Deputy of training

Plan and curriculums office

Competency Training standard

Title

Server Virtualization with Windows Server Hyper-V and System Center

Occupational group

Information Technology (IT)

International code

2523-53-111-1

Date of standard compilation: 2015/10/14

Control of board on content compilation and accreditation: Plan and curriculums office

National code: 2523-53-111-1

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Revision Process:

- Scientific content
- According to market
- Equipment
- Tools

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Definitions:

Job standard:

The characteristics ' required competencies and abilities for Efficient Performance in work environment is called "the Job standard", and sometimes "The Occupational standard"

Training standard:

The Training Map for achieving the Job's subset Competencies.

Job title:

Is a set of Tasks and Abilities which is expected from an employed person in the defined level

Job description:

A statement covering the most important elements of a job, namely the position or title of the job, the duties, job's relation with other jobs in a occupational field, the responsibilities, workplace conditions and required performance standards.

Course duration:

The minimum of time which is required to achieve the training objects.

Admission requirements:

The minimum of competencies and abilities which are obligatory for a potential admission.

Evaluation:

The process of collecting evidence and judgment about wetter a competency is achieved or not. Include: written examination, practical examination

Required Qualifications for Trainers**:**

The minimum of Trainer's technical and vocational abilities which the trainer is required to have.

Competency:

The ability of efficient performing a duty in a variety of workplaces conditions

Knowledge:

The minimum set of facts and mental capacities which is necessary for achieving a competency. This can include science, (Mathematics, physics, chemistry or biology), technology or technical.

Skill:

The minimum coordination between mind and body for achieving an ability or competency. It normally applied to practical skills.

Attitude:

A set of emotional behaviors required for achieving a competency and can have non-technical skills and occupational ethics.

Safety:

The cases which doing or not doing something can cause harm or accident

Environmental Consideration:

A set of consideration about the act which should be done to minimize the environmental damage or pollution.

competency title:	
Server Virtualization with Windows Server Hyper-V and System Center	
competency description:	
Learn how to configure, manage, and maintain Windows Server 2012 R2 Hyper-V and System Center 2012 R2 Virtual Machine Manager including networking and storage services. Also learn how to configure key Microsoft Server Virtualization features such as Generation 2 Virtual Machines, Replication Extension, Online Export, Cross-Version Live Migration, Online VHDX Resizing, Live Migration Performance tuning as well as Dynamic Virtual Switch Load Balancing and virtual Receive Side Scaling (vRSS).	
admission requirements:	
minimum degree of education: Post first year of high school minimum physical and mental ability:- Prerequisite skills: Network+ certification	
Course duration:	
Course duration: 32 hours	
Course Evaluation :(%)	
Configure Hyper-v (35-40%) Configure and manage virtual machine high availability (35-40%) Implement a server virtualization infrastructure (35-40%) Monitor and maintain a server virtualization infrastructure (15-20%)	
IRANTVTO Evaluation :(%)	
Written Examination:25% Practical Examination:65% Ethics:10%	
Server Virtualization with Windows Server Hyper-V and System Center degree holders with 2 years experiences	

Iran Technical and Vocational
Training Organization

competency training standard tasks	
1	Evaluating the Environment for Virtualization
2	Installing and Configuring the Hyper-V Server Role
3	Creating and Managing Virtual Hard Disks, Virtual Machines, and Checkpoints
4	Creating and Configuring Virtual Machine Networks
5	Virtual Machine Movement and Hyper-V Replica
6	Implementing Failover Clustering with Hyper-V
7	Installing and Configuring System Center 2012 R2 Virtual Machine Manager
8	Managing the Networking and Storage Infrastructure in System Center 2012 R2 Virtual Machine Manager
9	Creating and Managing Virtual Machines by Using Microsoft System Center 2012 R2 Virtual Machine Manager
10	Configuring and Managing the System Center 2012 R2 Virtual Machine
11	Managing Clouds in System Center 2012 R2 Virtual Machine Manager
12	Managing Services in System Center 2012 R2 Virtual Machine Manager and App Controller
13	Protecting and Monitoring Virtualization Infrastructure

Training standard

Contents analysis form

Title:	time			
Evaluating the Environment for Virtualization	theoretical	practical	total	
	Determined by the instructor			
Knowledge ,skill ,attitude ,safety, Environmental Consideration				Equipments ,tools, materials ,books
Knowledge and Skill:	Determined by the instructor			From **Microsoft**
-Overview of Microsoft Virtualization -Overview of System Center 2012 R2 Components -Evaluating Current Environment for Virtualization -Extending Virtualization to the Cloud				
Attitude: Speed and accuracy in doing the right thing				
Health & Safety: Compliance with safety protection in the workplace				
Environmental Consideration: Compliance with environmental protection				

Training standard

Contents analysis form

Title: **Installing and Configuring the Hyper-V Server Role**	time			
	theoretical	practical	total	
	Determined by the instructor			
Knowledge ,skill ,attitude ,safety, Environmental Consideration				Equipments ,tools, materials ,books
Knowledge and Skill: -Installing the Hyper-V Server Role -Managing Hyper-V -Configuring Hyper-V Settings -Hyper-V Host Storage and Networking	Determined by the instructor			From **Microsoft**
Attitude: Speed and accuracy in doing the right thing				
Health & Safety: Compliance with safety protection in the workplace				
Environmental Consideration: Compliance with environmental protection				

Training standard

Contents analysis form

Title: Creating and Managing Virtual Hard Disks, Virtual Machines, and Checkpoints	time			
	theoretical	practical	total	
	Determined by the instructor			

Knowledge ,skill ,attitude ,safety, Environmental Consideration				Equipments ,tools, materials ,books
Knowledge and Skill: -Creating and Configuring Virtual Hard Disks -Creating and Configuring Virtual Machines -Installing and Importing Virtual Machines -Managing Virtual Machine Checkpoints -Monitoring Hyper-V -Designing and Managing Virtual Machines	Determined by the instructor			From **Microsoft**
Attitude: Speed and accuracy in doing the right thing				
Health & Safety: Compliance with safety protection in the workplace				
Environmental Consideration: Compliance with environmental protection				

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Training standard
Contents analysis form

Title:	time			
Creating and Configuring Virtual Machine Networks	theoretical	practical	total	
	Determined by the instructor			

Knowledge ,skill ,attitude ,safety, Environmental Consideration				Equipments ,tools, materials ,books
Knowledge and Skill:	Determined by the instructor			From **Microsoft**
-Creating and Using Hyper-V Virtual Switches -Advanced Hyper-V Networking Features -Configuring and Using Hyper-V Network Virtualization				
Attitude: Speed and accuracy in doing the right thing				
Health & Safety: Compliance with safety protection in the workplace				
Environmental Consideration: Compliance with environmental protection				

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Training standard

Contents analysis form

Title:	time			
Virtual Machine Movement and Hyper-V Replica	theoretical	practical	total	
	Determined by the instructor			

Knowledge ,skill ,attitude ,safety, Environmental Consideration				Equipment's ,tools, materials ,books
Knowledge and Skill:	Determined by the instructor			From **Microsoft**
-Providing High Availability and Redundancy for Virtualization				
-Implementing Virtual Machine Movement				
-Implementing and Managing Hyper-V Replica				
Attitude: Speed and accuracy in doing the right thing				
Health & Safety: Compliance with safety protection in the workplace				
Environmental Consideration: Compliance with environmental protection				

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Training standard

Contents analysis form

Title:	time			
Implementing Failover Clustering with Hyper-V	theoretical	practical	total	
	Determined by the instructor			
Knowledge ,skill ,attitude ,safety, Environmental Consideration				Equipment's ,tools, materials ,books
Knowledge and Skill:	Determined by the instructor			From **Microsoft**
-Overview of Failover Clustering -Configuring and Using Shared Storage -Implementing and Managing Failover Clustering with Hyper-V				
Attitude: Speed and accuracy in doing the right thing				
Health & Safety: Compliance with safety protection in the workplace				
Environmental Consideration: Compliance with environmental protection				

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Training standard

Contents analysis form

Title: **Installing and Configuring System Center 2012 R2 Virtual Machine Manager**	time			
	theoretical	practical	total	
	Determined by the instructor			
Knowledge ,skill ,attitude ,safety, Environmental Consideration				Equipment's ,tools, materials ,books
Knowledge and Skill:	Determined by the instructor			From **Microsoft**
-Integrating System Center and Server Virtualization				
-Overview of System Center 2012 Virtual Machine Manager				
-Installing System Center 2012 R2 Virtual Machine Manager				
-Adding Hosts and Managing Host Groups				
Attitude: Speed and accuracy in doing the right thing				
Health & Safety: Compliance with safety protection in the workplace				
Environmental Consideration: Compliance with environmental protection				

Training standard

Contents analysis form

Title:	time			
Managing the Networking and Storage Infrastructure in System Center 2012 R2 Virtual Machine Manager	theoretical	practical	total	
	Determined by the instructor			
Knowledge ,skill ,attitude ,safety, Environmental Consideration				Equipment's ,tools, materials ,books
Knowledge and Skill:	Determined by the instructor			From **Microsoft**
-Managing Networking Infrastructure -Managing Storage Infrastructure -Managing Infrastructure Updates				
Attitude: Speed and accuracy in doing the right thing				
Health & Safety: Compliance with safety protection in the workplace				
Environmental Consideration: Compliance with environmental protection				

Training standard

Contents analysis form

Title:	time			
Creating and Managing Virtual Machines by Using Microsoft System Center 2012 R2 Virtual Machine Manager	theoretical	practical	total	
	Determined by the instructor			
Knowledge ,skill ,attitude ,safety, Environmental Consideration				Equipment's ,tools, materials ,books
Knowledge and Skill: -Virtual Machine Management Tasks in VMM -Creating, Cloning, and Converting Virtual Machines -Overview of Virtual Machine Updating	Determined by the instructor			From **Microsoft**
Attitude: Speed and accuracy in doing the right thing				
Health & Safety: Compliance with safety protection in the workplace				
Environmental Consideration: Compliance with environmental protection				

Training standard

Contents analysis form

<table>
<tr><td rowspan="2">Title:

Configuring and Managing the System Center 2012 R2 Virtual Machine</td><td colspan="3">time</td><td rowspan="2"></td></tr>
<tr><td>theoretical</td><td>practical</td><td>total</td></tr>
<tr><td></td><td colspan="3">Determined by the instructor</td><td></td></tr>
<tr><td colspan="4">Knowledge ,skill ,attitude ,safety, Environmental Consideration</td><td>Equipment's ,tools, materials ,books</td></tr>
<tr><td rowspan="2">Knowledge and Skill:

-Overview of the Virtual Machine Manager Library
-Working With Profiles and Templates</td><td colspan="3">Determined by the instructor</td><td rowspan="2">From Microsoft</td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td>Attitude:
Speed and accuracy in doing the right thing</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Health & Safety:
Compliance with safety protection in the workplace</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Environmental Consideration:
Compliance with environmental protection</td><td></td><td></td><td></td><td></td></tr>
</table>

Training standard

Contents analysis form

<table>
<tr><td rowspan="2">Title:

Managing Clouds in System Center 2012 R2 Virtual Machine Manager</td><td colspan="3">time</td><td rowspan="2"></td></tr>
<tr><td>theoretical</td><td>practical</td><td>total</td></tr>
<tr><td></td><td colspan="3" align="center">Determined by the instructor</td><td></td></tr>
<tr><td colspan="4">Knowledge ,skill ,attitude ,safety, Environmental Consideration</td><td>Equipment's ,tools, materials ,books</td></tr>
<tr><td rowspan="2">Knowledge and Skill:

-Introduction to Clouds
-Creating and Managing a Cloud
-Working With User Roles in Virtual Machine Manager</td><td colspan="3">Determined by the instructor</td><td rowspan="2">From Microsoft</td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td colspan="4">Attitude:
Speed and accuracy in doing the right thing</td><td></td></tr>
<tr><td colspan="4">Health & Safety:
Compliance with safety protection in the workplace</td><td></td></tr>
<tr><td colspan="4">Environmental Consideration:
Compliance with environmental protection</td><td></td></tr>
</table>

Training standard

Contents analysis form

Title:	time			
Managing Services in System Center 2012 R2 Virtual Machine Manager and App Controller	theoretical	practical	total	
	Determined by the instructor			
Knowledge ,skill ,attitude ,safety, Environmental Consideration				Equipment's ,tools, materials ,books
Knowledge and Skill:	Determined by the instructor			From **Microsoft**
-Understanding Services in System Center 2012 R2 Virtual Machine Manager				
-Creating and Managing Services in VMM				
-Using System Center 2012 R2 App Controller				
Attitude: Speed and accuracy in doing the right thing				
Health & Safety: Compliance with safety protection in the workplace				
Environmental Consideration: Compliance with environmental protection				

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Training standard

Contents analysis form

Title: **Protecting and Monitoring Virtualization Infrastructure**	time			
	theoretical	practical	total	
	Determined by the instructor			
Knowledge ,skill ,attitude ,safety, Environmental Consideration				Equipment's ,tools, materials ,books
Knowledge and Skill:	Determined by the instructor			From **Microsoft**
-Overview of Backup and Restore Options for Virtual Machines -Protecting Virtualization Infrastructure by Using Data Protection Manager -Using System Center Operations Manager for -Monitoring and Reporting -Integrating Virtual Machine Manager with Operations Manager				
Attitude: Speed and accuracy in doing the right thing				
Health & Safety: Compliance with safety protection in the workplace				
Environmental Consideration: Compliance with environmental protection				

Equipment & Tools & Materials & Resources (books, site, software…) form

*Required quantity for each 15 Trainees

From: Microsoft