# Table of Contents



# CHAPTER 1: INTRODUCTION TO CLOUD COMPUTING

thatogy of Cloud Computing	
Overview of Cloud Computing Evolution of Cloud Computing	2
Evolution of Cloud Computing	2
Cloud Computing Environment	3
What is Wrong with the Deckton F	7
What is Wrong with the Desktop Environment?	8
The state of Cloud Compliment	
and delivine	
the transmit as a service)	10
idds (imdstrdc(dre as a service)	10
Visions Of Cloud Computing	11
Service Provisioning Model	11
Crid computing	12
Grid computing.	12
Peer-to-peer computing	12
Service Computing.	13
Market Oriented Computing	
Virtualized compute and storage technologies	
Characteristics Of Cloud Computing	
NIST's Five Essential Characteristics of Cloud Computing	
Advantages and Disadvantages of Cloud Computing	
Advantages  CapEx and OpEx	
Components of Cloud Computing	
Types of Cloud And its Cloud Services	
Cloud Computing Data Storage	
Creating A Cloud Storage System	
Cloud Service Requirements	
Cloud Computing Planning	
Cloud Computing Strategy Planning	26
Cloud Computing Technologies	
Cloud Computing Architecture	28
Cloud Computing Infrastructure	29
Infrastructural Constraints	20
Challenges for the Cloud Computing.	30

		31
Cloud And D	Dynamic Infrastructuree Cloud	32
Designing th	e Cloud	33
Cloud Archit	ecture — IaaS	34
Cloud Archit	ecture — PaaS ecture — SaaS	35
Introduction	to Distributed Computingto Computing	3/
The state of the s		
Characteristic	e of Cride	
Characteristic	Grid	44
Elements Of C	ponents of Grid Computing	45
The Key Com	omputing Vs. Grid Computing	46
Distributed Co	o Mobile Computing	48
Introduction to	Computing	48
Mobile Cloud	ture	49
MCC Architec	ture	49
Issues with MO	CC	50
ntroduction T	O Edge Computing	50
og Computin	g	52
Object	ive Questions	53
J Questio	ons	57

# 2 Chapter

#### CLOUD COMPUTING ARCHITECTURE

Cloud Computing Reference Model	60
Community Cloud	66
The Comparative Analysis of the Best Cloud Deployment Models	
Choosing a Cloud Deployment Model	70
SaaS Responsibilities by Cloud Deployment Model	
PaaS Responsibilities by Cloud Deployment Model	
IaaS Responsibilities by Cloud Deployment Model	71
Cloud Service Models	
Identity-As-A-Service (IDAAS)	76
Federated Identity Management (FIDM)	79
Network-As-A-Service (NaaS)	80
Communication-As-A-Service (CaaS)	81
Monitoring-As-A-Service (MaaS)	83
Cloud Interoperability and Standards	84

loud Solutions	87
Cloud Service Management	89
loud Offerings	89
Festing Under Control	91
Cloud testing strategy components include	92
Virtual Desktop Infrastructure	93
Cloud Computing Management	94
Resiliency	94
Provisioning	
Asset Management	97
Asset Management	99
Cloud Management Tasks	99
Market-Based Management of Clouds	100
Federated Clouds/Intercloud	102
Cloud Federation Stack	103
Third-Party Cloud Services	104
Protection Against Internal and External Threats	105
Laisha Cloud Cuba Madal	100
Discontinuo Discontinuo internal or External	107
Disconting Proprietary or Open	
Camain Pange Perimeterised or De-perimeterised	
i I O tecursod	
☐ Objective Questions	
유무료 마양 병원에 보통하는 경기 때문 사이트를 받는 것이다.	

#### 3 Chapter

#### BUILDING CLOUD NETWORKS

	117
Managed Service Provider (MSP)	115
Managed Service Provider (MSP)  Evolution from Managed Service Providers (Msp) to Cloud Computing	116
Single-Purpose Architectures to Multi-purpose Architectures to Multi-purpose	116
Data Center	117
Cloud Data Center	118
Data Center Virtualization	118
Government Integrated Data Center, Kathmando	119
Service Oriented Architectures (SOA)	
SOA and Cloud	126
Cloud Design And Implementation Using SOA	
Cloud Design And Implementation Using SOA  OPEN-Source Software in Data Centers	12
Objective Questions	



#### VIRTUALIZATION

1 - 1	
Traditional and Virtual Environment	13
Overview of Virtualization	
Overview of Virtualization  Virtual Machine  Types of Virtualizations	
Types of Virtualizations	
Compute Virtualization Implementation Levels of Virtualization Structures  Taxonomy of Virtual Machines	150
Taxonomy of Virtual Machines  Hypervisor Management Software	150
Hypervisor Management Software	154
Selecting Server Virtualization Platform (Choosing the right hyper visco)	
Selecting Server Virtualization Flatform (Choosing the Agree )  Business Cases for Server Virtualization	
Server Consolidation	
Virtual Lan (VLAN)	157
Virtual Lan (VLAN)Virtual San (VSAN)	158
□ Objective Questions  Questions	161
Questions	

### 5 Chapter

#### CLOUD PROGRAMMING MODELS

Traditional and Virtual Environment	132
Overview of Virtualization	132
Virtual Machine	133
Types of Virtualizations	135
Compute Virtualization	
Implementation Levels of Virtualization Structures	
Taxonomy of Virtual Machines	
Hypervisor Management Software	
Selecting Server Virtualization Platform (choosing the right hypervisor)	
Business Cases for Server Virtualization	
Server Consolidation	
Virtual Lan (VLAN)	
Virtual San (VSAN)	
Objective Questions	158
J Question	



# SECURITY IN CLOUD COMPUTING

Introduction to Cloud Security	
Cloud Information Security Objectives. Cloud Privacy, Security, And Trust	246
Cloud Privacy, Security, And Trust	246
Cloud Security Challenges and Risks	252
Widely Seen Security Issues	254
Cloud Computing Risk Issues	
Software-As-A-Service Security	
Important Actions For A Security Team Secure Software Development Life Cycle (SecSDLC)	
Secure Software Development Life Cycle (SecSDLC)  Security Monitoring And Incident Response	258
Security Monitoring And Incident Response	259
Cloud Computing Security Architecture	259
Security Architecture Design	
High Availability And Fault Tolerance	267
Disaster Recovery	264
Cloud Disaster Recovery (Cloud Dr.)	26.4
Options to Disaster Recovery in the Cl.	200
Tour Steps (C) Achieving List 1	2
200 1330ES III C10110	255
ruction (Vidilagement And A	
Objective Questions	271
Question	273
	276
DATA IN THE CLOUD	
Chapter	
Relational Databases	
Google File System (GFS)	
Relational Databases Google File System (GFS) Hadoop File System (HDFS) Google Bigtable Apache Hbase	277
Google Bigtable	277
Apache Hhase	

Storage Mechanism in HBase	274
Storage Mechanism in HBase	2//
Storage Mechanism in Fibase	277
Column Oriented and Row Official	2/7
Column Oriented and Row Oriented Amazon Dynamo	277
i eil Contom (Lift)	111
- I Distable	111111111111111111111111111111111111111
1 110000	
Storage Mechanism in HBase	284
Storage Mechanism in Frod Oriented database	205
Column Oriented and Row Oriented database	207
Amazon Dynamo	206
Google Cloud Datastore	200
Amazon Simpledb Multi-tenant Cloud	28/
Markitan ant Cloud	788
Single Tenant Cloud	
Popolite of Milli-lendil Cioud	
Parallel Computing	289
Parallel Computing and Serial Computing	289
Parallel Computing	291
Objective Questions  Question	292
Ouestion	
CLOUD PLATFORMS AND APPLICATIONS	
apter —	
Web Services	294
Web Services	299
Carala Ann Lagua II 301	
Microsoft Azure Platform (MAP)	319
Apache Hadoop	322
Applications of Cloud Computing	328
SCIEDUIIC ADDIICATIONS	
Healthcare: ECG Analysis in the Cloud	328
Objective Questions	336
Question	338
( aco MIIII)	220-367
Bibliography	
Ribliography	