



ITU Centres of Excellence Network for Arab Region

Sudatel Telecommunications Academy (SUDACAD)

Online Training Course on

**Cloud Computing**

**16 – 18 March 2021**

## TRAINING COURSE OUTLINE

### COURSE DESCRIPTION

Title	Cloud Computing
Method of delivery	Online
Objectives	<ul style="list-style-type: none"><li>• To understand cloud computing technologies and their effect on business, IT and data management.</li><li>• To be aware of the current and new trends and challenges in cloud computing.</li><li>• To have up to date hands-on experience with cloud technologies.</li></ul>
Dates	16 – 18 March 2021
Duration	3 Days
Registration deadline	10 March 2021
Training fees	USD 75
Course code	21OI26475ARB-A

### LEARNING OUTCOMES

By the end of this training, the participants should be able to:

- Understand concepts and technologies of cloud computing.
- Understand how does cloud computing change the ICT landscape.

- Have an understanding of technologies used in cloud computing, such as micro-services and configuration management.
- Have a general understanding of architectures and the lifecycle of a cloud computing deployment.
- Have hands-on experience with a cloud platform.

## TARGET POPULATION

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This training course targets ICT infrastructure professionals in the Ministries of Communications and Information Technology (ICT), ICT regulators, ICT centers, operators and providers of ICT services. Other institutions and individuals who are interested in having an overview of Cloud Computing are also welcome to participate in this training course.

## TUTORS/INSTRUCTORS

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NAME OF TUTOR(S)/INSTRUCTOR(S)	CONTACT DETAILS
Mr. Mohammed Sedig Alameen Adam	<a href="mailto:mohammed.sideg1@gmail.com">mohammed.sideg1@gmail.com</a>

## EVALUATION

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Participants will be evaluated according to:

- Active interaction in the group exercises and discussions;
- Planned Quizzes;
- Dedication in attending the sessions.

## TRAINING SCHEDULE AND CONTENTS / AGENDA (Khartoum Time)

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Day 1. Overview		
Date for 1 <sup>st</sup> day	Time; Start time	Topics/Activities
16/03/2021	15:00-16:00	<ul style="list-style-type: none"> <li>• Introduction to Cloud Computing               <ul style="list-style-type: none"> <li>○ What is a cloud and what is cloud computing?</li> <li>○ A historical Perspective</li> <li>○ Why is it a disruptive technology?</li> <li>○ What does it mean from a telecommunications perspective?</li> </ul> </li> </ul>

		<ul style="list-style-type: none"> <li>• International Frameworks and Methodologies</li> </ul>
	16:00-17:00	<ul style="list-style-type: none"> <li>• Cloud Computing from a Telecommunications Perspective <ul style="list-style-type: none"> <li>○ Cloud Computing from the Perspective of Sustainable Development Goal</li> <li>○ ICT Apps and Services deliverable over the cloud</li> <li>○ Co-existence and Migration</li> </ul> </li> </ul>
	17:00-18:00	<ul style="list-style-type: none"> <li>• Hands-on Introduction - I <ul style="list-style-type: none"> <li>○ How to create a VM?</li> <li>○ What are the virtualized resources that can be supplied by a cloud?</li> <li>○ Keep an eye on pricing</li> </ul> </li> </ul>
	18:00-19:00	<ul style="list-style-type: none"> <li>• Hands-on Introduction – II <ul style="list-style-type: none"> <li>○ Creating and configuring cloud resources</li> </ul> </li> </ul>

<b>Day 2: Scaling</b>		
<b>Date for 2<sup>nd</sup> day</b>	<b>Time; Start time</b>	<b>Topics/Activities</b>
<b>17/03/2021</b>	15:00-16:00	<ul style="list-style-type: none"> <li>• Developing Software for the Cloud <ul style="list-style-type: none"> <li>○ Separating code from data for scalability</li> <li>○ What does this practically mean? <ul style="list-style-type: none"> <li>▪ Stateless servers</li> <li>▪ Robust storage management</li> </ul> </li> </ul> </li> </ul>
	16:00-17:00	<ul style="list-style-type: none"> <li>○ Scalable Design Patterns <ul style="list-style-type: none"> <li>○ Microservices</li> <li>○ Docker</li> <li>○ Load Balancing</li> </ul> </li> </ul>
	17:00-18:00	<ul style="list-style-type: none"> <li>○ Deployment for Scaling <ul style="list-style-type: none"> <li>○ Deployment Tools</li> <li>○ Deployment Processes</li> </ul> </li> </ul>
	18:00-19:00	<ul style="list-style-type: none"> <li>○ Large Scale operations and management of cloud resources</li> </ul>

Day 3: Security and other Technological Aspects		
Date for 3 <sup>rd</sup> day	Time; Start time	Topics/Activities
18/03/2021	15:00-16:00	<ul style="list-style-type: none"> <li>○ Security Risks <ul style="list-style-type: none"> <li>○ Security Vector Attacks in the Cloud</li> <li>○ Preventive Actions</li> <li>○ Recovery from a Security Incident</li> </ul> </li> </ul>
	16:00-17:00	<ul style="list-style-type: none"> <li>○ Governance <ul style="list-style-type: none"> <li>○ Processes and Procedures</li> <li>○ ...</li> </ul> </li> </ul>
	17:00-18:00	<ul style="list-style-type: none"> <li>○ Technologies on the Cloud <ul style="list-style-type: none"> <li>○ Big Data</li> <li>○ IoT</li> <li>○ M2M</li> </ul> </li> </ul>
	18:00-19:00	Overall Recap

## METHODOLOGY

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- Instructor-Led Class Lectures and presentations– Slides.
- Reviews and Revisions.
- Case Studies.

## TRAINING COORDINATION

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<p><b>Training Coordinator:</b>  <b>Eng. Mohaned Abdalla Suleiman</b>  Senior Engineer  Planning &amp; Development Dept.,  SUDACAD  Mobile: +249 120 120 983  Tel: +249 183 490 999  E-mail: <a href="mailto:mohanedas@sudatel.sd">mohanedas@sudatel.sd</a></p>	<p><b>ITU Coordinator:</b>  <b>Eng. Mustafa Al Mahdi</b>  Programme Officer  ITU Arab Regional Office  Tel: +202 3537 1777  Mobile: +20114 1177573  Fax: +202 3537 1888  Email: <a href="mailto:mustafa-ahmed.al-mahdi@itu.int">mustafa-ahmed.al-mahdi@itu.int</a></p>
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## REGISTRATION AND PAYMENT

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### ITU Academy portal account

Registration and payment should be made online at the ITU Academy portal.

To be able to register for the course you **MUST** first create an account in the ITU Academy portal at the following address:

<https://academy.itu.int/index.php/user/register>

### Training registration

When you have an existing account or created a new account, you can register for the course online at the following link: <https://academy.itu.int/index.php/training-courses/full-catalogue/cloud-computing-2>

You can also register by finding your desired course in our training catalogue <https://academy.itu.int/index.php/training-courses/full-catalogue>

### Payment

#### 1. On-line payment

A training fee of USD 75.- per participant is applied for this training. Payments should be made via the online system using the link mentioned above for training registration at <https://academy.itu.int/index.php/training-courses/full-catalogue/cloud-computing-2>

#### 2. Payment by bank transfer

Where it is not possible to make payment via the online system, select the option for offline payment to generate an invoice using the same link as above. Download the invoice to make a bank transfer to the ITU bank account shown below. Then send the proof of payment/copy of bank transfer slip and the invoice copy to [Hcbmail@itu.int](mailto:Hcbmail@itu.int) and copy the course coordinator.

**All bank transaction fees must be borne by the payer.**

**Failure to submit the above documents may result in the applicant not being registered for the training.**

#### 3. Group payment

Should you wish to pay for more than one participant using bank transfer and need one invoice for all of them, create an account as **Institutional Contact**. **Institutional Contacts** are users that represent an organization. Any student can request to be an institutional contact or to belong to any existing organization.

To do this, head to your profile page by clicking on the **“My account”** button in the user menu. At the bottom of this page you should see two buttons:

- a. If you want to **become an institutional contact**, click on the **“Apply to be an Institutional Contact”** button. This will redirect you to a small form that will ask

for the organization name. After you fill the name of the organization you want to represent, click on “**continue**” and a request will be created. An ITU Academy manager will manually review this request and accept or deny it accordingly.

- b. If you want to **belong to an existing organization**, click on the “**Request to belong to an Institutional Contact**” button. This will redirect you to a small form that will ask you to select the organization you want to join from an organization list. After you select the correct organization, click on “**continue**”, a request will then be created. The Institutional Contact that represents that organization will manually accept or deny your request to join the organization.

**ITU BANK ACCOUNT DETAILS:**

Name and Address of Bank:	UBS Switzerland AG Case postale 2600 CH 1211 Geneva 2 Switzerland
Beneficiary:	Union International des Telecommunications
Account number:	240-C8108252.2 (USD)
Swift:	UBSWCHZH80A
IBAN	CH54 0024 0240 C810 8252 2
Amount:	75 USD
Payment Reference:	CoE-ARB 26475 – WBS No. P.40592.1.06

**4. Other method of payment**

If due to national regulations, there are restrictions that do not allow the payment to be made using options 1 & 2 above, please contact the ITU Coordinator for further assistance.