***Domain Objects (entities + view models)***

**<http://isis.apache.org/documentation.html>**

***Apache Isis™ CheatSheet***

@DomainObject @DomainObjectLayout

@ViewModel, @ViewModelLayout

@Property, @PropertyLayout

@Collection, @CollectionLayout

@Action , @ActionLayout

@Parameter, @ParameterLayout

@Title, @MemberOrder, @MemberGroupLayout

@HomePage, @MinLength, @Programmatic

@javax.inject.Inject – inject services into object

@javax.annotation.Nullable

@javax.validation.constraints.Digits

@lombok.Data; @lombok.Builder; @lombok.AllArgsConstructor

***Layout***

*Xxx.layout.xml* more flexible than @XxxLayout

title(), iconName(), cssClass()

***Domain Entities* (javax.jdo.annotation)**

@PersistenceCapable, @DatastoreIdentity

@Inheritance, @Discriminator; @Version

@Queries, @Query;

@Uniques, @Unique; @Indices, @Index

@Persistent, @NotPersistent

@Column, @PrimaryKey,@Join, @Element

@XmlJavaTypeAdapter(PersistentEntityAdapter.class)

[www.datanucleus.org/products/datanucleus/jdo/annotations.html](http://www.datanucleus.org/products/datanucleus/jdo/annotations.html)

***JAXB View Models* (javax.xml.bind.annotation)**

@XmRootElement; @XmlType

@XmlAccessorType; @XmlTransient

***Domain Services***

@DomainService @DomainServiceLayout

@Action , @MemberOrder (not props or colls)

@PostConstruct ; @PreDestroy (javax.annotation)

@javax.enterprise.context.RequestScoped

@javax.inject.Inject – inject services into service

***Domain Service Subscribers***

AbstractSubscriber convenience superclass

@org.axonframework.eventhandling.annotation.EventHandler

@com.google.common.eventbus.Subscribe

***Mixins***

@Mixin ; 1-arg constructor of the mixee

Mixin props or colls require @Action(semantics=SAFE)

***Methods: Actions***

placeOrder(X x, Y y, Z z)

hidePlaceOrder(); disablePlaceOrder()

validate{0|1|2}PlaceOrder(X|Y|Z);

validatePlaceOrder(X x, Y y, Z z)

autoComplete{0|1|2}PlaceOrder(X,Y)

choices{0|1|2}PlaceOrder(X,Y) (n-1 args) default{0}PlaceOrder()

***Methods: Properties***

@lombok.Getter, @lombok.Setter;

getName(), setName();

hideName(); disableName(); validateName()

autoCompleteName(), choicesName()

***Methods: Collections***

@lombok.Getter, @lombok.Setter;

getOrders(); hideOrders(); disableOrders();

***Events***

**v1.15.x**

@DomainObject(xxxLifecycleEvent=….)

@DomainObjectLayout(xxxUiEvent=….)

@Action(domainEvent=….) @Property(domainEvent=…) @Collection(domainEvent=…)

***RepositoryService***

allMatches(Query) & QueryDefault(…), persist(), remove(), instantiate()

***MessageService***

informUser(), warnUser(), raiseError()

 ***(some) other Applib Services***

FactoryService, TitleService, ClockService, ConfigurationService, BookmarkService, EventBusService, BackgroundService, EmailService, MetaModelService,

IsisJdoSupport, WrapperFactory, TransactionService,

CommandContext, ActionInvocationContext

QueryResultsCache, Scratchpad,

***Error & Exception Handling***

RecoverableException, NonRecoverableExeption

***Value Types***

8 primitive types + wrappers; BigDecimal, BigInteger; java.util.Date, java.sql.{Date|Time|Timestamp}; enums; JODA dates; org.apache.isis.value.\*

***Bootstrapping***

AppManifest; WEB-INF/isis.properties; WEB-INF/shiro.ini