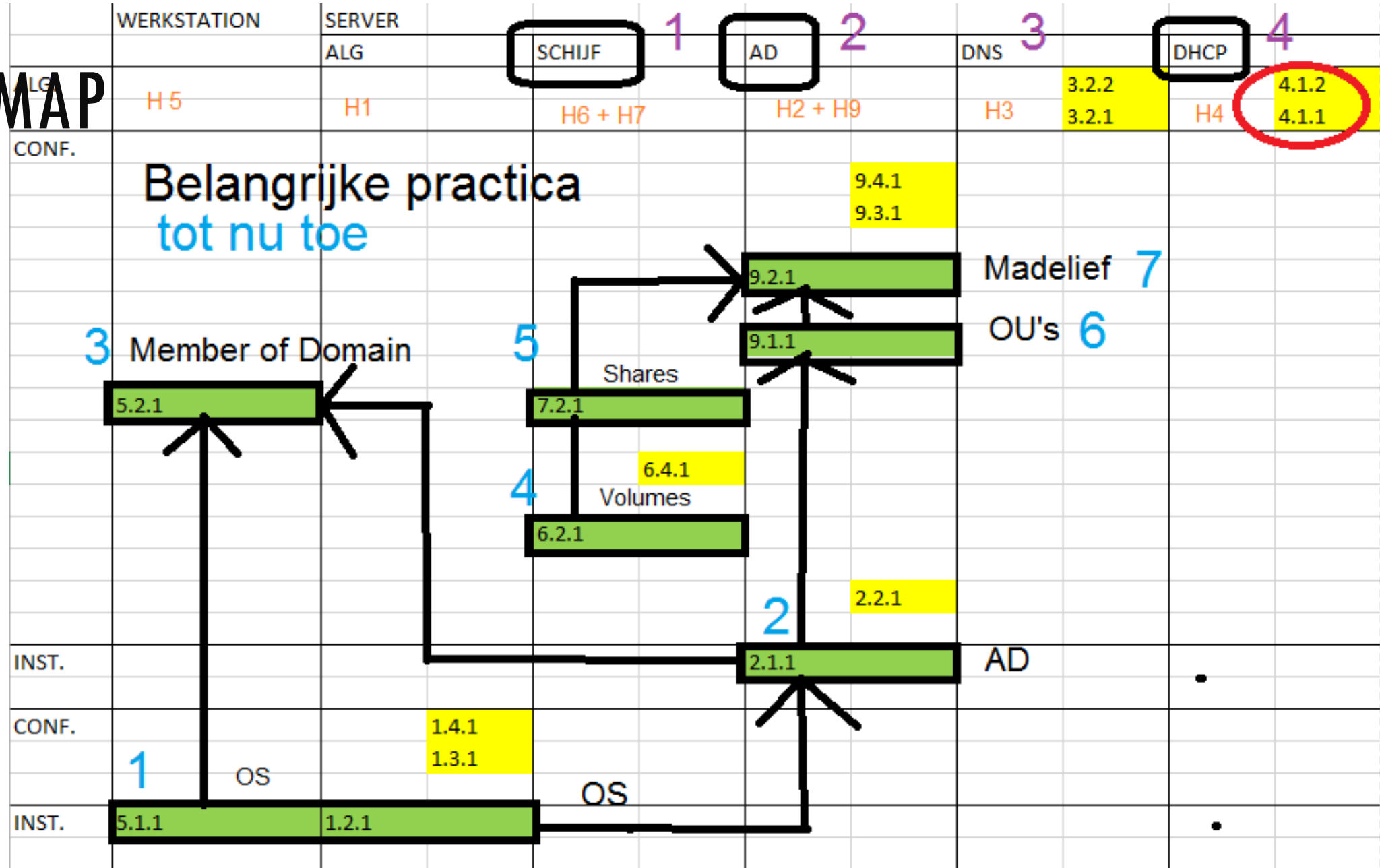


Figure 1. DHCP Servers assign computers IP addresses from a user-specified range

# DYNAMIC HOST CONFIGURATION PROTOCOL (DHCP) – DEEL 1

HW Hilgersom

# ROADMAP



# DYNAMIC HOST CONFIGURATION PROTOCOL

## 5 maart - 11 maart

Week 10 - Lesweek 3.3

In deze les(sen):

- Dynamic Host Configuration Protocol

Voor deze les(sen) heb je nodig:

- DEEL 1 - paragraaf 4.0 en 4.1



[Wikiwijs - 4 - DHCP](#)

Gedetailleerde uitwerking van de opdracht(en):

- Practicum 4.1.1 - DHCP installeren, p. 165-179
- Practicum 4.1.2 - Tweede DHCP-server, p. 179

# PAS OP MET DHCP

P. 3



# DYNAMIC HOST CONFIGURATION PROTOCOL

Statische IPv4-adressen, p. 162-163

Dynamische IPv4-adressen, p. 163

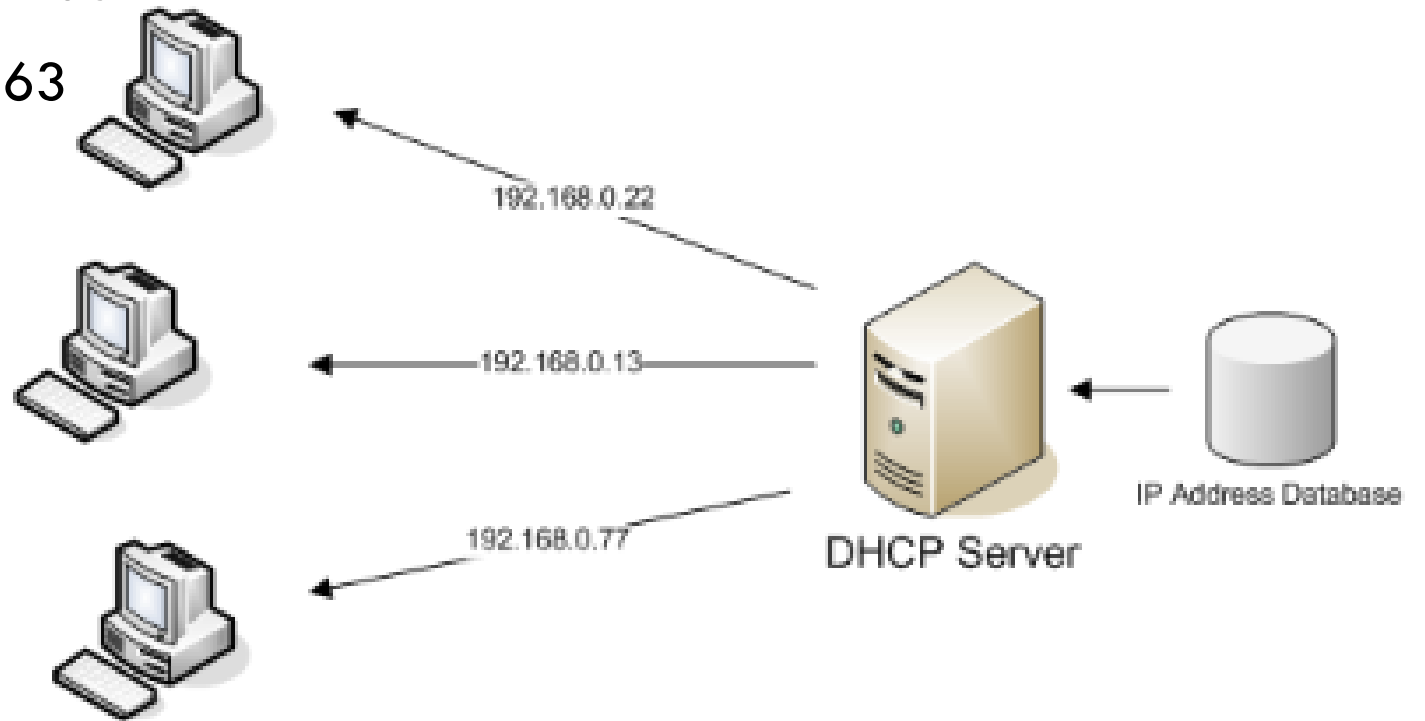
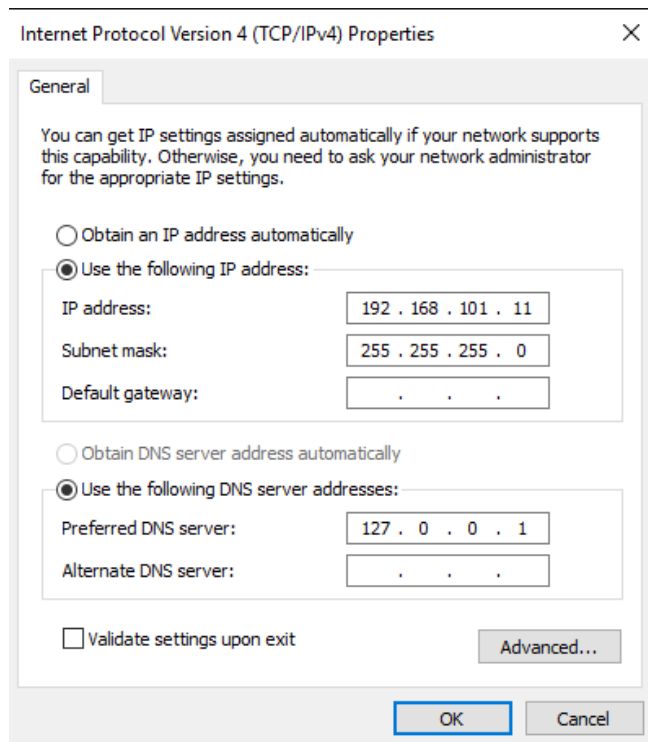
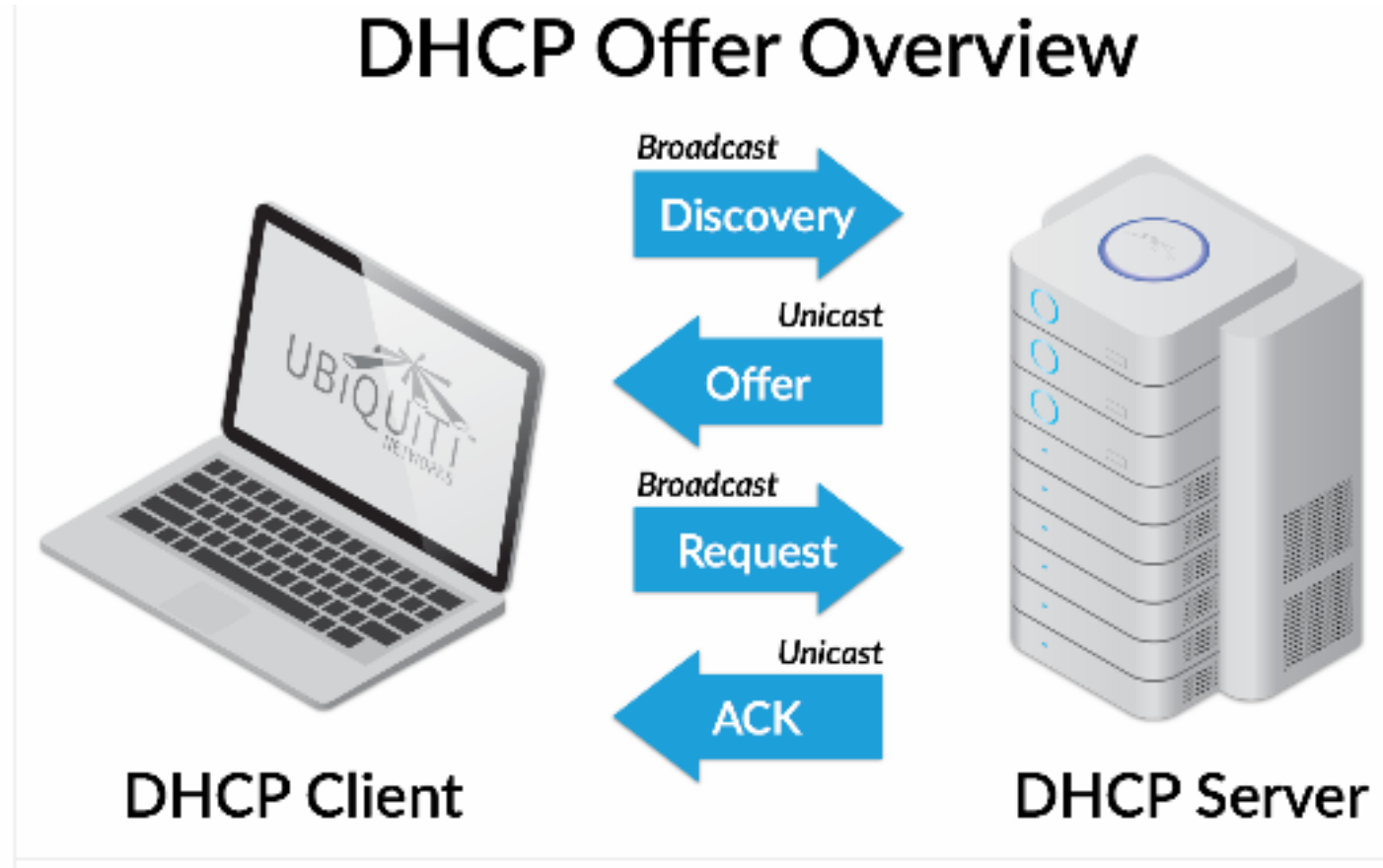


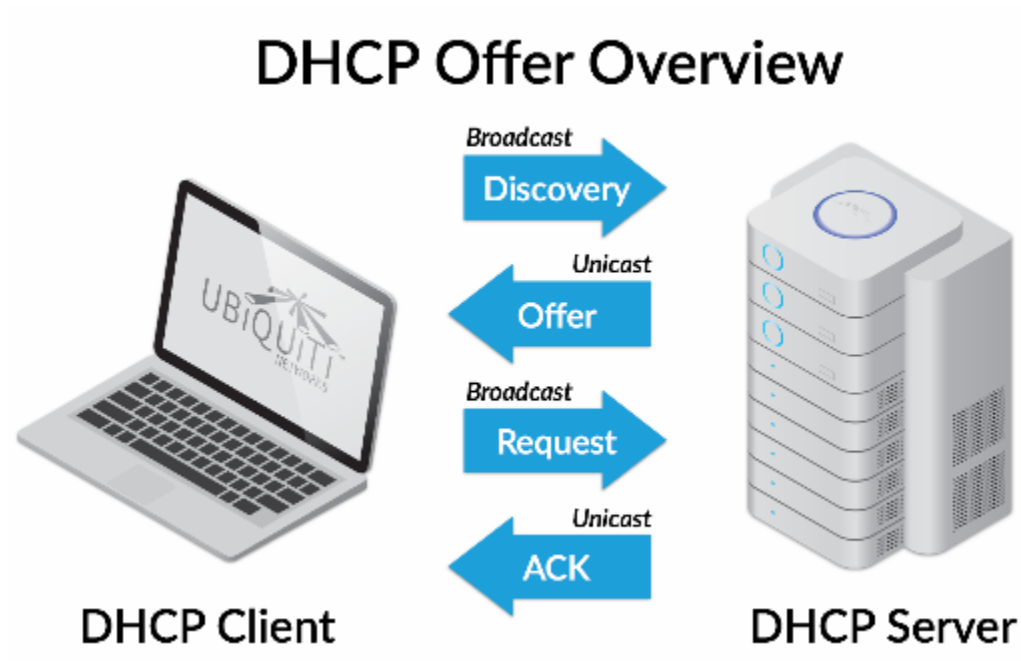
Figure 1. DHCP Servers assign computers IP addresses from a user-specified range

# DYNAMIC HOST CONFIGURATION PROTOCOL

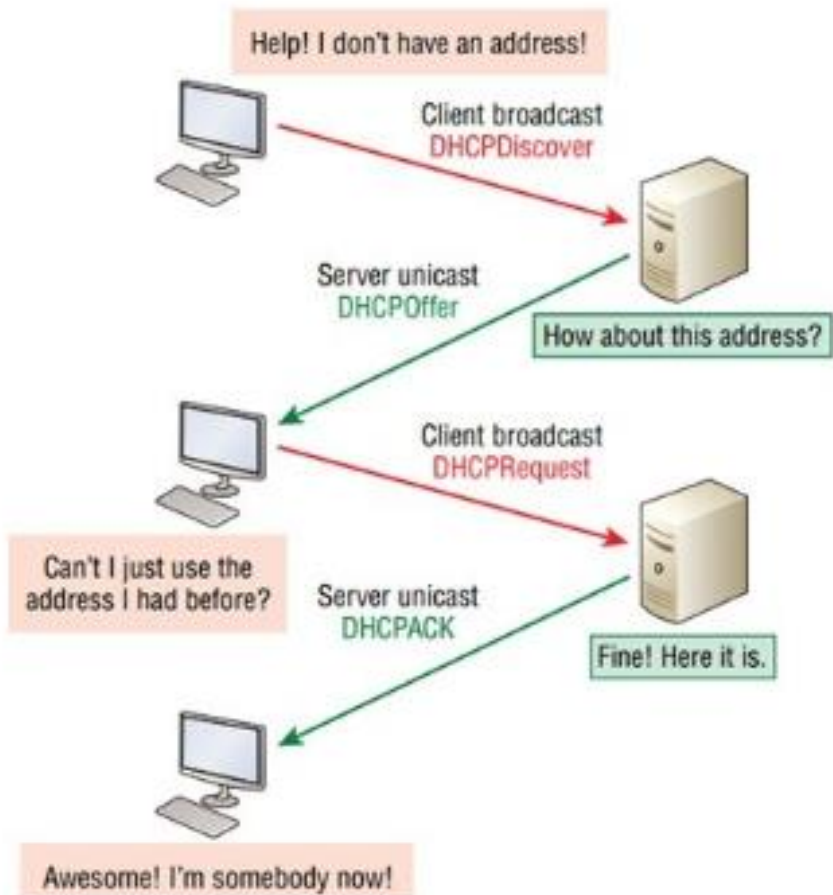
P. 163-164



# DE WERKING VAN DHCP



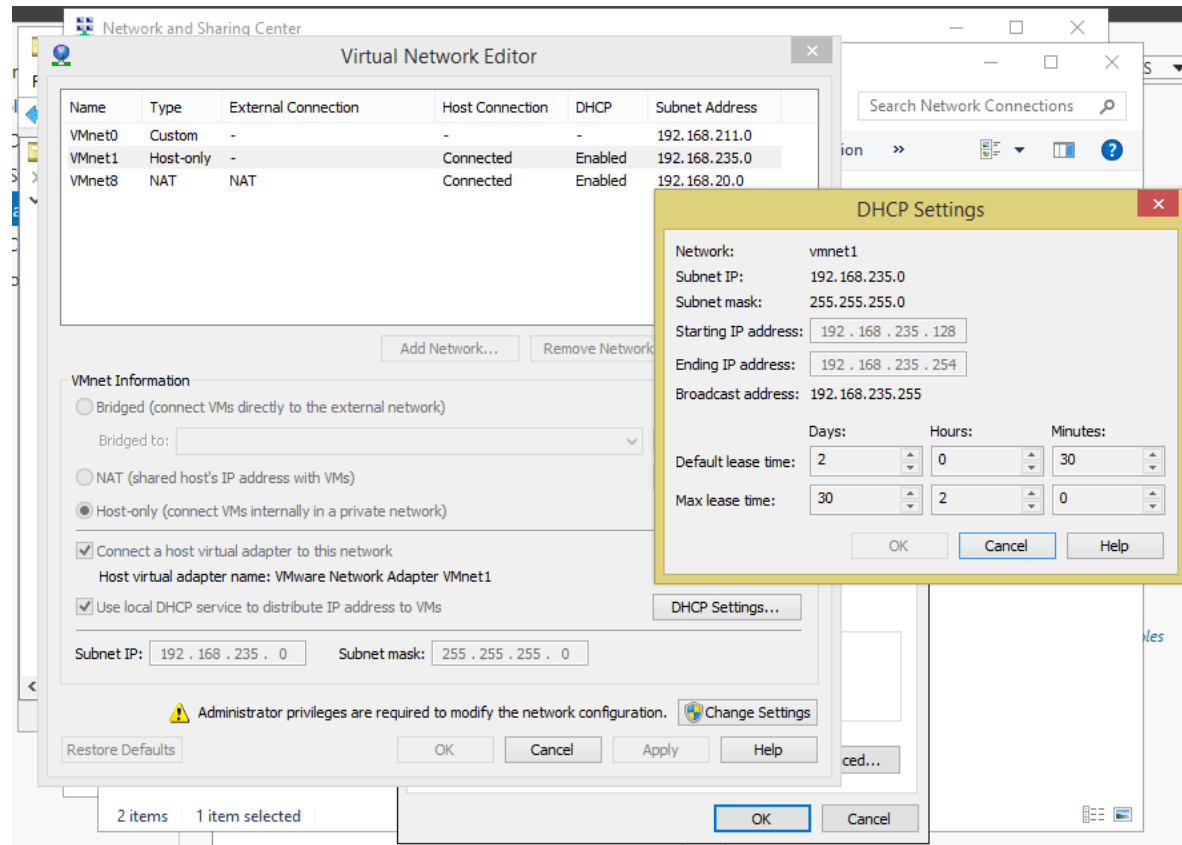
# DE WERKING VAN DHCP



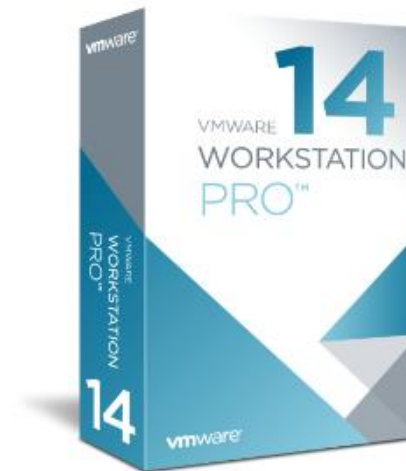
How to assign a static ip to a mac-address through DHCP ez



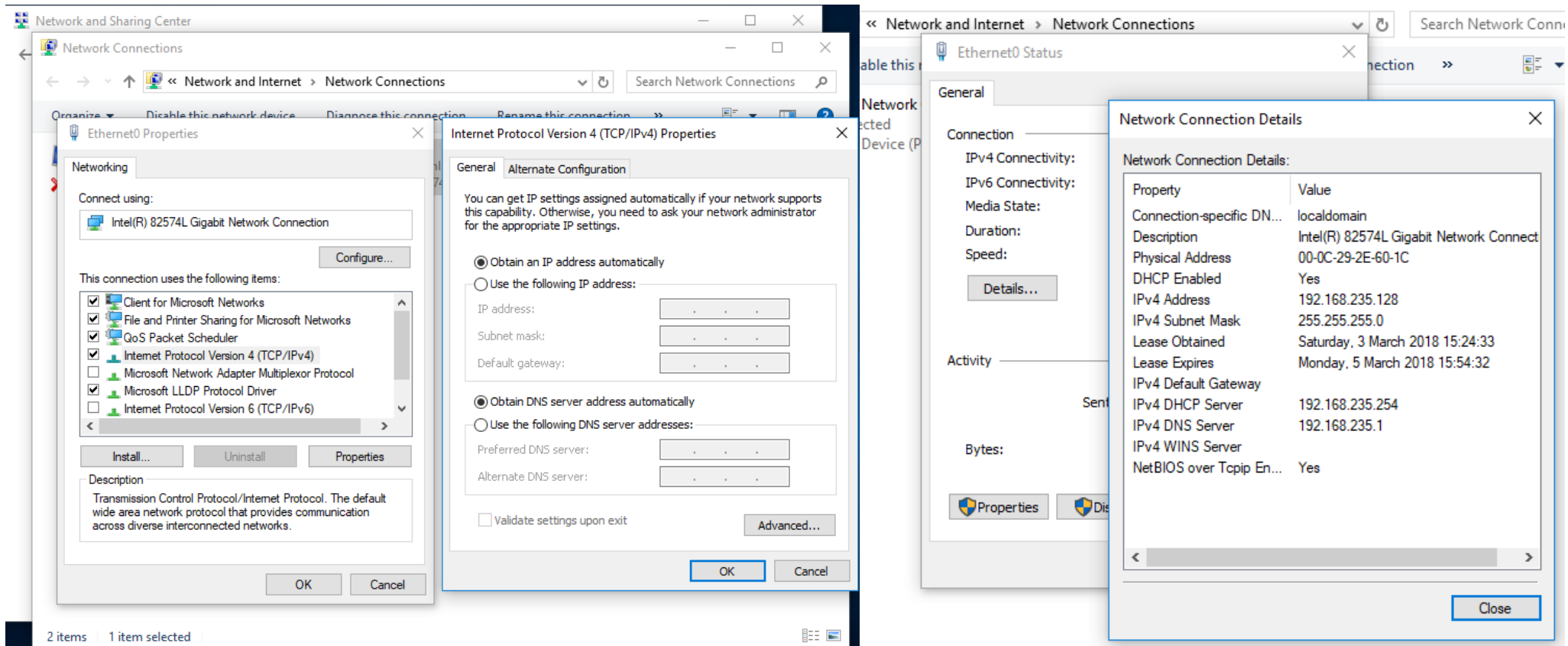
# DYNAMIC HOST CONFIGURATION PROTOCOL (1)



VMWARE  
WORKSTATION  
PRO™  
14



# DYNAMIC HOST CONFIGURATION PROTOCOL (1)



# DYNAMIC HOST CONFIGURATION PROTOCOL (2)

Practicum 4.1.1: DHCP installeren

Opdracht 4.1.2: Tweede DHCP-server

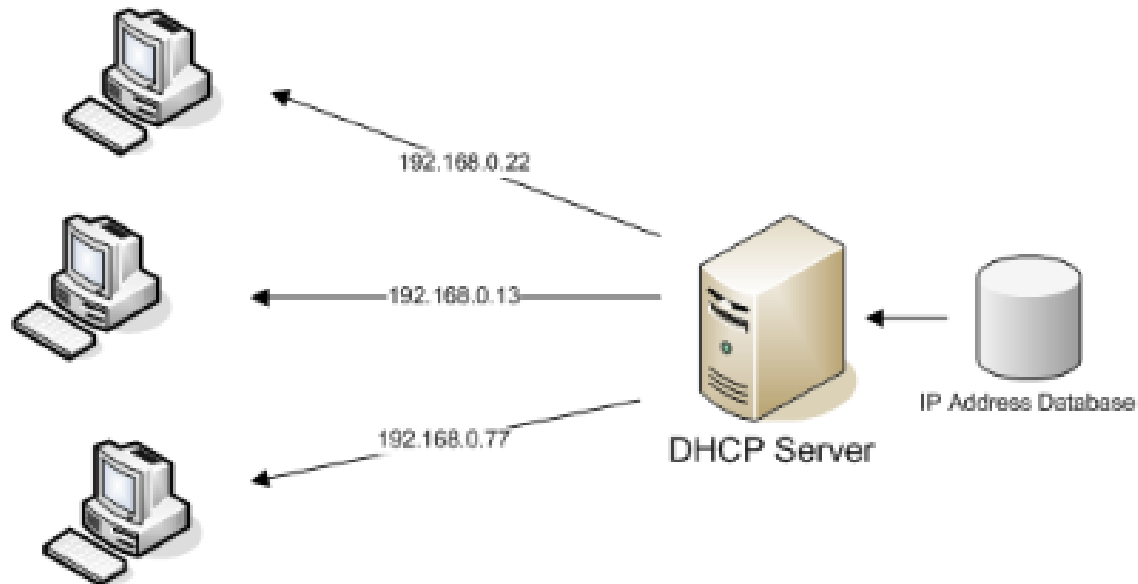
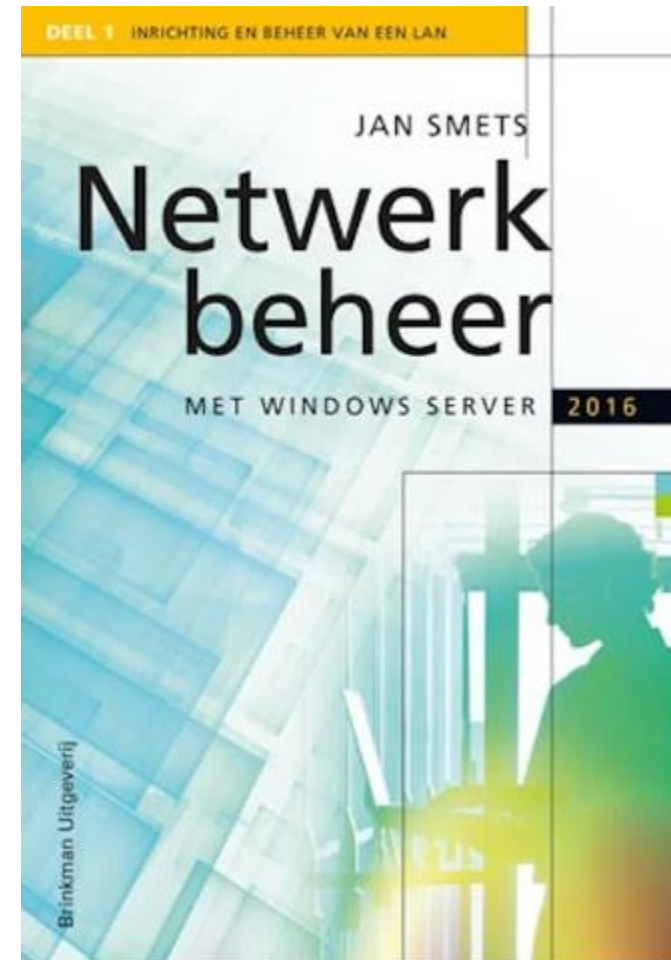


Figure 1. DHCP Servers assign computers IP addresses from a user-specified range



# ENKELE BEGRIPPEN BIJ DHCP

Leaseduur, p. 163

DHCP-scope, p. 170

Exclusions, p. 173

DHCP Options, p. 174-175

**Bedankt voor  
uw begrip**

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*Loesje*

# PRACTICUM 4.1.1: DHCP INSTALLEREN

The screenshot shows the Windows Server Manager interface. The top navigation bar includes 'Server Manager' and 'Dashboard'. A left-hand navigation pane lists 'Local Server', 'All Servers', 'AD DS', 'DHCP', 'DNS', and 'File and Storage Services'. The main content area is titled 'WELCOME TO SERVER MANAGER' and features a 'QUICK START' section with a numbered list of tasks: 1. Configure this local server, 2. Add roles and features, 3. Add other servers to manage, 4. Create a server group, and 5. Connect this server to cloud services. A 'Manage' menu is open, showing options like 'Add Roles and Features' and 'Remove Roles and Features'. Below the quick start section, the 'ROLES AND SERVER GROUPS' section displays a summary: 'Roles: 4 | Server groups: 1 | Servers total: 2'. Two role cards are visible: 'AD DS' and 'DHCP', each with a 'Manageability' indicator and a list of sub-features like 'Events' and 'Services'.

Server Manager Dashboard

WELCOME TO SERVER MANAGER

1 Configure this local server

2 Add roles and features

3 Add other servers to manage

4 Create a server group

5 Connect this server to cloud services

ROLES AND SERVER GROUPS

Roles: 4 | Server groups: 1 | Servers total: 2

Role	Count
AD DS	1
DHCP	1

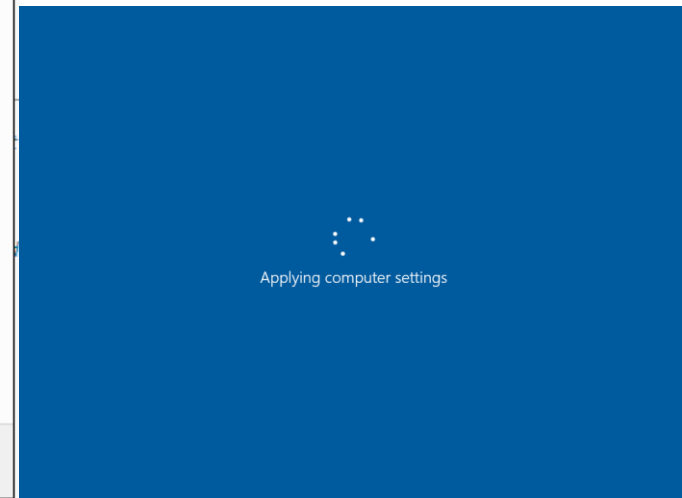
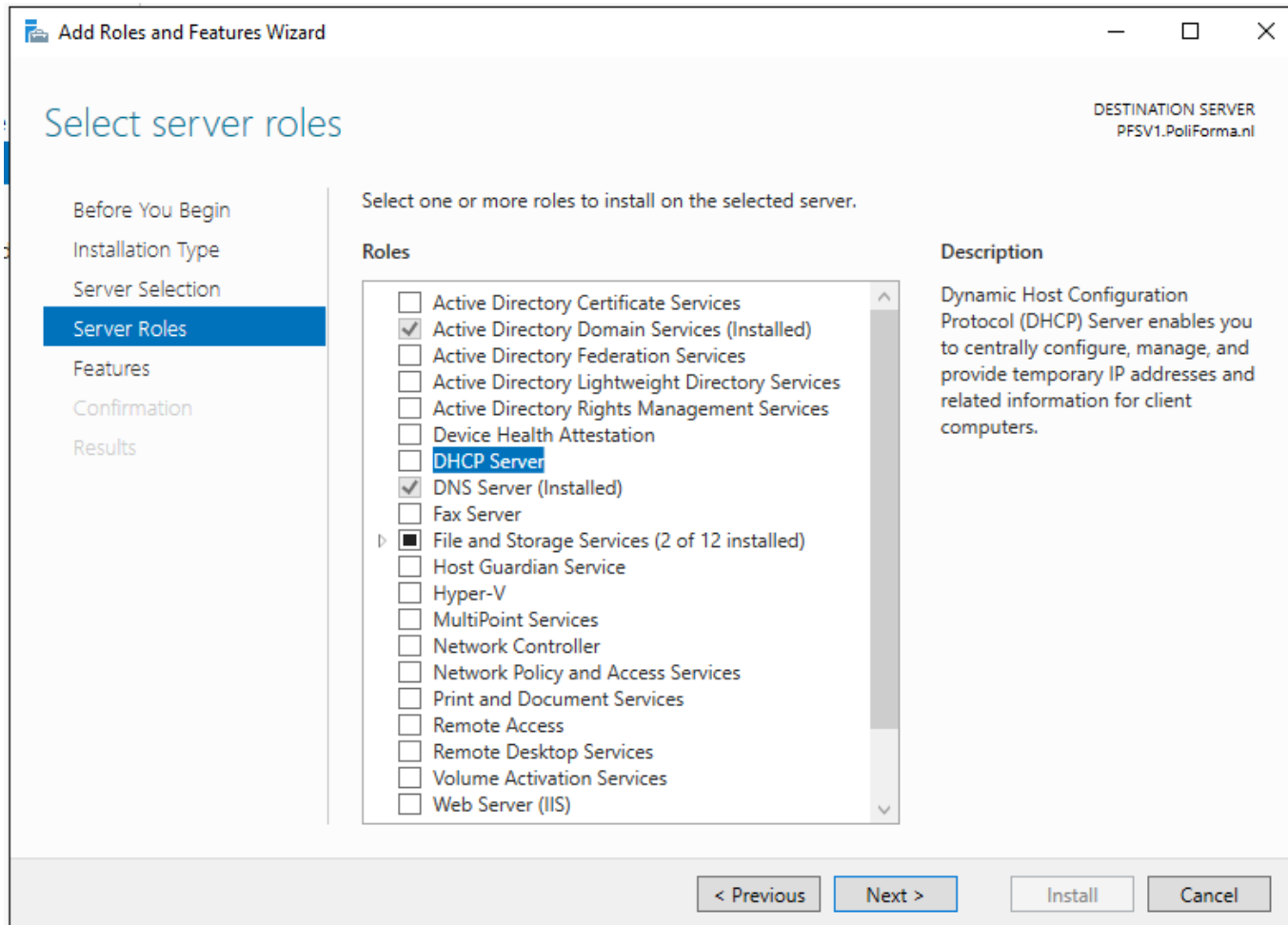
AD DS

- Manageability
- Events
- Services

DHCP

- Manageability
- Events
- Services

# PRACTICUM 4.1.1: DHCP INSTALLEREN



# PRACTICUM 4.1.1: DHCP INSTALLEREN

The screenshot shows the Windows Server Manager interface. The title bar reads "Server Manager" and the breadcrumb navigation shows "Server Manager > Dashboard". The left-hand navigation pane includes "Dashboard", "Local Server", "All Servers", "AD DS", "DHCP", "DNS", and "File and Storage Services". The main content area is titled "WELCOME TO SERVER MANAGER" and features a "QUICK START" section with a numbered list of five steps: 1. Configure this local server, 2. Add roles and features, 3. Add other servers to manage, 4. Create a server group, and 5. Connect this server to cloud. Below this is a "WHAT'S NEW" section and a "LEARN MORE" link. At the bottom, the "ROLES AND SERVER GROUPS" section displays "Roles: 4 | Server groups: 1 | Servers total: 2" and shows two role cards: "AD DS" with a count of 1 and "DHCP" with a count of 1. The "Tools" menu is open, listing various administrative tools such as Active Directory Administrative Center, Active Directory Domains and Trusts, Active Directory Sites and Services, Active Directory Users and Computers, ADSI Edit, Component Services, Computer Management, Defragment and Optimize Drives, DHCP, Disk Cleanup, DNS, Event Viewer, Group Policy Management, iSCSI Initiator, Local Security Policy, Microsoft Azure Services, ODBC Data Sources (32-bit), ODBC Data Sources (64-bit), Performance Monitor, Print Management, and Resource Monitor.

Server Manager

Server Manager > Dashboard

Dashboard

Local Server

All Servers

AD DS

DHCP

DNS

File and Storage Services >

WELCOME TO SERVER MANAGER

QUICK START

1 Configure this local server

2 Add roles and features

3 Add other servers to manage

4 Create a server group

5 Connect this server to cloud

WHAT'S NEW

LEARN MORE

ROLES AND SERVER GROUPS

Roles: 4 | Server groups: 1 | Servers total: 2

AD DS 1

DHCP 1

Tools

- Active Directory Administrative Center
- Active Directory Domains and Trusts
- Active Directory Module for Windows PowerShell
- Active Directory Sites and Services
- Active Directory Users and Computers
- ADSI Edit
- Component Services
- Computer Management
- Defragment and Optimize Drives
- DHCP
- Disk Cleanup
- DNS
- Event Viewer
- Group Policy Management
- iSCSI Initiator
- Local Security Policy
- Microsoft Azure Services
- ODBC Data Sources (32-bit)
- ODBC Data Sources (64-bit)
- Performance Monitor
- Print Management
- Resource Monitor

# PRACTICUM 4.1.1: DHCP INSTALLEREN

The screenshot displays the Windows DHCP console interface. The left-hand pane shows a tree view with the following structure:

- DHCP
  - 169.254.39.90
    - IPv4
      - Server Options
      - Policies
      - Filters
      - IPv6

The right-hand pane is titled "Configure the DHCP Server" and contains the following text:

Before a DHCP server can issue IP addresses, you must create a scope and authorize the DHCP server.

A scope is a range of IP addresses that is assigned to computers requesting a dynamic IP address. Authorization is a security precaution that ensures that only authorized DHCP servers run on your network.

\* To add a new scope, on the Action menu, click New Scope.

The "New Scope Wizard" dialog box is overlaid on the console. It features a blue background with a folder icon and the following text:

### Welcome to the New Scope Wizard

This wizard helps you set up a scope for distributing IP addresses to computers on your network.

To continue, click Next.

Additional text from the background console is visible through the wizard's semi-transparent border:

... and on the Action menu, click Authorize.

... eges to authorize the server.

... status update, either press F5, or on the

... online Help.



# PRACTICUM 4.1.1: DHCP INSTALLEREN

The screenshot shows the DHCP console interface. The left pane displays a tree view with 'DHCP' expanded to show '169.254.39.90', 'IPv4', 'Server Options', 'Policies', 'Filters', and 'IPv6'. The main pane is titled 'Configure the DHCP Server' and contains the following text:

**Configure the DHCP Server**

Before a DHCP server can issue IP addresses, you must create a scope and authorize the DHCP server.

A scope is a range of IP addresses that is assigned to computers requesting a dynamic IP address. Authorization is a security precaution that ensures that only authorized DHCP servers run on your network.

\* To add a new scope, on the Action menu, click New Scope.

The 'New Scope Wizard' dialog is open, showing the 'Scope Name' step. It includes a folder icon and the following text:

**New Scope Wizard**

**Scope Name**

You have to provide an identifying scope name. You also have the option of providing a description.

Type a name and description for this scope. This information helps you quickly identify how the scope is to be used on your network.

Name:

Description:

and on the Action menu, click Authorize.  
pages to authorize the server.

status update, either press F5, or on the

online Help.

# PRACTICUM 4.1.1: DHCP INSTALLEREN

The screenshot shows the Windows DHCP console interface. The main window is titled 'DHCP' and has a menu bar with 'File', 'Action', 'View', and 'Help'. The left-hand pane shows a tree view with 'DHCP' expanded to '169.254.39.90', then 'IPv4', and finally 'Server Options'. The main pane displays an information icon and the text 'Configure the DHCP Server' followed by the instruction: 'Before a DHCP server can issue IP addresses, you must create a scope and authorize the DHCP server.'

A 'New Scope Wizard' dialog box is open in the foreground. It has a title bar 'New Scope Wizard' and a sub-header 'IP Address Range' with the instruction: 'You define the scope address range by identifying a set of consecutive IP addresses.' The dialog is divided into two sections:

- Configuration settings for DHCP Server:** This section contains two text input fields: 'Start IP address:' with the value '192 . 168 . 101 . 31' and 'End IP address:' with the value '192 . 168 . 101 . 130'.
- Configuration settings that propagate to DHCP Client:** This section contains two text input fields: 'Length:' with the value '24' and 'Subnet mask:' with the value '255 . 255 . 255 . 0'.

At the bottom of the dialog box, there are three buttons: '< Back', 'Next >', and 'Cancel'. The 'Next >' button is highlighted with a blue border.

# PRACTICUM 4.1.1: DHCP INSTALLEREN

The screenshot shows the DHCP console interface. The left pane displays a tree view with 'DHCP' expanded to show '169.254.39.90', 'IPv4', 'Server Options', 'Policies', 'Filters', and 'IPv6'. The main pane shows 'Configure the DHCP Server' with an information icon and the text: 'Before a DHCP server can issue IP addresses, you must create a scope and authorize the DHCP server.' A 'New Scope Wizard' dialog box is open, titled 'Add Exclusions and Delay'. It contains the following text: 'Exclusions are addresses or a range of addresses that are not distributed by the server. A delay is the time duration by which the server will delay the transmission of a DHCP OFFER message.' Below this, there are two input fields for 'Start IP address' (containing '192 . 168 . 101 . 81') and 'End IP address' (containing '192 . 168 . 101 . 130'), followed by an 'Add' button. There is also an 'Excluded address range' list box and a 'Remove' button. At the bottom of the dialog, there is a 'Subnet delay in milli second' spinner box set to '0'. The dialog has '< Back', 'Next >', and 'Cancel' buttons at the bottom.

File Action View Help

DHCP

169.254.39.90

IPv4

Server Options

Policies

Filters

IPv6

Configure the DHCP Server

Before a DHCP server can issue IP addresses, you must create a scope and authorize the DHCP server.

New Scope Wizard

**Add Exclusions and Delay**

Exclusions are addresses or a range of addresses that are not distributed by the server. A delay is the time duration by which the server will delay the transmission of a DHCP OFFER message.

Type the IP address range that you want to exclude. If you want to exclude a single address, type an address in Start IP address only.

Start IP address: 192 . 168 . 101 . 81 End IP address: 192 . 168 . 101 . 130 Add

Excluded address range: Remove

Subnet delay in milli second: 0

< Back Next > Cancel

a dynamic IP address.  
IP servers run on your

on menu, click Authorize.  
the server.

ther press F5, or on the

# PRACTICUM 4.1.1: DHCP INSTALLEREN

The screenshot shows the DHCP console interface. On the left, a tree view shows the hierarchy: DHCP > 169.254.39.90 > IPv4 > Server Options. The main pane displays 'Configure the DHCP Server' with an information icon and the text: 'Before a DHCP server can issue IP addresses, you must create a scope and authorize the DHCP server.' A 'New Scope Wizard' dialog box is open, showing the 'Lease Duration' step. The dialog contains the following text: 'Lease Duration' and 'The lease duration specifies how long a client can use an IP address from this scope.' Below this is a detailed explanation: 'Lease durations should typically be equal to the average time the computer is connected to the same physical network. For mobile networks that consist mainly of portable computers or dial-up clients, shorter lease durations can be useful. Likewise, for a stable network that consists mainly of desktop computers at fixed locations, longer lease durations are more appropriate.' The instruction 'Set the duration for scope leases when distributed by this server.' is followed by 'Limited to:' and three spinners for 'Days' (set to 7), 'Hours' (set to 0), and 'Minutes' (set to 0). At the bottom of the dialog are buttons for '< Back', 'Next >', and 'Cancel'.

File Action View Help

DHCP

169.254.39.90

IPv4

Server Options

Policies

Filters

IPv6

**Configure the DHCP Server**

Before a DHCP server can issue IP addresses, you must create a scope and authorize the DHCP server.

**New Scope Wizard**

**Lease Duration**

The lease duration specifies how long a client can use an IP address from this scope.

Lease durations should typically be equal to the average time the computer is connected to the same physical network. For mobile networks that consist mainly of portable computers or dial-up clients, shorter lease durations can be useful. Likewise, for a stable network that consists mainly of desktop computers at fixed locations, longer lease durations are more appropriate.

Set the duration for scope leases when distributed by this server.

Limited to:

Days: 7 Hours: 0 Minutes: 0

< Back Next > Cancel

# PRACTICUM 4.1.1: DHCP INSTALLEREN

The screenshot shows the DHCP console interface. The left pane displays a tree view with 'DHCP' expanded to '169.254.39.90' and 'IPv4'. The right pane shows the 'Configure the DHCP Server' task with an information icon and the text: 'Before a DHCP server can issue IP addresses, you must create a scope and authorize the DHCP server.' A 'New Scope Wizard' dialog box is open, titled 'Configure DHCP Options'. It contains the following text: 'You have to configure the most common DHCP options before clients can use the scope.' Below this, it explains that clients receive DHCP options like IP addresses of routers, DNS servers, and WINS settings. It then asks, 'Do you want to configure the DHCP options for this scope now?' with two radio button options: 'Yes, I want to configure these options now' (which is selected) and 'No, I will configure these options later'. At the bottom of the dialog are buttons for '< Back', 'Next >', and 'Cancel'.

DHCP

File Action View Help

DHCP

169.254.39.90

IPv4

Server Options

Policies

Filters

IPv6

**Configure the DHCP Server**

Before a DHCP server can issue IP addresses, you must create a scope and authorize the DHCP server.

**New Scope Wizard**

**Configure DHCP Options**

You have to configure the most common DHCP options before clients can use the scope.

When clients obtain an address, they are given DHCP options such as the IP addresses of routers (default gateways), DNS servers, and WINS settings for that scope.

The settings you select here are for this scope and override settings configured in the Server Options folder for this server.

Do you want to configure the DHCP options for this scope now?

Yes, I want to configure these options now

No, I will configure these options later

< Back Next > Cancel

# PRACTICUM 4.1.1: DHCP INSTALLEREN

The screenshot shows the DHCP configuration interface. On the left, a tree view shows the hierarchy: DHCP > 169.254.39.90 > IPv4 > Server Options > Policies > Filters > IPv6. The main window displays the 'Configure the DHCP Server' information pane with a message: 'Before a DHCP server can issue IP addresses, you must create a scope and authorize the DHCP server.' The 'New Scope Wizard' dialog box is open, showing the 'Domain Name and DNS Servers' step. It includes a text box for 'Parent domain' containing 'PoliFoma.nl', a 'Resolve' button, and a table for DNS servers. The table has columns for 'Server name' and 'IP address', with one entry: '192.168.101.11'. Navigation buttons include '< Back', 'Next >', and 'Cancel'.

File Action View Help

DHCP

169.254.39.90

IPv4

Server Options

Policies

Filters

IPv6

**Configure the DHCP Server**

Before a DHCP server can issue IP addresses, you must create a scope and authorize the DHCP server.

**New Scope Wizard**

**Domain Name and DNS Servers**

The Domain Name System (DNS) maps and translates domain names used by clients on your network.

You can specify the parent domain you want the client computers on your network to use for DNS name resolution.

Parent domain:

To configure scope clients to use DNS servers on your network, enter the IP addresses for those servers.

Server name	IP address
<input type="text"/>	<input type="text" value="192.168.101.11"/>

Buttons: Add, Remove, Up, Down, Resolve, < Back, Next >, Cancel

# PRACTICUM 4.1.1: DHCP INSTALLEREN

The screenshot shows the DHCP console interface. The main window displays the 'Configure the DHCP Server' wizard with the instruction: 'Before a DHCP server can issue IP addresses, you must create a scope and authorize the DHCP server.' The left pane shows a tree view with 'DHCP' expanded to '169.254.39.90' and 'IPv4' selected. A 'New Scope Wizard' dialog box is open, showing the 'WINS Servers' step. The dialog contains a table for adding WINS servers:

Server name:	IP address:	
<input type="text"/>	<input type="text" value="  . . ."/>	<input type="button" value="Add"/>
<input type="button" value="Resolve"/>	<input type="text"/>	<input type="button" value="Remove"/>
		<input type="button" value="Up"/>
		<input type="button" value="Down"/>

Below the table, it says: 'To change this behavior for Windows DHCP clients modify option 046, WINS/NBT Node Type, in Scope Options.' At the bottom of the dialog are buttons for '< Back', 'Next >', and 'Cancel'.

a dynamic IP address.  
IP servers run on your

on menu, click Authorize.  
the server.

ther press F5, or on the

# PRACTICUM 4.1.1: DHCP INSTALLEREN

The screenshot shows the DHCP console interface. On the left, a tree view shows the hierarchy: DHCP > 169.254.39.90 > IPv4 > Server Options > Policies > Filters > IPv6. The main pane displays the 'Configure the DHCP Server' information page with the message: 'Before a DHCP server can issue IP addresses, you must create a scope and authorize the DHCP server.' A 'New Scope Wizard' dialog box is open in the foreground, titled 'Activate Scope'. It contains the text: 'Clients can obtain address leases only if a scope is activated.' Below this, it asks 'Do you want to activate this scope now?' with two radio button options: 'Yes, I want to activate this scope now' and 'No, I will activate this scope later;'. The 'No' option is selected. At the bottom of the dialog are three buttons: '< Back', 'Next >', and 'Cancel'.

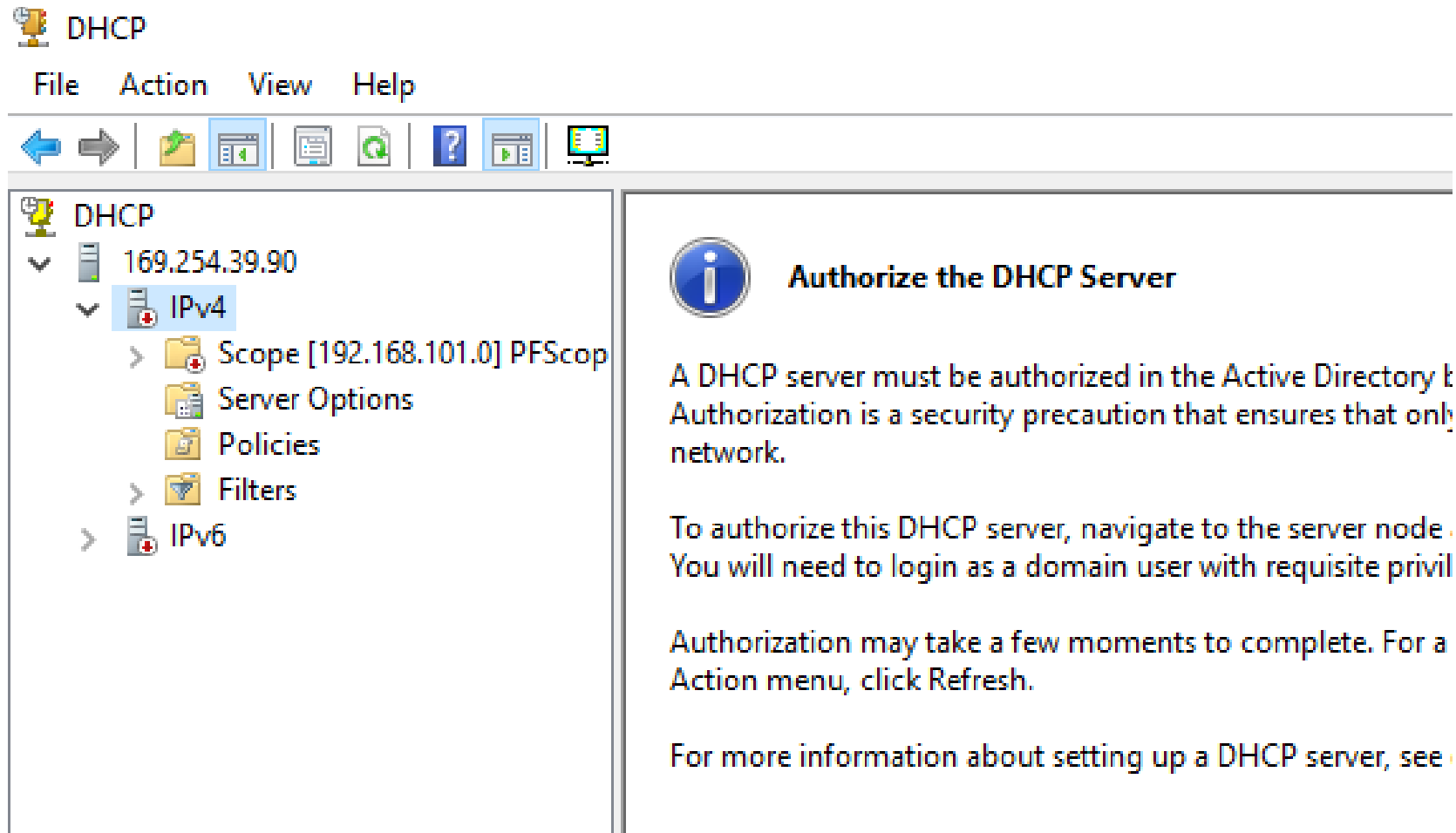
a dynamic IP address.  
IP servers run on your

on menu, click Authorize.  
the server.

ther press F5, or on the



# PRACTICUM 4.1.1: DHCP INSTALLEREN



The screenshot shows the DHCP console interface. The left pane displays a tree view with the following structure:

- DHCP
  - 169.254.39.90
    - IPv4
      - Scope [192.168.101.0] PFScop
      - Server Options
      - Policies
      - Filters
      - IPv6

The right pane displays the 'Authorize the DHCP Server' task pane, which includes an information icon and the following text:

**Authorize the DHCP Server**

A DHCP server must be authorized in the Active Directory. Authorization is a security precaution that ensures that only authorized servers can provide network addresses.

To authorize this DHCP server, navigate to the server node in the console tree. You will need to login as a domain user with requisite privileges.

Authorization may take a few moments to complete. For a DHCP server, click the Refresh button in the Action menu.

For more information about setting up a DHCP server, see the DHCP Server Setup and Configuration guide.

# OPDRACHT 4.1.2: TWEEDE DHCP-SERVER

## ZELFSTANDIG LEREN

Doe deze opdracht zelf.



IK BEPAAL ZELF WEL  
WAT IK NIET WIL  
WETEN

*Loesje*

**ZIJN ER NOG VRAGEN?**



**ZIJN ER NOG VRAGEN**

## ✦ 5 maart - 11 maart ✎

Bewerk ▾

### ✦ Week 10 - Lesweek 3.3

Bewerk ▾

In deze les(sen):

- **Dynamic Host Configuration Protocol**

### ✦ Voor deze les(sen) heb je nodig:

Bewerk ▾

- **DEEL 1 - paragraaf 4.0 en 4.1**

### ✦ [Wikiwijs - 4 - DHCP](#) ✎

Bewerk ▾

### ✦ [n41d uitleg en quiz](#) ✎

Bewerk ▾ 

### ✦ Gedetailleerde uitwerking van de opdracht(en):

Bewerk ▾

- **Practicum 4.1.1 - DHCP installeren, p. 165-179**
- **Practicum 4.1.2 - Tweede DHCP-server, p. 179**

### ✦ [configuratie van scopes in DHCP server](#) ✎

Bewerk ▾

dit filmpje is vooral van belang als je DNS en gateway "hard" wil instellen in je DHCP options.

### ✦ [Practicum 4.1.1; 4.1.2](#) ✎

Bewerk ▾ 

+ [Activiteit of bron toevoegen](#)