

Vježba 1.2. Implementacija Scale-Out file servera - priprema

Prije nego što krenemo raditi vježbu, trebamo:

- 1. Na Server 2012 R2 profilu, pokrenuti Hyper-V Manager.
- 2. U Hyper-V Manageru, pokrenuti virtualni poslužitelj RITS-EXC-DC.
- 3. Kada se virtualni poslužitelj pokrene, desnim klikom miša označite Connect.
- 4. Ulogirajte se koristeći slijedeće podatke:
 - User name: RITS\Administrator

Password: RitsAdmin##

Na virtualnoj mašini SERVER1 dodati još 4 mrežne kartice sa Private Network profilom. Podesiti ih tako da ne diramo domensku mrežu (prva mrežna kartica sa subnetom 10.10.10.X), a na ostale tri mrežne kartice podesimo IP adrese 192.168.0.30/24, 192.168.1.30/24, 192.168.2.30/24 i 192.168.3.30/24, bez default gatewaya). Istu proceduru ponoviti i na SERVER2 virtualnoj mašini (ali koristiti IP adrese 192.168.0.31/24, 192.168.1.31/24, 192.168.2.31/24, 192.168.3.31/24), i na WITNESS virtualnoj mašini (ali koristiti IP adrese 192.168.0.32/24, 192.168.1.32/24, 192.168.2.32/24, 192.168.3.32/24).
 Na server WITNESS dodajte još 4 virtualna hard diska veličine 1GB. Kasnije ćemo u vježbi na tim diskovima podesiti 4 iSCSI LUN-a. VHDX datoteke od virtualnih hard diskova pospremite u direktorij WITNESS virtualne mašine.

7. Upalite sve preostale virtualne poslužitelje (SERVER1, SERVER2, WITNESS). Potrebno je pričekati 3-4 minute da se svi virtualni poslužitelji upale.

8. Ulogirajte se na SERVER1 i SERVER2 virtualke sa istim korisničkim podacima i pokrenite iSCSI initiator. Sustav će vam postaviti pitanju da li da trajno uključi iSCSI initiator, odaberite potvrdnu opciju.



Vježba 1.2.: Implementacija Scale-Out file servera

Prije nego što krenemo raditi vježbu, trebamo:

1. Provjeriti da li smo napravili revert virtualnih poslužitelja DC, SERVER1, SERVER2 i WITNESS. Ako nismo, ugasiti ih i napraviti revert.

- 2. Pokrenuti Hyper-V Manager.
- 3. U Hyper-V Manageru, pokrenuti virtualni poslužitelj RITS-DC.
- 4. Kada se virtualni poslužitelj pokrene, desnim klikom miša označite Connect.
- 5. Ulogirajte se koristeći slijedeće podatke:
 - User name: RITS\Administrator

Password: RitsAdmin##

- 6. Ponoviti sve ove operacije na preostalim virtualnim poslužiteljima (SERVER1, SERVER2, WITNESS).
- 7. Ponoviti konfiguraciju iz vježbe 1.2, dio koji se odnosi na Zadatak 3 (konfiguracija iSCSI LUN-ova).

Zadatak 1: Instalacija file server role i failover clusteringa na RITS-EXC-SERVER1 i RITS-EXC-SERVER2

Da bismo mogli napraviti scale-out file server pod Windows Server 2012 R2, moramo prvo instalirati potrebne uloge i opcije. Na RITS-EXC-SERVER1, u Server Manageru, kliknimo na Add roles and features. Slijedimo wizard i kada dođemo do Select server roles stranice, otvorimo File and Storage Services (Installed), otvorimo File and iSCSI Services (Installed), i provjerimo da je File Server označen kao instaliran. Ako nije, označimo ga i kliknimo Next. Na stranici Select features, označimo Failover Clustering, u popup-prozoru kliknimo na Add Features, i onda na Next. Na stranici Confirm installation selections, kliknimo na Install. Kada se instalacija završi, kliknimo na Close.

| L. | Server Manager | | - | - 0 × |
|---|-------------------------------|----------|------------------|----------------------|
| Server Manager • Dashboard | • © | 🚩 Manage | Tools Vie | w Help |
| Image: Dashboard WER Image: Local Server Select server roles Image: Local Server Before You Begin Installation Type Server Roles Features Confirmation Roles Roles Image: Local Server Image: Local Server Selection Server Roles Features Confirmation Results | Add Roles and Features Wizard | | | Hide. |
| 1 2 3 | | | Re 174 de | 5:30 PM 6/23/2015 |

Procedura ukratko izgleda ovako:



| L | Server Manager | _ 0 × |
|---|--|------------------------------|
| Server Manager • Dashboard | | 😧 🚩 Manage Tools View Help |
| I Local Server All Servers File and Storage Services VILE Roll Roll Roll Roll Roll Total Server Roles | Add Roles and Features Wizard DESTINATION SERVES Select one or more features to install on the selected server. Features Description >NET Framework 3.5 Features Pailover Clustering allows multiple servers to work together to provide high availability of server roles. > Background Intelligent Transfer Service (BITS) Pailover Clustering is of then used for File Services, writual machines, and mail applications, and mail applications. BitLocker Drive Encryption BitLocker Network Unlock Data Center Bridging Direct Play Enhanced Storage V BitWorkutering Group Policy Management ILIS Hotable Web Core Ink and Handwriting Services Ink and Handwriting Services V | Hide |
| | < Previous Next > Install Cancel | 1 |
| | BPA results BPA results | |
| | | 5:30 PM 6/23/2015 |

Sve ove korake potrebno je ponoviti i na virtualnom poslužitelju RITS-EXC-SERVER2.

Zadatak 2: Spajanje na iSCSI targete sa oba čvora budućeg file server klastera

Na virtualnom poslužitelju RITS-EXC-SERVER1, otvorimo **Server Manager**, kliknimo na **Tools**, i onda na **iSCSI Initiator**. Kako iSCSI initiator pokrećemo prvi put, kada se otvori **Microsoft iSCSI** prompt, kliknimo na **Yes**. Kada se otvori iSCSI prozor, kliknimo na **Discovery** tab. Pod **Discover Portal**, u polje **IP address or DNS name**, upišimo **192.168.0.32**, i onda kliknimo na **OK**. To je IP adresa WITNESS poslužitelja na kojem već postoje iSCSI target i diskovi za potrebe vježbe (kako smo napomenuli u pripremi za ovu vježbu, potrebno je napraviti ponovo Zadatak 3 iz vježbe 1.1.

| F | iSCSI Initiator Properties | |
|-------------|---|---|
| Recycle Bin | Targets Discovery Favorite Targets Volumes and Devices RADIUS Configuration | |
| | Target portals | |
| | The Discover Target Portal | |
| | Add Enter the IP address or DNS name and port number of the portal you want to add. | |
| | To change the default settings of the discovery of the target portal, click the Advanced button. | |
| | To a IP address or DNS name: Port: (Default is 3260.) | |
| | To n 192.168.0.32 3260 | |
| | Advanced OK Cancel | |
| | The system is registered on the following iSNS servers: Refresh | |
| | . Notice | |
| | | |
| | To add an ISNS server, dick Add Server. Add Server To remove an ISNS server, select the server above and Remove | |
| | then dick Remove. | |
| | | |
| | | Windows Server 2012 R2 |
| | OK Cancel Apply | Windows Server 2012 R2 Standard Build 9600 |
| | | 6/23/2015 |



Nakon toga, kliknimo na **Targets** tab. Na listi **Targets**, označimo **iqn.1991-05.com.microsoft:WITNESSiscsitest-target**, i onda kliknimo na **Connect**. Na taj način ćemo se spojiti na iSCSI target portal i dobiti pristup na diskove koje nam iSCSI target daje na raspolaganje. Također, kako bi cjelokupna procedura bila trajnog karaktera (tj.kako bi radila i nakon restartanja poslužitelja), kliknimo na **Add this connection to the list of Favorite Targets**, i onda kliknimo na **OK**. Nakon toga, kliknimo na **OK** da zatvorimo prozor iSCSI Initiator Properties:

| . 👹 | | | | | iSCSI Initiator Properties | | |
|---------|-----|-------------------|---|---|---|--------------------------|---|
| Recycle | Bin | | | | Targets Discovery Favorite Targets Volumes and Devices RADIUS Configuration Quick Connect 0 to a target using a basic connection, type the IP address or DNS name of the target and then dick Quick Connect. Discovery Favorite To Target X Target name: Target 109109109100500000000000000000000000000 | | |
| | | | | | Add this connection to the list of Favorite Targets. This will make the system automatically attempt to restore the connection every time this computer restarts. Enable multi-path Advanced OK Cancel | | |
| | | | | | To correct using advanced options, select a target and then Cognect dick Connect. To completely disconnect a target, select the target and then dick Disconnect. | | |
| | | | | | For target properties, including configuration of sessions, Properties Proceedings and click Properties. Proceeding action of devices associated with a target, select Degices the target and then click Devices. | | |
| | | | | | | 🕂 Windows Server 2012 R2 | |
| | | | _ | | OK Cancel Apply | Window | s Server 2012 R2 Standard Build 9600 |
| H | | $\mathbf{\Sigma}$ | | Q | | | 6:03 PM 6/23/2015 |

Istu proceduru ponovimo i na virtualnom poslužitelju RITS-EXC-SERVER2.

Slijedeći je korak napraviti inicijalizaciju i formatiranje dva dodana diska kako bismo od njih kasnije mogli napraviti clustered disk i quorum disk. Na RITS-EXC-SERVER2, u Server Manager prozoru, kliknimo na **Computer Management**. Proširimo **Storage**, i onda kliknimo na **Disk Management**: Algebra visoka škola za primijenjeno računarstvo Visoko učilište Algebra - visoka škola za primijenjeno računarstvo | Ilica 242 | 10000 Zagreb | Hrvatska Upisano kod trgovačkog suda u Zagrebu pod MBS: 080664742 Poslovna banka: Zagrebačka banka d.d. Trg bana Josipa Jelačića 10, 10000 Zagreb, Hrvatska OIB: 14575159920 | matični broj: 2412926 | IBAN: HR7523600001102036972 tel. +385 (0)1 2222 182 | fax. +385 (0)1 2305 004 | info@racunarstvo.hr | www.racunarstvo.hr

| * | | | Computer Ma | nagement | | - 0 | x |
|---|--|---|---|--|-----------------------|------------------|---|
| File Action View Help | | | | | | | |
| 🗢 🄿 🙍 📰 🔯 [| 1 | | | | | | |
| 🎥 Computer Management (Local | Volume Layout | Type File System Status | | Capacity Free Space % Free | | Actions | _ |
| ⊿ Not System Tools | Simple | Basic Healthy (Recovery | Partition) | 300 MB 300 MB 100 % | | Disk Management | |
| Cask Scheduler Cask Sch | Gin Simple | Basic Healthy (Boot, Pag Basic NTFS Healthy (Boot, Pag | n Partition) e File, Crash Dump, Primary Partiti | 99 MB 99 MB 100 % on) 126.48 GB 113.91 GB 90 % | | More Actions | • |
| | Disk 0 Basic 126.88 GB Online | 300 MB Healthy (Recovery Parition) | 99 MB Healthy (EFI System Partition) | (C) 126.48 GB NTFS Healthy (Boot, Page File, Crash Dum | p, Primary Partition) | — | |
| | Disk 1 Unknown 5.00 GB Offline | 5.00 GB Unallocated | | | | | |
| < ш > | Disk 2 Unknown 5.00 GB Offline Unallocated | 5.00 GB Unallocated Primary partition | | | | v | |
| | | 1 | | | | | |
| | | | | | | De 03 de 6:08 PI | M |

Potrebno je desno kliknuti pored "Disk 1" (ne na dio gdje je nacrtan disk, označen sa "Unallocated", i onda označiti opciju Online. Isto to možemo odmah napraviti i na Disk 2. Slijedeći je korak inicijalizacija diska, kako bismo napravili adekvatnu particijsku tabelu. Odmah će nam ponuditi inicijalizaciju Disk 1 i Disk 2, što možemo prihvatiti jer ćemo si tako uštediti jedan dodatni korak.

| * | | | | | Computer Ma | nagement | | | | | _ 0 × |
|--|--|-----------|-----------------------------|---------------------|--|--|----------------------|---------------|------------------|---|-------------------|
| File Action View Help | | | | | | | | | | | |
| ka 🔿 🙍 🖬 🖉 🖬 🖉 I | e 🗟 | | | | | | | | | | |
| 🛃 Computer Management (Local | Volume | Layout | Type File System | Status | | Capacity | Free Space | % Free | | | Actions |
| ⊿ System Tools | 0 | Simple | Basic | Healthy (Recovery I | Partition) | 300 MB | 300 MB | 100 % | | | Disk Management 🔺 |
| ▷ ○ Task Scheduler ▷ ○ Task Scheduler ▷ ○ Formance ▷ ○ Formance ○ ○ Formance ○ ○ Formance ○ ○ Perice Manager ○ ○ Windows Server Backup ○ ○ Windows Server Backup ○ ○ ○ Dick Management ▷ ○ Services and Applications | | Simple | Basic NTFS | Healthy (EH System | i Partition) File, Crash Dump, Primary Partitic | 99 MB n) 126,48 GB | 99 MB 113.91 GB | 90 % | | | More Actions |
| | Disk (Basic 126.88 GE Online | 3 | 300 MB Healthy (Recovery | Partition) | 99 MB Healthy (EFI System Partition) | (C:) 126.48 GB NTF Healthy (Boot | FS , Page File, C | rash Dump, Pi | imary Partition) | | |
| | Disk | 1 I | | | | | | | | | |
| | Unknowr 5.00 GB | ۰ | Online | 1 | | | | | | - | |
| | Offline (| P | Droperties | | | | | | | | |
| | | | Hale | | | | | | | | |
| | Contraction of the second seco | 2 | 5.00 GB Unallocated | | | | | | | ~ | |
| < III > | Unallo | cated 📕 I | Primary partition | | | | | | | | |
| | - | | | | | | | | | | 6-10 DM |
| | | 4 | | | | | | | | | 6/23/2015 |

Algebra visoka škola za primijenjeno računarstvo Visoko učilište Algebra - visoka škola za primijenjeno računarstvo | Ilica 242 | 10000 Zagreb | Hrvatska Upisano kod trgovačkog suda u Zagrebu pod MBS: 080664742 Poslovna banka: Zagrebačka banka d.d. Trg bana Josipa Jelačića 10, 10000 Zagreb, Hrvatska OIB: 14575159920 | matični broj: 2412926 | IBAN: HR7523600001102036972 tel. +385 (0)1 2222 182 | fax. +385 (0)1 2305 004 | info@racunarstvo.hr | www.racunarstvo.hr

| * | | Computer Management | | _ 0 × |
|-------------------------------------|--------------------------------------|--|--|-----------------------|
| File Action View Help | | | | |
| 🗢 🔿 🙍 📰 📓 📰 📓 | | | | |
| A Computer Management (Local Volume | Layout Type File System Status | Capacity | Free Space % Free | Actions |
| ⊿ 🎁 System Tools 🛛 📾 | Simple Basic Healthy (Recovery | Partition) 300 MB | 300 MB 100 % | Disk Management |
| Task Scheduler | Simple Basic Healthy (EFI Syster | n Partition) 99 MB | 99 MB 100 % | Mara Astions |
| ▷ III Event Viewer IIII C:) | Simple Basic NTFS Healthy (Boot, Pag | e File, Crash Dump, Primary Partition) 126.48 GB | 113.91 GB 90 % | More Actions |
| 5 8 I ocal Users and Groups | | | | |
| > N Performance | | | | |
| Bevice Manager | | | | |
| ⊿ 🚰 Storage | | | | |
| Windows Server Backup | | | | |
| 📑 Disk Management | | | | |
| Services and Applications | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | 1 | | | |
| Disk (|) | | | |
| Basic | 200.140 | (C:) | 50 | |
| Online | Healthy (Recovery Partition) | Healthy (EFI System Partition) Healthy (Boot | FS t. Page File, Crash Dump, Primary Partition) | |
| | ,, | ,. , , , , , , , , , , , , , , , , , , | | = |
| | | | - | |
| GDisk 1 | | | | |
| 5.00 GB | Initialize Disk | | | |
| Not Initia | Offline | | | |
| | Properties | | | |
| G Disk a | Help | | | |
| Unknown 5.00 GB | 5.00 GB | | | |
| Not Initia | lized Unallocated | | | |
| | rated Driman, partition | | | <u> </u> |
| | | | | |
| | | | | 6:11 PM |
| | * | | | 6 6 6 /23/2015 |

Kako bismo diskove formatirali, potrebno je proći kroz wizard. Desnim klikom označimo Disk 1 slobodni prostor, i odaberemo "New Simple Volume", te prođemo kroz wizard. Na mjestu kada nas pita za labelu na datotečnom sustavu, stavimo "ClusterDisk1". Istu proceduru ponovimo i na Disk 2, ali za labelu iskoristimo Quorum:

| * | | | | | Computer Mar | agement | | | | _ 0 × |
|---|--|---------|-------------------|---|--|---|-----------------------|-------------------------------|---|----------------------|
| File Action View Help | | | | | | | | | | |
| 🗢 🔿 🙇 📰 🚺 🖬 | e 🗟 | | | | | | | | | |
| Computer Management (Local | Volume | Layout | Type I | File System Status | | Capacity | Free Space | % Free | | Actions |
| | 0 | Simple | Basic | Healthy (Recovery | Partition) | 300 MB | 300 MB | 100 % | | Disk Management 🔺 |
| b → Task Scheduler b → Task Scheduler b → Task Scheduler b → Local Users and Groups b → Derformance → Device Manager → Device Manager → Disk Management b → Services and Applications | | Simple | Basic I | Heatmy (EH system NTFS Healthy (Boot, Pag | n Partition) Le File, Crash Dump, Primary Partition | 99 MB 126.48 GB | 99 MB 113.91 GB | More Actions | | |
| | Disk (Basic 126.88 GE Online | 3 | 300 ME Healthy | B Iy (Recovery Partition) | 99 MB Healthy (EFI System Partition) | (C:) 126.48 GB NTI Healthy (Boot | FS t, Page File, C | rash Dump, Primary Partition) | = | |
| | Disk 1 Basic 4.97 GB Online | 1 | 4.97 GE Unallo | 8 New Simple Volume C New Spanned Volume New Striped Volume | | | | | | |
| | Disk | 2 | _ | New Mirrored Volume | | | | | | |
| | Basic 4.97 GB | | 4 97 GP | New RAID-5 Volume | | | | | | |
| | Online | | Unallo | Properties | | | | | ~ | |
| < III > | Unallo | cated 📕 | Primary | Help | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | 6:12 PM 6/23/2015 |



| 4 | | | | Computer Mar | agement | | | | - | 0 X | |
|---|-------------------------------------|----------------------------|--|--|---|---------------------------------|------------------------------|------------------------|-----------|---------------------------|------|
| File Action View Help | | | | | - | | | | | | |
| 🗢 🔿 🙍 📰 🔯 (| e B | | | | | | | | | | |
| 🌆 Computer Management (Local | Volume | Layout | Type | File System Status | Capacity | Free Space | % Free | Action | ns | | |
| ▲ ⁽¹⁾ ⁽²⁾ ⁽²⁾ Task Scheduler ▶ ⁽²⁾ ⁽²⁾ Event Viewer ▶ ⁽³⁾ Shared Folders ▶ ⁽⁴⁾ Local Users and Groups |) (C:) | Simple Simple Simple | nple Basic nple Basic nple Basic | Basic Basic Basic | Healthy (Recovery Partition) Healthy (EFI System Partition) NTFS Healthy (Boot, Page File, Crash Dump, Primary Partitio New Simple Volume Wizard | 300 MB 99 MB n) 126.48 GB | 300 MB 99 MB 113.91 GB | 100 % 100 % 90 % | Disk N | Managemen Nore Actions | ıt ▲ |
| N Performance Device Manager Storage N Mindows Server Backup | | | | Format Partition To store data on this partition, you must format it first. | Format Partition To store data on this partition, you must format it first. | | | | | | |
| Usk Management Services and Applications | | | | Choose whether you want to format this volume, and it so, what so Do not format this volume Format this volume with the following settings: File system: Allocation unit size: Default | ettings you wan | t to use. | | | | | |
| | Disk Basic 126.88 G Online | 0 iB | 300 Mi Health | Volume label: | | | sh Dump, Primary Partition) | | | | |
| | Basic 4.97 GB Online | 1 | 4.97 Gi Unallo | < Back | Vext > | Cancel | | | | | |
| < <u> </u> | Basic 4.97 GB Online | 2 ocated | 4.97 GI Unallo Primary | } cated partition | | | | ~ | | | |
| | | | | | | | | | | | |
| | | | | | | | | | Ro 174 (b | 6:13 PM 6/23/2015 | |

| * | | | Computer Management | _ | D X |
|------------------------------|---------------|------------------------------|---|-------------------------------|-----------|
| File Action View Help | | | | | |
| 🗢 🔿 🙍 📅 🚺 🔂 | ef 🗟 | | | | |
| 🔝 Computer Management (Local | Volume Layout | Type File System Status | Capacity Free Space % Free | Actions | |
| ⊿ 👔 System Tools | 🖙 Simple | Basic Healthy | Recovery Partition) 300 MB 300 MB 100 % | Disk Manageme | nt 🔺 |
| Iask Scheduler | Simple | Basic Healthy | EFI System Partition) 99 MB 99 MB 100 % Root Base File Crash Dump Driman (Datition) 126 // CP 112 01 CP 00 % | More Actions | • |
| 5 Shared Folders | Clu Simple | Basic NTFS Healthy | Primary Partition) 4.97 GB 4.94 GB 99 % | Construction and Construction | |
| Local Users and Groups | | | | | |
| Performance | | | | | |
| Device Manager Storage | | | | | |
| Windows Server Backup | | | New Simple Volume Wizard | | |
| 🔛 Disk Management | | | Format Partition | | |
| Services and Applications | | | To store data on this partition, you must format it first. | | |
| | | | | | |
| | | | Choose whether you want to format this volume, and if so, what settings you want to use. | | |
| | | | | | |
| | | | | | |
| | | - | Format this volume with the following settings: | | |
| | Basic | | File system: VTFS V | | |
| | 126.88 GB | 300 MB | Allocation unit size: Default V | | |
| | Online | Healthy (Recovery Partition) | Volume label: Quorum = | | |
| | | | Perform a quick format | | |
| | Disk 1 | | | | |
| | 4.97 GB | 4.97 GB NTFS | | | |
| | Online | Healthy (Primary Partition) | | | |
| | | | < Back Next > Cancel | | |
| | Disk 2 | | | | |
| | Basic | | | | |
| | 0nline | 4.97 GB Unallocated | | | |
| | | Drimon partition | ////////////////////////////////////// | | |
| | | r may partition | | 1 | |
| | | 1 | | | 6-12 DM |
| | | | | Ro 🖓 🕼 | 6/23/2015 |

Na virtualnom poslužitelju RITS-EXC-SERVER1, u Server Manageru, kliknimo na **Tools**, i onda na **Computer Management**. Proširimo **Storage**, i onda kliknimo na **Disk Management**. Desno kliknimo na **Disk Management**, i onda kliknimo na **Refresh**. Desno kliknimo na **Disk 1**, i onda na **Online**, i istu tu proceduru ponovimo i za **Disk 2**.



| <u>*</u> | | | | | | Computer Mar | agement | | | | | _ | 0 X |
|------------------------------|-------------------|--------|---------|----------------|---------------------|---------------------------------------|---------------|-----------------|------------------------------|---|----|------------------|----------------------|
| File Action View Help | | | | | | | | | | | | | |
| ka 🔿 🙎 📰 🖉 🖬 | f III | | | | | | | | | | | | |
| 🎥 Computer Management (Local | Volume | Layout | Type | File System | Status | | Capacity | Free Space | % Free | | Ac | ctions | |
| ⊿ 👔 System Tools | 0 | Simple | Basic | | Healthy (Recovery | Partition) | 300 MB | 300 MB | 100 % | | 0 | lick Manageme | nt 🔺 |
| Task Scheduler | 0 | Simple | Basic | | Healthy (EFI System | n Partition) | 99 MB | 99 MB | 100 % | | | isk ivialiagenie | n. . |
| Event Viewer | 📾 (C:) | Simple | Basic | NTFS | Healthy (Boot, Page | e File, Crash Dump, Primary Partition | n) 126.48 GB | 114.22 GB | 90 % | | | More Actions | <u>t</u> |
| Shared Folders | Clu | Simple | Basic | NTFS | Healthy (Primary P | artition) | 4.97 GB | 4.94 GB | 99 % | | | | |
| Local Users and Groups | @Qu | Simple | Basic | NTFS | Healthy (Primary Pa | artition) | 4.97 GB | 4.94 GB | 99 % | | | | |
| Performance | | | | | | | | | | | | | |
| 🚔 Device Manager | | | | | | | | | | | | | |
| ⊿ 🚰 Storage | | | | | | | | | | | | | |
| Windows Server Backup | | | | | | | | | | | | | |
| Disk Management | | | | | | | | | | | | | |
| Services and Applications | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | 1 | | | | | | | | - | | |
| | Disk | 0 | | | | | | | | | ÷. | | |
| | Basic | | | | | | (C:) | | | | | | |
| | 126.88 C | БB | 300 N | AB | D (11) | 99 MB | 126.48 GB NTI | FS FILC | | | | | |
| | Unline | | Healt | thy (Recovery | Partition) | Healthy (EFI System Partition) | Healthy (Boot | t, Page File, C | rash Dump, Primary Partition |) | = | | |
| | | | - | | | | | | | | 1 | | |
| | ODel | 4 | | | | | | | | | | | |
| | Basic | | Clust | erDisk1 (D·) | | | | | | | | | |
| | 4.97 GB | | 4.97 (| GB NTFS | | | | | | | - | | |
| | Online | | Healt | thy (Primary I | Partition) | | | | | | | | |
| | | | | | | | | | | | | | |
| | - | | | | | | | | | | | | |
| | Disk | 2 | - | | | | | | | | | | |
| | Basic | | Quor | um | | | | | | | | | |
| | 4.97 GB Online | | 4.97 (| GB NTES | (artition) | | | | | | | | |
| | - online | | i icaii | iny (Finnary i | artitiony | | | | | | ~ | | |
| < III > | 📕 Unalle | ocated | Primar | y partition | | | | | 0.5% | | | | |
| | | | _ | | | | | | | | _ | | |
| | | | | | | | | | | | | 6 7 6 | 6:15 PM 6/23/2015 |

Kada smo završili i imamo Disk 1 mapiran kao D: disk i Disk 2 mapiran kao E disk na oba servera, zatvorimo Computer Management i krenimo konfigurirati Failover Cluster opciju kako bismo podigli Scale-Out File Server.

Zadatak 3: Konfiguracija Scale-Out File Servera

Predzadnji korak u formiranju našeg visoko dostupnog File Servera je podešavanje Scale-Out File servera korištenjem Failover Clustering opcije. Na virtualnom poslužitelju RITS-EXC-SERVER1, u Server Manager konzoli, kliknimo na **Tools**, i onda na **Failover Cluster Manager**:

| a | | Server Manager | _ 0 × |
|---|---|--|--|
| Server Ma | anager • Dashboard | | |
| Dashboard Local Server All Servers File and Storage Services ▷ | WELCOME TO SERVER MANAGER QUICK START 1 Confi QUICK START 2 Add WHATS NEW 4 Cree Services 5 Core Performance BPA results Image: Provent State | gure this local server I roles and features I other servers to manage ate a server group meet this server to cloud services I Local Server Manageability Events Services Performance BPA results I I I I I I I I I I I I I | 1 Component Services Computer Management Defragment and Optimize Drives Event Viewer Failover Cluster Manager ISCSI Initiator Local Security Policy Microsoft Azure Services ODBC Data Sources (32-bit) ODBC Data Sources (64-bit) Performance Monitor Resource Monitor Security Configuration Wizard Services System Configuration System Information Task Scheduler Windows PowerShell Windows PowerShell Windows PowerShell ISE Windows Server Backup |
| | | · · · · · | 😼 況 🕼 6:17 PM 6/23/2015 |

U Failover Cluster Manageru, u centralnom dijelu konzole, pod **Management**, kliknimo na **Create Cluster**. U Create Cluster Wizardu, preskočimo **Before You Begin** stranicu tako da kliknemo na **Next**:



| | | | Failover Cluster Manager | | | - | j x |
|--------------------------------------|--|------------------------------|---|--------------------------|---|------------------------|----------------------|
| File Action View Help | | | | | | | |
| (+ +) 📰 🖬 🖬 | | | | | | | |
| Bailover Cluster Manager | Failover Cluster Manage | er | | | ^ | Actions | |
| | Create failover cluste | | | Failover Cluster Manager | • | | |
| | 100 | 123 | Croate Cluster Wigard | | | Validate Configuration | |
| | | 1931 | | | | 🙀 Create Cluster | |
| | Overview | Before Ye | ou Begin | | | W Connect to Cluster | |
| | A failover cluster is a set of cables and by software. If | ,49h | | | | View | • |
| | | | | | | Refresh | |
| | Clusters | Before You Begin | This wizard creates a cluster, which is a set of servers that work together to increase the availability of clustered roles. If one of the servers fails, another server begins hosting the clustered roles (a process | | | Properties | |
| | Name | Validation Warning | known as failover). | | | I Help | |
| | Name | Access Point for | Before you run this wizard, we strongly recommend that you run the Validate a Configuration Wizard to ensure that your hardware and hardware settings are compatible with failover clustering. | | | | |
| | | Administering the Cluster | Microsoft supports a cluster solution only if the complete configuration (servers, network, and storage) can | | | | |
| | | Confirmation | pass all tests in the Validate a Configuration Wizard. In addition, all hardware components in the cluster solution must be "Certified for Windows Server 2012 B2" | | = | | |
| | | Creating New Cluster | You must be a local administrator on each of the servers that you want to include in the cluster | | | | |
| | | Summary | To particular allock Mast | | | | |
| | | | To contailide, click, freez. | | | | |
| | | | More about Microsoft support of cluster solutions that have passed validation tests | | | | |
| | Management | | | | | | |
| | To begin to use failover clu cluster can include copying | | Do not show this page again | inaging a | | | |
| | Validate Configuration. | | | | | | |
| | Create Cluster | | Next > Cancel | | | | |
| | Connect to Cluster | Xe | | | | | |
| | | | | | | | |
| | More Informati | ion | | | _ | | |
| | | the Web | | | | | |
| | Ealover cluster commu | nities on the Web | | | ~ | | |
| This action launches a wizard that w | vill guide you through the pro | cess of creating a new c | luster. | | _ | | |
| | a 8 | | | | | Re 19 (b | 6:17 PM 6/23/2015 |

U Enter server name boxu, napišimo SERVER1, i kliknimo na Add. Nakon toga, napišimo SERVER2, i kliknimo na Add. Time smo naša dva virtualna poslužitelja (SERVER1 i SERVER2) pripremili za dodavanje u failover cluster kojeg će oni biti članovi:

| | | Failover Cluster Manager | | _ 0 X |
|--------------------------------------|-------------------------------------|---|-----------|----------------------------|
| File Action View Help | | | | |
| (* *) 🖬 🖬 🖬 | | | | |
| Failover Cluster Manager | Failover Cluster Manager | | - | Actions |
| | Create failover clusters | validate hardware for potential failover clusters, and perform configuration changes to your failover clusters. | | Failover Cluster Manager 🔺 |
| | | Create Cluster Wizard X | | Validate Configuration |
| | | | | Create Cluster |
| | Acievaluteira | Select Computers | - Instant | W Connect to Cluster |
| | cables and by software. If | Multiple Names Found | priysical | View |
| | | More than one object matched the name "srv". Select one or more names from | | G Refresh |
| | ▲ Clusters | this list, or, reenter the name. | | Properties |
| | Name | Matching names: | | I Help |
| | | Name Description In Folder owse | | |
| | | SRV1 RITS LOCAD computers Add | | |
| | | IN SRV3 RITS.LOCAL/Computers | 1 | = |
| | | | | |
| | | | | |
| | | | | |
| | Management | | | |
| | To begin to use failover ch | | nacing a | |
| | cluster can include copying | OK Cancel | | |
| | Walidate Configuration. | | | |
| | Create Cluster | < Previous Next > Cancel | | |
| | Connect to Cluster | | | |
| | | | | |
| | More Informatio | 1 | | - |
| | Failover cluster topics on | he Web | | |
| | Failover cluster communit | es on the Weh | | ~ |
| This action launches a wizard that w | vill guide you through the proce | ss of creating a new cluster. | | |
| | | | | 6:18 PM 6/23/2015 |



| | | | | Failover Cluster Manager | | | _ 0 × |
|--------------------------------------|------------------------------------|------------------------------|-----------------------------|--|-----------|---|----------------------------|
| File Action View Help | | | | | | | |
| (+ +) 🖬 🖬 🖬 | | | | | | | |
| Failover Cluster Manager | Failover Cluster Manage | er | | | | ^ | Actions |
| | Create failover cluste | ers, validate hardware for p | potential failover clusters | s, and perform configuration changes to your failover clusters. | | | Failover Cluster Manager 🔶 |
| | | - | | Create Cluster Wizard | C | | Validate Configuration |
| | Overview | | | | | | Create Cluster |
| | A failover cluster is a set of | Select Se | ervers | | physical | | View |
| | cables and by software. If | | | | | | Refresh |
| | - Clustere | Before You Begin | Add the names of all t | he servers that you want to have in the cluster. You must add at least one server. | | | Properties |
| | Clusters | Select Servers | | | | | Help |
| | Name | Access Point for | Enter server name: | Browse | | | |
| | | Administering the Cluster | Selected servers: | SBV1 BITS LOCAL | | | |
| | | Confirmation | 000000000000000 | SRV2.RITS.LOCAL | | = | |
| | | Creating New Cluster | | 1 JULIO VO | | | |
| | | Summary | | | | | |
| | | | | | | | |
| | Management | | | | | | |
| | To begin to use failover clu | | | | inaging a | | |
| | cluster can include copying | | | | | | |
| | Create Cluster | | | < Previous Next > Cancel | | | |
| | Connect to Cluster | A. | | | | | |
| | | | | | | - | |
| | More Informati | on | | | | | |
| | Failover cluster topics o | n the Web | | | | | |
| | Failover cluster commun | nities on the Weh | | | | ~ | |
| This action launches a wizard that w | ill guide you through the pro | cess of creating a new c | luster. | | | | |
| | | | | | | | 6:18 PM 6/23/2015 |

Na stranici Validation Warning, kliknimo na No, I do not require support from Microsoft for this cluster, i onda na Next. Preskočiti ćemo dio failover clustering testova kako bismo podigli File Server zbog čega će – ukoliko odaberemo opciju Yes, serveri SERVER1 i SERVER2 pasti na testu. Ovako ćemo to izbjeći:

| 题 | | | Failover Cluster Manager | | | - | D X |
|--------------------------------------|--|------------------------------|--|-------------|---|--------------------------|-----------|
| File Action View Help | | | | | | | |
| (+ +) 🖬 🛛 🖬 | | | | | | | |
| 📲 Failover Cluster Manager | Failover Cluster Manage | er | | | | Actions | |
| | Create failover cluste | ers, validate hardware for p | otential failover clusters, and perform configuration changes to your failover clusters. | | | Failover Cluster Manager | • |
| | | | Create Cluster Wizard X | | | Walidate Configuration | |
| | Quarinu | - CER | | | | 🙀 Create Cluster | |
| | Overview | Validation | n Warning | | | Connect to Cluster | |
| A failover clus cables and by | A failover cluster is a set of cables and by software. If | Alle | | physical | | View | • |
| | | Before May Beste | | | | Refresh | |
| | Clusters | Select Servers | For the servers you selected for this cluster, the reports from cluster configuration validation tests appear to be missing or incomplete. Microsoft supports a cluster solution only if the complete | | | Properties | |
| | Name | Validation Warning | configuration (servers, network and storage) can pass all the tests in the Validate a Configuration wizard. | | | P Help | |
| | | Access Point for | Do you want to run configuration validation tests before continuing? | | | | |
| | | Administering the Cluster | | | | | |
| | | Confirmation | | | ≡ | | |
| | | Creating New Cluster | Yes. When I click Next, run configuration validation tests, and then return to the process of creating | | | | |
| | | Summary | the cluster. | | | | |
| | | | No. I do not require support from Microsoft for this cluster, and therefore do not want to run the undicative texts. When Leikk Next continue constinue hereits. | | | | |
| | Management | | Validation tests. When higher work, contained creating the cluster. | | | | |
| | To begin to use failours de | | | in a cine a | | | |
| | cluster can include copying | | More about cluster validation tests | maging a | | | |
| | Walidate Configuration. | | | | | | |
| | Create Cluster | | < Previous Next > Cancel | | | | |
| | Connect to Cluster | | | | | | |
| | | | | | | | |
| | More Informati | on | | | - | | |
| | Failover cluster topics o | in the Web | | | | | |
| | Failover cluster commun | nities on the Weh | | | ~ | | |
| This action launches a wizard that w | ill guide you through the pro | cess of creating a new cl | uster. | | | | 6-20 DM |
| | | | | | | Rs 17 (b | 6/23/2015 |

Na Access Point for Administering the Cluster stranici, u Cluster Name boxu, napišimo FSCluster. To će biti ime našeg clustera. Također, pod Address, napišimo 192.168.0.230, 192.168.1.230, 192.168.2.230, 192.168.3.230, isključimo oznaku na 172.16.0 mreži, i kliknimo na Next:



| 题 | | | | Failover | r Cluster Manager | | | | | _ 0 × | |
|------------------------------------|---|---------------------------------------|--------------------------------|---|---|--|----------------------|------------|-----------------------|----------------------|--|
| File Action View Help | | | | | | | | | | | |
| | | | | | _ | | | | | | |
| 📲 Failover Cluster Manager | Failover Cluster Manag | er | | | | | | ^ <i>I</i> | Actions | | |
| - | Create failover cluste | ers, validate hardware for | potential failover clus | sters, and perform | n configuration changes to your fa | ilover clusters. | | 1 | Failover Cluster Man | ager 🔺 | |
| | | - | | | Create Cluster Wizard | | × | | Validate Configuratio |)n | |
| | | | | | | | | | Create Cluster | | |
| | A failover cluster is a set of | Access P | oint for Admin | View | | - | | | | | |
| | cables and by software. If | | | | | | | Refresh | | | |
| | | Before You Begin | Type the name yo | u want to use wh | en administering the cluster. | | | | | | |
| | Clusters | Select Servers | Cluster Name: | FSCluster | | | | | Help | | |
| | Name | Access Point for Administering the | | | | | | | | | |
| | | Confirmation | The NetBIOS r For each netw | name is limited to ork to be used, r | 15 characters. One or more IPv4 make sure the network is selected, | addresses could not be config and then type an address. | gured automatically. | | | | |
| | | Creating New Cluster | | | 1 | | | | | | |
| | | Summary | | INetwo | 192.168.3.0/24 | Address | 8.3.230 | | | | |
| | | | | • | 192.168.2.0/24 | 192.16 | 8.2.230 | | | | |
| | | | | | 192.168.1.0/24 | 192.16 | 8.1.230 | | | | |
| | | | | | 172.16.0.0/16 | Click here to t | ype an address | | | | |
| | Management | | | • | 192.168.0.0/24 | 192 . 168 | 0 . 230 | | | | |
| | To begin to use failover cl a cluster can include copy | | | | | | | | | | |
| | Validate Configuration | | | | | | | | | | |
| | Create Cluster | | | | | | | | | | |
| | Connect to Cluster | | | | | | | | | | |
| | | | | | | < Previous Next > | Cancel | | | | |
| | More Information | on | | | | | | | | | |
| | Eallover cluster topics of | on the Web | | | | | | ~ | | | |
| This action launches a wizard that | will guide you through the pro | cess of creating a new | cluster. | | | | 1 | - 1 Inc. | | | |
| | | | | | | | | | R 8 % | 6:25 PM 6/23/2015 | |

U dialog boxu **Confirmation**, provjerimo informacije, obrišimo oznaku kod **Add all eligible storage to the cluster**, i kliknimo na **Next**:

| 8 <u>8</u> | | | Fail | over Cluster Manager | | | | x |
|--------------------------|---|---|--|---|--------------------------|-------|----------------------|----------|
| File Action View Help | | | | | | | | |
| | | | | - | | | | |
| Bailover Cluster Manager | Failover Cluster Manager | | | | | Actio | ins | |
| | Create failover clusters, | validate hardware for pote | ential failover clusters, and p | erform configuration changes to your failove | r clusters. | Failo | over Cluster Manager | • |
| | | | | Create Cluster Wizard | | X | lidate Configuration | |
| | Overview | Confirma | tion | | | | onnect to Cluster | |
| | A failover cluster is a set of ind cables and by software. If one | 1000 | | | | | ew | F |
| | | Before You Begin | You are ready to create a | ready to create a cluster. | | | fresh | |
| | ▲ Clusters | Select Servers | The wizard will create yo | ur cluster with the following settings: | | | operties | _ |
| | Name Management To begin to use failower cluste a cluster can include copying r Waldate Configuration @@ Conset Cluster @@ Conset Cluster | Access Point for Administering the Cluster Confirmation Creating New Cluster Summary | Cluster: Node: IP Address: IP Address: IP Address: IP Address: IP Address: To continue, click Next. | FScluster SRVJ.RITS.LOCAL SRVJ.RITS.LOCAL 192.168.3.230 192.168.1.230 192.168.1.230 192.168.0.230 | | ~ | ыр | |
| | More Information Faiover cluster topics on th | e Web | | | < Previous Next > Cancel | | | |
| € ► 2 | | | | | | | 6:32 PN 6/23/201 | M 015 |

Na stranici Create Cluster Wizard Summary, kliknimo na Finish:



| 8a | | | | Failover Cluster Manager | | | _ 0 × | |
|--|--|---|---|--|----------------|------------------------|----------------------|--|
| File Action View Help | | | | - | | | | |
| | | | | _ | | | | |
| Railover Cluster Manager | lover Cluster Manag | Actions | | | | | | |
| 38 | Create failover cluste | ers, validate hardware for po | otential failover clusters, a | and perform configuration changes to your failover clusters. | | Failover Cluster Mar | nager 🔺 | |
| 3 | | 4 | | Create Cluster Wizard | × | Validate Configuration | | |
| | Overview | Summary | | | Create Cluster | 2 | | |
| A | A failover cluster is a set o ables and by software. If | | | | | View | • | |
| | | Peters Veu Peein | You have succe | arfully completed the Create Cluster Witterd | | Refresh | | |
| | Clusters | Select Servers | Tou have succe | sauly completed the create cluster wizard. | | Properties | | |
| | Name | Access Point for | [| | | 👔 Help | | |
| T | Confirmation Confirmation Confirmation Confirmation Confirmation Confirmation Confirmation Confirmation Confirmation | Continuenting une Confirmation Creating New Custer Summary | Cluster: Node: Node: Quorum: IP Address: IP Address: IP Address: IP Address: IP Address: To view the report create | Create Cluster SRV1.RITS.UCCAL SRV2.RITS.LOCAL Node and Disk Majority (Cluster Disk 1) 192.168.2.230 192.168.1.230 192.168.0.230 | View Report | 2 | | |
| | Create Cluster | on In the Web | To close this wizard, clich | k Finish. | Finish | | | |
| This action launches a wizard that will gu | ride you through the pro | cess of creating a new clu | uster. | | 1 | | - i - i | |
| 8 6 8 | - Ba | | | | | R a 9 | 6:29 PM 6/23/2015 | |

U Failover Cluster Manageru, proširimo **FSCluster.RITS.com**, proširimo **Storage**, i onda kliknimo sa desnom tipkom miša na **Disks** te odaberimo **Add Disk**:

| 嶘 | | | | | | Failover Cluster | Manager | | | | | ۵ x |
|-------------------------|--------------|-------------------|---|--------|-------------|------------------|-------------|----------|---------------|-----|--------------------------|----------------------|
| File Action View | Help | | | | | | | | | | | |
| 🗢 🏟 🙎 📰 🛽 | | | | | | | | | | | | |
| Railover Cluster Ma | anager | Disks (0) | | | | - | | - | | | Actions | |
| ⊿ i FSCluster.RITS.I | LOCAL | Search | | | | | | | 🔎 Queries 🔻 📘 | • • | Disks | • |
| Modes Nodes | | Name | | Status | Assigned To | Owner Node | Disk Number | Capacity | Information | | 🛃 Add Disk | |
| ⊿ 📇 Storage | | | | | | | | | | | 🍰 Move Available Storage | • |
| | Add Disk | | | | | | | | | | View | • |
| Metwor | Move Ava | ilable Storage | | | | | | | | | Refresh | |
| 题 Cluster | View | | | | | | | | | | 👔 Help | |
| | Refresh | | | | | | | | | | | |
| | Help | | | | | No items found. | | | | | | |
| - | | 1 | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| This action enables you | to add a dis | k to the cluster. | | | | | | | | | | |
| | Σ | | , | | | | | | | | R M G | 6:36 PM 6/23/2015 |

U dialog boxu Add Disks to a Cluster, provjerimo da su Cluster Disk 1 i Cluster Disk 2 označeni, i onda kliknimo na OK. Provjerimo da se ova dva diska pojavljuju na listi dostupnih sustava za pohranu u Failover Cluster Manageru.

Kako bi cluster mogao normalno raditi, na barem jednom disku moramo napraviti Cluster Shared Volume. Desnom tipkom miša kliknimo na **Cluster Disk 1**, i označimo **Add to Cluster Shared Volumes:**



| <u>a</u> | | | Failover Cluste | Manager | | | - | 0 X |
|-------------------------------|--|-----------------|-----------------|-------------|----------|-----------------|---------------------------|----------------------|
| File Action View Help | | | | | | | | |
| 🗢 🌩 🖄 📰 🖬 | | | _ | | _ | | | |
| Hailover Cluster Manager | Disks (2) | | | | | | Actions | |
| ⊿ SCluster.RITS.LOCAL ■ Roles | Search | | | | | 🔎 Queries 👻 🛃 👻 | Disks | • |
| Modes | Name Status | Assigned To | Owner Node | Disk Number | Capacity | Information | 🛃 Add Disk | |
| ⊿ 📇 Storage | | 1 - 1 - Crprage | SRV2 | | 1 | 5.00 GB | 📑 Move Available Storage | • |
| E Pools | Cluster Cluster | brage | SRV2 | | 2 | 5.00 GB | View | + |
| Networks | Add to Cluster Shared Vol | umes | | | | | Refresh | |
| Cluster Events | Information Details | | | | | | 👔 Help | |
| | Show Critical Events | | | | | | Cluster Disk 1 | |
| | More Actions | • | | | | | Bring Online | |
| | Remove | | | | | | Take Offline | |
| | Properties | | | | | | dd to Cluster Shared Volu | imes |
| | Carl Properties | | | | | | Information Details | |
| | | | | | | | Show Critical Events | |
| | | | | | | | More Actions | • |
| | < | | ш | | | > | Remove | |
| | | | | | | | Properties | |
| | V Cluster Disk 1 | | | | | | 👔 Help | |
| | Volumes (1) | | | | | | - | |
| | ClusterDisk1 (D:) | | | | | | | |
| | NTFS 4.92 GB free of 4.97 GB | | | | | | | |
| | Contraction and a state and a state of the s | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| Disks: Cluster Disk 1 | | | | | | | | |
| | | | | | | | R 14 6 | 6:37 PM 6/23/2015 |

Desnom tipkom miša kliknimo na **FSCluster.RITS.com**, označimo **More Actions**, i onda kliknimo na **Configure Cluster Quorum Settings**, pa **Next**:

| 蕴 | | | | | Failover Cluste | r Manager | | | _ | ۵ x |
|---------------------------|--------------|-----------------------------------|------------------|-----------------------|-----------------|-------------|----------|-----------------|--------------------------|----------------------|
| File Action View | Help | | | | | | | | | |
| 🗢 🏟 🖄 📅 📓 | 1 | | | | | | | | | |
| 📲 Failover Cluster Mar | nager | Disks (2) | | | - | | - | | Actions | |
| FSCluster.RIT Balas | Config | ure Role | | | | | | 🔎 Queries 🔻 🕁 👻 | Disks | • |
| Nodes | Validate | e Cluster | Status | Assigned To | Owner Node | Disk Number | Capacity | Information | 🔮 Add Disk | |
| ⊿ 📇 Storage | View Va | alidation Report | (Online | Cluster Shared Volume | SRV1 | | 1 | 5.00 GB | 🍰 Move Available Storage | • |
| B Pools | Add No | ode | (Online | Available Storage | SRV2 | | 2 | 5.00 GB | View | • |
| Networks | Close C | Connection | | | | | | | Refresh | |
| Cluster Ev | Reset R | lecent Events | | | | | | | 👔 Help | |
| | More A | Actions + | Configure Clust | er Quorum Settings | | | | | | |
| | Refresh | 1 | Copy Cluster Ro | les | | | | | | |
| | Propert | ties | Shut Down Clus | ter | | | | | | |
| | Help | | Destroy Cluster. | | | | | | | |
| | | | Move Core Clus | ter Resources | • | | | | | |
| | | | Cluster-Aware U | lpdating | | | | | | |
| | | | | | | | | | | |
| | | < | | | | | | > | | |
| | | | | | | | | | i l | |
| | | × | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| These actions are used lo | ess frequent | I tly than other cluster actio | ons. | | | | | | | |
| | Σ | | | | | | | | Rs 19 45 | 6:38 PM 6/23/2015 |

Na stranici Select Quorum Configuration Option, označimo Use default quorum configuration, pa Next:



| B | | | Failover Cluster Manager | | - | | |
|----------------------------|------------------|--|--|------------|------------------------|----------------------|--|
| File Action View Help | | | | | | | |
| (= =) 🖄 📰 🖬 | | | | | | | |
| B Failover Cluster Manager | Dieke (2) | | - · · | | Actions | | |
| FSCluster.RITS.LOCAL | Search | | P Queries 🔻 🗖 | - • | Disks | | |
| Roles | Name | - | Configure Cluster Quorum Wizard | | 😫 Add Disk | | |
| 🔺 📇 Storage | 📇 Cluster Disk 1 | | | | Move Available Storage | • | |
| Disks | Cluster Disk 2 | Select Q | uorum Configuration Option | | View | | |
| Metworks | | 441 | | 1 | Refresh | | |
| (H) Cluster Events | | Before You Begin Select Quorum Configuration Option Configure Cluster Quorum Settings Summary | Select a quorum configuration for your cluster. Use default quorum configuration The cluster determines quorum management options, including the quorum witness. Select the quorum witness You can add or change the quorum witness. The cluster determines the other quorum management options. Advanced quorum configuration You determine the quorum management options, including the quorum witness. | > | 🕜 Help | | |
| | • | | Ealover Cluster Quorum and Witness Configuration Options < Previous Next > Cancel | | | | |
| | | | | | | | |
| | a | | | | R5 174 05 | 6:38 PM 6/23/2015 | |

Na stranici Confirmation, kliknimo na Next. Nakon toga, na stranici Summary, kliknimo na Finish.

Desnom tipkom miša kliknimo na Roles, i označimo Configure Role:

| a | | | | | | Failover Cluste | r Manager | | | | | _ 0 × |
|-----------------|----------------|-----------|----------------------------|--------|------------------------|-----------------|-------------|----------|---------|-----------------|-----------------------|----------------------|
| File Action Vi | ew Help | | | | | | | | | | | |
| 🗢 🄿 🖻 💼 | ? 🖬 | | | | | | | | | | | |
| Railover Cluste | er Manager | Disks (2) |) | | | - | | - | | | Actions |] |
| ⊿ 🎼 FSCluster.F | RITS.LOCAL | Search | | | | | | | 3 | Queries 🔻 🛃 👻 😒 | Disks | |
| Nc | Configure Role | | | Status | Assigned To | Owner Node | Disk Number | Capacity | Info | mation | 🔮 Add Disk | |
| ⊿ 📇 Sto | Virtual Machin | es | Disk 1 | Online | Cluster Shared Volume | SRV1 | | 1 | 5.00 GB | | 📑 Move Available Stor | rage 🕨 🕨 |
| 8 | Create Empty F | Role | Disk 2 | Online | Disk Witness in Quorum | SRV2 | | 2 | 5.00 GB | | View | • |
| 🧃 Ne | Refresh | | | | | | | | | | Refresh | |
| E Ch | Help | | | | | | | | | | 👔 Help | |
| ler. | 1 | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| I | | < | | | 11 | 1 | | | | > | | |
| I | | ~ | | | | | | | | | | |
| I | | | | | | | | | | | | |
| I | | | | | | | | | | | | |
| I | | | | | | | | | | | | |
| I | | | | | | | | | | | | |
| I | | | | | | | | | | | | |
| I | | | | | | | | | | | | |
| I | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | Raf | 6:39 PM 6/23/2015 |

Na stranici **Before You Begin**, kliknimo na **Next**. Nakon toga, na stranici **Select Role**, oznalimo **File Server** i kliknimo na **Next**:



| | | | Failover Cluster Manager | | - | D X |
|--------------------------|----------------|---|--|------|------------------------|----------------------|
| File Action View Help | | | | | | |
| 🗢 🏟 🖄 📰 📓 📰 | | | | | | |
| Failover Cluster Manager | Disks (2) | | | Act | tions | |
| ⊿ K FSCluster.RITS.LOCAL | Search | | P Queries 🔻 🖬 🔻 | 🔍 Di | sks | • |
| Modes | Name | - 80 | High Availability Wizard | 3 | Add Disk | |
| ⊿ 📇 Storage | Cluster Disk 1 | | | 3 | Move Available Storage | • |
| Pools | Cluster Disk 2 | Select R | ble | | View | * |
| Metworks | | | | Q | Refresh | |
| | < | Before You Begin Societ Role File Server Type Client Access Point Select Storage Configure High Availability Summary | Select the role that you want to configure for high availability: DFS Namespace Server DESTABLES Server Ser | | Help | |
| | 1 | | | | | |
| | | | | | Rs 197 (b | 6:39 PM 6/23/2015 |

Na stranici File Server Type, označimo Scale-Out File Server for application data i kliknimo na Next:

| 驢 | | | Failover Cluster Manager | | _ 0 × |
|-----------------------|----------------|---|---|-------------------------|----------------------|
| File Action View Help | | | | | |
| 🗢 🏟 🙍 📰 🖬 🖬 | | | | | |
| | Disks (2) | | · · · | Actions | |
| FSCluster.RITS.LOCAL | Search | | P Queries 🔻 | l ▼ ♥ Disks | * |
| Roles | Name | an l | High Availability Wizard | Add Disk | |
| 🔺 🙇 Storage | Cluster Disk 1 | Contr. | | 📑 Move Available Str | orage 🕨 🕨 |
| Disks | Cluster Disk 2 | File Serv | ver Type | View | • |
| Networks | | C-120 | | Refresh | |
| (明) Cluster Events | < | Before You Begin Select Role File Server Type Client Access Point Configure High Availability Summary | Select an option for a clustered file server: File Server for general use Use this option to provide a certral location on your network for users to share files or for server application stat open and close files frequently. This option supports Data Deduplication, File Server Resource Manager, DFS Replication, and other File Services role services. • Scale-Out File Server for application data Use this option to provide storage for server applications or vitual machines that leave files open for earered application data. This option supports Data Deduplication, File Server Resource Manager, DFS Replication, and other File Services role services. • Scale-Out File Server for application data Use this option to provide storage for server applications or vitual machines that leave files open for earered application data. This option supports the SMB protocol. It does not support the IVFS protocol. DFS Replication, or File Server Resource Manager. More about clustered file server options | Image: Particular state | |
| | | | | | |
| | | | | Ra | 6:39 PM 6/23/2015 |

Na stranici **Client Access Point**, u boxu **Name**, napišimo **RitsFS** i kliknimo na **Next**. Nakon toga, na stranici **Confirmation**, kliknimo na **Next** i na stranici **Summary**, kliknimo na **Finish**:



| | | | Faild | over Cluster Manager | | | | _ 0 × |
|----------------------------|------------------|---------------------|-----------------------------------|--------------------------------------|---------------|---|------------------------|-----------|
| File Action View Help | | | | - | | | | |
| (+ +) 🖄 🖬 🖬 🖬 | | | | | | | | |
| 調 Failover Cluster Manager | Disks (2) | | | - | | | Actions | |
| FSCluster.RITS.LOCAL | Search | | | | O Queries 👻 [| | Dicke | |
| Roles | | 1.800 | | | | | Add Dick | _ |
| Modes | Name | 80 | High | h Availability Wizard | | | Augusta | |
| 🔠 Disks | I Cluster Disk 2 | Summary | | | | | Niove Available Storag | |
| Pools | | | | | | | View | |
| Networks | | | | | | | G Kefresh | |
| ing cluster events | | Before You Begin | High availability was su | uccessfully configured for the role. | | | Help | |
| | | Select Role | | | | | | |
| | | File Server Type | | for Next in 1 MeV | | | | |
| | | Client Access Point | | File Server | <u>^</u> | | | |
| | | Confirmation | | | | | | |
| | | Availability | Distributed Network | RitsFS | | | | |
| | | Summary | OU: | CN=Computers,DC=RITS,DC=LOCAL | | | | |
| | | | Subnet: | 192.168.3.0 | | | | |
| | < | - | Subnet: Subnet: | 192.168.2.0 192.168.1.0 | | > | | |
| | - | | Subnet: | 192.168.0.0 | ~ = | | | |
| | * | | To view the second second divid | to utend allels Mary Depart | | | | |
| | L | - | To close this wizard, click Finis | h. | View Report | | | |
| | | | | | | | | |
| | | | | | Finish | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| |]] | | | | | | | |
| | | | | | | | | 6:40 PM |
| | | | | | | | 18 W | 6/23/2015 |

Time je konfiguracija Scale-Out File Servera završena. Još moramo na našem Scale-Out File Serveru napraviti kontinuirano dostupni *share* i naš je zadatak završen.

Zadatak 4: Konfiguracija kontinuirano dostupnog file share-a

Na RITS-EXC-SERVER1, u Failover Cluster Manageru, kliknimo na **Roles**, i u središnjem dijelu ekrana desnom tipkom miša kliknimo na **RitsFS** i odaberimo **Add File Share.** Ako dobijemo poruku da je Client Access Point not ready, onda ove sve korake napravimo na RITS-EXC-SERVER2:

| 3 | | Fai | ilover Cluster Manager | r. | | - | . 🗗 X |
|--------------------------|----------------------------------|----------------------------|------------------------|-------------|----------------------------|---------------------------|----------------------|
| File Action View Help | | | | | | | |
| 🗢 🏟 🙎 📰 🔝 | | | | | | | |
| Failover Cluster Manager | Roles (1) | | - | | | Actions | |
| ⊿ K FSCluster.RITS.LOCAL | Search | | | | 🔎 Queries 🔻 🛃 👻 🖌 | Roles | |
| Nodes | Name Status | Type Owner N | Node Priority | Information | | Ronfigure Role | |
| ⊿ 🦲 Storage | Running | Scale-Out File Server SRV2 | Medium | | | Virtual Machines | • |
| Disks | Start Role | | | | | 📸 Create Empty Role | |
| Metworks | C Stop Role | | | | | View | • |
| Cluster Events | Add File Share | | | | | G Refresh | |
| | Move | • | | | | ? Help | |
| | () Change Startup Priority | • | | | | RitsFS | |
| | Information Details | | | | | 🛟 Start Role | |
| | Show Critical Events | | | | | 🛟 Stop Role | |
| | Add Resource | • | | | | 📑 Add File Share | |
| | More Actions | • | | | | 📝 Move | |
| | 💥 Remove | | | | | 🔞 Change Startup Priority | • |
| | Properties | | | | | 🚮 Information Details | |
| | | | | | | B Show Critical Events | |
| | V RitsFS | | | | Preferred Owners: Any node | Add Resource | • |
| | | | | | | More Actions | • |
| | Status: Running | | | | | 💥 Remove | |
| | Owner Node: SBV2 | | | | | Properties | |
| | Distributed Network Name: RitsFS | | | | | 🕜 Help | |
| | Networks: | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | Summary Resources Shares | | | | | | |
| Roles: RitsFS | | | | | | | |
| | | | | | | R5 19 4 | 6:41 PM 6/23/2015 |

U wizardu New Share Wizard, na stranici Select the profile for this share, označimo SMB ShareApplications, i kliknimo na Next:



| 뭺 | | Failover Cluster Manager | _ | 0 X |
|--------------------------|--|---|---------------------------|----------------------|
| File Action View Help | | | | |
| 🗢 🏟 🙎 📰 🛛 🛅 | | | | |
| Railover Cluster Manager | Roles (1) | | Actions | |
| FSCluster.RITS.LOCAL | Search | New Share Wizard | Roles | • |
| Nodes | Name | | Configure Role | |
| ⊿ 📇 Storage | B RitsFS Salact the profile for this shi | | Virtual Machines | • |
| Pools | Select the profile for this sha | | Create Empty Role | |
| Networks | Select Profile | e: Description: | View | <u> </u> |
| 國 Cluster Events | Share Location SMB Share - C | uick This profile creates an SMB file share with settings | C Refresh | |
| | Share Name SMB Share - A | dvanced appropriate for Hyper-V, certain databases, and ot | her 🛛 🕅 Help | |
| | Other Settings | pplications | RitsFS | |
| | Permissions NES Share - Q | uick tvanced | 🚓 Start Role | |
| | Confirmation | and the second | 🖓 Stop Role | |
| | Results | | Add File Share | |
| | | | Move | 2 |
| | | | 🔞 Change Startup Priority | • |
| | | | Information Details | |
| | | | Show Critical Events | |
| | ★ ■ | | Any node Add Resource | • |
| | Sharer (1) | | More Actions | <u> </u> |
| | Name | | Remove | |
| | 2 Cluste | | Properties | |
| | | | 👔 Help | |
| | | | | |
| | | < Previous Next > Create Can | cel | |
| | | | | |
| | Summary Resources Shares | | | |
| Roles: RitsFS | | | | |
| | | | Ra 197 45 | 7:00 PM 6/23/2015 |

Na stranici Select the server and path for this share, kliknimo na Select by volume, pa na Next:

| 8 <u>8</u> | | | | Failover Cluster Manager | | | | _ 0 × |
|--------------------------|------------|-------------------|---------------------|---------------------------------------|-----|----------|------------------------|----------------------|
| File Action View Help | | | | | | | | |
| | | | | | | | | |
| Failover Cluster Manager | Roles (1) | | | | | | Actions | |
| Roles | Search | | | New Share Wizard | X | | Roles | • |
| Nodes | Name | | | | | | 🧑 Configure Role | |
| ⊿ Storage | RitsFS | Specify share nar | ne | | | | Virtual Machines | <u> </u> |
| Pools | | specify share har | | | | | Create Empty Role | |
| Networks | | Salact Profile | Shara namar | VM | T I | | View | |
| [3] Cluster Events | | Share Location | Share hame. | | | | Refresh | |
| | | Share Name | Share description: | | | | 👔 Help | |
| | | Other Settings | | | | | RitsFS | |
| | | Devenings | | | | | 🔆 Start Role | |
| | | | | | | | 🗘 Stop Role | |
| | | | Local path to share | · · · · · · · · · · · · · · · · · · · | | | Add File Share | |
| | | | If the folder doe | s not exist the folder is created. | | | Move | |
| | | | | | | | Change Startup Priori | ty 🕨 |
| | | | Remote path to shi | ire: | | | Information Details | |
| | | | \\ritsfs\VMachines | | _ | | B Show Critical Events | |
| | | | | | | | Add Persures | X |
| | × 10 | | | | | Any node | Mars Astisas | |
| | Shares (1) | | | | | | More Actions | |
| | Name | | | | | | Kemove | |
| | 🤳 Cluste | | | | | | Properties | |
| | | | | | | | Help | |
| | | | | | | | | |
| | | | | < Previous Next > Create Can | cel | | | |
| | | | | | | | | |
| | Summary Re | esources Shares | | | | | 3 | |
| Roles: RitsFS | | | | | | | | |
| | 日 敬 | | | | | | Ro Vi | 7:01 PM 6/23/2015 |

Na stranici Specify share name, u text boxu Share name, napišimo VM, i kliknimo na Next:



| ······································ | | | Failover Cluster Manager | | - 0 | ji x |
|--|------------|------------------|--|----------|---------------------------|---------------------|
| File Action View Help | | | | | | |
| 🗢 🔿 🙍 🖬 🖬 🖬 | | | | | | |
| 📲 Failover Cluster Manager | Roles (1) | | | | Actions | |
| FSCluster.RITS.LOCAL Roles | Search | | New Share Wizard | • • | Roles | • |
| Nodes | Name | | | | k Configure Role | |
| ⊿ 📇 Storage | 🔒 RitsFS | Spacify chara pa | | | Virtual Machines | • |
| Disks Pools | | specify share ha | nie | | Create Empty Role | |
| Metworks | | 61 10 N | VM | | View | • |
| Cluster Events | | Select Profile | Share name: | | Refresh | |
| | | Share Location | Share description: | | 👔 Help | |
| | | Share Name | | | RitsFS | |
| | | Dorminian | | | 🗘 Start Role | |
| | | Confirmation | Land and the strength | | 🛟 Stop Role | • • |
| | | Results | Local path to share: | | Add File Share | |
| | | Charlenge | If the folder does not exist, the folder is created. | | Move | |
| | | | Parente anti-te charge | | 🔞 Change Startup Priority | • |
| | | | Vritsfs/VMachines | | Information Details | |
| | | | ((DD) ((MC) MC) | | B Show Critical Events | |
| | v II. | | | Any node | Add Resource | • |
| | | | | | More Actions | • |
| | Shares (1) | | | | X Remove | |
| | Name | | | | Properties | |
| | Ciusto | | | | I Help | |
| | | | κ. | | | |
| | | | < Previous Next > Create Cancel | | | |
| | | | | | | |
| | Summary | Resources Shares | | | | |
| Roles: RitsFS | 1 | | | | 3 | |
| | | | | | Ro 19 06 6 | 7:01 PM /23/2015 |

Na stranici **Configure share settings**, kliknimo na **Next.** Nakon toga, na stranici **Specify permissions to control access**, kliknimo na **Customize permissions**. Kako bi virtualni poslužitelj SERVER1 i SERVER2 imali pravo pristupa na ovaj share, moramo dodati njihove computer accounte na listu objekata koji imaju dozvolu pristupa:

| 藏 | Failover Cluster Manager | | _ 0 × |
|--------------------------------|---|----------|-------------------------------|
| File Action View Help | | | |
| 🗢 🏟 🙇 📰 🖬 | | | |
| Hailover Cluster Manager | Roles (1) | | Actions |
| FSCluster.RITS.LOCAL Roles | Search New Share Wizard - | | Roles 🔺 |
| Nodes | Name | | by Configure Role |
| 🔺 🛄 Storage | RtsFS Charify permissions to control access | | Virtual Machines 🕨 |
| B Pools | specify permissions to control access | | 📸 Create Empty Role |
| Metworks | If this chara will be used for Hyner-V you may need to enable constrained delenation to enable | | View 🕨 |
| Cluster Events | select Prome remote management of the Hyper-V host. | | G Refresh |
| | Share Location Permissions to access the files on a share are set using a combination of folder permissions, share Share Name | | 👔 Help |
| | Other Settings | | RitsFS 🔺 |
| | Share permissions: Everyone Full Control | | 🕼 Start Role |
| | Folder permissions: | | 🗘 Stop Role |
| | Results Allow BUILTINUIsers Special This folder and subfolders | | dd File Share |
| | Allow BUILTIN\Users Read & execute This folder, subfolders, and files | | Move 🕨 |
| | Allow CREATOR OWNER Full Control Subfolders and files only | | 🔞 Change Startup Priority 🕨 🕨 |
| | Allow NT AUTHORITY/SYSTEM Full Control This folder, subfolders, and files | | Information Details |
| | Allow BUILTIN/Administrators Full Control This folder, subfolders, and files | - | Show Critical Events |
| | | Any node | Add Resource |
| | Customize permissions | | More Actions |
| | Name | | 🔀 Remove |
| | | | Properties |
| | | | 👔 Help |
| | | - | |
| | < Previous Next > Create Cancel | | |
| | | | |
| | Summary Resources Shares | | |
| | | | |
| | | | 7:02 PM 6/23/2015 |

U prozoru Advanced Security Settings for VM, kliknimo na Add:



| B | | Failover Cluster Manager | _ 0 X |
|--------------------------|----------------|--|---|
| File Action View Help | | | |
| 🗢 🏟 🙍 📰 🚺 | | | |
| Hailover Cluster Manager | Roles (1) | Actions | |
| FSCluster.RITS.LOCAL | Search | Advanced Security Settings for VM | • |
| Nodes | Name | 🧑 Config | gure Role |
| ⊿ 📇 Storage | ₿ RitsFS | Name: \\ritsfs:rits.local\ClusterStorage\$\Volume1\Shares\VMachines Virtua | ıl Machines 🕨 |
| Disks Pools | | Owner Administrators (SRV1) Administrators) Change | e Empty Role |
| Networks | | View View | • |
| 时 Cluster Events | | Permissions Share Auditing Effective Access | ۶h |
| | | For additional information, double-click a permission entry. To modify a permission entry, select the entry and click Edit (if available). | |
| | | Permission entries: RitsFS | • |
| | | Type Principal Access Inherited from Applies to | Role |
| | | & Allow Administrators (SRV1/Admini Full control None This folder only | Role |
| | | Allow Administrators (SKV1/Admini Full control /\rists.rits.local/Cluste This folder, subfolders and files | ile Share |
| | | 😹 Allow CREATOR OWNER Full control \\ritsfs.rits.local\Cluste Subfolders and files only | () · · · · · · · · · · · · · · · · · · |
| | | & Allow Users (SRV1/Users) Read & execute \\ritsfs.rits.local\Cluste This folder, subfolders and files 🛛 🔞 Change | ge Startup Priority |
| | | Allow Users (SRV1/Users) Special \\ntsts.rits.local\Cluste This folder and subfolders | nation Details |
| | | Line II Show | Critical Events |
| | ¥ 🍙 | Add Remove View | lesource 🕨 |
| | Charge (1) | S More | Actions • |
| | Name | Disable inheritance | we |
| | J Cluste | Replace all child object permission entries with inheritable permission entries from this object | rties |
| | | OK Cancel Apply | |
| | | | |
| | | < Previous Next > Create Cancel | |
| | | | |
| | Summary Resour | ces Shares | |
| | | | |
| | | | 7:02 PM 6/23/2015 |

U prozoru Permission Entry for VM, kliknimo na Select a principal:

| Eile Action View Help | Failover Cluster Manager | _ 0 X |
|----------------------------|--|-------------------------|
| | | |
| 📲 Failover Cluster Manager | Ro Permission Entry for VM | ns |
| FSCluster.RITS.LOCAL | Se | s 🔺 |
| Nodes | Na Principal: Select a principal | Configure Role |
| 🔺 📇 Storage | Type: Allow ~ | Firtual Machines |
| Disks | | Freate Empty Role |
| Networks | Applies to: I his tolder, subtolders and tiles | Tiew 🕨 |
| Cluster Events | | lefresh |
| | Basic permissions: Show advanced permissions | lelp |
| | Full control | 5 |
| | O Modify | tart Role |
| | Vead & execute Vead & execute Vead & execute | top Role |
| | ✓ Read | dd File Share |
| | Write | /love • |
| | Special permissions | Change Startup Priority |
| | Only apply these permissions to objects and/or containers within this container | nformation Details |
| | | how Critical Events |
| | Add a condition to limit access. The principal will be granted the specified permissions only if conditions are met. | Add Resource |
| | | Nore Actions |
| | Add a condition | temove |
| | Re la constante de la constante | roperties |
| | | lelp |
| | | |
| | OK Cancel | |
| | | - |
| | Summary Resources Shares | |
| | | |
| | | R3 R 4 6/23/2015 |

U prozoru Select User, Computer, Service Account, or Group, kliknimo na **Object Types**. U prozoru Object Types, označimo **Computers** i kliknimo na **OK**:



| <u>u</u> | | | | Failover Cluster Manager | | _ 0 × |
|--------------------------|-----|---------------|---------------------|--|---------------------------|------------------------|
| File Action View Help | | | | | | |
| (= =) (2 📅 🛛 📅 | _ | | | | | |
| Kailover Cluster Manager | Ro | L. | | Permission Entry for VM | _ D X | ns |
| FSCluster.RITS.LOCAL | Se | | | | | s |
| Roles | Na | Principal: | Select a principal | | | Configure Role |
| ⊿ 📇 Storage | | Type: | Allow | ~ | | firtual Machines |
| Disks | | .,,, | | | | Create Empty Role |
| Networks | | Applies to: | This folder, sub | Select User, Computer, Service Account, or Group | | fiew • |
| Cluster Events | | | | Object Turges | | lefresh |
| | | Basic permis | ssions: | | Show advanced permissions | lelp |
| | | | Full control | Select the types of objects you want to find. | | ic . |
| | | | Modify | Object types: | w | tart Role |
| | | | Read & execu | Built-in security principals | | ton Role |
| | | | Read | Service Accounts | | dd File Share |
| | | | Write | Groups | | /ove • |
| | | | Special perm | Users | | bange Startup Priority |
| | | Only app | ly these permissi | | Clear all | nformation Details |
| | | | | | | how Critical Events |
| | ~ | Add a sead | ition to East cores | OK Canad | 1 | dd Resource |
| | | Add a condi | nion to innit acces | Oix Carcer | 1 | Nore Actions |
| | St | Add a condi | ition | | | temove |
| | N | | | | | roperties |
| | 12 | | | | | Help |
| | | - | | | | |
| | | | | | OK Cancel | |
| | | | | | | |
| | Sum | mary Resource | s Shares | | | |
| | | | | | | |
| 2 | | 恐 | | | | 7:02 PM 6/23/2015 |

U text box napišimo SRV i kliknimo na Check Names, pa na OK:

| | | Failover Cluster Manager | _ 0 X |
|--------------------------|-------|--|--------------------------|
| File Action View Help | | | |
| | | | x |
| Failover Cluster Manager | Ro | Permission Entry for VM | ns |
| Roles | Se | | s |
| Nodes | Na | Principal: Select a principal | Configure Role |
| ⊿ 📇 Storage | | Type: Allow V | Firtual Machines |
| Pools | | Applies to This folder subfalles and files | reate Empty Role |
| Networks | | Select User, Computer, Service Account, or Group | fiew • |
| Cluster Events | | Select this object tone: | efresh |
| | | Basic permissions: User, Computer, Group, or Built-in security principal Object Types Show advanced permission | ions lelp |
| | | Full control From this location: | S |
| | | RITS.LOCAL Locations | tart Role |
| | | ✓ List folder co Enter the object name to select (examples): | top Role |
| | | Read srv Check Names | dd File Share |
| | | Write | /love • |
| | | Special perm | hange Startup Priority |
| | | Only apply these permissi | I nformation Details |
| | | | how Critical Events |
| | ~ | Add a condition to limit access. The principal will be granted the specified permissions only if conditions are met. | kdd Resource |
| | | | Nore Actions |
| | ST | Add a condition | lemove |
| | TNR . | | roperties |
| | | | lelp |
| | | | |
| | | OK Canc | cel |
| | | | |
| | Summ | nary Resources Shares | 4 |
| | 1. | | |
| | | | Ra 🖓 🕼 7:03 PM 6/23/2015 |

Označimo SERVER1 pa kliknimo na OK:



| a | Failover Cluster Manager | _ 🗊 × |
|----------------------------|---|---|
| File Action View Help | | |
| 🗢 🏟 🙍 📰 🖬 🖬 | | |
| 📲 Failover Cluster Manager | Re Permission Entry for VM | ns |
| Follover Cluster Manager | Basic permission: Multiple Names Found x Modify Read & exect Modify Read & exect Is tait folder co Read & exect SRV2 Struct SRV2 SRV2 SRV3 SRV3 Rits LOCAL/Co Add a condition | s S Configure Role irtual Machines reate Empty Role few Few Fersh felp S Cart Role top Role dd File Share Aove Formation Details how Critical Events dd Resource Aore Actions Cations Catio |
| | OK Cancel | |
| | | |
| | Summary Resources Shares | |
| | | |
| | | 7:03 PM 6/23/2015 |

U dijelu Basic Permissions, označimo Full Control, pa kliknimo na OK:

| 國 | | Failover Cluster Manager | _ 0 × |
|----------------------------|-------------------|--|--------------------------|
| File Action View Help | | | |
| 🗢 🄿 🙇 📅 🚺 🖬 | - | | |
| 📲 Failover Cluster Manager | Ro | Permission Entry for VM | ns |
| FSCluster.RITS.LOCAL | Se | | s |
| Nodes | Na | Principal: SRV1 (RITS\SRV1S) Select a principal | Configure Role |
| 🔺 📇 Storage | | Type: Allow | Tirtual Machines |
| Disks | | | Freate Empty Role |
| Networks | | Applies to: This tolder, subtolders and files | Tiew 🕨 |
| Cluster Events | | | tefresh |
| | | Basic permissions: Show advanced permissions | Help |
| | | ₩ Full control | s 🔺 |
| | | ✓ Modify | tart Role |
| | | ✓ head & execute | top Role |
| | | ✓ Read | dd File Share |
| | | Virite | /love • |
| | | Special permissions | Change Startup Priority |
| | | Only apply these permissions to objects and/or containers within this container | nformation Details |
| | * Add a condition | | how Critical Events |
| | | Add a condition to limit access. The principal will be granted the specified permissions only if conditions are met | Add Resource |
| | | Add a contactor to write access. The principal will be granted the specifical permissions only in contactors are med | Nore Actions |
| | St | Add a condition | temove |
| | N | | roperties |
| | | | felp |
| | | | |
| | | OK Cancel | |
| | | | |
| | Sum | mary Resources Shares | |
| | 11 | | |
| | | | Ra 🖓 🕼 7:03 PM 6/23/2015 |

Nakon toga, ponovimo istu proceduru i za SERVER2:



| 强 | Failover Cluster Manager | _ 0 × |
|----------------------------|---|-------------------------|
| File Action View Help | | |
| 🗢 🏟 🙎 📰 🖬 📰 | | |
| 📲 Failover Cluster Manager | Re Permission Entry for VM | x ns |
| FSCluster.RITS.LOCAL | Se | s |
| Nodes | Na Principal: SRV2 (RITS\SRV25) Select a principal | Configure Role |
| ⊿ 📇 Storage | Type: Allow | firtual Machines |
| E Pools | And the set of the foldow and film and | Create Empty Role |
| Networks | Applies to: This folder, subrolders and files • | riew 🕨 |
| Cluster Events | | lefresh |
| | Basic permissions: Show advanced permission | 15 Help |
| | | S 🔺 |
| | i Modry III Bead & resente | tart Role |
| | v resource backage | top Role |
| | ✓ Read | dd File Share |
| | ₩ Write | /love 🕨 |
| | Special permissions | Change Startup Priority |
| | Only apply these permissions to objects and/or containers within this container | nformation Details |
| | | how Critical Events |
| | Add a condition to limit access. The minimal will be granted the specified permissions only if conditions are met | kdd Resource |
| | | Nore Actions |
| | Add a condition | lemove |
| | T4 | roperties |
| | | Help |
| | | |
| | OK Cance | |
| | | |
| | Summary Resources Shares | |
| | | |
| \mp | | 7:04 PM |

Kada smo završili sa dodavanjem dozvola, kliknimo na **OK** kako bismo zatvorili Advanced Security Settings for VM.

Na stranici **Specify permissions to control access**, provjerimo da li su **RITS\SERVER1\$** and **RITS\SERVER2\$** prisutni na listi sa Full Control pravima, i onda kliknimo na **Next**:

| Ba | Failover Cluster Manager | | | _ 0 × | | | |
|--------------------------------|--|----------|--------------------------|----------------------|--|--|--|
| File Action View Help | | | | | | | |
| 🗢 🏟 🙍 🖬 🚺 📩 | | | | | | | |
| Failover Cluster Manager | Roles (1) Actions | | | | | | |
| FSCluster.RITS.LOCAL Roles | Search 🧧 New Share Wizard 🗕 🗖 🗙 | | Roles | • | | | |
| Nodes | Name | | lonfigure Role | | | | |
| ⊿ 🤮 Storage | ResFS Specify permissions to control access | | Virtual Machines | • | | | |
| Pools | specify permissions to control access | | 📸 Create Empty Role | | | | |
| Networks | Select Profile If this share will be used for Hyper-V, you may need to enable constrained delegation to enable | | View | • | | | |
| Cluster Events | select nome remote management of the Hyper-V host. | | Refresh | | | | |
| | Permissions to access the files on a share are set using a combination of folder permissions, share | | 👔 Help | | | | |
| | Other Settings | | RitsFS | • | | | |
| | Share permissions: Everyone Full Control Permissions Everyone Full Control | | 🛟 Start Role | | | | |
| | Confirmation Ture Dringing Assess Applies Te | | 😋 Stop Role | | | | |
| | Results Allow BUILTINUSers Special This folder and subfolders | | Add File Share | | | | |
| | Allow BUILTIN\Users Read & execute This folder, subfolders, and files | | Move | • | | | |
| | Allow CREATOR OWNER Full Control Subfolders and files only | | 🔞 Change Startup Priorit | ty 🕨 | | | |
| | Allow NT AUTHORITY SYSTEM Full Control This folder, subfolders, and files | | Information Details | | | | |
| | Allow RITS\SRV1\$ Full Control This folder, subfolders, and files | | B Show Critical Events | | | | |
| | Allow RITS\SRV2\$ Full Control This folder, subfolders, and files | Any node | Add Resource | • | | | |
| | Allow BUILTIN\Administrators Full Control This folder only | | More Actions | • | | | |
| | Customize permissions | | 🔀 Remove | | | | |
| | 2) Cluste | | Properties | | | | |
| | | | I Help | | | | |
| | | | | | | | |
| | < Previous Next > Create Cancel | | | | | | |
| | | 4 | | | | | |
| | Summary Resources Shares | | | | | | |
| | | | | | | | |
| | | | F6 14 | 7:05 PM 6/23/2015 | | | |

Na stranici **Confirm selections**, kliknimo na **Create**, i onda na **Close**. Ako smo sve dobro napravili, dobivamo ovakav status:



| | | | Failover Clu | uster Manager | | _ | D X |
|--|---|-----------------------|-------------------------|--------------------------------------|----------------------------|------------------|-----|
| | | | | | | | |
| Roles (1) | | | | | Action | 5 | |
| Search | | | | | Queries ▼ □ ▼ Roles | 5 | - |
| Name | Status | Туре | Owner Node | Priority Information | By C | onfigure Role | |
| 🗟 RitsFS | Running | Scale-Out File Server | SRV1 | Medium | Vi | irtual Machines | • |
| | | | | | 1 C | reate Empty Role | |
| | | | | | Vi | iew | Þ |
| | | | | | G R | efresh | |
| | | | | | 🛛 н | elp | |
| | | | | | VMac | chines | |
| | | | | | 🗙 St | op Sharing | |
| | | | | | GI Re | efresh | |
| | | | | | Pr | roperties | |
| | | | | | 17 H | elp | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| V RitsFS | | | | | Preferred Owners: Any node | | |
| | | | | | | | |
| Shares (2) | | Protocol | Continuous Availability | Remarks | | | |
| Shares (2) Name | Path | 1100000 | | | | | |
| Shares (2) Name | Path C:\ClusterStorage | SMB | No | Cluster Shared Volumes Default Share | | | |
| Shares (2) Name ClusterStorageS | Path C:\ClusterStorage C:\ClusterStorage\Volume* | SMB 1 SMB | No Yes | Cluster Shared Volumes Default Share | | | |
| Shares (2) Name ClusterStorageS | Path C:\ClusterStorage C:\ClusterStorage\Volume | SMB 1 SMB | No Yes | Cluster Shared Volumes Default Share | | | |
| Shares (2) Name ClusterStorages | Path C:\ClusterStorage C:\ClusterStorage\Volume* | SMB 1 SMB | No Yes | Cluster Shared Volumes Default Share | | | |
| Shares (2) Name UusterStorages | Path C:\ClusterStorage C:\ClusterStorage\Volume* | SMB 1_ SMB | No Yes | Cluster Shared Volumes Default Share | | | |
| Shares (2) Name CusterStorages VM | Path C:\DusterStorage C:\DusterStorage\Volume | SMB 1_ SMB | No Yes | Cluster Shared Volumes Default Share | | | |
| Shares (2) Name CusterStorages VM | Path C:\ClusterStorage C:\ClusterStorage\Volume Shares | SMB | No Yes | Ouster Shared Volumes Default Share | | | |

Time smo završili sa konfiguracijom kontinuirano dostupnog sharea imena VM, koji je ostvaren korištenjem Failover Clustera na SERVER1/2, uz korištenje Scale-Out File Servera kao klasterirane role.

Priprema za iduću vježbu

Algebra

visoka škola za

U Hyper-V Manageru, na listi virtualnih poslužitelja, selektirajmo virtualne poslužitelje RITS-EXC-DC, RITS-EXC-SERVER1, RITS-EXC-SERVER2, RITS-EXC-WITNESS, kliknimo desnim klikom miša i odaberimo "Turn Off". Nakon toga, na svakom pojedinom virtualnom poslužitelju napravimo Revert kako bi se stanja svih virtualnih poslužitelja vratila na stanja na početku vježbe.