renewing it. Click Next, and then click Yes, I want to configure these options now to extend the wizard to include settings for the most common DHCP options. Click Next.
7. Type the IP address for the default gateway that should be used by clients that obtain an IP address from this scope. Click Add to add the default gateway address in the list, and then click Next.
8. If you are using DNS servers on your network, type your organization's domain name in the Parent domain box. Type the name of your DNS server, and then click Resolve to make sure that your DHCP server can contact the DNS server and determine its address. Click Add to include that server in the list of DNS servers that are assigned to the DHCP clients. Click Next, and then follow the same steps. If you are using a Windows Internet Naming Service (WINS) server, by adding its name and IP address, click Next.
9. Click Yes, I want to activate this scope now to activate the scope and allow clients to obtain leases from it, and then click Next.
10. Click Finish.
11. In the console tree, click the server name, and then click Authorize on the Action menu

**Website manual**

# **Website pages:**

1. index.html - Main page
2. reservation.html - Page, where users can book a room. If you want to access it, you need to press one of two “Book now” buttons.
3. checkout.html - Prints the data that the user entered to the reservation page. You can access it after pressing “Make checkout” button.
4. login.html - Page, where user can login to his account, using his email and password, that was sent on the email. You can access it from main page by pressing “Log in” button.
5. dashboard.html - You can get this page, if the user entered correct login details on the login page. He can see his current state of reservation

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# **Website features:**

1. Have a well structured booking system with proper database.
2. We have login system which includes registration after making a reservation and possibility to check user`s booking information
3. After making reservation, login system sends a password to the user`s email, which highly improves security and keeps the whole process simple
4. Has JavaScript which was made in start to make smooth scrolling by pressing the button up and in the end helps with recording and sending the data through the website.

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# **Website drawbacks:**

1. For now, user can not put the same email for more than one booking
2. You can book a room in date which was in past or which will be too long to wait