

EXECUTED TEST CASES AND RESULTS

THE TENDER BIDDING NETWORK:

Case Scenario 1:

Two tenders, both announced by The Ministry of Road Transport and Highways are bid by participating certified-contractors to win the tender.

PARTICIPANTS:

1. Auctioneer: TenderProcurementAdmin

```
{
  "$class": "org.acme.tender.auction.Auctioneer",
  "username": "TenderProcurementAdmin",
  "firstName": "Dinesh",
  "lastName": "Patel"
}
```

2. Members:

- MRT&H

```
{
  "$class": "org.acme.tender.auction.Member",
  "username": "MRT&H",
  "firstName": "Ministry of Road",
  "lastName": "Transport and Highways"
}
```

- Contractor 1: HCC

```
{
  "$class": "org.acme.tender.auction.Member",
  "username": "HCC",
  "firstName": "Hindustan Construction Company",
  "lastName": "-"
}
```

- Contractor 2: GMR-I

```
{
  "$class": "org.acme.tender.auction.Member",
  "username": "GMR-I",
  "firstName": "GMR Infrastructure",
  "lastName": "India Lmttd"
}
```

- Contractor 3: L-Infra

```
{
  "$class": "org.acme.tender.auction.Member",
  "username": "L-Infra",
  "firstName": "Lanco",
  "lastName": "Infratech "
}
```

- Contractor 4: JPAssoc

```
{
  "$class": "org.acme.tender.auction.Member",
  "username": "JPAssoc",
  "firstName": "Jaiprakash",
  "lastName": "Associates"
}
```

- Contractor 5: L&T

```
{  
  "$class": "org.acme.tender.auction.Member",  
  "username": "L&T",  
  "firstName": "Larsen",  
  "lastName": "Toubro"  
}
```

ASSETS:

1. Tender:

- Tender 1: Construction of Road between Village-A and Village-B

```
{  
  "$class": "org.acme.tender.auction.Tender",  
  "tenderid": "1234",  
  "owner": "resource:org.acme.tender.auction.Member#MRT&H"  
}
```

- Tender 2: Repair of roads between Village-C and Village-D

```
{  
  "$class": "org.acme.tender.auction.Tender",  
  "tenderid": "5678",  
  "owner": "resource:org.acme.tender.auction.Member#MRT&H"  
}
```

2. TenderListing

- TenderListing 1:

```
{  
  "$class": "org.acme.tender.auction.TenderListing",  
  "listingId": "1683",  
}
```

```
    "reservePrice": 4000000,  
    "description": "Construction of Road between Village-A and Village-B",  
    "state": "OPEN",  
    "tender": "resource:org.acme.tender.auction.Tender#1234"  
  }
```

- TenderListing 2:

```
{  
  "$class": "org.acme.tender.auction.TenderListing",  
  "listingId": "9876",  
  "reservePrice": 3000000,  
  "description": "Repair of roads between Village-C and Village-D",  
  "state": "OPEN",  
  "tender": "resource:org.acme.tender.auction.Tender#5678"  
}
```

TRANSACTIONS:

- Bid by HCC:

```
{  
  "$class": "org.acme.tender.auction.Offer",  
  "bidPrice": 3950000,  
  "listing": "resource:org.acme.tender.auction.TenderListing#1683",  
  "member": "resource:org.acme.tender.auction.Member#HCC"  
}
```

- Bid by L&T

```
{  
  "$class": "org.acme.tender.auction.Offer",  
  "bidPrice": 4000000,  
  "listing": "resource:org.acme.tender.auction.TenderListing#1683",  
  "member": "resource:org.acme.tender.auction.Member#L&T"  
}
```

- Bid by L-Infra on TenderListing1683

```
{
  "$class": "org.acme.tender.auction.Offer",
  "bidPrice": 3900000,
  "listing": "resource:org.acme.tender.auction.TenderListing#1683",
  "member": "resource:org.acme.tender.auction.Member#L-Infra"
}
```

- Bid by JPAassoc

```
{
  "$class": "org.acme.tender.auction.Offer",
  "bidPrice": 2950000,
  "listing": "resource:org.acme.tender.auction.TenderListing#9876",
  "member": "resource:org.acme.tender.auction.Member#JPAassoc"
}
```

- Bid by L-Infra on TenderListing9876

```
{
  "$class": "org.acme.tender.auction.Offer",
  "bidPrice": 2790000,
  "listing": "resource:org.acme.tender.auction.TenderListing#9876",
  "member": "resource:org.acme.tender.auction.Member#L-Infra"
}
```

- Bid by GMR-I

```
{
  "$class": "org.acme.tender.auction.Offer",
  "bidPrice": 2754000,
  "listing": "resource:org.acme.tender.auction.TenderListing#9876",
  "member": "resource:org.acme.tender.auction.Member#GMR-I"
}
```

- CLOSING TENDERLISTING-1683

```
{
  "$class": "org.acme.tender.auction.CloseBidding",
  "listing": "resource:org.acme.tender.auction.TenderListing#1683"
}
```

- CLOSING TENDERLISTING -9876

```
{
  "$class": "org.acme.tender.auction.CloseBidding",
  "listing": "resource:org.acme.tender.auction.TenderListing#9876"
}
```

RESULTS:

- We see that the ownership of Tender1 as:

```
{
  "$class": "org.acme.tender.auction.Tender",
  "tenderid": "1234",
  "owner": "resource:org.acme.tender.auction.Member#HCC"
}
```

Due to least bid 3900000 INR

- We see that the ownership of Tender2 as:

```
{
  "$class": "org.acme.tender.auction.Tender",
  "tenderid": "5678",
  "owner": "resource:org.acme.tender.auction.Member#GMR-I"
}
```

Due to least bid 2754000 INR

THE TENDER MONITORING NETWORK

Case Scenario 1(Continued):

The Tender-Project-1234: Construction of Road between Village-A and Village-B was won by Contracting Company: Lanco Infratech with a bid value 3950000 INR. The project started by the company is monitored and validated by the government officials and other certified validators as it progresses.

PARTICIPANTS:

1. Contractor: L-Infra

```
{
  "$class": "org.acme.contract.Contractor",
  "email": "L-Infra",
  "firstName": "Lanco",
  "lastName": "Infratech"
}
```

2. Department: Department of Road Management,Village-A

```
{
  "$class": "org.acme.contract.Department",
  "departmentId": "1D",
  "departmentName": "Department of Road Management,Village-A"
}
```

3. Engineer:

```
{
  "$class": "org.acme.contract.Engineer",
  "email": "1E",
  "firstName": "Ghanashyam",
}
```

```
    "lastName": "Katti"  
  }
```

4. LabourRepresentative:

```
{  
  "$class": "org.acme.contract.LabourRep",  
  "repld": "1LR",  
  "firstName": "Manoj",  
  "lastName": "Astikar"  
}
```

5. PublicRepresentative:

```
{  
  "$class": "org.acme.contract.PublicRep",  
  "email": "1PR",  
  "firstName": "Anish",  
  "lastName": "Aralikatti"  
}
```

6. Supplier Representative:

```
{  
  "$class": "org.acme.contract.Supplier",  
  "companyId": "1S",  
  "companyName": "HashBrownInc"  
}
```

ASSETS:

1. Contract:

```
{  
  "$class": "org.acme.contract.Contract",  
  "contractId": "1234",  
  "contractor": "resource:org.acme.contract.Contractors#L-Infra",  
}
```



```
"value": 0,  
"documents": [],  
"state": "OPEN"  
}
```

2. Document:01

```
{  
  "$class": "org.acme.contract.Document",  
  "documentId": "01",  
  "description": "Gravel and Tar",  
  "amount": 50000,  
  "contract": "resource:org.acme.contract.Contract#1234"  
}
```

3. Document:02

```
{  
  "$class": "org.acme.contract.Document",  
  "documentId": "02",  
  "description": "Labour Cost",  
  "amount": 60000,  
  "contract": "resource:org.acme.contract.Contract#1234"  
}
```

4. Document:03

```
{  
  "$class": "org.acme.contract.Document",  
  "documentId": "03",  
  "description": "Machinery",  
  "amount": 2000000,  
  "contract": "resource:org.acme.contract.Contract#1234"  
}
```

5. Document:04

```
{  
  "$class": "org.acme.contract.Document",
```

```
"documentId": "04",  
"description": "Electric Connections",  
"amount": 20000,  
"contract": "resource:org.acme.contract.Contract#1234"  
}
```

6. Document:05

```
{  
  "$class": "org.acme.contract.Document",  
  "documentId": "05",  
  "description": "Cement and Cement Concrete",  
  "amount": 100000,  
  "contract": "resource:org.acme.contract.Contract#1234"  
}
```

7. EngineerValidationData:

```
{  
  "$class": "org.acme.contract.EngineerValidationData",  
  "engId": "1E",  
  "validation": [  
    "1",  
    "1",  
    "1",  
    "1",  
    "1"  
  ],  
  "contract": "resource:org.acme.contract.Contract#1234"  
}
```

8. LabourRepValidationData:

```
{  
  "$class": "org.acme.contract.LabourRepValidationData",  
  "labourRepId": "20",  
  "validation": [  
    "1",  
    "1",  
    "1",  
    "1",  
    "1"  
  ],  
  "contract": "resource:org.acme.contract.Contract#1234"  
}
```

```

        "1",
        "1",
        "1",
        "1",
        "1"
    ],
    "contract": "resource:org.acme.contract.Contract#1234"
}

```

9. SupplierValidationData:

```

{
    "$class": "org.acme.contract.SupplierValidationData",
    "supplierId": "30",
    "validation": [
        "1",
        "1",
        "1",
        "1",
        "1"
    ],
    "contract": "resource:org.acme.contract.Contract#1234"
}

```

TRANSACTIONS:

Contractor submits all the Documents:

1. Submit_Document:01

```

{
    "$class": "org.acme.contract.SubmitDocument",
    "document": "resource:org.acme.contract.Document#01"
}

```

2. Submit_Document:02

```
{  
  "$class": "org.acme.contract.SubmitDocument",  
  "document": "resource:org.acme.contract.Document#02"  
}
```

3. Submit_Document:03

```
{  
  "$class": "org.acme.contract.SubmitDocument",  
  "document": "resource:org.acme.contract.Document#03"  
}
```

4. Submit_Document:04

```
{  
  "$class": "org.acme.contract.SubmitDocument",  
  "document": "resource:org.acme.contract.Document#04"  
}
```

5. Submit_Document:05

```
{  
  "$class": "org.acme.contract.SubmitDocument",  
  "document": "resource:org.acme.contract.Document#05"  
}
```

Engineer validates all the documents:

6. Engineer_Validate:

```
{
```

```
"$class": "org.acme.contract.Engineer_Validate",  
"engineerValidationData":  
"resource:org.acme.contract.EngineerValidationData#10"  
}
```

7. LabourRep_Validate:

```
{  
  "$class": "org.acme.contract.LabourRep_Validate",  
  "labourRepValidationData":  
  "resource:org.acme.contract.LabourRepValidationData#20"  
}
```

8. SupplierValidationData:

```
{  
  "$class": "org.acme.contract.Supplier_Validate",  
  "supplierValidationData":  
  "resource:org.acme.contract.SupplierValidationData#30"  
}
```

9. Close_Contract:

```
{  
  "$class": "org.acme.contract.CloseContract",  
  "contract": "resource:org.acme.contract.Contract#1234"  
}
```

After every validator submits validation transaction, the contract is validated and then closed.

