





INDEX

Chapter-1: Introduction to Web development and Django 1
Chapter-2: Django & Atom Installation and Development of First Web Application 6
Chapter-3: Django Templates and Static Files 21
Chapter-4: Working with Models and Databases 34
Chapter-5: Working with Django Forms 50
Chapter-6: Working with Django Model Forms 66
Chapter-7: Working with Advanced Template Features75
Chapter-8: Session Management 83
Chapter-9: User Authentication and Authorization 103
Chapter-10: Class Based Views and CRUD Operations by using both CBVs and FBVs 112
Chapter-11: Django ORM 138
Chapter-12: Working with Advanced Model Concepts 146
Chapter-13: Working with Django Middleware 155
Chapter-14: Deployment of our application in the Live Environment 163
Chapter-15: Real Time Project: Blog Application Development
Chapter-16: Introduction to Web application Development by using Flask 198







DETAILED INDEX

Chapter-1: Introduction to Web development and Django 1

Web Application		. 2
Front-End		. 2
HTML		. 2
CSS		. 2
JavaScript		. 2
Static Respon	se vs Dynamic Response	. 3
Back-End		. 3
DJango		. 3
Top 5 Features of	f Django Framework	4
• Fa	ast	
• Fu	ully loaded	
• Se	ecurity	
• Sc	calability	
• V	ersatile	
Chapter-2: Diang	o & Atom Installation and Development of First Web Application	. 6
	ango	
ATOM IDE/Editor	r	. 7
Speciality of ATO	M IDE	7
How to configure	e Atom for Python	. 8
Django Project vs	s Django Application	. 8
How to create Dj	ango Project	. 9
How to run Djang	go Development server	10
How to send first	request	11
Role of Web Serv	ver	11
Creation of First	web application:	11
Activities require	d for Application	13
Http Request flov	w in Django Application:	15
Summary of sequ	uence of activities related to Django Project	15
How to change D	jango Server Port	16
Various Practice	Applications	16
Defining urlpatte	rns at application level instead of project level	18
Chapter-3: Djang	o Templates and Static Files	21
Django Template	s	22
Python stuff requ	uired to develop Template Based Application	22
Steps to develop	Template Based Application	23
Template Tags		24







Application to send date and time from views.py to template file	
Application To display date ,time and student information	. 26
Application to wish end user based on time	. 27
Working with Static Files	. 28
Process to include static files inside template	. 28
How to include css file	. 30
DURGASOFT NEWS PORTAL-Mini Project	30
Chapter-4: Working with Models and Databases	34
Database configuration	. 35
How to check django database connection	. 35
Configuration of MySQL database	. 36
Configuration of Oracle database	36
Model Class	. 36
Converting Model class into database specific sql code	. 37
How to see corresponding sql code of migrations	. 38
How to execute generated SQL code (migrate command)	. 38
What is the advantage of creating tables with 'migrate' command	. 39
How to check created table in django admin interface	
Creation of super user to login to admin interface	. 39
Difference between makemigrations and migrate	. 39
To display data in admin interface in browser	40
MVT Diagram	42
Important FAQs related to Model and database configurations	. 42
Faker Module	42
Working with MYSQL Database(studentinfo project)	43
Working with MYSQL Database and Faker Module(studentinfo project)	. 45
Chapter-5: Working with Django Forms	50
Django Forms	51
Advantages of Django Forms over HTML forms	. 51
Process to generate Django forms	51
CSRF(Cross Site Request Forgery) Token	53
How to process input data from the form inside views.py file	. 54
Student Name and Marks Submission Form Project(formproject1)	. 54
Student FeedBack Form Project	56
Form Validations	58
1. Explicitly by the programmer by using clean methods	58
2. By using Django inbuilt validators	
How to implement custom validators by using the same validator parameter	. 60
Validation of total form directly by using a single clean method	
How to check original pwd and reentered pwd are same or not in Signup Form	
How to prevent requests from BOT	. 63







Chapter-6: Working with Django Model Forms	66
Model Forms (Forms based on Model)	
How to develop Model based forms	
How to save user's input data to database in Model based forms	68
Demo project-1(modelformproject)	
Demo Project-2(movieproject)	. 69
How to add date widget	74
Chapter-7: Working with Advanced Template Features	75
Template Inheritance	
How to implement template inheritane	
Demo program: advtempproject	
Advantages of Template Inheritance	
How to add seperate css files to child templates	
Tempalte Filters	
Syntax of Template Filter	
How to create our own filter	
Template Tags for urls	
Chapter-8: Session Management	
Session Management	
Session Management By using Cookies	
How to test our browser supports Cookies or not	
Application-1:Session Management by using Cookies(PageCount Application)	
Application-2:Session Management by using Cookies	
Application-3:Session Management by using Cookies	
Limitations of Cookies	
Temporary vs Permanent Cookies	
Application-4:Session Management by using Cookies(Shopping Cart Application)	
Session Management By using Session API(Django Session Framework)	
Useful Methods for session Management	
Application-1:Session Management by using Session API(PageCount Application)	
Application-2:Session Management by using Session API(Profile Application)	
Application-3:Session Management by using Session API(Shopping Cart Application	-
Important Methods related to Session	
Browser Length Sessions and Persistent Sessions	102
Chapter-9: User Authentication and Authorization	103
User Authentication and Authorization	104
Difference between Static and Media Folders	105
How to configure media folder in settings.py file	105
Authentication Application	106







Chapter-10: Class Based Views and CRUD Operations by using both CBVs and FBVs 11	L2
Class Based Views(CBVs) 11	.3
HelloWorld Application By using ClassBasedViews 11	L3
Template Based Application by using Class Based Views 11	4
How to send context paramters 11	L4
ListView 11	14
How to create template file for ListView 11	.5
How to provide our own context object name11	6
How to configure our own template file at project level	
DetailView 11	16
Django CRUD Operations 11	19
CreateView class 12	20
UpdateView class 12	1
DeleteView class 12	22
Django Class Based Views Complete Example-1(cbvproject7)	24
Django Class Based Views Complete Example-2(cbvfinalproject) 12	27
CRUD Operations by using Function Based Views(FBVs) 13	31
Differences between CBVs and FBVs 13	37
Chapter-11: Django ORM 13	38
Django ORM 13	39
How to find Query associated with QuerySet 13	39
How to filter records based on some condition 13	39
Various possible Field Look ups 13	39
How to implement OR Queries in Django ORM14	1
How to implement AND Queries in Django ORM 14	1
How to implement NOT Queries in Django ORM 14	12
How to perform Union operation for query sets of the same or different models 14	12
How to select only some columns in the queryset 14	2
Aggregate Functions 14	43
How to Create, Update, Delete Records 14	44
How to add multiple records at a time 14	
How to Delete a Single Record 14	14
How to Delete Multiple Records 14	44
How to Delete all Records(Truncate Operation in SQL) 14	ļ4
How to Update Field of a Particular Record14	1 5
How to Order queryset in Sorting Order 14	1 5
Chapter-12: Working with Advanced Model Concepts 14	16
Model Inheritance	
Abstract Base Class Model Inheritance	
Multi table Inheritance	
Multilevel Inheritance	
Multiple Inheritance	
Model Manager	
	•







How to define our own Custom Manager	150
Proxy Model Inheritance	. 152
Chapter-13: Working with Django Middleware	166
Middleware	
Middleware Structure	
Demo Application for Custom Middleware Execution Flow	
Execution Process for a Single Middleware Class	
Middleware application to show information saying application under maintenar	
159	CE
Middleware application to show meaningful response if view function raises any	error
160	
Configuration of multiple middleware classes	161
Chapter-14: Deployment of our application in the Live Environment	163
Deployment	. 164
Need of Version Control Systems	164
Git vs GitHub	. 164
How to install git	. 165
How to create account in github.com	165
Git Respository	
Activities related to Git Repository	165
Deployment on pythonanywhere.com	169
Open the console and Create Virtual Environment	
Which package already installed in this virtual env	169
install django	169
How to check whether django installed properly	170
Copy our application from github to our virtualenvironment (pythonanywhere)	170
Configuration on the web tab	171
WSGI Configuration	171
Add 'durgasoftdjango.pythonanywhere.com' to ALLOWED_HOSTS	172
Static Files	172
1. Static files related to admin site	172
2. Static files related to our application	172
Chapter-15: Real Time Project: Blog Application Development	173
How to specify dropdown choice field in models.py	
slug field	
ForeignKey	
DateTimeField	. 174
pytz module(python timezone module)	
Customization of Admin Interface	
Implementation of List View and Detail View By using FBVs	176
Django Pagination	180
How Pagination works	180







Class Based Views For Pagination	
Mail Sending Functionality	182
Adding Comments Section to the Blog	185
Adding Tags Functionality To our application	189
How to display similar posts	192
Custom Template Tags	194
3 Utility Functions to define Custom Template Tags	194
How to create custom template tag	195
Usage of simple_tag to return number of posts published	195
Usage of inclusion_tag to display Latest Posts	196
Usage of assignment_tag to display Most Commented Posts	197
Chapter-16: Introduction to Web application Development by using Flask	198
How to install Flask	199
How to Develop Application	199
How to Run Development Server	
How to send Request	199