

Ontology-based Expert System for a Generic Drug Production of Pharmaceutical Dosage Forms

Test Record

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Chapter | 1 Unit Test Record

1.1 SolubilityServiceImpl Class

1.1.1 Unit Test Record -1(UTR-01)

add(Solubility solubility): Solubility

Case No.	Description	Actual Result					Expect Result					status
		Id	Type	MaxValue	MinValue	Solubility Value	Id	Type	MaxValue	MinValue	SolubilityValue	
1	Test add solubility object which is correct the formal of solubility object.	Null	"solubility1"	4	2	5	Null	"solubility1"	4	2	5	p
2	Test add solubility object which is correct the formal of solubility object.	null	"solubility2"	7	1	3	null	"solubility2"	7	1	3	p
3	Test add solubility object which is contained in the database already.	null	null	null	null	Null	null	null	null	null	null	p
4	Test add solubility object which is contained in the database already.	null	null	null	null	null	null	null	null	null	null	p

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1.1.2 Unit Test Record -2(UTR-02)

update(Solubility solubility): Solubility

Case No.	Description	Actual Result					Expect Result					status
		Id	Type	MaxV alue	MinValu e	Solubility Value	Id	Type	MaxVa lue	MinValue	SolubilityValue	
1	Test update solubility object which is correct the formal of solubility object and and contained in the database.	1	"solubility1"	6	4	3	1	"solubility1"	6	4	3	p
2	Test update solubility object which is correct the formal of solubility object and and contained in the database.	2	"solubility2"	7	3	10	2	"solubility2"	7	3	10	p
3	Test update solubility object which is not contained in the database.	3	"solubility3"	2	1	3	null	null	null	null	Null	p
4	Test update solubility object which is not contained in the database.	4	"solubility4"	3	2	5	null	null	null	null	Null	p

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1.1.3 Unit Test Record -3(UTR-03)

delete(Solubility solubility): Solubility

Case No.	Description	Actual Result					Expect Result					status
		Id	Type	MaxValue	MinValue	SolubilityValue	Id	Type	MaxValue	MinValue	SolubilityValue	
1	Test delete solubility object which is contained in database and correct format solubility object.	1	"solubility1"	4	2	5	Null	"solubility1"	4	2	5	p
2	Test delete solubility object which is contained in database and correct format solubility object.	2	"solubility2"	7	3	10	null	"solubility2"	7	1	3	p
3	Test delete solubility object which is not contained in database or incorrect format solubility object.	3	"solubility3"	4	1	3	null	null	null	null	Null	p
4	Test delete solubility object which is not contained in database or incorrect format solubility object.	4	"solubility4"	3	2	6	null	null	null	null	Null	p

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1.1.4 Unit Test Record -4(UTR-04)
findAll():Solubility []

case	Description	Actual Result	Expect Result	status
		List of solubility object	List of solubility object	
1	Test get all solubility list	{ Solubility1, Solubility2}	{ Solubility1, Solubility2}	p

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1.1.5 Unit Test Record -5(UTR-05)

findByld(long id):Solubility

Case No.	Description	Actual Result					Expect Result					status
		Id	Type	MaxValue	MinValue	SolubilityValue	Id	Type	MaxValue	MinValue	SolubilityValue	
1	Test get solubility object which is contained in database by solubility id.	1	"solubility 1"	4	2	5	1	"solubility1"	4	2	5	p
2	. Test get solubility object which is contained in database by solubility id.	2	"solubility 2"	7	1	3	2	"solubility2"	7	1	3	p
3	Test get solubility object which is not contain in database by solubility id.	null	Null	Null	Null	Null	null	Null	Null	Null	Null	p
4	Test get solubility object which is not contain in database by solubility id.	null	Null	Null	Null	Null	null	Null	Null	Null	Null	p

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1.1.6 Unit Test Record -6(UTR-06)

findByType(String type):Solubility

Case No.	Description	Actual Result					Expect Result					status
		Id	Type	MaxValue	MinValue	SolubilityValue	Id	Type	MaxValue	MinValue	SolubilityValue	
1	Test get solubility object which is contained in the database by solubility type.	1	"solubility 1"	4	2	5	1	"solubility1"	4	2	5	p
2	Test get solubility object which is contained in the database by solubility type.	2	"solubility 2"	7	1	3	2	"solubility2"	7	1	3	p
3	Test get solubility object which is not contain in database by solubility type	Null	Null	Null	Null	Null	Null	Null	Null	Null	Null	p
4	Test get solubility object which is not contain in database by solubility type	Null	Null	Null	Null	Null	Null	Null	Null	Null	Null	p

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1.2 DegradationMechinismServiceimpl Class

1.2.1 Unit Test Record -7(UTR-07)

add(DegradationMechinism degradationMechinism): DegradationMechinism

Case No.	Description	Actual Result		Expect Result		status
		Id	Type	Id	Type	
1	Test adddegradationMechinism object which is correct the formal of degradationMechinism object.	Not null	“degradationMechinism3”	Not null	“degradationMechinism3”	P
2	Test add degradationMechinismobject which is correct the formal of degradationMechinism object.	Not null	“degradationMechinism4”	Not null	“degradationMechinism4”	P
3	Test add degradationMechinism object which is contained in the database already.	null	Null	null	Null	p
4	Test add degradationMechinism object which is contained in the database already.	null	Null	null	Null	p

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1.2.2 Unit Test Record -8(UTR-08)

update(DegradationMechinism degradationMechinism):DegradationMechinism

Case No.	Description	Actual Result		Expect Result		Status
		Id	Type	Id	Type	
1	Test update degradationMechinism object which is correct the formal of degradationMechinism object and contained in the database.	1	"degradationMechanismTest1"	1	"degradationMechanismTest1"	p
2	Test update degradationMechinism object which is correct the formal of degradationMechinism object and contained in the database.	2	"degradationMechanismTest2"	2	"degradationMechanismTest2"	p
3	Test update degradationMechinism object which is not contained in the database.	null	Null	null	Null	p
4	Test update degradationMechinism object which is not contained in the database.	null	Null	null	Null	p

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1.2.3 Unit Test Record -9(UTR-09)

Delete(DegradationMechinism degradationMechinism): DegradationMechinism

Case No.	Description	Actual Result		Expect Result		status
		Id	Type	Id	Type	
1	Test delete degradationMechinism object which is contained in database and correct format degradationMechinism object.	Null	"degradationMechinism1"	Null	"degradationMechinism1"	p
2	Test delete degradationMechinism object which is contained in database and correct format degradationMechinism object.	null	"degradationMechinism2"	null	"degradationMechinism2"	p
3	Test delete degradationMechinism object which is not contained in database or incorrect format degradationMechinism object.	null	Null	null	Null	p
4	Test delete degradationMechinism object which is not contained in database or incorrect format degradationMechinism object.	null	Null	null	Null	p

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1.2.4 Unit Test Record -10(UTR-10)
findAll():degradationMechinism []

case	Description	Actual Result	Expect result	status
		List of degradationMechinism object	List of degradationMechinism object	
1	Test get all degradationMechinism list.	{DegradationMechinism1,DegradationMechinism2}	{DegradationMechinism1,DegradationMechinism2}	p

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1.2.5 Unit Test Record -11(UTR-11)
findById(long id):degradationMechinism

case	Description	Actual Result		Expect result		status
		Id	Type	Id	Type	
1	Test get degradationMechinism object by degradationMechinism id .	1	"degradationMechanism1"	1	"degradationMechanis m1"	p
2	Test get degradationMechinism object by degradationMechinism id.	2	"degradationMechanism2"	2	"degradationMechanis m2"	p
3	Test get degradationMechinism object which is not contain in database.	null	Null	null	Null	p
4	Test get degradationMechinism object which is not contain in database.	null	null	null	Null	p

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1.2.6 Unit Test Record -12(UTR-12)
findByType(String type):degradationMechinism

case	Description	Actual Result		Expect result	
		Id	Type	Id	Type
1	Test get degradationMechinism object by degradationMechinism type.	1	"degradati onMechani sm1"	1	"degradationMechanism1"
2	Test get degradationMechinism object by degradationMechinism type.	2	"degradati onMechani sm2"	2	"degradationMechanism2"
3	Test get degradationMechinism object which is not contain in database.	null	null	null	null
4	Test get degradationMechinism object which is not contain in database.	null	null	null	null

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1.3 KineticReactionServiceImpl Class

1.3.1 Unit Test Record -13(UTR-13)

add(KineticReaction kineticReaction): KineticReaction

Case No.	Description	Actual Result		Expect Result		status
		Id	Type	Id	Type	
1	Test add kineticReaction object which is correct the formal of kineticReaction object.	Not null	"kineticReaction3"	Not null	"kineticReaction3"	p
2	Test add kineticReaction object which is correct the formal of kineticReaction object.	Not null	"kineticReaction4"	Not null	"kineticReaction4"	p
3	Test add kineticReaction object which is contained in the database already.	null		null		p
4	Test add kineticReaction object which is contained in the database already.	null		null		p

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1.3.2 Unit Test Record -14(UTR-14)

update(KineticReaction kineticReaction): KineticReaction

Case No.	Description	Actual Result		Expect Result		status
		Id	Type	Id	Type	
1	Test update kineticReaction object which is correct the formal of kineticReaction object.	1	"kineticReactionTest1"	1	"kineticReactionTest1"	p
2	Test update kineticReaction object which is correct the formal of kineticReaction object.	2	"kinecticReactionTest2"	2	"kinecticReactionTest2"	p
3	Test update kineticReaction object which is not contained in the database.	null		null		p
4	Test update kineticReaction object which is not contained in the database.	null		null		p

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1.3.3 Unit Test Record -15(UTR-15)

Delete(KineticReaction kineticReaction): KineticReaction

Case No.	Description	Actual Result		Expect Result		status
		Id	Type	Id	Type	
1	Test delete kineticReaction object which is contained in database and correct format kineticReaction object.	Null	"kineticReaction1"	Null	"kineticReaction1"	p
2	Test delete kineticReaction object which is contained in database and correct format kineticReaction object.	Null	"kineticReaction2"	Null	"kineticReaction2"	p
3	Test delete kineticReaction object which is not contained in database or incorrect format kineticReaction object.	null	Null	null	Null	p
4	Test delete kineticReaction object which is not contained in database or incorrect format kineticReaction object.	null	Null	null	Null	p

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1.3.4 Unit Test Record -16(UTR-16)

findAll():KineticReaction []

case	Description	Actual Result	Expect result	status
		List of kineticReaction object	List of kineticReaction object	
1	Test get all kineticReaction object list.	{KineticReaction1,KineticReaction2}	{KineticReaction1,KineticReaction2}	p

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1.3.5 Unit Test Record -17(UTR-17)
findById(long id): KineticReaction

case	Description	Actual Result		Expect result		status
		Id	Type	Id	Type	
1	Test get kineticReaction object by kineticReaction id .	1	"kineticReaction1"	1	"kineticReaction1"	p
2	Test get kineticReaction object by kineticReaction id.	2	"kineticReaction2"	2	"kineticReaction2"	p
3	Test get kineticReaction object which is not contain in database.	null	Null	null	Null	p
4	Test get object kineticReaction which is not contain in database.	null	Null	null	Null	p

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1.3.6 Unit Test Record -18(UTR-18)

findByType(String type): KineticReaction

case	Description	Actual Result		Expect result		status
		Id	Type	Id	Type	
1	Test get kineticReaction object by kineticReaction type.	1	"kineticReaction1"	1	"kineticReaction1"	p
2	Test get kineticReaction object by kineticReaction type.	2	"kineticReaction2"	2	"kineticReaction2"	p
3	Test get kineticReaction object which is not contain in database.	Null	Null	Null	Null	p
4	Test get kineticReaction object which is not contain in database.	Null	Null	Null	Null	p

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1.4 PkaServiceImpl Class

1.4.1 Unit Test Record -19(UTR-19)

add(Pka pka):Pka

Case No.	Description	Actual Result					Expect Result					status
		Id	Type	MaxValue	MinValue	PkaValue	Id	Type	MaxValue	MinValue	PkaValue	
1	Test add pka object which is correct the formal of pka object.	null	"pka3"	4	4	2	Not null	"pka3"	4	4	2	p
2	Test add pka object which is correct the formal of pka object.	null	"pka4"	6	3	6	Not null	"pka4"	6	3	6	p
3	Test add pka object which is contained in the database already .	1	"pka1"	4	2	5	null	null	null	null	Null	p
4	Test add pka object which is contained in the database already.	2	"pka2"	7	1	3	null	null	null	null	Null	p

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1.4.2 Unit Test Record -18(UTR-18)

update(Pka pka):Pka

Case No.	Description	Actual Result					Expect Result					status
		Id	Type	MaxValue	MinValue	PkaValue	Id	Type	MaxValue	MinValue	PkaValue	
1	Test update pka object which is correct the formal of pka object and contained in the database.	1	"pka1"	4	1	5	1	"pka1"	4	1	5	p
2	Test update pka object which is correct the formal of pka object and contained in the database.	2	"pka2"	7	3	10	2	"pka2"	7	3	10	p
3	Test update pka object which is not contained in the database.	null					null					p
4	Test update pka object which is not contained in the database.	null					null					p

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1.4.3 Unit Test Record -19(UTR-19)

delete(Pka pka):Pka

Case No.	Description	Actual Result					Expect Result					status
		Id	Type	MaxValue	MinValue	PkaValue	Id	Type	MaxValue	MinValue	PkaValue	
1	Test delete pka object which is contained in database and correct format Pka object.	1	"pka 1"	4	2	5	Null	"pka1"	4	2	5	p
2	Test delete pka object which is contained in database and correct format pka object.	2	"pka 2"	7	1	3	Null	"pka2"	7	1	3	p
3	Test delete pka object which is not contained in database or incorrect format pka object.	3	"pka 3"	4	1	3	null	Null	Null	Null	Null	p
4	Test delete pka object which is not contained in database or incorrect format pka object.	4	"pka 4"	3	2	6	null	Null	Null	Null	Null	p

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1.4.4 Unit Test Record -20(UTR-20)

findAll():Pka []

case	Description	Actual Result	Expect result	status
		List of pka object	List of pka object	
1	Test get all pka list.	{Pka1,Pka2}	{Pka1,Pka2}	p

1.4.5 Unit Test Record -21(UTR-21)

findById(long id):Pka

Case No.	Description	Actual Result					Expect Result					status
		Id	Type	MaxValue	MinValue	PkaValue	Id	Type	MaxValue	MinValue	PkaValue	
1	Test get pka object by pka id .	1	"pka1"	4	2	5	1	"pka1"	4	2	5	p
2	Test get pka object by pka id.	2	"pka2"	7	1	3	2	"pka2"	7	1	3	p
3	Test get pka object which is not contain in database.	Null	Null	Null	Null	Null	Null	Null	Null	Null	Null	p
4	Test get pka object which is not contain in database.	Null	Null	Null	Null	Null	Null	Null	Null	Null	Null	p

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1.4.6 Unit Test Record -22(UTR-22)

findByType(String type):Pka

Case No.	Description	Actual Result					Expect Result					status
		Id	Type	MaxValue	MinValue	PkaValue	Id	Type	MaxValue	MinValue	PkaValue	
1	Test get pka object by pka type.	1	"pka1"	4	2	5	1	"pka1"	4	2	5	p
2	Test get pka object by pka type.	2	"pka2"	7	1	3	2	"pka2"	7	1	3	p
3	Test get pka object which is not contain in database.	null					null					p
4	Test get pka object which is not contain in database.	null					null					p

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1.5 PartitionCoefficientServiceImpl Class

1.5.1 Unit Test Record -23(UTR-23)

add(PartitionCoefficient partitionCoefficient): PartitionCoefficient

Case No.	Description	Actual Result			Expect Result			status
		Id	Type	Value	Id	Type	Value	
1	Test add partitionCoefficient object which is correct the formal of partitionCoefficient object.	Not null	"partitionCoefficient3"	2	Not null	"partitionCoefficient3"	2	p
2	Test add partitionCoefficient object which is correct the formal of partitionCoefficient object.	Not null	"partitionCoefficient4"	6	Not null	"partitionCoefficient4"	6	p
3	Test add partitionCoefficient object which is contained in the database already.	Null			Null			p
4	Test add partitionCoefficient object which is contained in the database already.	Null			Null			p

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1.5.2 Unit Test Record -24(UTR-24)

update(PartitionCoefficient partitionCoefficient): PartitionCoefficient

Case No.	Description	Actual Result			Expect Result			status
		Id	Type	Value	Id	Type	Value	
1	Test update partitionCoefficient object which is correct the formal of partitionCoefficient object and contained in the database.	1	"partitionCoefficient"	2	1	"partitionCoefficient"	2	p
2	Test update partitionCoefficient object which is correct the formal of partitionCoefficient object and contained in the database.	2	"partitionCoefficient"	6	2	"partitionCoefficient"	6	p
3	Test update partitionCoefficient object which is not contained in the database.	null	Null	Null	null	Null	Null	p
4	Test update partitionCoefficient object which is not contained in the database.	null	Null	Null	null	Null	Null	p

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1.5.3 Unit Test Record -25(UTR-25)

Delete(PartitionCoefficient partitionCoefficient): PartitionCoefficient

Case No.	Description	Actual Result			Expect Result			status
		Id	Type	Value	Id	Type	Value	
1	Test delete partitionCoefficient object which is contained in database and correct format partitionCoefficient object.	1	"partitionCoefficient1"	5	Null	"partitionCoefficient1"	5	p
2	Test delete partitionCoefficient object which is contained in database and correct format partitionCoefficient object.	2	"partitionCoefficient2"	3	Null	"partitionCoefficient2"	3	p
3	Test delete partitionCoefficient object which is not contained in database or incorrect format partitionCoefficient object.	3	"partitionCoefficient 3"	3	null	Null	Null	p
4	Test delete partitionCoefficient object which is not contained in database or incorrect format partitionCoefficient object.	4	"partitionCoefficient 4"	6	null	Null	Null	p

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1.5.4 Unit Test Record -26(UTR-26)

findAll():partitionCoefficient []

case	Description	Actual Result	Expect result	status
		List of pka object	List of pka object	p
1	Test get all PartitionCoefficient list	{PartitionCoefficient1, PartitionCoefficient2}	{PartitionCoefficient1, PartitionCoefficient2}	

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1.5.5 Unit Test Record -27(UTR-27)

findById(long id): PartitionCoefficient

case	Description	Actual Result			Expect result			status
		Id	Type	Value	Id	Type	Value	
1	Test get partitionCoefficient object by partitionCoefficient id.	1	"partitionCoefficient1"	5	1	"partitionCoefficient1"	5	p
2	Test get partitionCoefficient object by partitionCoefficient id.	2	"partitionCoefficient2"	3	2	"partitionCoefficient2"	3	p
3	Test get partitionCoefficient object which is not contain in database.	null	Null	Null	null	Null	Null	p
4	Test get partitionCoefficient object which is not contain in database.	null	Null	Null	null	Null	Null	p

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1.5.6 Unit Test Record -28(UTR-28)

findByType(String type): PartitionCoefficient

case	Description	Actual Result			Expect result	status
		Id	Type	Id	Type	
1	Test get partitionCoefficient object by PartitionCoefficient type.	1	“partitionCoefficient1”	1	“partitionCoefficient1”	p
2	Test get partitionCoefficient object by partitionCoefficient type.	2	“partitionCoefficient2”	2	“partitionCoefficient2”	p
3	Test get partitionCoefficient object which is not contain in database.	null		null		p
4	Test get partitionCoefficient object which is not contain in database.	null		null		p

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1.6 SolidServiceImpl Class

1.6.1 Unit Test Record -29(UTR-29)

add(Solidstate solidstate): Solidstate

Case No.	Description	Actual Result		Expect Result		status
		Id	Type	Id	Type	
1	Test add solidstate object which is correct the formal of solidsatate object .	Not null	“solidstate3”	Not null	“solidstate3”	p
2	Test add solidstate object which is correct the formal of Solidsatate object.	Not Null	“solidstate4”	Not Null	“solidstate4”	p
3	Test add solidstate object which is contained in the database already.	null		null		p
4	Test add solidstate object which is contained in the database already.	null		null		p

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1.6.2 Unit Test Record -30(UTR-30)

update(Solidstate solidstate): Solidstate

Case No.	Description	Actual Result		Expect Result		status
		Id	Type	Id	Type	
1	Test update solidstate object which is correct the formal of solidstate object and and contained in the database.	1	"solidstateTest1"	1	"solidstateTest1"	p
2	Test update solidastate object which is correct the formal of solidstate object and and contained in the database.	2	"solidstateTest2"	2	"solidstateTest2"	p
3	Test update solidstate object which is not contained in the database.	null		null		p
4	Test update solidstate object which is not contained in the database.	null		null		p

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1.6.3 Unit Test Record -31(UTR-31)

Delete(Solidstate solidstate): Solidstate

Case No.	Description	Actual Result		Expect Result		status
		Id	Type	Id	Type	
1	Test delete solidstate object which is contained in database and correct format solidstate object.	Null	"solidsatate1"	Null	"solidsatate1"	p
2	Test delete solidstate object which is contained in database and correct format solidstate object.	Null	"solidsatate2"	Null	"solidsatate2"	p
3	Test delete solidstate object which is not contained in database or incorrect format solidstate object.	null	Null	null	Null	p
4	Test delete solidstate object which is not contained in database or incorrect format solidstate object.	null	Null	null	Null	p

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1.6.4 Unit Test Record -32(UTR-32)

findAll():Solidstate []

case	Description	Actual Result	Expect result	status
		List of solidstate object	List of solidstate object	
1	Test get all solidstate list	{Solidsatate1,Solidstate2}	{Solidsatate1,Solidstate2}	p

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1.6.5 Unit Test Record -33(UTR-33)

findByld(long id): Solidstate

case	Description	Actual Result		Expect result		status
		Id	Type	Id	Type	
1	Test get solidstate object by solidstate id.	1	"solidstate1"	1	"solidstate1"	P
2	Test get solistate object by solidstate id.	2	"solidstate2"	2	"solidstate2"	P
3	Test get solidstate object which is not contain in database.	null	Null	null	Null	P
4	Test get object solidstate which is not contain in database.	null	Null	null	Null	p

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1.6.6 Unit Test Record -34(UTR-34)
findByType(String type): Solidstate

case	Description	Actual Result		Expect result		status
		Type		Id	Type	
1	Test get solidstate object by solidstate type.	"solidstate1"		1	"solidstate1"	p
2	Test get solidstate object by solidstate type.	"solidstate2"		2	"solidstate2"	p
3	Test get solidstate object which is not contain in database.	"solidstate3"		null		p
4	Test get object solidstate which is not contain in database.	"solidstate4"		null		p

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1.7 Hygroscopicity ServiceImpl Class

1.7.1 Unit Test Record -35(UTR-35)

add(Hygroscopicity hygroscopicity): Hygroscopicity

Case No.	Description	Actual Result		Expect Result		Status
		Id	Type	Id	Type	
1	Test add hygroscopicity object which is correct the formal of hygroscopicity object.	Not Null	"hygroscopicity3"	Not Null	"hygroscopicity3"	p
2	Test add hygroscopicity object which is correct the formal of hygroscopicity object.	Not Null	"hygroscopicity4"	Not Null	"hygroscopicity4"	p
3	Test add hygroscopicity object which is contained in the database already.	Null	Null	Null	Null	p
4	Test add hygroscopicity object which is contained in the database already.	Null	Null	Null	Null	p

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1.7.2 Unit Test Record -36(UTR-36)

update (Hygroscopicity hygroscopicity): Hygroscopicity

Case No.	Description	Actual Result		Expect Result		status
		Id	Type	Id	Type	
1	Test update hygroscopicity object which is correct the formal of hygroscopicity object and contained in the database.	1	"hygroscopicity1"	1	"hygroscopicity1"	p
2	Test update hygroscopicity object which is contained in database and correct format hygroscopicity object.	2	"hygroscopicity2"	2	"hygroscopicity2"	p
3	Test update hygroscopicity object which is not contained in database or incorrect format hygroscopicity object.	3	"hygroscopicity3"	Null	Null	p
4	Test update hygroscopicity object which is not contained in database or incorrect format.	4	"hygroscopicity4"	Null	Null	p

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1.7.3 Unit Test Record -37(UTR-37)

Delete(Hygroscopicity hygrosopicity): Hygroscopicity

Case No.	Description	Actual Result		Expect Result		status
		Id	Type	Id	Type	
1	Test delete hygrosopicity object which is contained in database and correct format hygrosopicity object.	1	"hygrosopicity1"	Null	"hygrosopicity1"	p
2	Test delete hygrosopicity object which is contained in database and correct format hygrosopicity object.	2	"hygrosopicity2"	Null	"hygrosopicity2"	p
3	Test delete hygrosopicity object which is not contained in database or incorrect format hygrosopicity object.	3	"hygrosopicity3"	Null	Null	p
4	Test delete hygrosopicity object which is not contained in database or incorrect format.	4	"hygrosopicity4"	Null	Null	p

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1.7.4 Unit Test Record -38(UTR-38)

findAll():Hygroscopicity []

case	Description	Actual Result	Expect result	status
		List of hygroscopicity object	List of hygroscopicity object	p
1	Test get all hygroscopicity list	{ Hygroscopicity1, Hygroscopicity2}	{ Hygroscopicity1, Hygroscopicity2}	p

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1.7.5 Unit Test Record -39(UTR-39)

findById(long id): Hygroscopicity

case	Description	Input		Expect result		status
		Id	Type	Id	Type	
1	Test get hygroscopicity object by hygroscopicity id.	1	"hygroscopicity1"	1	"hygroscopicity1"	p
2	Test get hygroscopicity object by hygroscopicity id.	2	"hygroscopicity2"	2	"hygroscopicity2"	p
3	Test get hygroscopicity object which is not contain in database.	null	Null	null	Null	p
4	Test get object hygroscopicity which is not contain in database.	null	Null	null	Null	p

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1.7.1 Unit Test Record- 40 (UTR -40)

findByType(String type): Hygroscopicity

case	Description	Actual Result		Expect result		status
		Id	Type	Id	Type	
1	Test get hygroscopicity object by hygroscopicity type.	1	"hygroscopicity1"	1	"hygroscopicity1"	p
2	Test get hygroscopicity object by hygroscopicity type.	2	"hygroscopicity2"	2	"hygroscopicity2"	p
3	Test get hygroscopicity object which is not contain in database.	null		null		p
4	Test get hygroscopicity object which is not contain in database.	null		null		p

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1.8 ParticleSizeServiceImpl Class

1.8.1 Unit Test Record -41(UTR-41)

add(ParticleSize particle Size): Particle Size

Case No.	Description	Actual Result					Expect Result					status
		Id	Type	MaxValue	MinValue	particleSize Value	Id	Type	MaxValue	MinValue	particleSize Value	
1	Test add particleSize object which is correct the formal of particleSize object.	Not null	"particleSize 3"	4	4	2	Not null	"particleSize 3"	4	4	2	p
2	Test add particleSize object which is correct the formal of particleSize object.	Not null	"particleSize 4"	6	3	6	Not null	"particleSize 4"	6	3	6	p
3	Test add particleSize object which is contained in the database already.	null	null	null	null	Null	null	null	null	null	Null	p
4	Test add particleSize object which is contained in the database already.	null	null	null	null	Null	null	null	null	null	Null	p

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1.8.2 Unit Test Record -42(UTR-42)
update(ParticleSize particle Size): Particle Size

Case No.	Description	Actual Result					Expect Result					status
		Id	Type	MaxValue	MinValue	particleSize Value	Id	Type	MaxValue	MinValue	particleSize Value	
1	Test update particleSize object which is correct the formal of particleSize object and and contained in the database.	1	"particle Size 1"	6	4	3	1	"particleSize 1"	6	4	3	p
2	Test update particleSize object which is correct the formal of particleSize object and and contained in the database.	2	"particle Size 2"	7	3	10	2	"particleSize 2"	7	3	10	p
3	Test update particleSize object which is not contained in the database.	null	null	null	null	Null	null	null	null	null	Null	p
4	Test update particleSize object which is not contained in the database.	null	null	null	null	Null	null	null	null	null	Null	p

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1.8.3 Unit Test Record -43(UTR-43)

delete(ParticleSize particle Size): Particle Size

Case No.	Description	Actual Result					Expect Result					status
		Id	Type	Max Value	MinValue	particleSize Value	Id	Type	MaxValue	MinValue	particleSize Value	
1	Test delete particleSize object which is contained in database and correct format particleSize object.	Null	"particleSize "	4	2	5	Null	"particleSize "	4	2	5	p
2	Test delete particleSize object which is contained in database and correct format particleSize object.	null	"particleSize "	7	1	3	null	"particleSize "	7	1	3	p
3	Test delete particleSize object which is not contained in database or incorrect format particleSize object.	null	null	null	null	Null	null	null	null	null	Null	p
4	Test delete particleSize object which is not contained in database or incorrect format solubility object.	null	null	null	null	Null	null	null	null	null	Null	p

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1.8.4 Unit Test Record -44(UTR-44)

findAll():ParticleSize []

case	Description	Actual Result	Expect result	status
		List of particleSize	List of particleSize	p
1	Test get all particleSize list	{ParticleSize1,ParticleSize2}	{ParticleSize1,ParticleSize2}	p

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1.8.5 Unit Test Record -45(UTR-45)

findByld(long id):ParticleSize

Case No.	Description	Actual Result					Expect Result					status
		Id	Type	MaxValue	MinValue	particleSize Value	Id	Type	MaxValue	MinValue	particleSize Value	
1	Test get particleSize object which is contained in database by particleSize id.	1	"particleSize 1"	4	2	5	1	"particleSize 1"	4	2	5	p
2	Test get particleSize object which is contained in database by solubility id.	2	"particleSize 2"	7	1	3	2	"particleSize 2"	7	1	3	p
3	Test get particleSize object which is not contain in database by solubility id.	null	Null	Null	Null	Null	null	Null	Null	Null	Null	p
4	Test get particleSize object which is not contain by particleSize id in database.	null	Null	Null	Null	Null	null	Null	Null	Null	Null	p

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1.8.6 Unit Test Record -46(UTR-46)

findByType(String type):ParticleSize

Case No.	Description	Actual Result					Expect Result					status
		Id	Type	MaxValue	MinValue	particleSize Value	Id	Type	MaxValue	MinValue	particleSize Value	
1	Test get particleSize object which is contained in the database by particleSize type.	1	"particle Size1"	4	2	5	1	"particle Size1"	4	2	5	p
2	Test get particleSize object which is contained in the database by solubility type.	2	"particle Size2"	7	1	3	2	"particle Size2"	7	1	3	p
3	Test get particleSize object which is not contain in database by particleSize type.	Null	Null	Null	Null	Null	Null	Null	Null	Null	Null	p
4	Test get particleSize object which is not contain in database by particleSize type.	Null	Null	Null	Null	Null	Null	Null	Null	Null	Null	p

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1.9 FlowabilityServiceImpl Class

1.9.1 Unit Test Record -47(UTR-47)

add(Flowability flowability): Flowability

Case No.	Description	Actual Result		Expect Result		status
		Id	Type	Id	Type	
1	Test add Flowability object which is correct the formal of Flowability object.	Not Null	"Flowability3"	Not Null	"Flowability3"	p
2	Test add Flowability object which is correct the formal of Flowability object.	Not Null	"Flowability4"	Not Null	"Flowability4"	p
3	Test add Flowability object which is contained in the database already.	Null	Null	Null	Null	p
4	Test add Flowability object which is contained in the database already.	Null	Null	Null	Null	p

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1.9.2 Unit Test Record -48(UTR-48)

update (Flowability flowability): Flowability

Case No.	Description	Actual Result		Expect Result		status
		Id	Type	Id	Type	
1	Test update flowability object which is correct the formal of flowability object and contained in the database.	1	"flowability1"	1	"flowability1"	p
2	Test update flowability object which is contained in database and correct format flowability object.	2	"flowability2"	2	"flowability2"	p
3	Test update flowability object which is not contained in database or incorrect format flowability object.	Null	Null	Null	Null	p
4	Test update flowability object which is not contained in database or incorrect format.	Null	Null	Null	Null	p

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1.9.3 Unit Test Record -49(UTR-49)

Delete(Flowability flowability): Flowability

Case No.	Description	Actual Result		Expect Result		status
		Id	Type	Id	Type	
1	Test delete flowability object which is contained in database and correct format flowability object.	Null	"flowability1"	Null	"flowability1"	p
2	Test delete flowability object which is contained in database and correct format flowability object.	Null	"flowability2"	Null	"flowability2"	p
3	Test delete flowability object which is not contained in database or incorrect format flowability object.	Null	Null	Null	Null	p
4	Test delete flowability object which is not contained in database or incorrect format.	Null	Null	Null	Null	p

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1.9.4 Unit Test Record -50(UTR-50)

findAll():Flowability[]

case	Description	Actual Result	Expect result	status
		List of flowability object	List of flowability object	p
1	Test get all flowability list	{ Flowability 1, Flowability 2}	{ Flowability 1, Flowability 2}	p

1.9.5 Unit Test Record -51(UTR-51)

findById(long id): Flowability

case	Description	Actual Result		Expect result		Status
		Id	Type	Id	Type	
1	Test get flowability object by flowability id.	1	"flowability1"	1	"flowability1"	P
2	Test get flowability object by flowability id.	2	"flowability2"	2	"flowability2"	P
3	Test get flowability object which is not contain in database.	null	Null	null	Null	P
4	Test get object flowability which is not contain in database.	null	Null	null	Null	P

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1.9.6 Unit Test Record -52(UTR-52)
findByType(String type): Flowability

case	Description	Actual Result		Expect result		status
		Id	Type	Id	Type	
1	Test get flowability object by flowability type.	1	"flowability1"	1	"flowability1"	p
2	Test get flowability object by flowability type.	2	"flowability2"	2	"flowability2"	p
3	Test get flowability object which is not contain in database.	null	Null	null	Null	p
4	Test get flowability object which is not contain in database.	null	Null	null	Null	p

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1.10 DensityServiceImpl Class

1.10.1 Unit Test Record -53(UTR-53)

add(Density density): Density

Case No.	Description	Actual Result			Expect Result			status
		Id	Type	Value	Id	Type	Value	
1	Test add density object which is correct the formal of density object.	Not null	"density3 "	2	Not null	"density3 "	2	p
2	Test add density object which is correct the formal of density object.	Not null	"density4"	6	Not null	"density4"	6	p
3	Test add density object which is contained in the database already.	Null	null	null	Null	null	null	p
4	Test add density object which is contained in the database already.	Null	null		Null	null	null	p

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1.10.2 Unit Test Record -54(UTR-54)
update(Density density): Density

Case No.	Description	Actual Result			Expect Result			status
		Id	Type	Value	Id	Type	Value	
1	Test update density object which is correct the formal of density object and contained in the database.	1	"density"	2	1	"density"	2	p
2	Test update density object which is correct the formal of density object and contained in the database.	2	"density"	6	2	"density"	6	p
3	Test update density object which is not contained in the database.	null	Null	Null	null	Null	Null	p
4	Test update density object which is not contained in the database.	null	Null	Null	null	Null	Null	p

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1.10.3 Unit Test Record -55(UTR-55)

Delete(Density density): Density Test data

Case No.	Description	Actual Result		Expect Result		status
		Id	Type	Id	Type	
1	Test delete density object which is contained in database and correct format density object.	Null	“ density 1”	Null	“ density1”	p
2	Test delete density object which is contained in database and correct format density object.	Null	“ density2”	Null	“ density2”	p
3	Test delete density object which is not contained in database or incorrect format density object.	Null	Null	Null	Null	p
4	Test delete density object which is not contained in database or incorrect format.	Null	Null	Null	Null	p

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1.10.4 Unit Test Record -56(UTR-56)

findAll(): Density[]

case	Description	Actual Result	Expect result	status
		List of Density object	List of Density object	
1	Test get all Density list	{Density1, Density2}	{Density1, Density2}	p

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1.10.5 Unit Test Record -57(UTR-57)

findById(long id): Density

case	Description	Actual Result			Expect result			status
		Id	Type	Value	Id	Type	Value	
1	Test get density object by density id.	1	"density1"	5	1	"density1"	5	p
2	Test get density object by density id.	2	"density2"	3	2	"density2"	3	p
3	Test get density object which is not contain in database.	null	Null	Null	null	Null	Null	p
4	Test get density object which is not contain in database.	null	Null	Null	null	Null	Null	p

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1.10.6 Unit Test Record -58(UTR-58)

findByType(String type): Density

case	Description	Actual Result		Expect result	
		Id	Type	Id	Type
1	Test get density object by density type.	1	"density1"	1	"density1"
2	Test get density object by density type.	2	"density2"	2	"density2"
3	Test get density object which is not contain in database.	null		null	
4	Test get density object which is not contain in database.	null		null	

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1.11 CompoundFunctionServiceImpl Class

1.11.1 Unit Test Record -59(UTR-59)

add(CompoundFunction compoundFunction): CompoundFunction

Case No.	Description	Actual Result				Expect Result				status
		Id	Type	MaxValue	MinValue	Id	Type	MaxValue	MinValue	
1	Test add compoundFunction object which is correct the formal of compoundFunction object.	Not null	"compoundFunction3"	4	4	Not null	"compoundFunction3"	4	4	p
2	Test add compoundFunction object which is correct the formal of compoundFunction object.	Not null	"compoundFunction4"	6	3	Not null	"compoundFunction4"	6	3	p
3	Test add compoundFunction object which is contained in the database already.	null	null	null	Null	null	null	null	Null	p
4	Test add compoundFunction object which is contained in the database already.	null	null	null	Null	null	null	null	Null	p

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1.11.2 Unit Test Record -60(UTR-60)

Update (CompoundFunction compoundFunction): CompoundFunction

Case No.	Description	Actual Result				Expect Result				status
		Id	Type	MaxValue	MinValue	Id	Type	MaxValue	MinValue	
1	Test update compoundFunction object which is correct the formal of compoundFunction object and exit in database.	1	"compoundFunction1"	6	4	1	"compoundFunction1"	6	4	p
2	Test update compoundFunction object which is correct the formal of compoundFunction object and exit in database.	2	"compoundFunction2"	7	3	2	"compoundFunction2"	7	3	p
3	Test update compoundFunction object which is not contained in the database.	null	null	null	Null	null	null	null	Null	p
4	Test update solubility object which is not contained in the database.	null	null	null	Null	null	null	null	Null	p

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1.11.3 Unit Test Record -61(UTR-61)

delete(CompoundFunction compoundFunction): CompoundFunction

Case No.	Description	Actual Result				Expect Result				status
		Id	Type	MaxValue	MinValue	Id	Type	MaxValue	MinValue	
1	Test delete compoundFunction object which is contained in database and correct format compoundFunction object.	1	"compoundFunction1"	4	2	Null	"compoundFunction1"	4	2	p
2	Test delete compoundFunction object which is contained in database and correct format compoundFunction object.	2	"compoundFunction2"	7	1	Null	"compoundFunction2"	7	1	p
3	Test delete compoundFunction object which is not contained in database or incorrect format compoundFunction object.	3	"compoundFunction3"	4	1	Null	Null	null	Null	p
4	Test delete compoundFunction object which is not contained in database or incorrect format compoundFunction object.	4	"compoundFunction4"	3	2	Null	Null	null	Null	p

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1.11.4 Unit Test Record -62(UTR-62)

findAll():CompoundFunction[]

case	Description	Actual Result	Expect result	status
		List of compoundFunction object	List of compoundFunction object	p
1	Test get all CompoundFunction list	{ CompoundFunction1, CompoundFunction1}	{ CompoundFunction1, CompoundFunction1}	

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1.11.5 Unit Test Record -63(UTR-63)

findByld(long id):CompoundFunction

Case No.	Description	Actual Result				Expect Result				status
		Id	Type	MaxValue	MinValue	Id	Type	MaxValue	MinValue	
1	Test get compoundFunction object which is contained in the database by compoundFunction id .	1	"compoundFunction1"	4	2	1	"compoundFunction1"	4	2	p
2	Test get compoundFunction object which is contained in the database by compoundFunction id.	2	"CompoundFunction2"	7	1	2	"CompoundFunction2"	7	1	p
3	Test get compoundFunction object which is not contain in database by compoundFunction id.	null	Null	Null	Null	null	Null	Null	Null	p
4	Test get compoundFunction object which is not contain in database by compoundFunction id.	null	Null	Null	Null	null	Null	Null	Null	p

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1.11.6 Unit Test Record -64(UTR-64)

findByType(String type):CompoundFunction

Case No.	Description	Actual Result				Expect Result				status
		Id	Type	MaxValue	MinValue	Id	Type	MaxValue	MinValue	
1	Test get compoundFunction object which is contained in the database by compoundFunction type.	1	"compoundFunction1"	4	2	1	"compoundFunction1"	4	2	p
2	Test get compoundFunction object which is contained in the database by compoundFunction type.	2	"CompoundFunction2"	7	1	2	"CompoundFunction2"	7	1	p
3	Test get compoundFunction object which is not contain in database by compoundFunction type.	null	Null	Null	Null	null	Null	Null	Null	p
4	Test get compoundFunction object which is not contain in database by compoundFunction type.	null	Null	Null	Null	null	Null	Null	Null	p

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